
	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

SEAFARERS TRAINING CENTER INC



MEDICAL CARE COURSE

In compliance with the 1978 International Agreement on Standards of Training, Certification and Watch keeping for Seafarers Code (STCW as amended)

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COURSE FRAMEWORK

➤ **AIMS**

This course aims to provide the training for candidates to provide Medical Care to the sick and injured while they remain on board ship, in accordance with section A-VI/4 of the STCW Code.

➤ **OBJECTIVES**

This syllabus covers the requirements of the STCW 1978 as amended Convention Chapter VI, Section A-VI/4, Paragraph 4-6 & Table A-VI / 4-2. On meeting the minimum standards of competence in Medical Care, a trainee will be competent to participate effectively in co-ordinate scheme for medical assistance on ships at sea and to provide the sick and injured with a satisfactory standard of medical care while they remain on board.

➤ **ENTRY STANDARDS**

The course is open to seafarers to be designated to be in charge of medical care on board ship. Those entering the course should have successfully completed training in Medical First Aid on board ships, such as specified in the IMO Model Course 1.14 Medical First Aid.

➤ **COURSE CERTIFICATION**

On successful completion of the course and demonstration of competence, a course certificate will be issued to the participant.

➤ **COURSE INTAKE LIMITATION**

The maximum number of trainees attending each session will be six.

➤ **STAFF REQUIREMENTS**

The instructors shall have the appropriate training in instructional techniques and training methods (STCW Code Section A.1/6, paragraph 7), preferably by a qualified medical doctor or another qualified medical staff. Plus the instructor needs to be certified by ITI to teach each specific course.

➤ **TRAINING FACILITIES AND EQUIPMENT**

Ordinary classroom facilities and an overhead projector are required for the lectures.

The following equipment should be available:

- Ship's medical chest with contents (no drugs)
- Various splints, braces, etc
- Dressing, bandages
- Life-size dummy for practical resuscitation training



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

➤ **TEACHING AIDS**

A1 Instructor Manual

BIBLIOGRAPHY

International Medical Guide for ShiPs.pdf



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

COURSE OUTLINE

Course Outline	Approximate Time (Hours)
Knowledge, understanding and proficiency	Lecture, demonstrations and practical exercises
1. First Aid – Revision	6.0
2. Care of Casualties	7.0
3. Aspects of Nursing	3.5
4. Diseases	4.5
5. Alcohol and Drug Abuse	3.0
6. Dental care	1.0
7. Gynecology and Pregnancy	2.0
8. Medical Care of Rescued Persons, including Distress Hypothermia and Cold Exposure	3.0
9. Death at Sea	1.0
10. Environmental Control on Board Ship	2.0
11. Disease Prevention	1.0
12. Keeping Records	0.5
13. Medicines and Medical Equipment	4.0
14. Surgical Equipment, Instruments and Supplies	4.0
15. External Assistance	3.0
16. Assessment	0.5
TOTAL	46



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

COURSE TIME TABLE

DAY	PERIOD 1	PERIOD 2	PERIOD 3	PERIOD 4 (PERIOD 5
1	First Aid – Revision	First Aid – Revision	First Aid – Revision	Care of Casualties	Care of Casualties
2	First Aid – Revision	Care of Casualties	Care of Casualties	Aspects of Nursing	Aspects of Nursing
3	Care of Casualties	Aspects of Nursing/Keeping Records	Diseases	Alcohol and Drug Abuse	Dental Care
4	Alcohol and Drug Abuse	Diseases	Diseases	Medical Care of Rescued Persons, including Distress, Hypothermia and Cold Exposure	Gynecology and Pregnancy
5	Medical Care of Rescued Persons, including Distress, Hypothermia and Cold Exposure	Death at Sea/ Surgical Equipment, Instrument and Supplies	Medicines and Medical Equipment	Medicines and Medical Equipment	Gynecology and Pregnancy
6	Environmental Control on Board Ship	Disease Prevention/ Environmental Control on Board Ship	Surgical Equipment, Instrument and Supplies	Surgical Equipment, Instrument and Supplies	Medicines and Medical Equipment / Surgical Equipment, Instrument and Supplies



1. FIRST AID-REVISION

Review of the Knowledge Base and Intermediate

Structure and Functions of the Human Body

The anatomy, which is one of the basic sciences of life, is very related to medicine and with other branches of biology.

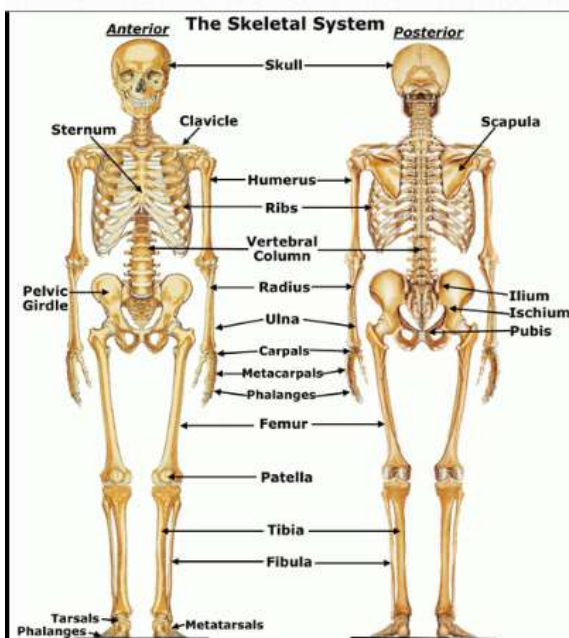
It is convenient to subdivide the study of anatomy in various aspects. A classification is based according to the type of organism in study; in this case the main branches are the anatomy of plants and animal anatomy.

In turn, animal anatomy is subdivided in human anatomy and comparative anatomy, which sets out the similarities and differences between the various types of animals. The anatomy can also be divided in biological processes, for example, anatomy of development (study of the embryos) and pathological anatomy or study of the sick organs. Other subdivisions such as surgical anatomy and the artistic anatomy, are based on the relationship of the anatomy with other activities under the general title of Applied Anatomy.

Another way to subdivide the anatomy depends of the techniques employed, as for example the micro anatomy, which is based on the observations obtained with the help of a microscope.

Human Anatomy

The functioning of the human body is based on the systems that are exposed are summarized below. This encyclopedia includes articles independent for each one of the systems and bodies mentioned above, to which the reader is referred for more complete information. References to the articles dealing with the senses and perception are listed in the sensory organs.



Skeleton and Muscles

The human skeleton is formed by more than 200 bones that are joined by bands of connective tissue resistant and few elastic called ligaments. The various parts of the body vary greatly in their degree of mobility. For example, the arm to the height of the shoulder moves freely, while the knee joint, is reduced to a movement of hinge. The movements of each vertebra are very limited and the bones that make up the skull are immobile. The movements of the bones of the skeleton is being carried out thanks to the contractions of the skeletal muscles that are joined to the bone through tendons. These muscle contractions are controlled by the nervous system.

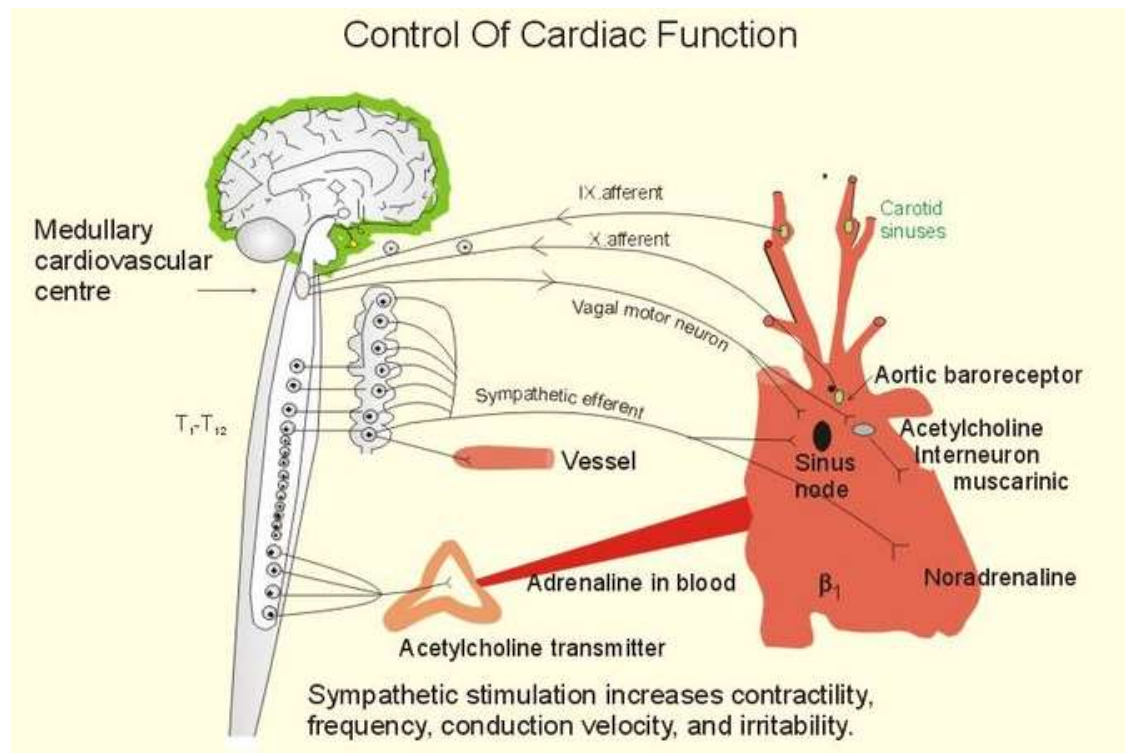


Nervous System

The nervous system is divided into somatic, which carried out the voluntary control over the skeletal muscles, and autonomous, that is involuntary and controls the smooth muscle, the heart muscle and glands. The autonomic nervous system is divided into two: sympathetic and parasympathetic. The majority of the muscles and glands have a double innervations; in such cases the two divisions may exert opposite effects.



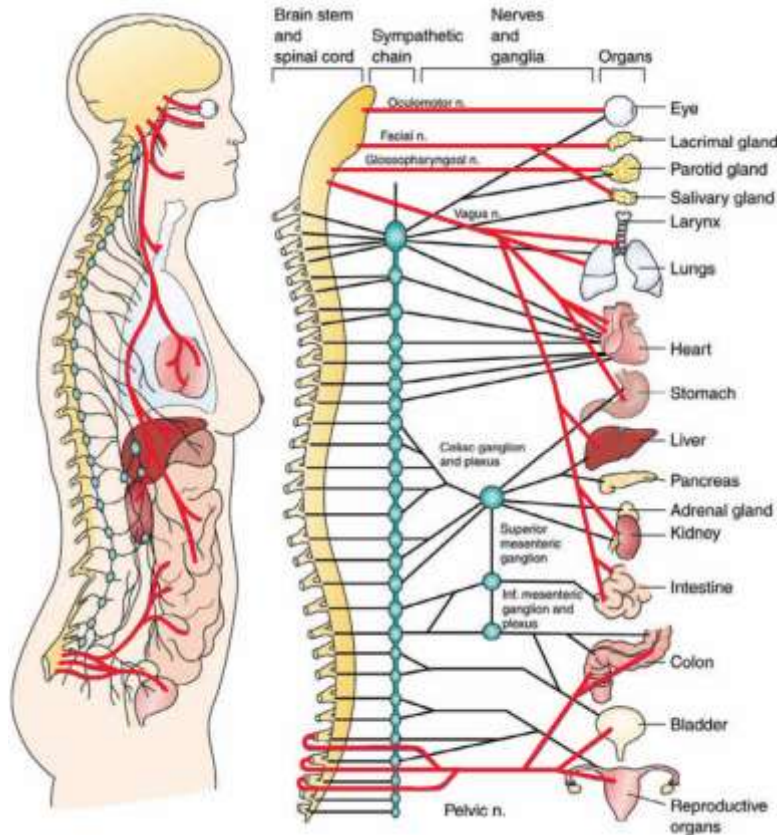
For example, the sympathetic system increases the frequency of the heart beats,





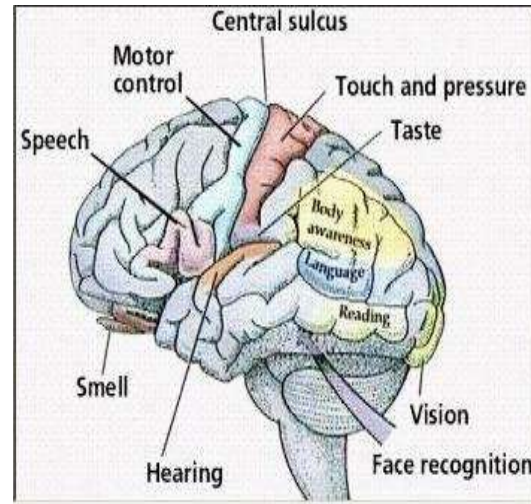
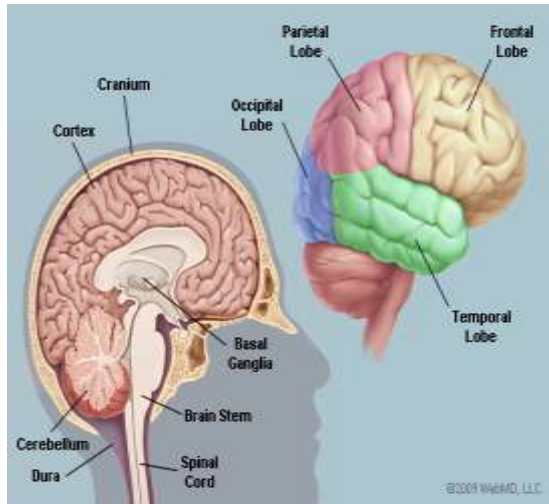
Structure of the Sympathetic Nervous System

The parasympathetic decreases it. However, the two nervous systems are not always antagonistic.



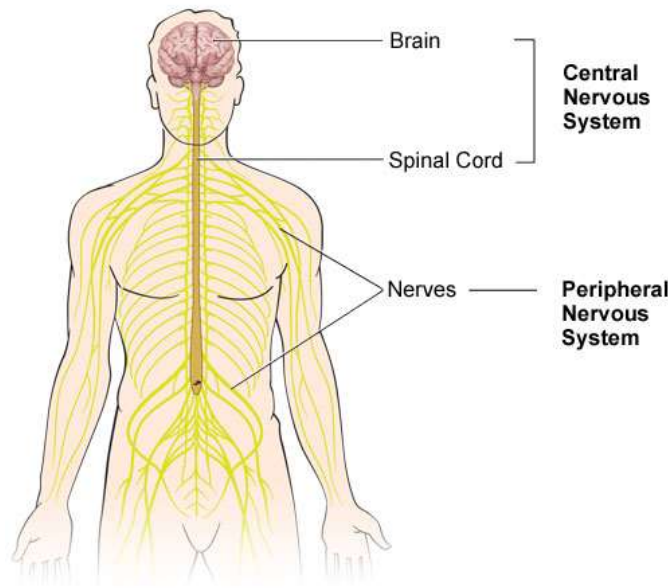
For example, the two systems innervate the salivary glands and stimulate the secretory cells. In addition, a branch of the autonomous nervous system can excite and inhibit a only effect, as in the case of the sympathetic innervations of the blood vessels in the skeletal muscle. Finally, the sweat glands, the muscles that cause the bristling involuntary part of the hair, the smooth muscle fibers of the spleen, and blood vessels of the skin and skeletal muscle receive only sympathetic innervations.

Voluntary movements of the head, limbs and the body are due to the nerve impulses that come from the motor area of the Cerebral cortex, which are transmitted by the cranial nerves or by those who are born in the spinal cord with destination to the skeletal muscles. The action involves the excitation of the nerve cells that stimulate the affected muscles and the inhibition of the cells that stimulate opposing muscles. A nerve impulse is a change in the electric potential within a fiber or nerve cell, which is measured in mill volts, lasts only a few milliseconds and you can register via electrodes.



Movements can also occur as a direct response to an external stimulus; for example, percussion on the knee triggers a jolt and a flash of light on one eye causes contraction of the pupil. These involuntary responses are called reflexes. The receivers, various nerve endings, send continuously impulses toward the central nervous system. There are three types of receivers: exteroceptors, sensitive to pain, temperature, touch, and pressure and in general to any stimulus that comes from the outside but which is in contact with the body; interoceptors, which react to changes in the domestic environment, and proprioceptors, that respond to variations in the movement, position and tension and are usually located in the muscles. These impulses ending in some cases in the spinal cord and the majority in special areas of the brain, in the same way that the special receptors of the vision, hearing, smell and taste.

The Nervous System





The muscle contractions do not always produce a real movement. In the majority of the Muscles there is a small fraction of the total number of fibers that contract continuously. This allows you to maintain the position of a limb and enables it to resist elongation or the passive stretching. This slight maintained contraction is called muscle tone.

Muscle Contraction

Skeletal muscles are bundles of muscle cell fibers. Each bundle is covered by connective tissue.

Bundle

A bundle is composed of many muscle fibers. A muscle fiber can be as long as 40 cm.

Muscle fiber

Each muscle fiber is a single cell with many nuclei and is striated with a light and dark banding.

Myofibril

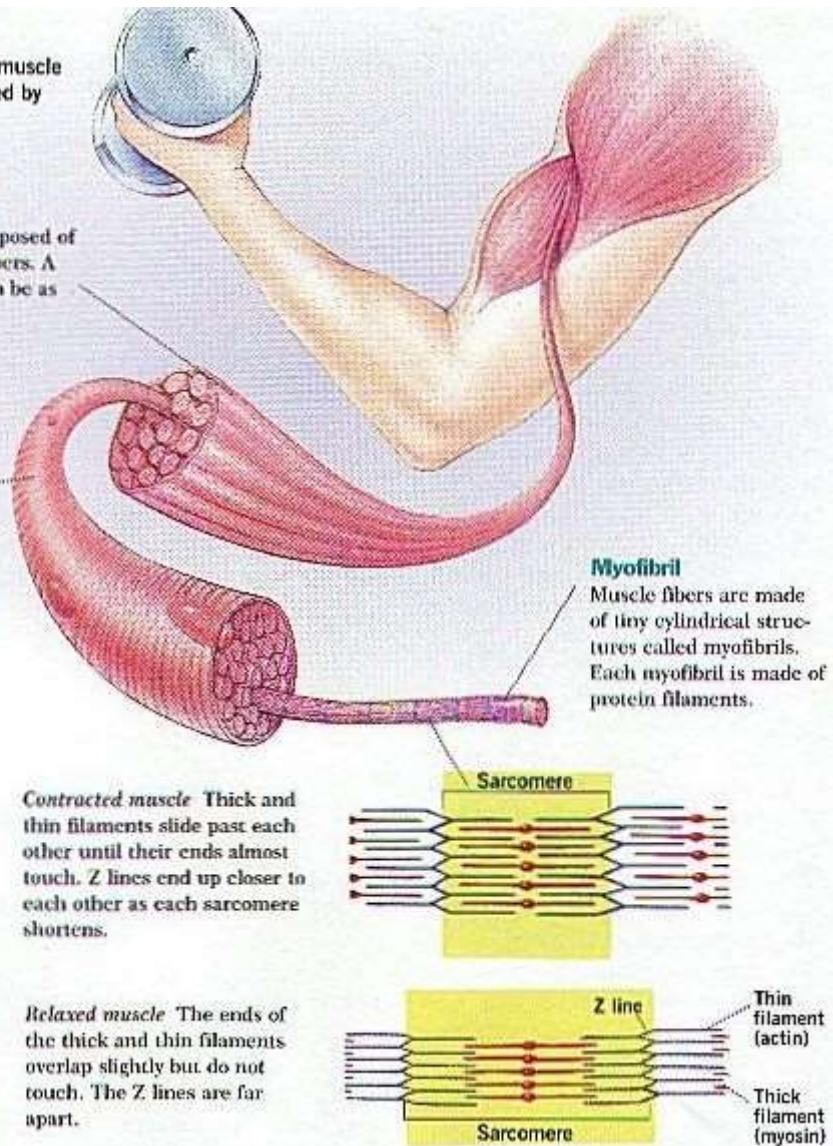
Muscle fibers are made of tiny cylindrical structures called myofibrils. Each myofibril is made of protein filaments.

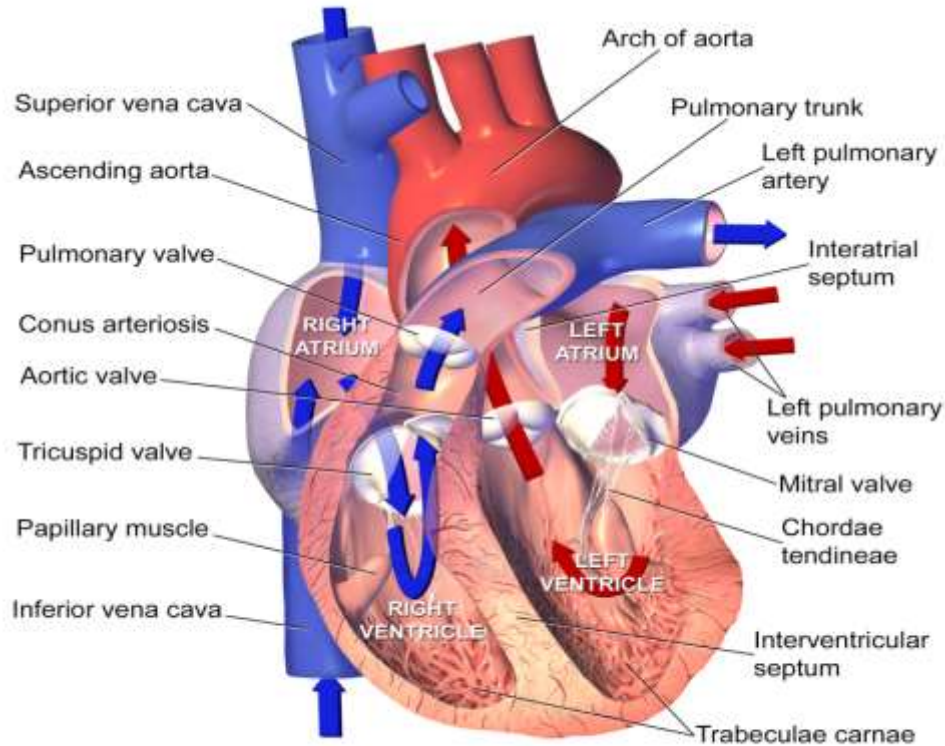
Filaments

Each myofibril has thick and thin filaments. Thick filaments are made of the protein myosin, and thin filaments are made of the protein actin. A unit of alternating thick and thin filaments is called a sarcomere. Sarcomeres are separated by areas of dense matter called Z lines.

Contracted muscle Thick and thin filaments slide past each other until their ends almost touch. Z lines end up closer to each other as each sarcomere shortens.

Relaxed muscle The ends of the thick and thin filaments overlap slightly but do not touch. The Z lines are far apart.





Sectional Anatomy of the Heart

The Circulatory System

In its movement by the Agency, the blood pumped by the heart goes through a complex path that is set through the right cavities of the heart, from where it passes to the lungs (here captures the oxygen), and then returns to the left cavities of the heart. From here it is pumped into the main artery, the aorta, which branches off in arteries each smaller time, until it reaches the arterioles, the smaller branches. Beyond the arterioles, blood passes through a large number of thin-walled structures called capillaries. Here the blood gives the oxygen and nutrients to the tissues and captures the carbon dioxide and other degradation products of metabolism. The blood completes its journey passing through small veins that coalesce into increasingly larger vessels until it reaches the larger veins, the venae cavae top and bottom, by which the blood returns to the right side of the heart. The blood is driven by the contraction of the heart, even if the contraction of skeletal muscles also contributes to the movement. The valves of the heart and the veins ensure its flow in one direction.

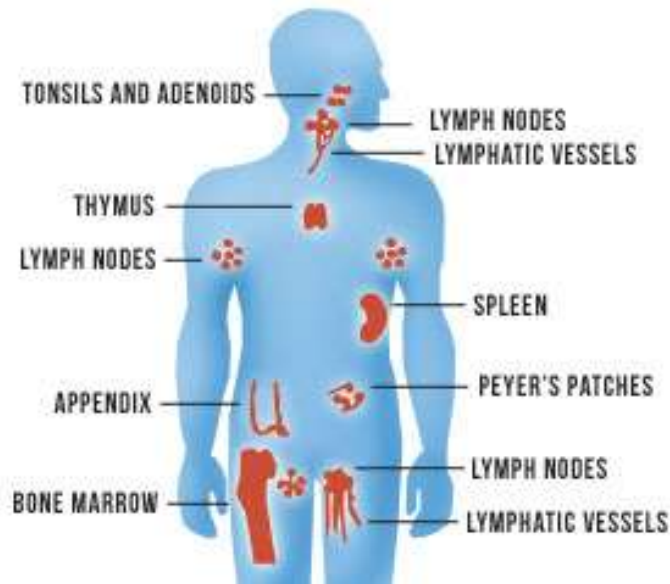
Structure and Functioning of the circulatory system of the Heart

Immune System

The agency defends against foreign proteins and infectious microorganisms with a complex system double that depends on the recognition of an area in the structure of the surface or superficial pattern of the invader. The two parts of the system are the cellular immunity, in which the mediators are lymphocytes, and the humoral immunity, based on the action of molecules of antibodies.



ORGANS OF THE IMMUNE SYSTEM



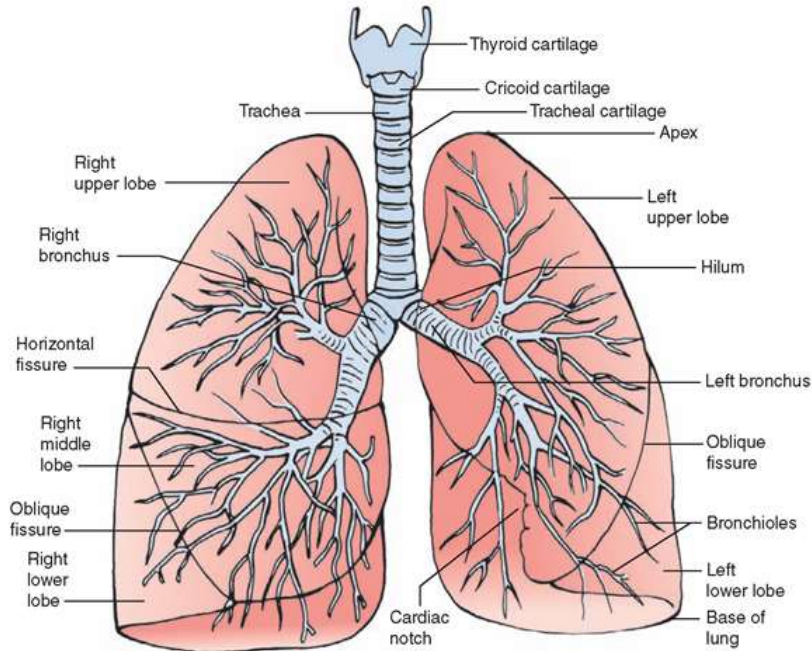
When the cells recognize a molecular pattern strange (called antigen), some released antibodies in large quantities and other stored that pattern to release antibodies in the future, in the case of the molecule to reappear. The antibodies attach to antigens and in this way the marked so that other agents of the immune system recognize and destroy it. These agents are: the add-in, an enzyme system that destroys the cells strange, and the phagocytes, cells that surround and digest the foreign bodies. They are attracted to the area by chemicals released by the activated lymphocytes.

The lymphocytes originate in the bone marrow and are reproduced in the thymus and spleen. Circulating in the bloodstream through the walls of the capillaries to reach the tissue cells. From there they migrate toward an independent network of capillaries that is comparable and almost as long as the circulatory system. These capillaries are joined together to form increasing vessels that lead to the torrent venous; the valves of the lymph vessels ensure the flow in one direction. At various points of the network there are lymphatic nodules, or lymph, which act as stations where are grouped and manufactured lymphocytes, and they increase in size during the infectious diseases. In anatomy the network of vessels and lymph nodes receives the name of the lymphatic system and until the decade of 1960 was not established its role as a vehicle of the immune system.



Respiratory Apparatus

Structure of the Respiratory Apparatus



Breathing is carried out thanks to the expansion and contraction of the lungs; the process and the rate at which happens are controlled by a nerve center of the brain.

In the lungs Oxygen penetrates into the capillaries, where it combines with the hemoglobin contained in the erythrocytes or red blood cells and is transported to the tissues. At the same time, carbon dioxide, which passes to the blood in your tour of the tissues, spreads from the capillaries into the air in the lungs. The inhalation introduces in the lungs air with a high concentration of oxygen and low in carbon dioxide; the expired air that comes from the lungs has a high concentration of carbon dioxide and low in oxygen. Changes in the size and capacity of the chest are controlled by the contractions of the diaphragm and intercostal muscles.

The Digestive System and excretory system

The energy required for the maintenance and proper functioning of the agency is provided by the food. The digestion of food begins in the mouth, where are chewed and mixed with the saliva. The food runs after through the esophagus to the stomach, where the digestive process continues. The bolus is joining the gastric juices and gut. After the mixture of food and secretions, called chyme, descends from the digestive tract through the movements peristaltic, rhythmic contractions that are of the smooth muscle fibers of the gastrointestinal tract. The contractions are initiated by the parasympathetic nervous system.



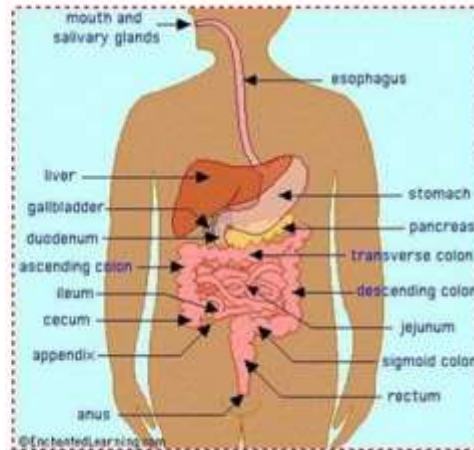
Anatomy of Digestion

Digestive System Primary Organs:

Mouth, Pharynx, esophagus, stomach, small intestine, large intestine

Accessory organs (add secretions to aid digestion):

salivary glands, pancreas, liver



This muscular activity can be inhibited by the sympathetic nervous system. The absorption of nutrients from the chyme occurs mainly in the small intestine. The food that is not absorbed and secretions and substances of degradation of the liver passes into the large intestine and ejected in the form of stool.

The water and water soluble substances passed from the blood to the kidneys, where all the components of the blood plasma except proteins cross the thin membranes of the capillaries into the kidney tubules.

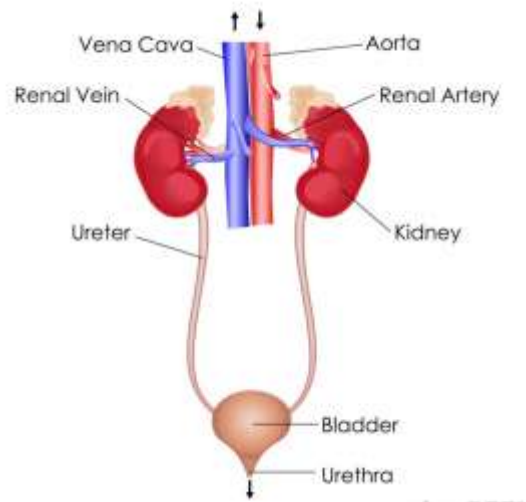
The excess water and the degradation products run by the renal tubules, which returned the majority of water and salts to the agency and collect other salts and degradation products of the blood.

The urine, the resulting liquid, is stored in the bladder until you delete it by outside.

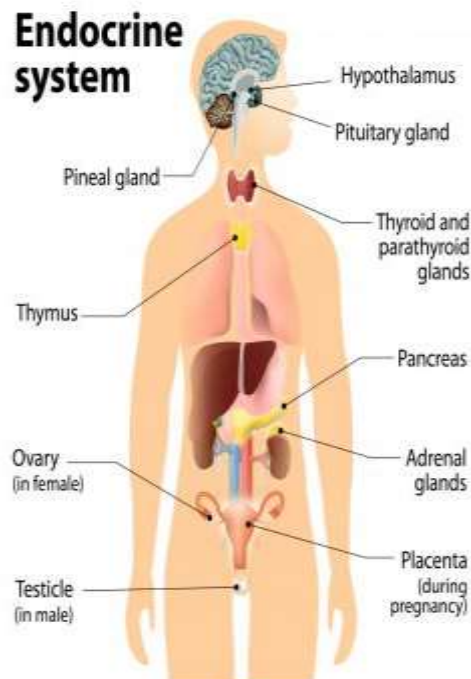


The endocrine system

In addition to the integrative action of the nervous system, the endocrine glands control several functions of the Agency. An important part of this system, the pituitary gland is located at the base of the brain.



Urinary System





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MEDICAL CARE COURSE

REV. 9 - 2019

This main gland secretes several hormones, which include:

- 1) a hormone that stimulates the thyroid gland and controls the secretion of thyroxine, which sets the rate of metabolic activity of the tissues.
- 2) a hormone that controls the secretion of hormones of the adrenal gland, which influence the metabolism of carbohydrates, sodium and potassium and control the proportion in which the substances are exchanged between the blood and tissues.
- 3) substances that control the secretion in the ovaries of estrogen and progesterone and the formation of testosterone in the testes.
- 4) the hormone somato tropic or growth, which controls the speed of the development of bones and the great organ through their action on the metabolism of proteins and carbohydrates.
- 5) a hormone involved in lactation (secretion of milk after the pregnancy).

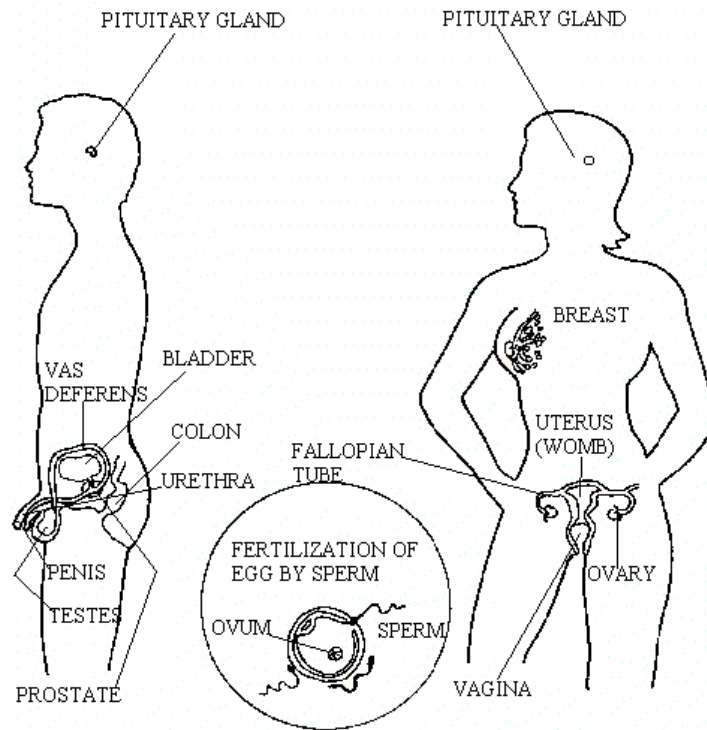
The rear lobe of the pituitary secretes vasopressin, which acts on the kidneys to control the volume of urine; the absence of vasopressin produces a diabetes insipidus, resulting in the elimination of large volumes of urine.

The rear lobe of the pituitary gland also produces oitócic, which leads to the contraction of the smooth muscle fibers of the intestine and the small arteries, and causes uterine contractions in childbirth. Other glands in the endocrine system are the pancreas, that secretes insulin and glucagon, and the parathyroid, that secrete a hormone that regulates the concentration of calcium and phosphorus in the blood.

Reproduction Apparatus

The reproduction occurs by the union of a sperm male and one female egg. During intercourse the man ejaculates through the penis more than 250 million sperm in the vagina in women. From there, some reach the uterus and the fallopian tubes, where fertilization occurs. The ovulation or release of an egg into the uterine cavity occurs approximately every 28 days.

During the same period the uterus is prepared, thanks to the action of estrogen, for implantation of a fertilized egg. If fertilization does not occur, other hormones cause the deletion of part of the mucosa of the uterus during menstruation. From puberty to menopause, the process of ovulation, the preparation and the menstruation repeats every month except during periods of pregnancy. The duration of the pregnancy is about 280 days. After childbirth, prolactin, a hormone secreted by the pituitary gland, activates the production of milk.

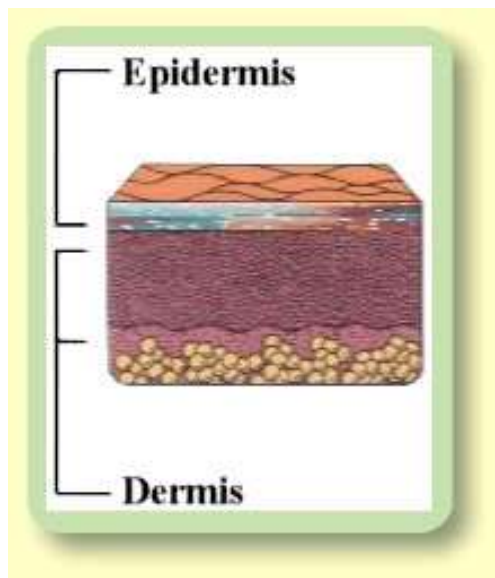


The Skin

The skin is a body composed of two layers of tissue, which extends on the body surface to which protects the dehydration or loss of fluids, foreign substances harmful and extreme temperatures.

The inner layer, called the dermis, contains sweat glands, blood vessels, nerve endings (recipients of sensations and stimuli) and the root of the hair and nails.

The outer layer, the epidermis, is a stratum with few cells. Contains pigments, pores and ducts, and its surface is formed by dead cells. The hair and nails are adaptations that emerge from the dead cells.





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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The sweat glands excrete water and decrease the body temperature thanks to the evaporation of the droplets of sweat.

The blood vessels of the dermis also regulate body temperature. Contract to preserve the heat of the body and dilate to dispel. Different types of receptors transmit the pressure, the temperature and the pain. Fat cells of the dermis isolate the agency and sebaceous glands lubricated the epidermis.

- ☒ Toxicological hazard on board the ships mainly oil tankers, Chemical tankers and gas carriers.

Toxic Chemical


A toxic chemical or poison is any substance that produces harmful effects when it enters the body. These effects may be mild (e.g., headaches or nausea) or severe (e.g., seizures, or high fever), in the most serious cases, the intoxicated person can die. Almost all chemicals can act as a toxic if the amount present in the body is sufficient. Some are harmful even in very small quantities (e.g., a teaspoon by mouth or the tiny volume introduced by the bite of a snake), while others were only if the amount absorbed is considerable (e.g., the contents of several cups).



Poisoning

It is the reaction of the body to the entry of any toxic substance (poison) that causes injury or disease and sometimes death.

The degree of toxicity varies according to age, sex, nutritional status, ways of penetration and concentration of the toxic.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

A poison is any substance solid, liquid or gaseous that in a given concentration can damage to living beings. The toxics can be very varied; are found in plants, animals, snakes, fish, insects, microbes, in Gas Natural and artificial, in chemical substances and even in medicines that according to the dose can act toxically.

Causes of Poisoning

The poisoning or poisoning may be submitted by:

- Excessive doses of medications or drugs.
- Improper storage of drugs and poisons.
- Inappropriate use of insecticides, cosmetics, petroleum products, paints or solutions for cleaning.
- By inhalation of toxic gases.
- Food consumption in phase of decomposition or canned products that are blown or with consumption date already expired.
- The handling or consumption of poisonous plants.
- The ingestion of alcoholic beverages especially the adulterated.

Classification of the Toxic

The poisons that a person can ingest are: of mineral origin, plant and animal and solid, liquid and gaseous.

Ore

Phosphorus, cyanide, lead, arsenic, coal, pesticides, insecticides, petroleum derivatives.

Vegetable

Mushrooms, wild plants and seeds.

Animal

Dairy products, meat and sea in bad conditions or by sensitivity to these products.

Other



Many substances that are poisonous in small quantities may be in greater amounts. The inappropriate use and the abuse of certain drugs and medications such as sleeping pills, tranquilizers and alcohol can also cause poisoning or poisoning.

A person can poisoning of 4 modes:

- **By Airway**

Inhalation of toxic gases such as fungicides, herbicides, pesticides, insecticides, the smoke in case of fire; chemical fumes, carbon monoxide, (which is produced by the engines of vehicles); the carbon dioxide from wells and sewerage and chlorine deposited in many pools, as well as the vapors produced by some household products (glues, paints and cleaners).



- **Through the Skin**

By absorption or contact with substances such as pesticides, insecticides, fungicides, herbicides; or those produced by plants such as poison ivy, oak and the diesembaquia.

- **By the digestive route**

Through the ingestion of foods in decomposition, caustic substances and medicines.

- **By way of circulatory**

A poison can penetrate to the blood circulation by:

- **Inoculation:**

By stings that produce allergic reaction as the bee, wasp and poisonous snake bites.


- **Injection of drugs:**

Overdose, expired medicines or by allergic reaction to a specific type of medication.

Symptoms

According to the nature of the toxic, the sensitivity of the victim and the track of penetration, signals can be:

- Changes in the state of consciousness: delirium, seizures, unconsciousness.
- Difficulty breathing.
- Vomiting or diarrhea.
- Burns around the mouth, tongue or the skin, if the poison swallowed is a caustic, as: substances to uncover pipes or bleaches clothes.

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	MEDICAL CARE COURSE	REV. 9 - 2019

- Bad breath by the ingestion of mineral substances.
- Dilated pupils or contracted.
- Stomach pain.
- Vision disorders (double vision or spots in the Vision).

Treatment

- If you suspect that someone is intoxicated try to find out the type of toxic, track of penetration and the elapsed time.
- Review the place to find out what happened and avoid more risks.
- Move to the victim of the source of poisoning if necessary.
- Check the state of consciousness and verify if the victim breathe and if you have pulse.
- If the victim is conscious ask questions to gain more information.
- Loosen clothing if tight, but keep warm.
- If burns on the lips or in the mouth, apply plenty of cold water.
- If vomiting, collect a sample of it so it can be analyzed.
- Keep the airway free of secretions.
- Place it in a safe position or upside down, to prevent the venom vomited ingestion again or proceed to the airways.
- Locate and carry the containers that are close to the victim to a health institution, so that its contents be analyzed. Usually near the victim is the container that contains the toxic substance.
- If you are unsure of the type of poison swallowed and is indicated provoke vomiting, do so by entering your finger or the place of a spoon until touching the uvula (Bell).


Avoid causing vomiting in the following cases:

- If notes burns to the lips and mouth.
- If the breath is to kerosene, gasoline or derivatives.
- When the product instructions so indicate.
- If you are unconscious or has convulsions.
- If it has been more than two hours after the poison was swallowed.
- If you have swallowed the sulfuric acid, nitric acid, caustic soda or potash.
- Move the victim as soon as possible to a medical center.

Specific Treatment

Airway

- If possible, close the source that caused the poisoning.
- Remove the victim of the causal agent.
- Open windows and doors to aerate the complex.
- Remove any clothing that is steeped in gas and cover it with a blanket.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- Prevent or attends the shock.
- If there is respiratory arrest, give rescue breathing using protectors.
- Avoid turning on matches or actuate the switch of the light, because it can cause explosions.
- Move to a health care center.

Through the Skin

- Place the victim under the jet of water taking even the clothing, to eliminate the toxic substance.
- Avoid that your skin comes into contact with the victim's clothes, because you can poisoning, put gloves.
- Retírele wet clothes and continue bañándola with plenty of soap and water.
- If there is an injury, treat it as a burn.
- Keep the airway free.
- Move immediately to a health care center.

By the digestive route

- Induce vomiting only in the case of ingestion of methyl alcohol or ethyl alcohol and food in decomposition.
- Give milk.
- Check the breathing.
- If there is respiratory or cardiac to apply rescue breathing or CPR, as the case may be.
- If the victim is vomiting collects a sample so that it can be analyzed.
- Move the victim to a medical center.

By way of circulatory

Refer the victim a health care center as soon as possible.

- Give attention according to the demonstrations that are presented.

If the toxic penetrate the eyes

- Gently pry the eyelids and wash with water, for at least 15 minutes.
- Cover the eyes with a clean gauze or cloth, without pressure.
- Remítala to the ophthalmologist.

Poisoning Toxin



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

This poisoning is caused by the toxin of the bacillus *Clostridium botulinum*. This microbe develops in anaerobic conditions [without oxygen] in canned meat, fish and vegetables, producing a toxin of great activity. The botulinum toxin is the most powerful poison known; one milligram is sufficient to kill 100 people. Fortunately, the toxin is destroyed by cooking and is not therefore in freshly cooked foods.

Symptoms

- After an incubation period of 12 to 24 hours, appear headache, dizziness and diarrhea.
- Defects in the accommodation of the eye.
- Fall of eyelids.
- Shortage of secretion of saliva.
- Swallowing difficult or paralyzed.
- Difficulty of talking and hoarseness.
- Weakness in the extremities.
- Difficulty urinating.
- Constipation.

Treatment

- Quick transfer to the hospital.

Poisoning by insecticides

Can be caused by the consumption of fruits and vegetables without washing, insecticides that cause more cases of poisoning are the organophosphates, used in agriculture and gardening. Not only occurs the poisoning by contaminated food, but also in the staff that the applied, by contact with the skin or by inhalation of the spray.

Symptoms

- Diarrhea.
- Salivation profusely.
- Vomiting.
- Tremors.
- In severe cases, respiratory arrest.

Treatment

- If it is swallowed, provoke vomiting.
- If you have been in contact, you must wash the pile with soap and water, Irrigate mouth and eyes.
- Monitoring of breathing and other vital signs.
- Transfer to a medical center.



Poisoning by Cyanides

In nature there are cyanides in the bitter almonds, seeds of cherries, plums, apricots and peaches.

If you breathe the hydrocyanic acid, which is a liquid very evaporable, poisoning appears in few seconds, if ingested cyanide poisoning occurs in a few minutes, because with the acid of the stomach is released that is the poison hydrocyanic active. If you eat in excess bitter almonds or other seeds containing cyanides, the toxic symptoms appear between 15 minutes and an hour.

Symptoms

- Breathing and often difficult.
- Vomiting.
- Nervous system disorders, seizures, semiconsciousness.
- Respiratory paralysis.

Treatment

- If the poisoning is the result of having breathed cyanide, will move the victim to the open air.
- To move to the nearest hospital.

Carbon Monoxide Poisoning

The carbon monoxide (CO), is a gas without color, smell or taste. Is caused by the incomplete combustion and is in the smoke from cigarettes, in gases of cars. The poisoning occurs while remaining in closed rooms, in tunnels, in closed garages with cars with the engine running, also in kitchens by gas stoves.

Symptoms

In the event of Conscience

- Blindness (decreased reflexes).
- Intense headache.
- Vomiting.

In the event of unconsciousness

- Flaccidity
- Flicker Reduction.
- Labored breathing.
- The skin is pink.

Treatment

- Move aside the intoxicated of noxious environment and take it to the open air.
- Give assisted breathing, if necessary.
- Transport the Health Care Center.



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REV. 9 - 2019

Clinical History

In the event of an accident or sudden illness, if the victim is conscious, it is logical to ask: (interrogation)

- Can I help you? ("Can I help you?")
- How do you feel? ("How do you feel?")
- What happened to him? ("What happened?")
- Do you suffer from any illness? ("Do you suffer from any disease?")
- Do you take medicines? Do you stopped taking them? ("Do you take any medication? Did you stop taking them?")

Then in accident or sudden illness we can find several scenarios:

A- If was unconscious or disoriented and is now more alert.... Start the interrogation.

B- If you remain unconscious and there are other crew...ask them what happened.

C- If you remain unconscious and you are only.....or if you have completed the interrogation.

2. Care of casualties

Head and lesions of the Spinal Cord

Recognizes the symptoms of head and lesions of the spinal cord

The spinal cord contains the nerves that carry messages between the brain and the body. The cord passes through your neck and back. A spinal cord injury is very serious because it can cause loss of movement (paralysis) below the injury site.

Causes

An injury to the spinal cord may be caused by:

- Penetrating wound or bullet
- Direct trauma in the face, head, neck, chest or back (for example, a car accident)
- Accident to dive into the water
- Electric shock
- Extreme twist of the middle part of the body
- Landing on the head during a sports injury
- Falling from a great height



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REV. 9 - 2019

Symptoms

The symptoms of a spinal cord injury may include:

- Head that is in an unusual position.
- Numbness or tingling that spreads arm or leg down.
- Weakness.
- Difficulty walking.
- Paralysis (loss of movement) of the arms and legs.
- Loss of control of sphincters.
- Shock (cold clammy skin, Bluish colored lips and fingernails, appearance stunned or semi-conscious).
- Loss of alertness (loss of consciousness).
- Stiffness or pain in the neck, headache.

First Aid

Never move to someone you think you may have a spinal injury, unless it is absolutely necessary. For example, if you need to remove the person from a burning car or help with breathing.

Keep the person absolutely quiet and safe until medical help arrives.

- Call the local emergency number (such as 911).
- Hold the head and neck of the injured person in the same position in which they were found. Do not attempt to straighten the neck nor let the neck is bent or twisted.
- Do not let the person to stand up and walk without help.

If the person is not alert or is not responding:

- Check the breathing and circulation and begin rescue breathing and CPR, if necessary.
- Do not tilt the head back to the cardiopulmonary resuscitation. Do not perform mouth-to-mouth breathing, then only chest compressions.


Do not roll the person unless you are vomiting or choking on blood, or if you need to check for breathing.

If you need to turn it over:

- Make sure that someone else help you.
- A person must be located in the part of the head and the other to a side of the injured person.
- Keep the head, the neck and the back of the person aligned while you flipped to one side.

It should not be

- Bend, twist or lift the head or body of the person.
- Try to move the person before medical help arrives, unless it is absolutely necessary.

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- Remove the hull or pads that are used in the football if you suspect a spinal injury.

Prevention

The following may decrease the risk of an injury in the column:

- The use of safety belts.
- Do not drink alcohol and drive.
- Do not dive head first into puddles, lakes, rivers and other water mirrors, especially if you cannot determine the depth of the water or if the water is not transparent.
- Do not tackle or ramming a person with the head.

Alternative Names

Neck injury or neck injury

Victim Unconscious

The causes of the loss of knowledge may be many and often difficult to determine. The treatment that should be given varies according to the causes which have caused, but in first aid is usually not possible to make a diagnosis of the causes.

It can be said that the immediate causes of threat to life can be:

- Breathing obstructed by the Language drop down backward that blocks the throat.
- Stopping the heart

Description and demonstration of broken spine

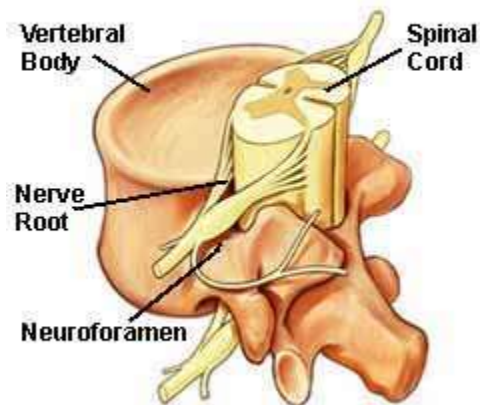
Fractures of the spine should always be regarded as serious injury, by the complication that can occur if the immediate attention is not adequate, because these cause the section of the spinal cord that leads to paralysis of the upper and lower limbs or the death of the victim. The two most vulnerable regions are the neck (cervical region) and the waist (lumbar region).

These fractures can be caused by blows direct or indirect such as those caused by automobile accidents, backlash to fall from a great height on the feet, blow on the head to dive in a swimming pool, violent acts or sports injuries.

Signs of the fracture of column



- Changes in the state of consciousness.
- Pain and swelling in the area of the fracture.
- Inability to move the arms and/or legs.
- Tingling, decrease or loss of sensation in the hands or feet.
- Difficulty breathing.



Attention of the fracture of column

- Check the respiration, the state of consciousness and control the bleeding.
- Advise the rugged slopes that will not move. Do not lift.
- Assess the sensitivity and mobility. If the victim is conscious ask if you can move the arms and legs, or if you feel tingling; ask to move one by one the fingers of the hands and feet.
- If the victim is unconscious, use a pin, hook or braces, to play with them the soles of the feet and the palms of the hands. If there is sensitivity the victim will react by bending the fingers.
- Assume that every victim of a serious accident has a fracture of the spine, Maximum if you are unconscious.
- Act with calm and security. The speed of action in these cases is not important.
- Place the victim face up, avoiding abrupt movements of the head and neck.
- Reduce to a minimum the movement of the head and vertebral column using orthopedic collar.
- Maintain a moderate but robust traction while another assistant applies an immobilizer of neck.
- It is now placed a stretcher hard or long table at the back of the victim.
- Secure it to the cradle. The hands are placed below the waistband of his pants or secure on the chest.
- One of the lifeguards performs manual traction (upwards and sustained) of the neck vertebrae, placing the hands around the jaw, so that the fingers meñiques are just below the jaw. Another lifeguard places a short table behind the victim, from the hip to the head.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

- Then lift the head with firmness and remains stable. Thus the head is not resting on the neck, at the same time prevents the neck will be doubled and that the edges of the fractured bones break the marrow. Keep your head steady while one or two lifeguards placed a collar. Ensure the victim to the short table. When the victim is secured to the table, you can move without danger.
- A lifeguard slides a long table until you reach the hip of the victim.
- The people who are on the shoulders go to bed by the victim with great care on the long table. All together glide the victim entirely on the table and the claim.
- Avoid that the victim is cool or warm.
- Transport the victim to a medical center as a matter of priority.



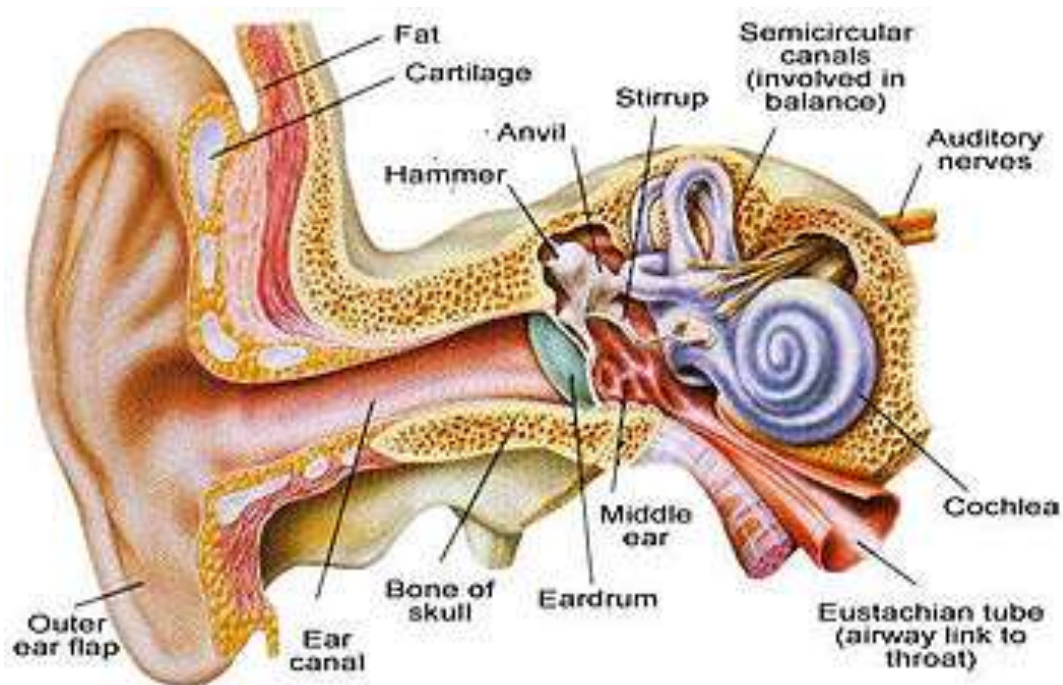
lesions of the ear, nose, throat and eyes

 **The Ear**



The ear is one of the organs of the senses, with the we can grasp the sound waves q then our brain captures.

In this work we will talk of the ear, its anatomy and function of each of its parts.



Which are the sound waves as they are captured by the ear. We shall also be discussing the diseases q you affect their features symptoms and treatment. The Ear

What is the ear?

Is the set of structures located in the exterior and interior of the temporal bone.

Function:

Perceive sounds and regulate the spatial equilibrium of the body.

Parts of the ear:



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REV. 9 - 2019

- External ear
- Middle Ear
- External ear.

External ear:

The external part of your ear consists of the **pinna** and **ear lobe**. The pinna is the shell-like part of your external ear, and is made of cartilage and skin. It directs sound waves from the outside into your **external auditory canal** (ear canal), which in turn channels sound waves to the **tympanic membrane** (also known as the **ear drum**). The tympanic membrane is a thin, semi-transparent membrane that separates the outer and middle ear.

Middle ear:

- Consisting of:
- Tympanic cavity: constituted by the air cavity between the outer ear and the inner ear. In it are: huesillos called hammer, anvil, and stirrup; ligaments responsible for uniting the external ear with the inner ear; and two small muscles called muscle of the hammer and muscle calliper, which regulate the presence of sound stimuli very weak or very strong.
- Eustachian tube: joins the housing of the eardrum to the rinofaringe. This is the only path that allows air to penetrate to the housing.
- Function:
- Tympanic cavity: triple the strength of the sound vibrations and 15 to 30 times by the location between the eardrum and the oval window.
- Eustachian tube: regulate the pressure of the box be = than ambient

Inner ear:

- Composed of a complex system of membranous channels with a coating bone.
- Located in the inside of the temporal bone.
- Contains the organs of hearing and balance.
- This separated by the oval window.
- The inner ear consists of a membranous channels aserie housed in a dense part of the temporal bone,

Is divided into:

- Cochlea (in Greek "cochlea")
- Lobby.
- Three semicircular canals.
- The semicircular canals are communicating with each other and contain a gelatinous fluid called "endolymph".

The sound waves and the ear



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REV. 9 - 2019

Are changes in air pressure that are transmitted at a speed of a kilometer per second, and impact on the tympanic membrane in which occurs a vibration. This vibration in turn induces the movement of the ossicles which causes a pressure on the Retana oval, is transmitted to the perilympha. This transmits the vibrations to the walls of the membranous snail and this to the endolymph contained in it . The endolymph for its part leads this vibration to the hair cells in the organ of Corti. These cells are the receptors that generate the nerve impulse that arrives in the center of the hearing of the brain where they are interpreted.

The sound waves in this tour are propagated by 3 different media gas (ear canal), solid (middle ear, transmission between ossicles) and liquid (inner ear in the endolymph of membranous snail, where flutter to hair cells)

Diseases that affect the ear and its treatment.

External ear:

- **external otitis:**

Is the inflammation process in charge of the ear that is located in your external part.

Types:

Perichondritis: an infection of the skin and tissue surrounding the cartilage of the outer ear.

Duct mycosis: inflammation caused by fungi that form a whitish mass that reduces the transmission of sounds and produces.

Acute purulent external otitis: can be traced to a boil or widespread throughout the skin of the canal and is caused by poor hygiene, by micro trauma repelled and propagation of the or

- **The symptoms are :**

At the beginning there is an irritation of the ear accompanied by pain, may also have a slight loss of hearing because of the pus or other secretions of the external oven, I can also have a fever.

- Treatment: can be with pain relievers such as aspirin or heat that can relieve the pain.
- **Earwax plug:**
- Is one that is formed in the ear canal by the material secreted by the sebaceous glands or ceruminous found in the skin of creamy consistency of a semisolid yellow or brown and form of fat protein and mineral salts. Normally the section of earwax is eliminated by the ear canal with the daily cleaning, but in some people the elimination of earwax is not carried out or produce much and there is when you form the Plug
- TRATAMIRNTO: its elimination is performed by inserting warm water to pressure in the ear canal. But to prevent its occurrence must be performed on a daily cleaning.
- Tumors of the ear:
- Types:

Papillomas and fibroids (located between the acoustic shell and the meatus)



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REV. 9 - 2019

- **Malignant:** Epitretoma basal cell, the q first with an inflammation odorless and with form of cauliflower, the q evolve and transform into malignant tumors that spread quickly to the regions perauriculares
- **Benign:** exostoses, are benign tumors of great size, which may obstruct the passage which causes deafness in transmission or complications.
- **Symptoms:** emergence of deafness, Dolores headphones and hum. The very advanced produce symptoms rinofacial neuralgic, paralysis.
- **Treatment:** surgical intervention and in which cannot be treated with radiation therapy, in some severe cases require removal of the ear and rebuild it again.

O The presence of foreign bodies:

- May be in the ear lobe; that cause that cause an infection or because they are too nations, or in the ear canal; that can be objects that are entered in the ears (food, insects, toys, buttons, etc.)
- **Symptoms:** some do not produce symptoms. However, there are others that can cause dolo ear redness or secretions. In addition, they may block the ear canal and affect hearing.
- **Treatment:**

Immediate removal of the object by the doctor, which can be by means of insertion of instruments in the ear, use of magnets (if it is metal), cleaning of the ear canal with water, suction by means of an appliance.

- **Middle ear:**
- **Otosclerosis:**

O This disease is caused by an abnormal ossification growth of the bones that form the entrance to the inner ear, which prevents the basis of the calliper vibrates when sound waves start on the eardrum by which occurs a deafness increasingly strong.

O Symptoms: Usually occur at the time of puberty, so slow and progressive. The main symptom is that the patient begins to speak with a higher volume than normal to compensate for the noise of the environment that feels in the inner ear and the patient takes a long time to realize your problem with security

O Treatment: it is essentially surgical, is carried out with the microscope handset. After the operation the eardrum is normally retrieved in one or two weeks.

- Otitis Media:
- Inflammatory process so catarrhal (no pus) and form purulentas, both can be acute or chronic. Produced by occlusive processes of the Eustachian tube and to equate the atmospheric air pressure both sides of the eardrum. The tube is Cover with lid with serosidad and with the arrival of germs not piogenos (no pus).
- Causes: produced by the extension of an inflammatory process of the rinofaringe (acute or chronic) or in tumors and injury healed.
- Symptoms:

Pain



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REV. 9 - 2019

Decreased hearing

- **Treatment:**

Local heat applications.

Instilaciones endoauriculares of glycerine glicenica. Antibiotics (track assembly).

Surgery (after the cessation of the pus)

- TIMPANO BREAKAGE:

O **Causes:** introduction of foreign objects

Blows or explosions.

Bad infections diagnosed or poorly bandaged.

- **Symptoms:**

Pain

Hemorrhage

Hearing Loss

Tinnitus

- **Treatment:**

Antibiotics to prevent or treat infections.

Analgesics in case of pain.

If the eardrum does not closes spontaneously make a tympanum plasty (graft that replaces the injured area).

internal ear:

- Acufenos:

O Is when a series of hum or noise perceived in the inner ear. These can be continuous or intermittent, mono or bilateral, and intensity and tone variables.

O **Types:**

Tinnitus false: these are due to vascular movements (veins), muscular, etc. that can be perceived by individuals located near the patient.

Tinnitus true: are due to pathological processes, which are only heard by the person who suffers them. Tend to be annoying and difficult to cure.

- **Treatment:** this is dealt with in to end the buzzing by means of drugs or surgery.



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REV. 9 - 2019

O Ménière sickness:

- It is caused by an unexpected distention of the membranous semicircular canals by increasing the endolymph, determined by reasons still unknown.
- Symptoms: arise suddenly and consists in a feeling of stormy noises Ringing with vertigo accompanied by nausea and vomiting.
- Treatment: the course of the disease is not constant because in some cases the patient cure quickly, in other healing can be long or are not achieved positive results. The treatment consists of the absolute rest both physical and mental, have a good food and in last case will have recourse to the Surgery
 - **Labyrinthitis:**
 - Chronic acute inflammation of the labyrinth can be labyrinthitis above (organ of the ear) or labyrinthitis later (organ of balance)
 - Types:

Labyrinthitis timpanogenos: a result of the chronic purulent otitis media or acute otitis serious.

Labyrinthitis meningógenas: it observed serious infections widespread

▪ **Treatment:**

Antibiotics

Sulfamidas


Surgical interventions in special cases.

The chronic course who have symptoms dimmed can only be treated surgically.

🏠 **Nose**



Allergic rhinitis

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Can be classified in seasonal and perennial.

The symptoms that can cause are the nose itching, mucus production and aqueous liquid in addition to sneezing frequent. It explores the inside of the nostrils may observe that the mucosa of the turbinates is red, swollen, or with a very characteristic violet coloring. The inflammation produces redness in the throat.

The patient usually also present the eyes congested, that smart and lagrimean with profusion. Since all the mucosa of the nose is congested, the patient may not be able to breathe freely and easily, therefore it is not surprising that the mucosa of the maxillary and frontal sinuses is also congested. This may encourage the sinusitis, affections very common in these patients, they cause frequent headaches, general malaise and, depending on the person, character changes and irritability.

The allergic rhinitis is also manifested with frequent sneezing, runny nose, watery and tearing transparent constant all these symptoms especially in the mornings, this makes that diminish the daily activities of the people causing discomfort, commonly confused with a simple cold, unlike a cold is accompanied by fever and temperatures and does not go beyond one or two weeks.

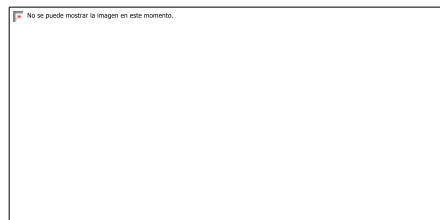
Non-allergic rhinitis

Vasomotor rhinitis: consists in the nonspecific hyperreactivity of the nasal mucosa that causes an inflammation of the same by different causes. The most frequent are:

- Certain medications
- Pregnancy, because of a special form of rhinitis call <>, which consists in a swelling of the nasal mucosa with obstruction and normally appears toward the second half of pregnancy.
- Abuse of nasal decongestants, by the danger of habituation, with increase of the nasal congestion.
- Idiopathic, are the most frequent (70%)

The vasomotor rhinitis is manifested by nasal obstruction. The rhinoscopy our a pale nasal mucosa, with turbinates hypertrophic and edematous, which usually retract well with adrenaline and are covered by a profuse secretion. It must begin with medical treatment, but if necessary take a measure surgical, practiced a reduction of the size of the turbinates.

The nasal polyposis



It is a disease that affects the inside of the nose (and the sinuses) by the growth of benign tumors that obstruct breathing. The most common symptoms are:



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REV. 9 - 2019

- Difficulty breathing through the nose (mouth breathing, snoring).
- alteration or cancellation of smell (anosmia).
- Voice nasalized or permanent nasal congestion.
- runny nose exaggerated.
- nasal obstruction.

Nasal polyps are growths of the nasal mucosa or sinuses of origin and inflammatory benign nature. Its etiology is discussed: years ago of considered synonymous of allergy, but today it is known that this is not so.

The primary symptom is the nasal obstruction. The diagnosis is made by endoscopy, where it is evidenced a pedicled training of mucoid aspect - usually coming from the hyaline the middle and upper meatos and can obstruct fully the nostril.

With regard to treatment, if the polyp is small is medical treatment with corticosteroids for track assembly and, at the same time, topical corticosteroids. If the polyposis is of some intensity or relapse, surgical treatment is recommended. Currently, recourse was had to the techniques of sinonasal endoscopic surgery.

Inflammation of the lining of the sinuses

Produced mainly by the blockage of the air passages that arrive to the nostrils.



Is generally due to an infection by bacterial agents, viral or fungi. There is an acute and a chronic form.

Chronic sinusitis

Chronic sinusitis is a complex spectrum of diseases that have in common a persistent inflammation of the sinuses. Is divided into those cases that they attend with nasal polyps sometimes called chronic sinusitis



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MEDICAL CARE COURSE

REV. 9 - 2019

hyperplasia and cases without polyps. The causes are still unknown and may include allergies, environmental factors such as dust or pollution, bacterial infection or fungi (allergic, infectious or reagents). The non-allergic factors, such as vasomotor rhinitis can also cause chronic sinusitis. The paranasal sinuses abnormally straits, can prevent the drainage of the cavities of the breast, so that they could also be a factor, as well as the cystic fibrosis.

There is a combination of aerobic and anaerobic bacteria, including Staphylococcus aureus and coagulase negative Staphylococci. Usually antibiotics offered only a temporary benefit, so you prefer the surgical treatment. The endoscopic surgery (CENS sinonasal) is the surgical approach more in vogue at the present time; using this technique, in addition to eliminating the alterations that have led to the sinusitis, attempts to restore the normal physiology with respect of the maximum number of structures and trying to the mucosa ill are reset spontaneously.

Acute Sinusitis

Acute sinusitis usually occurs secondary to an infection of the upper respiratory tract, usually of viral origin. If the infection is bacterial origin, the three most common causal agents are Streptococcus pneumoniae, Haemophilus influenza and Moraxilla catarrhalis.

The viral sinusitis usually lasts 7 to 10 days, while the bacterial sinusitis is more persistent. Between approximately 0,5 % and 2 % of the viral Sinusitis Sinusitis progressing to bacterial.

Acute episodes of sinusitis can also be the result of infections by fungi. These infections are more frequent in patients with diabetes or other immune deficiencies, such as patients with AIDS or who are receiving drugs antirrechazo of transplants and can be life threatening. In the diabetes mellitus type I, the cetoacidosisconllea to a sinusitis by mucormycosis.


The chemical irritation can also cause a sinus infection or by the smoke from cigarettes. Occasionally, especially between the second and third decade of life, can be caused by an infection dental.

Hypertrophy of turbinates

Is an enlarged nasal turbinates exaggerated lower due to certain conditions and especially to allergic processes, thus hindering the natural flow of air through the nostrils and resulting in a nasal obstruction.

On the side walls of the nose and both sides are very important structures that are the three turbinates: upper, middle and lower, the latter being from the clinical point of view, the most important. The inferior nasal turbinates are small bony structures covered with soft tissue and cavernous, which are arranged in the inside of the nose of elongated shape, being able to differentiate in them a head, a body and a queue and that act as filter or as if they were a few "small radiators".

In normal conditions debugged and heat the cold air entering through the nose during breathing, but in specific situations and according to the requirements that demand the environment such as: rhinitis, presence of allergens, toxic work environments, tobacco, etc., act more than usual hipertrofiándose or delayed, due to an increase in the size of the blood vessels that irrigate.

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	MEDICAL CARE COURSE	REV. 9 - 2019

This abnormal growth of the inferior turbinates causes an important chronic nasal obstruction, which hinders the normal flow of air.

There are many reasons that can cause abnormal growth of the inferior turbinates, being able to differentiate between two large groups depending on whether they are due to environmental conditions, or if you depend on the personal characteristics and individuals of the person.

- Conditions of weather and climate:
 - Excessively damp environments.
 - Toxic work environments.
 - The presence of smoke and other toxic agents and irritants.
 - Presence of allergens in the environment.
- **Personal conditions:**
 - Frequent processes gripales, colds, etc.
 - Have allergic rhinitis.
 - Due to the age and the passage of time.
 - Due to endocrine functions.
 - Abuse during long periods of time of certain medications such as: steroids, or nasal vasoconstrictors, etc. which can produce a rebound effect.

As we have already said, when the the inferior turbinates presented an abnormal increase in its size, cause an obstruction of the passage of air and prevent adequate breathing, which forces the patient to breathe for long periods of time through the mouth, having important consequences for health, such as for example:

- And ronqueras Afonías.
- Sore throat.
- Irritative cough.
- Hearing loss or loss of hearing.
- Frequent headaches and feeling of stun.
- Physical exhaustion.
- Low performance in sports practice.
- Major disruptions during sleep, which produces: daytime sleepiness and snoring, which besides being a problem of aesthetic and social type, is considered one of the clearest evidence of the Obstructive Sleep Apnea Syndrome.

The initial treatment is with topical corticosteroids, if symptoms persist is preferred surgical treatment:

- (Turbinectomía excision).
- Radio frequency of turbinates.
- Turbinates surgery assisted by diode laser.

Epistaxis



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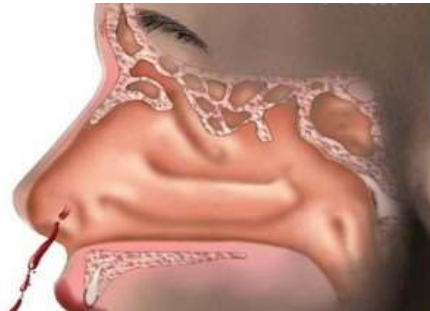
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REV. 9 - 2019

Bleeding from the nostrils, can be produced by a variety of causes, between which it emphasizes the hypertension, mucosal inflammation or trauma digital (scratching).

With regard to treatment, the aim is to curb the bleeding as soon as possible to avoid the effects on the hypovolemia. You can perform a cauterization with silver nitrate or electrocoagulation with laser, plugging upstream or downstream, arterial ligation, embolization, etc.

Nasal fractures



The nose is the most prominent part of the face and the nasal fractures are the most frequent of the facial skeleton. The causes of nasal trauma are the aggressions, traffic accidents and marinas and accidental trauma. Are more frequent in young men.

In general, the treatment of the nasal fractures is the reduction of the nasal pyramid and the Septum. The best time is in the first 3-7 days. Most fractures are reduced well under sedation and anesthesia crazy

Throat

The throat is a tube that carries food down the esophagus and air to the trachea and the larynx. The technical name of the throat is pharynx.

The problems in the throat are common. Probably, once had a pain of throat. This is usually caused by a viral infection, but other causes include allergies, infections due to the bacteria streptococcus or when stomach acids turn toward the esophagus, called gastric reflux.

Most of the problems of the throat are minor and disappear spontaneously. When a treatment is necessary, the same will depend on the problem.

Tonsillitis (anginas)

The tonsillitis or angina is the inflammation of a palatal tonsils or both (masses of tissues oval, fleshy, large that are in the lateral wall of the oropharynx to each side of the throat). These groupings of tissue contain the cells that produce antibodies useful in the fight against infection.



Farinjitis

Pharyngitis is inflammation of the pharynx. Generally accompany him difficult, swollen tonsils and fever more or less high. The possible causes of pharyngitis are: the viral infections, bacterial infections or allergic reactions



mucosal lining of the symptoms as swallowing



Eyes

Your vision may be altered by different mechanisms. The most common disorders include refractive errors, which is the mechanism by which an image is focused on the retina. These failures affect the visual acuity (sharpness of vision). Corrective glasses can improve almost always blurring of vision due to a refractive error.

Other types of impaired vision can be caused by disorders of the eye or optic nerve or the nerve pathways connected with the brain. These vision disorders can lead to alterations of the visual acuity or to interference with the field of vision. In these cases the corrective glasses do not eliminate the problems.

If you notice a persistent alteration in the quality of your vision, see quickly to your doctor to examine your problem.

Effects of age on the Vision

A younger person is able to easily focus their eyes on objects at distances very different because the internal lenses of their eyes have a natural elasticity that makes its curvature can vary. The lenses of the eyes are slow and progressively less elastic with age, and its capacity of accommodation decreases, this makes the point that is closer than the eye can focus away every time more.

Even if your vision has always been normal, a person may need glasses for reading after the age of 45 years.

Visual defects



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REV. 9 - 2019

Hyperopia

The farsightedness has its origin in the short size of the eyeball, or in the absence of optical power. It is the result of the visual image being focused behind the retina rather than directly on it. Can be caused by the fact that the eyeball is too small or the focusing power being too weak.

The farsighted see well far away, but to see up close, para read a written, you need to use lenses converging or biconvexas that advance the images onto the retina

Farsightedness is often present from birth, in young people have a very flexible eye lens that helps to compensate for this lack of power and reach a clear vision, in particular from afar. Most children outgrow this condition with the time.

With age, when they lose the ability of accommodation, may require the use of glasses or contact lenses to correct vision.

Presbyopia

The presbyopia or eyestrain is own failing of old age, is manifested with age and consists in a lack of elasticity of the lens of the eye that loses its ability to focus, making it difficult to see nearby objects.

The lens is flexible in the youth and thanks to the contraction of the ciliary muscles, easily changes curvature and can thus focus both distant objects as close. Over the years, this condition around the age of 40, the lens ceases to be flexible and the eye loses its ability of accommodation, so that the nearby objects begin to be blurry and the reading is made more difficult. Presbyopia is a natural part of the aging process and affects all people.

Has no surgical correction, the best solution are the progressive crystals that allow to see well at all distances.

Myopia

The myopia is a refractive defect or refractive error. The origin of the myopia is located in an excessive length of the eyeball or in an excess of optical power. The magnitude of the myopia is measured in diopters negative.

When viewing, the eye myopic has greater dioptric power so that the image is form before reaching the retina. Because of this, although the cornea and the lens focus correctly, as soon as the image recedes the person sees blurred. On the contrary the near vision is extraordinary.

A person with myopia has difficulties to focus well the distant objects, is corrected with diverging lenses, whether glasses or contact lenses. In some cases it can be used the surgery.

Colorblindness

It is the inability to see certain colors in the usual way. The eye color-blind confuses some colors due to the cells of the interior of the eye that discriminate the colors are damaged. These cells by its shape, are called 'cones'. Due to the lack of cones of a particular color the colorblind person will have problems to distinguish the color red, green, blue, in addition to have altered the vision of colors compounds, which



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

are the majority. The majority of the cases of colorblindness is due to a genetic problem. Is Inherited, transmitted from mother to child, although the mother only carrier and do not suffer, as it is very rare for a woman colorblind.

Colorblindness is a condition for life and the majority of people can adapt without difficulty or disability

Astigmatism

Astigmatism is a very frequent defect and consists in that not all meridians of the lens have a same curvature, are equally convergent, so that the images are faulty.

It is a type of refractive error of the eye. Astigmatism is located mainly in the cornea (although it can also be found in the lens and the retina). This coating, to not be totally spherical, has more dioptric power in a meridian than in the other. When the light is directed to the retina, converge in a line and not at a point as it should. For this reason the astigmatic displays the image makes the visualization of subtle details of both far and near. The glasses or contact lenses or laser vision correction can usually correct vision to normal, making the two shafts cornéales have the same dioptric power...

The dry eye

Dry eye is one of the most common mild ocular pathologies (nearly 20 per cent of the population come to suffer temporarily or chronically) and is very common in the elderly, in the case of a disorder of the tear film due either to a tear deficiency or excessive evaporation occurs. The tear duct is the body of secretion and excretion of tears. The lacrimal glands are located above the outer corner of the eye and are two tiny corpuscles of internal structure tubuloacinoso, that secrete almost continuously the lacrimal fluid whose purpose is to maintain always conveniently cloth and clean the eyeball avoiding therefore its drying in contact with the air. The fluid secreted after previous wet the surface of the eyeball is directed by the action of the eyelid movements (flashing) that occur so unconscious from time to time, toward the inner corner of the eye, which through the small and thin tear duct reaches the corresponding nostril.



The importance of tears

The tears are incorporated in a 98% water and by various solids dissolved between predominantly the sodium chloride (hence the slight salty taste of the same) and also the lisozimas with an antimicrobial effect that disinfects the ocular tissue. Thus the tears wash the eye always keeping it smooth and clean of



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MEDICAL CARE COURSE

REV. 9 - 2019

dust and tiny foreign bodies that have been able to enter which facilitates a clear vision; they keep the eye moist, preventing its drying to contact with the air and hamper the development of the pathogenic microbes on the eyes avoiding (both by drag as for destruction by his power antiseptic) in most cases some eye infections.

Symptoms of dry eye and causes

The most common symptoms that announce the existence of a problem of dry eye are a series of inconvenience caused by the lack of tear fluid: a persistent feeling of dryness, feeling of the existence of a foreign body in the eye, irritation, burning, the impression of having as grit and that "raspa" to blink, itching, difficulty to open the eyes (especially in the morning), photophobia and even excessive tearing (although it may seem a contradiction), light blurred vision, etc.

A fundamental feature that can confirm a dry eye is the trend of deteriorating throughout the day. When these symptoms occur it is necessary to go to their primary care physician or a specialist to determine the pathology and introduce appropriate treatment once it is unclear whether the origin is an inadequate tear or an excess of evaporation and the severity of the disease.

The causes of these two forms of dry eye (hiposecretor or evaporative) are diverse. While in the first may be due to a Sjögren s syndrome (a disorder auto-immune the lacrimal glands that accompanies times by dry mouth and arthritis) the second can be by palpebral alterations, lipid deficiencies use of contact lenses, duct obstruction of secretion, takes of some drugs, pregnancy, continuous use of the computer, hormonal changes, etc.

Conjunctivitis

Conjunctivitis is inflammation of the conjunctiva (the mucous membrane that lines the inner surface of the eyelid and that folds back on the free part above the eyeball). The name of conjunctiva that receives this membrane originates in the "cul-de-sac" of the same that "joint" (or that unites) the inner surface of the eyelid with the eyeball.

This inflammation of the conjunctiva is caused by very different causes, endogenous or exogenous, of infectious type, viral, parasitic, toxic, allergic or any other cause. In almost all types of conjunctivitis there are some symptoms that are common or common to all of them: the eye appears with lachrymation and with secretion of diverse quality and quantity that you can paste the eyelids between yes, feeling of grit and redness uniform. In spite of all this the vision is not modified (except for presence of the secretion inside the eye), the pupils are equal and react well to the light and tone eye is normal.

The conjunctivitis may be bacterial (with runny **mucopurulenta**), viral (with palpebral edema, tearing) or allergic (itching and intense itching). As it is logical to each type of conjunctivitis needs a specific treatment, hence the importance to go to the doctor for a correct diagnosis. Thus the bacterial, most of the times, requires antibiotics, anti-inflammatory and the viral some normally allergic the use of antihistamines.

Catarrhal conjunctivitis





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REV. 9 - 2019

Acute catarrhal conjunctivitis is a common infectious eye disease caused by bacterial infection, with the epidemic, commonly known as "red-eye" or "pink eye." Left to their fate, lasts approximately 15 days and through treatment in 4 or 5 days.

Traumatic conjunctivitis

The scratches and bumps facilitate the superinfection of the conjunctiva.

Viral conjunctivitis

Are very frequent this type of conjunctivitis that are usually triggered by adenovirus, with less legañas that bacterial but with the risk of possible affectation painful corneal. Extremely contagious can lead to small epidemics in family or schools through contact with secretions, which makes it necessary to prevent possible contagion avoiding (among other things) the use of the same towel and frequent hand washing both of the patient as well as the rest of the people in your environment.

Viral conjunctivitis

Describes three subtypes: acute, seasonal and perennial. The most common being typically seasonal, produces clinical symptoms very diverse (itching, stinging, legañas aqueous) and your home can be more or less acute depending on the sensitivity to the allergen. According to the countries varies the allergen guilty (birch and grass in northern Europe; Ambrosia and grasses in the Americans; grasses olive, cypress and parietaria in the Mediterranean, etc.)


As most common symptom and important is the eye itching to which sometimes joins the burning sensation, lachrymation, conjunctival erythema and palpebral edema of varying intensity that increases when performing rubbing on the eyelids with redness. The treatment consists of removing, if possible, the allergen and desensitize the patient.

The use of coirises antihistamines mitigates much the bothersome symptoms and tend to be sufficient if there is any superinfection or it is necessary the use of corticosteroids.

Bacterial conjunctivitis

It is the most common conjunctivitis and may be produced by a variety of bacteria (Staphylococcus aureus , Pneumococcus, Haemophilus...) tearing in these cases acquires a greenish-yellow tone coming to paste the legaña eyelids especially after the night sleeping. Are very contagious and usually require specific antibiotic treatment to eradicate the infectious agent (eyedrops and/or ointment) and in some cases anti-inflammatory. Although in 3 or 4 days improvement is seen usually cures from one week to ten days of treatment. In the event of a join affectation of the eyelid (stye, for example) it is recommended the use of warm compresses for 10 minutes, three or four times a day.

Conjunctivitis by strange body

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	MEDICAL CARE COURSE	REV. 9 - 2019

The penetration in eye of a foreign body (in a day of air, dust, grit, etc.) and improper use of contact lenses or contact lenses, or if they have not been disinfected correctly, facilitates the penetration of microbes causing conjunctivitis.

Tips:

In the use of the treatment prescribed by the doctor is important to follow some basic tips:

- You must use sterile gauze (better than handkerchiefs of paper or cotton swab) thus avoiding direct contact with the hands
- Do not share the coirises, salves or ointments between several people
- To apply the eyedrops or eye ointment, the tip of the bottle must not touch the eye since it would contaminate. If remains rest in the tip of the tube clean with a sterile gauze.

Stye

The eyelids are two mobile folds of tissue that have as their principal aim the protection of the eyes. The different distributed glands along the eyelid margin contribute to the formation of the lipid component of the tear film. The affections of the eyelids are some of the most common problems, being the so-called stye the more common among adults and children. This is an abscess that is formed in the edge of the eyelid and that is caused by an infection of a Zeiss gland (sebaceous glands, which were communicated to the follicles of tabs) or of Moll (sweat glands) and that develops in the outside or inmates who are infections of the sebaceous glands of meibomian lining the inside of the eyelids.

Styes are usually caused by the bacteria *Staphylococcus aureus*. The eyelid swells, swells and becomes painful; then in a point on the same appears a nodulillo, first red and hard, and then soft and yellowish (by the pus). Styes contain water and pus and the bacteria will be extended if the stye breaks violently, so it is not a good idea to try to tighten or perforate the stye, since the infection can spread to adjacent tissues (only health personnel and with sterile media can do it conveniently, if it deems necessary).

Styes are characterized by an acute beginning and usually of short duration (7-10 days without treatment). Although styes are harmless in most of the cases and complications are very rare, tend to recur. Intraocular do not cause harm, which means that it does not affect the eyes. A stye is usually clears up in a few days, but if no improvement or worsening within two weeks, you should go to the doctor. Few people require surgery as part of the treatment of the stye, since with the appropriate treatment, tend to heal promptly and without complications.

Treatment of Stye:



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REV. 9 - 2019

The main form of treatment for a hordeolum is the implementation of a hot towel in the eyelids for about ten minutes 3 or 4 times a day and may be beneficial in reducing the occurrence of sties by liquefaction of the contents of the sebaceous glands of the eyelid. The cleaning must be done with care and with our eyes closed to avoid injuries to the same. Medical professionals can also prescribe the use of a varied therapeutic arsenal to have in the market of ointments with diverse types of antibiotic (terramicina, bacitracin, erythromycin, chloramphenicol, aureomicina, acid fusídico, tobramycin, etc.), there is also some with antibiotic and cortisone by if it is necessary to reduce the itching/itching and inflammation. Only in more serious cases of stye relapsed (reiterated) or signs of cellulite is recommended to the oral intake of antibiotics (dicloxacillin, erythromycin, azithromycin...) but always under medical prescription.

Prevention Tips:

The prevention of the stye is closely related to a proper hygiene. Proper hand washing can reduce the risk of developing not only styes, but also all other types of infections. To prevent styes in development, it is recommended to never share cosmetics or utensils of the eye (brushes, delineators, curlers tabs, etc.) with other people and discard because they can be contaminated by the bacterium. It is recommended to remove the makeup every night before going to sleep and discard old makeup or contaminated.



There are wipes and palpebral cleaning gels that are very useful for cleaning the edge of the eyelid, main entrance door of the infections that originate the hordeolum.

External and internal hemorrhage

Produced by tear or breakage of capillaries, arteries, veins that carry blood through the body and may be external and visible or internal. The objective of the lifeguard is to avoid the loss of blood from the rugged, whenever possible.

There are cases in which it is impossible to control bleeding, action will consist in preventing the deterioration of the health of the injured, specifically to the internal bleeding and exteriorizadas.

⇒ Capillary bleeding or superficial:

Involves only superficial blood vessels that supply the skin; generally this hemorrhage is limited and can be easily controlled.

⇒ Venous Bleeding:

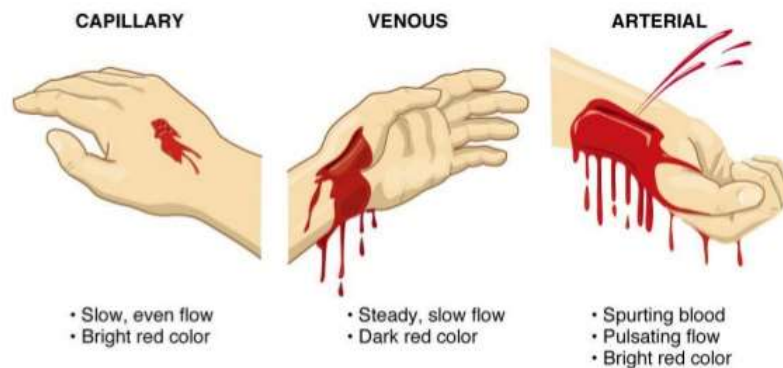
The veins carry blood of the bodies toward the heart; venous hemorrhages are characterized because the blood is of dark red color and its output is continuous, from little or abundant quantity.

⇒ Arterial Bleeding:



The arteries take blood from the heart to other organs and the rest of the body; arterial bleeding is characterized because the blood is bright red, its output is abundant and intermittently, coinciding with every keystroke.

Hemorrhage Classification



⇒ Internal hemorrhage

Are those that occur on the inside of the organism, without going outside, therefore not seen, but yes it can be detected because the patient presented signs and symptoms of shock.


Symptoms

- † Paleness and blindness
- † Voltage Too Low
- † Rapid, shallow breathing
- † Very rapid pulse and extremely weak
- † Thirst
- † Vomiting
- † Acute pain in the abdomen or chest
- † Loss of vision or ringing in the ears.

Procedure

Immediately transfer to the affected, duly sheltered with the legs elevated above the level of the head or in lateral position of security.



	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

⇒ External Bleeding

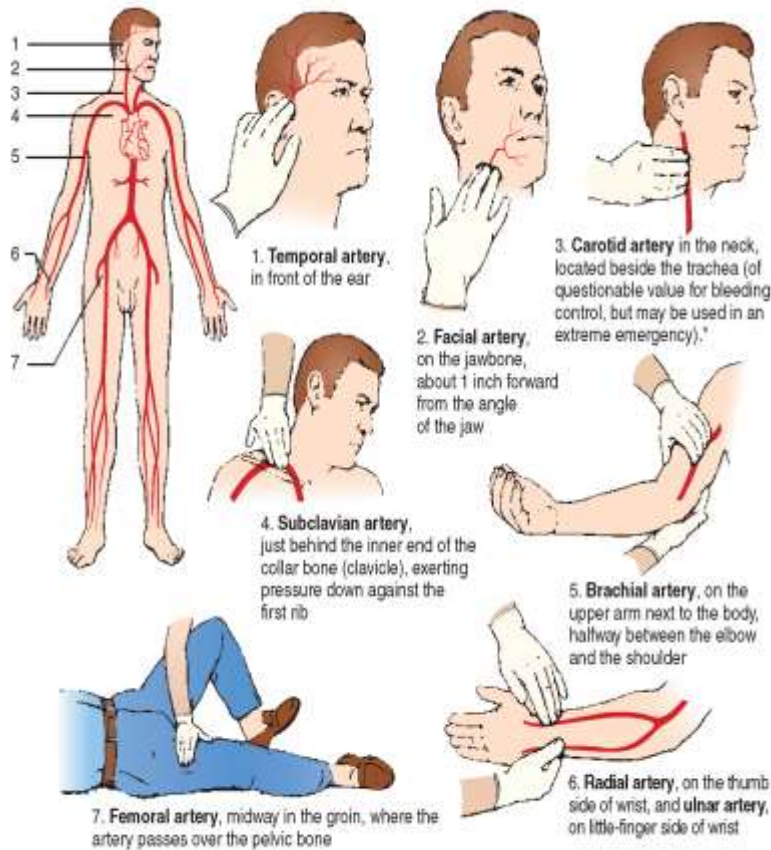
Are those in which the blood exits to the outside through a wound. The most important bleeding will occur in the extremities, as they are the parts of the body most exposed to trauma of labor type and is where they pass the arteries of a more superficial.

The methods below are explained, serve to stifle any type of hemorrhage (arterial or venous), applying a certain logic according to the method, the form and the place where it is produced. For example, the tourniquet will only apply in the case of hemorrhages in extremities.

In order to control and halt the emergency (hemorrhage), we will use three methods, always in a staggered way, using the following in the event that the above does not succeed. These methods are the direct compression, the arterial compression and the turnbuckle.

Treatment

- † Lay the victim.
- † Put disposable, latex gloves.
- † Discover the site of injury to assess the type of hemorrhage because this is not always visible; can be hidden by clothing or by the position of the victim.
- † To identify the type of bleeding dry the wound with a clean cloth or gauze apisono.
- † If this conscious give to drink water or oral serum.



*Note: Do not apply pressure to both sides of the neck at the same time. This would cut off the blood supply to the brain.

To control hemorrhage follow the following steps

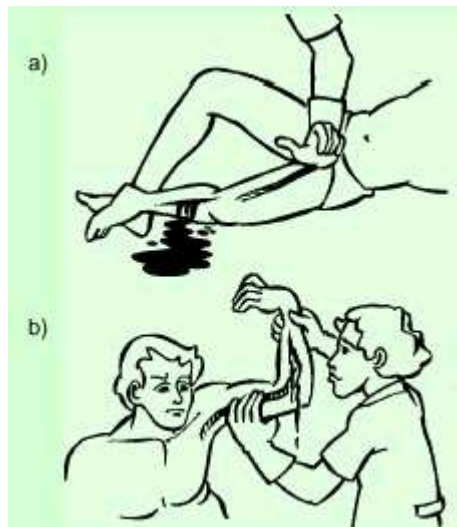
Direct compression



pressure is released, but never the event of success will dress the

Lifting

Consists of carrying out a pressure at the point of bleeding.

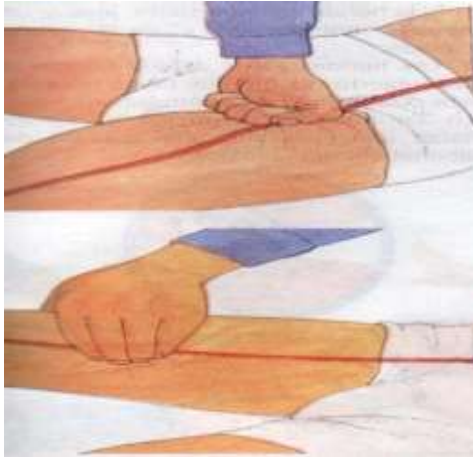


For this we will use a dressing (gauze, handkerchief...) as clean as possible. Carry out the pressure for a minimum period of 10 minutes (clock), in addition to raising the affected limb to a height higher than the heart of rough. After this time, the will remove the dressing. In wound.



- † The elevation of the injured party decreases the pressure of blood in the place of the wound and reduces bleeding.
- † If the wound is located in a top or bottom member, lift it at a higher level to the heart.
- † Cover the dressing with a band of roll.
- † If continuous bleeding place additional dressings without removing the initial bandage.

Arterial compression



When it fails the direct compression, you must use this second method. It is of greater application in hemorrhages of limbs, as in the rest of areas is not very effective. Is to find the main artery of the arm (A. humeral) or leg (A. femoral) and stop the blood circulation in that artery and its ramifications. With this we got a very substantial reduction (no elimination) of blood flow.

The brachial artery has its way below the arm biceps muscle, so that the worker will compress this area with the fingertips.

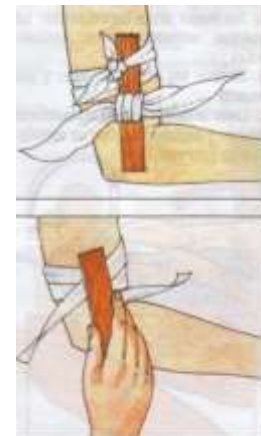
The femoral artery is compressed at the groin or inner thigh, for this we will use the heel of the hand or the fist in case of compress in the thigh.

The compression must be maintained until the arrival of the ambulance or admission to hospital emergencies.

Tourniquet

This method is used only in the event that the more they are not effective and the bleeding persists or when there is more of a rugged in emergency situation and the lifeguard is alone.

The tourniquet produces a detention of all the blood circulation in the limb, by which leads to lack of oxygen to the tissues and the tissue death, forming toxins by necrosis and thrombi by platelet accumulation.



Application conditions

- † At the root of the member concerned.
- † Use a broadband (not belts, or strings).
- † Record the time of placement.
- † Exert pressure controlled. The necessary to stop the bleeding.
- † Never loosen the lifeguard.



⇒ **Other types of hemorrhage**

† **Hemorrhage of ear**

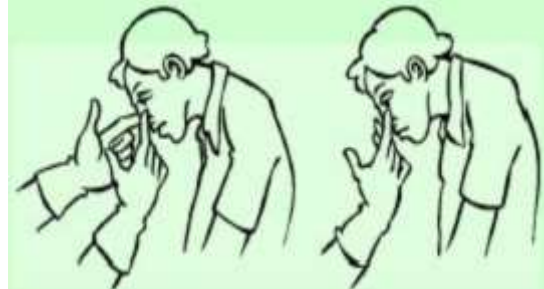
The hemorrhages that come out at the ear are called otorragias. When the loss of blood is abundant and has previously existed a trauma (blow) in the head, the origin of the hemorrhage is usually the fracture at the base of the skull.

In this case the performance of the lifeguard is designed to facilitate the departure of the blood from the cranial cavity, otherwise the brain mass would be moved or compressed by the blood invasion, which could cause irreversible damage to the brain. To facilitate the departure of blood, you must place the rugged in Lateral position of security (P.L.S.), with the ear bleed you directed toward the ground and provided that you have mastered the techniques of mobilization of traumatic, otherwise it is best not to touch it. Control of vital signs and urgent evacuation toward a health center with a service of neurology.

† **Bleeding of nose**

The hemorrhages that out of the nose are called epistaxis. The origin of these hemorrhages is diverse, can be produced by a coup, by a wear of the nasal mucosa or as a result of a pathology in which the hemorrhage would be a sign, as for example in the case of the arterial hypertension (HTA).

It is true that many people consider the epistaxis as a normal event, explanation that the worker should not accept, because the human being is not constituted to indent as usual and "normal".



To stop the hemorrhage, there must be a direct pressure on the nostril bleeding and against the nasal septum, pressure which will be maintained for 5 minutes (clock). The head is tilted forward, in order to prevent possible inspiration clots (see the technique in Figure 2). After 5 minutes, the pressure is released, with this we will see if the bleeding has stopped. Otherwise you will introduce a gauze moja da in water oxygenated by the nostril bleeding (plugging above). If the bleeding does not stop must be evacuated to a health center with urgency.

† **Bleeding of the mouth**

When the bleeding is presented in the form of vomiting, can have their origin in the lung (hemoptysis) or into the stomach (hematemesis). It is important to distinguish its origin so as to proceed to its correct treatment, it is necessary to take into account the following table:

Differences and performance before vomiting of blood of respiratory and digestive origin.

HEMOPTYSIS

HEMATEMESIS



VOMITING PRECEDED BY COUGHING.	VOMITING PRECEDED BY NAUSEA.
CLEAN BLOOD, WITH SMELL OF RUST.	BLOOD WITH REMAINS OF FOOD AND SMELLY.
YOU CAN HAVE FOAMY APPEARANCE.	YOU CAN ACCOMPANY UNCONSCIOUSNESS.
Action: A. Control of vital signs B. Absolute Diet C. Evacuate in sitting position	Action: A. Control of vital signs. B. Absolute diet. C. Evacuate in position of P.L.S.

† **Bleeding from the anus**

In response to the aspect in which it presents the stool, we can determine the origin of these hemorrhages. Are of digestive origin when your stools are black (melena) and rectal source when the stool is presented with normal blood (bleeding). In both cases it shall recommend the medical consultation by specialist personnel.

† **Vaginal bleeding**

During the period of gestation, the woman should not present any kind of vaginal bleeding (istihadah). Their presence could indicate the threat of abortion, so you should get an absolute rest (stretch) by women and prevent further losing blood. To do this we will post on the external compresses vagina (without entering anything within) and crossing feet the raise pending transfer.

Burns, Scalds and freezing

Burns

The burns are lesions on the skin, its annexes and even the muscles and tendons of the Agency. These are produced by chemical and physical agents in its various forms. In its majority can be caused by fire, rays of the sun, chemicals, liquids or hot objects, steam, electricity and even by other factors. The burns can generate from minor medical problems to those who put at risk the life, depending on the length and depth of the burn. The first aid vary according to the severity of the burn, its location and source of injury.

Causes

Sunlight: prolonged exposure to the sun rays, sometimes even with sunscreen.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Liquids: liquids at elevated temperatures are distributed rapidly over the whole surface, occupy the small spaces and can be filtered by the airway. Even more the greasy liquids may have greater adherence to the clear liquids.

Vapors and gases: Product of the combustion of various elements, the acute exposure can cause burns on exposed surfaces, airways, nose, throat, bronchi.

Direct Fire: The direct contact with the fire can lead to third degree burns, with much greater ease.

Chemicals: are those caused by caustic substances, acidic or alkaline. If the causative agent is alkaline, not wet, due to wet can cause burns.

Electricity: Electrical burns are caused by the electric shock, electrical current from home or industrial use, can cause internal injuries, in addition to burns, since when having contact with the body travels through it generating in addition, injury of input and output. Because the heart is working with small electrical stimuli, even small amounts of electricity over a sufficient period of time, they can modify the heartbeat and cause a cardiac and respiratory systems.

It is necessary to remember that the water can conduct electricity, so there is no need to "play a cable" to suffer serious burns.

Classification of burns by depth

First Degree: Minors

It is difficult to judge the depth of the lesion. Usually cover only the outer layer of the skin (epidermis). Are considered as less serious burns. It is common for the skin that is red or gray and there may be pain and swelling. Its main feature is that it does not burn the epidermis throughout its thickness. Unless these burns covering important portions of the hands, feet, face, groin, buttocks, or a joint large, can be treated on the basis of self-care that are listed later. The burns caused by chemical substances may require additional medical management.



Second degree: Moderate

It is considered a second-degree burn, when they burn the outer layer of the skin in its entire thickness (epidermis) and the surface layer of the that is immediately below it (dermis). There are blisters and the skin is an intense red color, becoming spotted.

This is accompanied by swelling and pain very intense. In addition they lose structures of the annex of the skin as



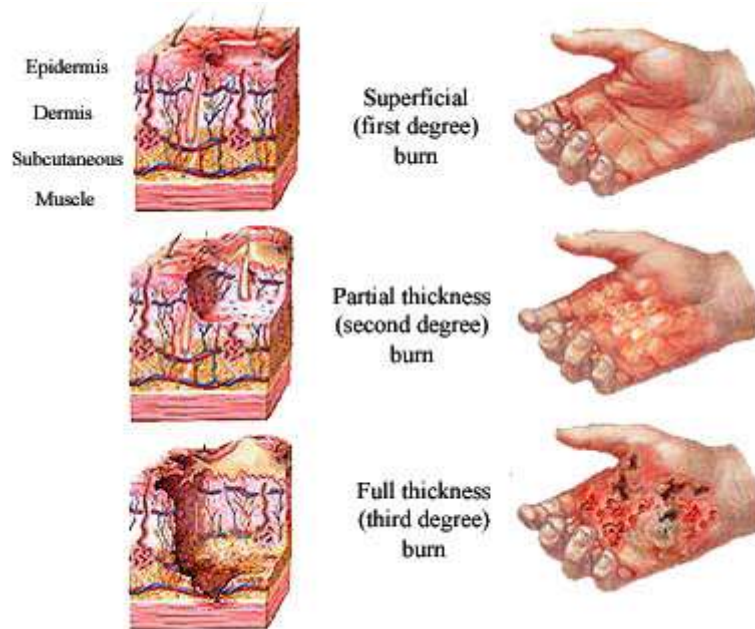


the hairs (hair follicles), sweat glands (sweat glands), glands of grease (sebaceous glands), etc.

In the event that a second-degree burn is limited to an area of no more than 5 to 7 centimeters in diameter, use the home remedies that are listed below. Locate the urgent medical attention if the burn area is greater than or corresponds to the hands, face, groin, buttocks, or a large link.

Third degree: severe:

Are the most serious burns and cover all layers of the epidermis and dermis throughout its thickness. Also tend to affect the adipose tissue (fat), nerves, muscles and even bones. It is common to observe charred areas, of black color dehydrated, whitish appearance. It is also feasible to be accompanied by severe pain mainly around the burn or absence of pain if the damage to the nerves is considerable. Immediate measures should be taken in all cases of third-degree burns. The burn of the airways or burn by inhalation of hot gases, smoke or steam, are also classified by degrees. Due to inflammation of the mouth and/or throat may obstruct breathing, call your doctor immediately or emergency services.



Signs and symptoms that may accompany the burns:

- † Redness of the skin.
- † Inflammation.
- † Loss of the hairs of the skin.
- † Pain.
- † Burning.
- † The sunburn can cause headache, fever and fatigue.
- † Blisters (second-degree burns).
- † Skin whitish (third-degree burns).
- † Charred skin or blackened (third-degree burns)
- † shock.



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MEDICAL CARE COURSE

REV. 9 - 2019

Treatment

Only for Minor Burns

In the case of minor burns, including those of second degree limited to a smaller area of 5 to 7 centimeters in diameter, to undertake the following actions:

- † Cool the burned area. Place this area under the stream of cold water for 15 minutes. If this is impractical, soak in cold water or enfríela with cold compresses (do not use ice). Cool the burn decreases swelling to absorb heat from the skin.
- † It is not recommended to break blisters
- † Remove the remains of the dead skin of these same and clean with soap and plenty of water gently.
- † Consider the use of a lotion, ointment, spray or solution. Once you have decreased feeling the heat of the burn, apply lotions that contain moisturizers. In the case of a sunburn, use an anesthetic cream.
- † There are some other ointments, sprays or solutions that contain medicines to control possible infections (bactericides), which are also very practical for the treatment.
- † Cover the burn with a sterile gauze dressing light with enough ointment or petroleum jelly to not accede. (cotton is often irritant). Wrap loosely to do not apply pressure to the burned skin. The dressing prevents the burned area has contact with the air and reduces the pain.
- † Talk to your doctor.
- † The minor burns usually heal in 1 or 2 weeks without additional treatment, but it is necessary to look for signs that suggest its possible infection (fever, pain, drainage of the wound).

Warning: Do not use ice to cool the wound. Apply ice directly to a burn can lead to freezing and aggravate the damage to the skin.

Urgent treatment for all major burns:

- † It was imperative to seek urgent medical treatment, without delay. Call the emergency number of your locality. In both come the medical or paramedical, perform the following steps:
- † Try to talk with the patient to lower their state of anxiety. Check your breathing and presence of pulses
- † In minor burns run cold water or fresh, not freezing, by the surface area affected, for at least 5 minutes.
- † Do not remove burned clothing, can be stuck to the skin, only make sure that the victim is no longer in contact with the materials lesionantes.
- † Wrap the burned area as soon as possible with sterile gauze or clean cloth, wet with water moderately cold. Use materials as thin as gauze or sheets.





† Do not allow it to rub the burned surfaces, cover the fingers or joints separately.

Sunburn.

The symptoms of sunburn usually appear in the hours following the exposure, and include pain, redness, swelling, and sometimes, blistering. It is common that the exhibition covers a large area, so be careful with the treatment.



- † It is useful to the bath or shower with cold water.
- † If there are blisters and break, Apply antibacterial ointment to the affected areas
- † Take pain relievers of sale without prescription.
- † Avoid the use of products containing benzocaine (a painkiller), as they tend to cause allergic reactions.

✚ Scald

The Scald is a form of burns caused by liquids such as water, steam and grease.

Scalds is one of the most common home accidents, the steam or hot hervientes liquids produce skin redness and blister without affecting the beautiful of the skin.

Differences between burns and scalds is that burns are caused as before mentioned by fire dry as flames, electricity, an intense sunlight or chemicals, while scalds are produced by wet heat, as liquid boiling or steam. The effects of both on the skin and soft tissues are the same, as well as the treatment.

✚ Freezing

Are those lesions produced by progressive cooling affecting parties located in the body (feet, hands, ears,...), in mild cases, the immediate treatment can reverse the damage, in severe cases, the treatment required can be the amputation.

Signs and Symptoms

- † Hard skin, pale and cold after prolonged exposure to cold.
- † White patches of skin.
- † Lack of sensitivity in the area.
- † After warming up, red area and painful.



According to the appearance of the lesion, are classified into:

1. First Degree. Attend with redness of the skin with inflammation (sabayon). It is a reversible injury.
2. Second degree. Redness of the skin with formation of blisters. It is reversible.



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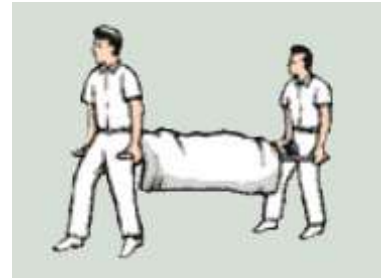
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3. Third degree. Aspect of black eschar with dead tissue and blisters around. These lesions can still be reversible.

4. Fourth Grade. Great destruction of tissues that can reach even to the muscle and bone. Evolves unfaithfully toward the gangrene and are irreversible damage.

Treatment

- † It basically consists in reheat the parties concerned with water to warm temperature (37°C), but not hot until the skin regains its coloration and appear tingling sensation. It is very useful to 'remove' the water in which you enter the affected area.
- † Protection against the cold, through the use of adequate clothing and with special attention to areas acral (hands, feet, nose and ears).
- † Avoid excessive alcohol consumption when it is exposed to prolonged cold.



If you are coming from a warm climate to one cold, exposed gradually to low temperatures, giving time for the Agency to reduce the blood flow to the skin and to maintain the heat inside the body.

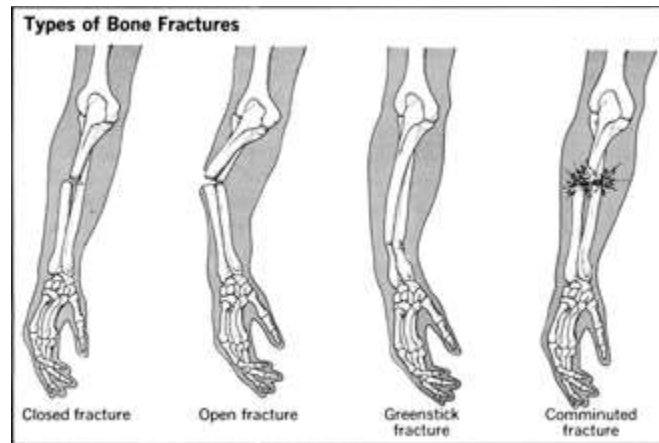
Fractures, dislocations and muscle injury

✚ Fractures

The fractures are very painful injuries as a result of blows, kinks or overloads, consisting of the rupture of one or several bones, can be closed, when the skin is not damaged, or open, when the skin is torn apart by the bone.

Symptoms

- † Pain in the injured area.
- † Swelling in the injured area.
- † Deformation of the injured area evident.
- † Difficulty to use or move the injured area in a normal manner.
- † Heat, bruising or redness in the injured area.



Open fracture

The open fracture is defined as one in which there is communication of the focus of the fracture with the environment, through a wound in the skin.

Closed fracture

The bone is broken, but the skin remains intact.

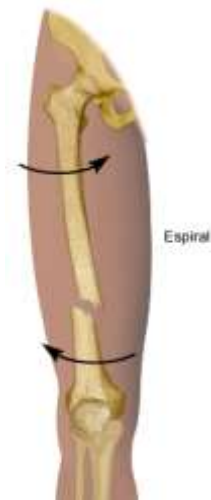
Treatment

The goal of treatment is to control pain, accelerate the healing process, prevent complications and make the fractured area regain their normal functions. An exposed fracture (in which the bone through the skin and is visible, or a deep wound through the skin leaving it at the vista) is considered an emergency.

- † Cut the hemorrhage if exists.
- † Cover the wound.
- † Immobilize the fracture.

Close and coverage of the wound

Must never be close a wound of open fracture in the initial procedure of washing and debridement. It is recommended that the closure was achieved in the first 10 to 12 days if the conditions of the wound so permit. Wounds should be desbridadas as many times as is necessary during the first week with the aim of maintaining a clean wound, free of contamination and infection to any procedure and coating scheduled to be successful.

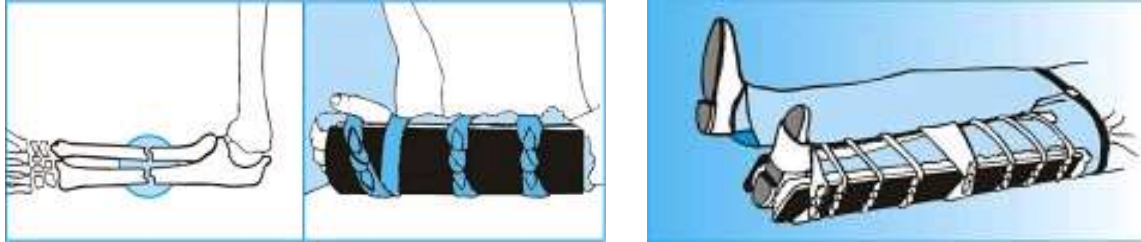


The immobilisation be improvised with:

- † Wooden splints.
- † Canes, strapping, tree branches, splints, magazines, etc., subject with:



Bandages, strips of linen, tapes, leagues, handkerchiefs, belts, rope, etc.

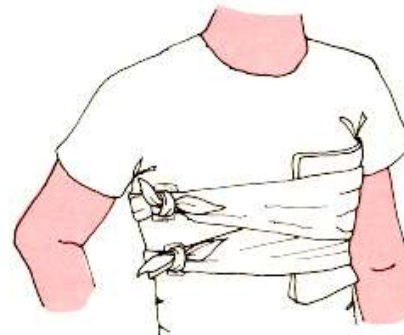


Fractures of the ribs

The lesions in the breast may be mild, as in the case of a simple broken rib or could also endanger the life of a person.

Symptoms

- † Acute pain that increases with breathing movements with the cough.
- † Inability to perform deep breaths.
- † Deformation of the chest.



Treatment

- † If you suspect that the victim has a broken rib, then it rests in a position where it is comfortable to breathing; the position semisentada is most recommended, it can support it with boxes, pillows or blankets. If you hold down the arm of the victim next to the chest with the injured side, this will serve to support the injured area and allow you to breathe better.
- † Use a pillow or a folded blanket to sustain and hold the fracture.
- † If there is a wound cover it completely.
- † Move the victim to a medical center.

Fracture in the spine

- † Paralysis and deadening of the nerves of the limbs.

Fractures of the cranium

The skull fractures usually cause damage or alterations in the brain that cause the decrease in or loss of consciousness; therefore, any blow to the head must be carefully assessed in spite of the fact that at first sight not be observed lesions.

Symptoms

- † Paleness.
- † Pain Headache, nausea, vomiting that usually goes to pressure.
- † Loss of consciousness.



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REV. 9 - 2019

- † Irritability manifested by crying, especially in children.
- † Loss of balance.
- † Seizures.
- † Bleeding or output of clear fluid from the nose, mouth or ear.
- † Partial or complete loss of sensitivity.
- † Pulse altered, generally fast and weak.
- † Altered breathing.
- † Vision problems, look loss, dilated pupils or of a different size.
- † Lack of control of sphincters. The response to stimuli can be variable: adequate, inadequate or non-existent.
- † The victim may feel drowsiness or confusion or even lose the knowledge.
- † Numbness or inability to move the body or members.

Treatment

- † Immobilize the head, placing side and side sand bags, bricks or a folded blanket, to prevent the movement causes further injury of nervous tissue. If this unconscious immobilize the neck.
- † If there is wound in the face or scalp, cover it without making pressure.
- † If the victim is conscious, place it in position semi-seated, with the head and shoulders raised.
- † If you leave any discharge from the ear, tilt the head toward the injured side, cover the ear with a sterile dressing or some similar pad and apply a smooth bandage. Do not plug the ear.
- † If you do not have injury to the neck, place it in position side of security. Or with the head to one side to prevent choking with vomiting.
- † If there is output of clear fluid or blood by ear, cover it without entering the healing material inside the ear.
- † Check the breathing and pulse; if these are absent, start cardiopulmonary resuscitation.
- † Keep it warm.
- † Move the person to a health care center, taking into account the caution of mobilized as if it were spinal injury.

cranium fractures /Head Injury


- † Put the affected in lateral position of security.
- † Tilt the head of the concerned so that you can eject the blood or saliva.
- † Put it in lateral position of security with the wounded side down, on a pillow.

Clavicle Fracture

- † Put a pad between the affected arm and side.
- † Put the arm in the sling and vendarlo to the trunk.

Fractures of the upper extremities

- † Bend the elbow, if possible, to put the forearm with sling on the torso, placing a pad between the end and the body at the point of the fracture.

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- † Immobilise the vendándolo arm to the body.

Fracture of Pelvis

- † Route the rugged face up on a blanket or jacket rolled with straight legs or slightly bent.
- † Immobilise the legs.
- † Put a pad between the knees and ankles and tie these with a bandage close.

Spine Fractures

Fractures of the spine should always be regarded as a severe injury, by the complication that can occur if the immediate attention is not adequate, because these cause the section of the spinal cord that leads to paralysis of the upper and lower limbs or the death of the victim. The two most vulnerable regions are the neck (cervical region) and the waist (lumbar region).

These fractures can be caused by blows direct or indirect such as those caused by automobile accidents, backlash to fall from a great height on the feet, blow to the head when performing a nailed to a pool, violent acts or sports injuries.

Symptoms

- † Changes in the state of consciousness.
- † Pain and swelling in the area of the fracture.
- † Inability to move the arms and legs.
- † Tingling, decrease or loss of sensation in the hands or feet.
- † Difficulty breathing

Treatment

- † Check the respiration, the state of consciousness and control the bleeding.
- † Advise the rugged slopes that will not move. Do not lift; to do so ask for help. You need 4 helpers.
- † Assess the sensitivity and mobility.
- † If the victim this consent to ask if you can move the arms and legs, or if you feel tingling; ask to move one by one the fingers of the hands and feet.
- † If the victim is unconscious, use a pin, hook or braces, to play with them the soles of the feet and the palms of the hands. If there is sensitivity the victim to react by bending the fingers.
- † Assume that every victim of a serious accident has fracture, spine, especially if you are unconscious.
- † Act with calm and security. The speed of action in these cases is not important.
- † Place the victim face up, avoiding abrupt movements of the head and neck.
- † One of the assistants carefully place the head aligned with the neck and applies traction (upwards and sustained) placing the hands around the jaw, while another holds the feet. This measure prevents the neck is double that of the edges of the fractured bones break the marrow.
- † Reduce to a minimum the movement of the head and vertebral column; using neck brace or by wrapping a newspaper or magazine around the neck.
- † Maintain a moderate but robust traction while another assistant applies an immobilizer of neck.



- † After attaching the feet, two assistants put the victim of side while the helper to the head continues to maintain traction of the neck; between both another helper places a short table and hold.
- † It is now placed a stretcher hard or long table at the back of the victim and the bed.
- † Secure it to the cradle. The hands are placed below the waistband of his pants or secure on the chest.
- † Transport the victim to a health care center.
- † If you suspect a fracture of the column as a result of a car accident immobilize the neck of the victim before you remove it from the vehicle. You need 4 helpers.
- † One of the assistants performs manual traction (upwards and sustained) of the neck vertebrae, placing the hands around the jaw, so that the fingers meñiques are just below the jaw. Another helper places a short table behind the victim, from the hip to the head.
- † Then lift the head with firmness and remains stable. Thus the head is not resting on the neck, at the same time prevents the neck will be doubled and that the edges of the fractured bones break medula. Keep your head steady while one or two assistants placed an immobilizer of neck. Ensure the victim to the short table. When the victim this secured to the table can be moved without danger.
- † With a helper in charge of the legs and two of the shoulders, rotate the victim.
- † A helper slides a long table until you reach the hip of the victim.
- † The people who are on the shoulders go to bed by the victim with great care on the long table. All together glide the victim entirely on the table and the claim.
- † For out of the car, two people are placed at the head of the victim and the slide until the end of the table is resting on the car seat. The other two assistants are placed at the foot of the victim out of the car and moved to the ambulance.
- † Avoid that the victim is cool or acalore.
- † Transport the victim to a health care center

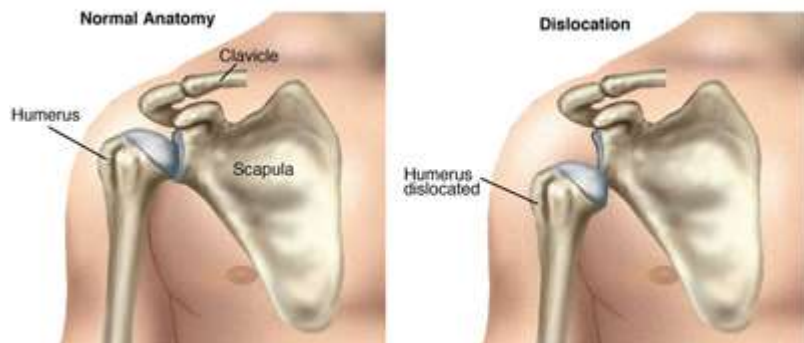
Fracture in the lower extremities

- † Splinting and secure the injured extremity to the healthy, immobilizing the joints above and below.

🚑 Dislocations

The dislocations are usually more obvious than the fractures. A dislocation is seen when a bone has shifted from its joint. This displacement is caused, usually by a violent force which tears the ligaments that keep the bones in their place.

Shoulder Dislocation





When a bone is out of your site the articulation stops working. The displaced bone often form a swelling, a prominence, or a vacuum, which normally is not present.

The joints most affected are: shoulder, elbow, hip, knee, ankle, thumb, finger bulk of the foot and jaw.

In the event of a car accident is frequent the luxation of the cervical vertebrae.

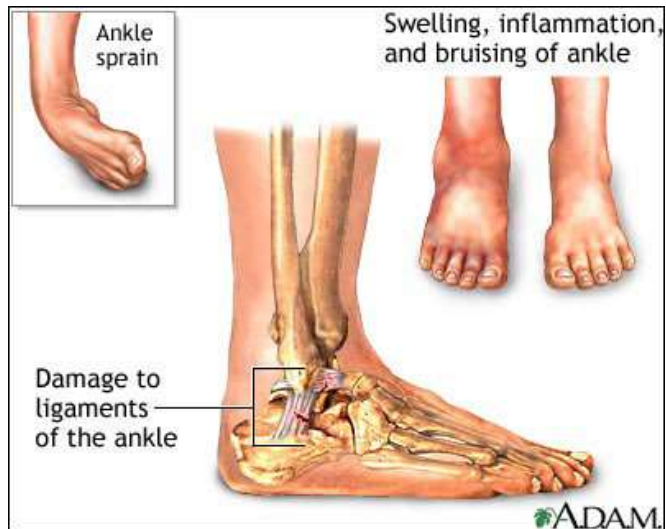
† **Sprains**

When a person is twisting a joint, tissues (muscular and tendons) that are under the skin, hurt.

The blood and fluids are filtered through the torn blood vessels and cause inflammation and pain in the area of the injury.

A serious sprain can include a fracture or dislocation of the bones of the joint. The joints that are hurt more easily are found in the ankle, elbow, knee, the wrist and fingers.

It is possible that the victim did not feel much pain, continue their activities typically this is retarded the recovery of the link and you can produce further injury.



✚ **Muscle injuries**

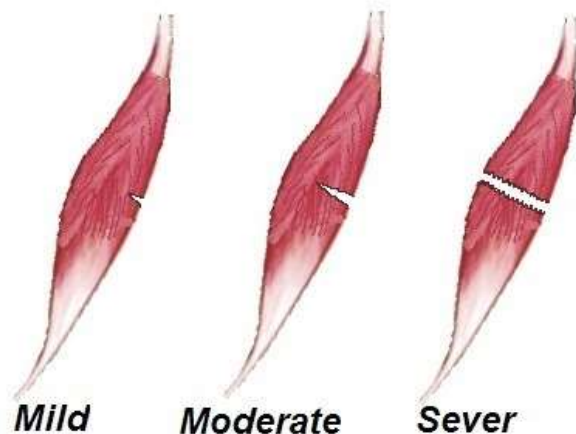
In the practice of any physical activity and especially in sport are very frequent muscle injuries.

The muscle is composed of a set of muscle fibers that are surrounded by a small layer of tissue (connective tissue), and at the same time unite to the bone by the tendons. When there is an injury can affect the muscle fibers and/or also to the tendons (or their integration with the bone).

The most frequent causes include poor technique sport and ignorance of the same, dehydration, overexertion excessive, muscle imbalance.

Above all are more frequent in the lower limbs.

There are various types of muscle injuries that can be outlining in:





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REV. 9 - 2019

Contusion

Injury due to a direct trauma (shock or impact) on the muscle. It is usually a mild injury and recovery in a few days which is manifested by pain, the emergence of a hematoma. The treatment is based on rest, local cold, bandage compressive and elevation of the affected limb. There should be no massages or apply heat on the area.

Muscle overload

It is one of the most frequent problems. Occurs due to a overexertion of muscle fibers. Also tends to be a mild injury that improves with rest. You can also apply local cold. Usually appear discomfort at the beginning of the year that persist to stop doing so.

Muscular cramp

There is an intense contraction and maintained of the musculature. One of the most frequent causes is the realization of a insufficient or inadequate heating before doing the exercise. The best treatment is prevention by performing a suitable heating prior to exercise and maintain a good hydration.

Muscular contracture


There is a contraction of the muscle in a lasting way. Causes Pain especially when attempting to mobilize the affected muscle (stretch). Tends to be a transient problem and improves with rest, massage, heat and stretching adequate.

Distention

There is a partial tear of some of the myofibrils accompanied by a slight swelling. It is characterized by the appearance of a sudden pain and intense. The treatment includes application of local ice, compression, elevation and can be useful electrotherapy (TENS). You can return to mobilize the extremity when cedes the intense pain.

Muscle Tear

There is a tear to affect a larger number of muscle fibers. It is accompanied by an increased inflammatory reaction. Note a popping noise accompanied by intense pain and inability to mobilize or support the extremity. The treatment is similar to the muscle strain, with realization of relative rest.

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Muscle strain

It may be partial (tearing important) or total (breakage affects the entire thickness of the muscle). The clinic is more intense than in the tears with pain that does not yield with rest, inflammation, appearance of hematoma and functional impotence. If the break is total, you can see the depression of the affected area caused by the breakage and retraction of the muscle belly. The treatment requires absolute rest and prolonged, ice, electro therapy. In some cases surgery may be needed with suture, depending on the affected muscle. The rehabilitation is important to recover the functionality of the muscle to the extent possible and allow resume physical activity.

Wounds, healing of wounds and Infection

Wounds

A wound is any injury of the skin and of the different bodies produced by cutting, tearing, scratch, contusion, etc.

While all the wounds have risk of being infected, it is very likely that those deeper or with irregular edges are more hazardous in this regard that the sharp or cutting wounds that have net edges and clean.

Before an accident with a wound be sure to perform as a first step a good cleaning with soap and water. Just then apply a disinfectant such as: oxygenated water inside and outside of the injury. Wash the wound and the skin around it.

Before an accident with wounds You must assess whether or not there is, major bleeding. If the wound is superficial, will stop bleeding in a few minutes but if this affected some important bottle, bleeding may be copious and there should be a strong compression of the wound. In that case you can make a tourniquet with a handkerchief or loop above the lesion. This will stop bleeding. Meanwhile call urgently to your doctor or emergency system, or take your child to the hospital or medical center nearest you.

If the wound stops the bleeding and note that it was only a scrape, leave the air without cover, if it were more profound can apply a gauze or dry dressing, although secured with a bandage or adhesive tape (which in case of being small children it is recommended to use the tapes hypo-allergenic).

What should never be done

- † If there is a foreign body in the wound (chip, needle, spine etc.) do not probe to remove it.
- † Touch the sterile gauze with the hands.
- † Heal the wounds without wash and disinfect their hands previously.
- † Must not salivate wounds or talk about them. The germs of the mouth can become infected.
- † The dressings should not be changed until a few days after (48 hrs.) unless there is bleeding new, bad smell, swelling, or fever.



Disinfection

1. Wash your hands before handling a wound.
2. Whenever possible use sterile materials. You can achieve an acceptable degree of sterilization by boiling for a minimum of 20 minutes or flapping the object to be sterilized with alcohol.
3. Without picking the wound remove foreign bodies (land, crystals, etc.)



4. Remove the remnants of the hairs and the dead skin.
5. Wash the wound with abundant water and soap and disinfect with antiseptic not colored.
6. If there is bleeding, you can spray the wound with hydrogen peroxide or cover it with gauze soaked in that substance.
7. Do not apply cotton or ointments directly over the wound.
8. If the wound is important, apply a bandage compressive and seek medical assistance.
9. The minor wounds must be left uncovered, since the ultraviolet rays collaborate to their healing.
10. In the event of drainage can be done a healing with a solution of boiled water.

The wounds are classified into:

- † **Incised:** caused by sharp object.
- † **Contused:** caused by blunt object. Internal bleeding.
- † **Special:**



- Mixed or contusions subsection.
- Sharp.
- By bite.
- With uprooting.
- Etc.

Simple wound

Treatment

These are the ones that the lifeguard can treat, disinfected and placing the corresponding dressing.

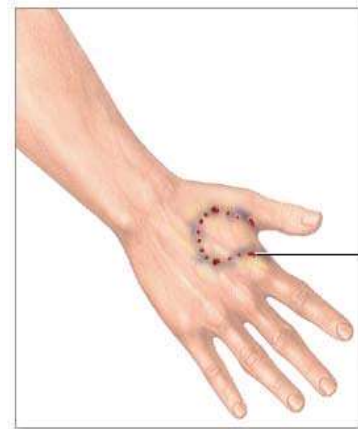
- ✚ The lifeguard will wash hands thoroughly with soap and water abundant.
- ✚ Clean the wound, starting from the center to the outside, with soap or antiseptic liquid.
- ✚ Refit dressing or bandage compressive.



Serious Injury

Treatment

- ✚ The performance is summarized in three words: packing, warn, evacuate, for which:
 - Plug the wound with clean gauze or with sterile dressings if you have them.
 - Apply a bandage on the wound, more or less tight depending on the importance of the hemorrhage, taking care not to interrupt the blood circulation.
 - If it is a senior member, fit a sling.




Wounds of the Chest

Treatment

- ✚ Refit the wounded sitting or lying on the side injured, head and shoulders something incorporated, evacuating in this way.
- ✚ Cover the wound with multiple layers of compresses large to be possible sterile.
- ✚ Not to drink or eat.

Wounds of the Abdomen

Treatment

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- † Small: Put a large compress and hold it in place with adhesive tape.
- † Wide: Do not put towels; if the intestine exits do not attempt to insert, only cover the wound with a damp cloth very clean and sterile if possible. If any object remains nailed (knife, punch, etc.) do not remove, evacuate the wounded by moving it to the least possible extent.
- † Not to drink or eat.

The scarring

Healing is a biological process by which living tissues repair their wounds leaving - for the case of skin wounds - a scar that may be aesthetic or unaesthetic.

When a person suffers a wound in the repair process is carried out a series of complex biochemical reactions that happen to repair the damage. These phenomena occur with some overlapping temporary and can be divided for its study in the following phases: inflammatory, proliferative and remodeling (some authors consider that the scarring occurs in four or more stages, if are subdivided or inflammatory phases of proliferation in intermediate steps)

In the inflammatory phase, phagocytose and eliminate the bacteria dirt, and releasing factors that produce the migration and division of cells that take part in the proliferative phase.


The proliferative phase is characterized by the angiogenesis, the increase of collagen, the formation of granular tissue, the epithelialization, and the contraction of the wound.⁵ In the angiogenesis, grow new blood vessels from endothelial cells.⁶ In the retrolental and granular tissue formation, fibroblasts grow and form a new interim extracellular matrix (ECM, by the acronym in English: Extracellular Matrix) through the secretion of collagen and fibronectin. In the epithelialización, epithelial cells move on the wound covering it. In the contraction, the myofibroblasts help reduce the size of the wound; they adhere to the edges of the wound and contract using a mechanism similar to the one they have in the cells of the smooth muscles. When the cells have fulfilled their task, the unused cells suffer a apoptosis.

In the phase of maturation and remodeled, collagen is remodeled and realigned along the lines of tension and the cells that are no longer required are disposed of by a apoptosis.

However, this process is not only complex but that is fragile and is susceptible of being interrupted or fail, which leads to the formation of chronic wounds with problems of scarring. Some factors that can contribute to this problem are diabetes, diseases of veins or arteries, advanced age, and infections.

⊕ Relief of pain

The pain is part of the disease and as responsible persons are expected of us, not just a etiological treatment that do disappear but also a symptomatic relief while the first objective is met. The master Cervantes said that "the only bearable pain is the alien", and thus, by its subjective characteristics, the

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	MEDICAL CARE COURSE	REV. 9 - 2019

responsible of the treatment has to strive to assess symptoms within the set of a table that includes organic pathology, physical symptoms and emotional suffering. The lack of experience in the assessment and treatment of pain can never be an excuse to ignore its relief.

While it is true that the analgesic treatment more effective is that it eliminates the cause of pain, when the therapeutic period is extended or when the cause is unknown or is not curable, the pain may persist in time.

Basic principles of the administration of analgesics

1-essentially has to start differentiating the type of pain, measuring its intensity and evaluating the impact on the health and personal function in the patient.

Since the acute pain and chronic are so different treatment principles differ in many aspects such as the choice of drug and mainly its dosage and route of administration.

🚑 Analgesia for Acute Pain

Choice of drug more appropriate. In the acute phase, the healing and resolution of the problem is the final objective and the pain is a symptom passenger who is expected to fade as resolved their cause. However, the presence of severe pain, though temporary, predisposes the patient to develop chronic pain that will endure beyond the healing of their pathology of base. The drug of choice is dictated by the pathophysiology and the nociceptive pain mild or moderate usually respond to acetaminophen and nonsteroidal anti-inflammatory and of severe intensity to opioids. In the acute phase is rare the patient who presents neuropathic pain, and if it is present, usually respond well to antiepileptics non-conventional (these are described in detail in another section).

In regard to the route of administration, you must choose the quickest and most effective, and it does not usually be oral because it is slow and erratic. If the patient is admitted the parenteral is recommended because there is available formulations, intravenous for paracetamol and non-steroidal anti-inflammatory drugs. In the event of severe pain, it is recommended the parenteral administration of opioids to demand. The studies in acute postoperative pain have shown that the joint administration of lower doses of different analgesics produces a synergistic effect that achieves better analgesia with a lower rate of complications.

The dosage in acute pain differs greatly from the chronic. In the patient with an acute, either by active pathology or by postoperative injury, the cause of the pain is evident and the consequences in the form of pain are expected. Thus, if we believe that our patient will suffer pain, our obligation is to provide the relief even before they ask us about it. In these cases the best analgesia is the scheduled at regular intervals regardless of symptoms, for example, every 8 hours. Since we will try to combine different



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MEDICAL CARE COURSE

REV. 9 - 2019

analgesics, we can toggle its administration to achieve an analgesia every four hours. Regardless of the analgesia scheduled, if the patient reported severe pain or disabling the good practice dictates prescribe small doses of opioids administered frequently. Still with the posology, the pain, sometimes is caused by certain movements or therapeutic maneuvers (surgical cures), in these cases, knowing that they are associated with pain that is often described as a brief but very intense, the responsible doctor has to prescribe analgesics should be administered with enough time to be effective while the crisis of pain occurs.

Certainly not all patients may receive anti-inflammatory, acetaminophen or opioids in introducing concomitant medical conditions (renal failure, liver failure and paracetamol, severe neurological disease and opioids). The prescribing physician is responsible for ensuring that these contraindications are not present to prevent complications.

Finally, it must be remembered that the acute pain, being so linked temporarily to the healing process, is dynamic and can vary in intensity. The monitoring of pain in the hospital sector has become a vital more to add to the four existing (heart rate, respiration, temperature, and blood pressure). Thus, the pain as a fifth vital constant has to be evaluated on a regular basis, every eight hours, and its treatment modified according to the records obtained.



Since the acute pain and chronic are so different treatment principles differ in many aspects such as the choice of drug and mainly its dosage and route of administration.

🏥 Analgesia for Chronic Pain

In order to reveal the differences between the analgesic therapy of acute and chronic has maintained the same structure of the previous paragraph.

Choice of drug more appropriate. To correctly choose the drug to administer is crucial first make the differentiation between nociceptive pain (somatic or visceral) and not neuropathic or psychogenic nociceptive (). The first (somatic - visceral) usually respond well to acetaminophen and opioids. The choice of the drug should dictate the intensity of the pain.

The choice of paracetamol as analgesics to the doctor with less experience in the treatment of pain, usually does not represent a problem because these drugs are considered effective and safe for the general medical community. However, in cases in which the prescription of opioid analgesics is indicated (severe pain, or moderate pain with contraindications to prescribe paracetamol, administration and use of these by the medical community (doctors, nurses and pharmacists) is suboptimal.



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REV. 9 - 2019

The phenomenon known as opiofobia is common in both the therapeutic side (health personnel) as in the patient. On the part of the health professional there is fear of possible immediate complications (respiratory depression), to the late (development of a drug addiction) or to produce a fraudulent use of the drug. These factors, among others make opioid consumption per country is less than expected if it intersects with the national prevalence of chronic pain. On the other side of the query we find ourselves with a patient that listening to the word opioid narcotic or morphine believes that the case is worse than what is imagined and that your doctor considers it terminal. The opiofobia on the side of the patient was characterized by fear to develop an addiction and by the misconception that morphine and its derivatives is reserved for cases terminals.

The reservation to prescribe an opioid in cases of severe pain do no more than undermine the confidence that the patient has put in our hands, prolong the suffering and ultimately, worsen the table of pain and make it become more resistant.

To fight with these suspicions and fears we have large amount of scientific evidence that confirm that

1) opioids are effective as analgesics in cases of severe pain without taking into account its origin neoplastic or not,




2) opioids can cause respiratory depression in selected cases, if the doses administered are excessive and if the patient presents absolute contraindications, but before reaching these, the patient will present other minor symptoms that suggest, but help prevent, later complications and more severe,

3) in the patient with chronic pain the likelihood of developing drug addiction opiate exists but is very low if the prescription and monitoring is performed regularly,

4) the fraudulent use of opioids prescribed can be prevented with a regular monitoring of the case. The two drugs proposed differ both by their pharmacology, its form of administration and its contraindications. The author advised these two drugs by its simplicity and by be useful alternatives case that one is not appropriate for the patient.

The neuropathic chronic pain is has certain peculiarities that make it more difficult to treat. In the first place because compared with the nociceptive pain (somatic or neuropathic) is less prevalent and therefore is not type of pain to which patients are accustomed and before the who know how to react appropriately. Secondly, because of their special characteristics (burning, numbness, itching, electric shock), this pain is not perceived as "normal" by patients and as a result generates greater anxiety and concern in the patient. It is considered that, in equal magnitude, neuropathic pain associated more suffering that the nociceptive. The third specificity makes the neuropathic pain especially difficult to treat, is that it responds appropriately to conventional analgesics mentioned above (paracetamol, opioids). By its special neurophysiopathology, neuropathic pain responds more adequately to drugs traditionally considered not analgesics such as antidepressants or anti-epileptics.

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	MEDICAL CARE COURSE	REV. 9 - 2019

For the non-specialist physician, the management of this type of pain with these drugs falls outside of your routine pharmacological and certainly this is a barrier to the patient access the appropriate analgesic treatment.

The current clinical guides propose a first line treatment with antidepressant drugs that can be of type tricyclics or dual (inhibitors of serotonin and norepinephrine) or with antiepileptics such as inhibitors of calcium. If the drug of choice is not able to control the pain significantly or causes undesirable effects very limiting, so it is best to switch to one of the other family of drugs antineurotáticos. If the effect that is achieved is only partial, so it is best to combine both families.

At present, in the first line of treatment, the antidepressant drugs most used are the amitriptyline and duloxetine by antidepressants and gabapentin and pregabalin by the antiepileptic drugs. The recommendation of the author is to become familiar with one of each family for example, amitriptyline and pregabalin that are drugs of relative simplicity of management.


Unlike acute pain, in chronic cases premium comfort on the effectiveness. The patient is now back to his home and the treatment of pain should not be a limitation Extreme to get a normal life. As a result the recommended route of administration is the oral route. The transdermal leverages new systems of cutaneous reservoir for the administration of drugs are lipophilic that can cross the skin. These devices allow transdermal continuous administration of drugs during 3 to 7 days to facilitate the obtaining of a plasma level of the drug stable avoiding the peaks and valleys. In cases where the oral route is impossible, the transdermal patches can represent a success.

In regard to the posology, the patient with pain is similar to any other in regard to prefer not to have to take drugs regularly. The therapeutic compliance, even in analgesia and chronic pain, is very poor when the patient has to take very often a specific drug is selected. The formulations of long duration, every 12 hours or every 24 hours, have meant a great advance in the control of the pain of chronic patients ambulatory. Unlike the acute pain where it is advisable to administer the drug scheduled regardless of the pain reported, in chronic pain the underlying cause is not obvious, fluctuates over time and does not always correlate with the severity of pain, that is why the administration of analgesics has to take into account the presence or absence of pain. The prescription of analgesics to demand is the solution to ensure proper control of occasional symptoms. If the patient reported pain compared to a trigger concrete (dental pain when you brush your teeth for example) a simple approach would be to advise the patient to restrict the jacks to the moments of pain but it is not necessary to give drugs of long duration if the pain is not. But to be more effective, it would be more appropriate to advise the patient to the socket of the drug on a preventive basis, i.e. minutes before facing the action that will cause the crisis of pain.

The formulations of quick action get effective plasma levels in less than one hour. At present, the NSAIDS formulation liquid and those that are dissolved in water are more rapid action. In regard to opioids, most are available in formulations of short and long term.

🏠 lacing techniques and Subject

Stitches

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	MEDICAL CARE COURSE	REV. 9 - 2019

The wounds that require a specific treatment as is the suture. In this way, it protects the wound from external aggressions, approximate the edges making the reepithelialisation easier and improving the aesthetic appearance of the scar.

The sutures are easy to perform, and the material is available in any center, so it is a technique that every nurse should know.

There are a number of concepts that should be clarified before describe techniques.

Types of wounds

- † Clean: any injury not infected, with less than 6 hours of evolution (except in specific regions, such as the face, where the period can be increased to 12 hours).
 - With less than 6 hours of evolution.
 - Non-penetrating (<1 cm).
 - Without devitalized tissues, not necrosis.
 - Without pollutants: dirt, saliva, foreign bodies, signs of infection, bites, etc.
- † Dirty: wound contaminated, with esfacelos, necrosis, detritus, or if it has been more than 6-12 hours.
 - More than 6 hours of close by second intention:
 - Less than 6 hours for signs of infection
 - If: Debride + closure of first intention + Antibiotics
 - No: Close by second intention + Antibiotics

Anesthesia

The most used is the mepivacaine to 1-2 % with or without vasoconstrictor (epinephrine 1:100,000).

It is administered in perilesional subcutaneous infiltration (from the outside toward the inside of the wound), or in the form of nerve block (very suitable for the fingers, for the face).

Must not be used for the areas never vasoconstrictor acral the skin, such as the finger pulpejos, nose, as this may cause necrosis. In fingers is better to use a tourniquet.

Materials Needed

- † Needle holder: used to take and sustain surgical needles curves, are very similar to the calipers haemostatic, the basic difference are the short branch and firm to grab a needle, without damaging the suture material.

The size of the needle holder must be in accordance with the size of the needle. Generally, the branches are straight, but can be curved or angled and mangoes can be extended to facilitate the insertion of the needle in surgery of pelvis or chest.

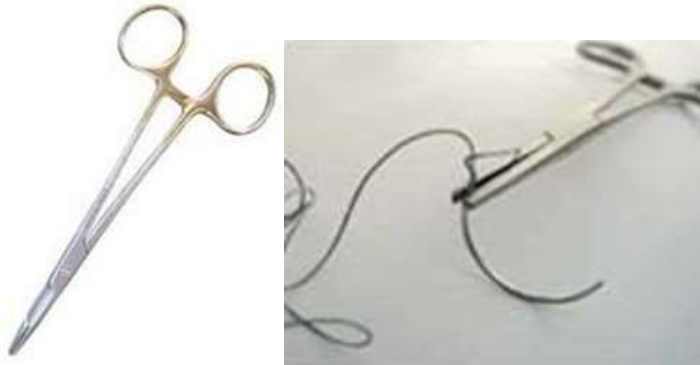


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MEDICAL CARE COURSE

REV. 9 - 2019



Porta Hegar Needles Needle mounted in a needle holder Hegar

† Dissection clip with teeth:




Dissection clip type Adson suture of small wounds

† Clips of haemostasis: mosquito type



Hemostasis clip curved mosquito type

† Threads of sutures: surgical needles can be curves and straight, disposable or reusable. In cesarean section is used the needle curve that allows you to pass below the surface of the fabric and remove as it appears its tip. The needles have different curvature and tip and are designated

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	MEDICAL CARE COURSE	REV. 9 - 2019

by numbers as: P3, P4, P5, P7, P9. Another type of needle is the atraumatic used to suture of tissues and friable.

There are many types of stitches. The choice of material to use in a tissue is based on: the individual characteristics of the material, location, type of suture, age, state of the patient, experience and preferences of the surgeon. The arsenalera is responsible for the proper preparation of the suture materials until the surgeon the request and pass them at the appropriate time. It should be borne in mind that the suture materials as catgut, flax and twine, are expensive and delicate. All these materials must meet certain parameters such as size, resistance to tension, sterility, packaging, dyes and integrity of the Union needle and suture material.

- Size of the suture material: the greater the diameter of the strand of suture, greater is the numbering assigned. It begins with a 4 or 5, that is the suture material thicker available, decreasing until you reach the 0. As multiples of 0 continue to indicate the size, the suture material begins to be smaller in diameter. The smallest available is 11/0 which is so thin that floats in the air. The finest Sutures are used in microsurgery and the more heavy for approximate bone tissue. In Obstetrics the numerical system that is generally used is No. 2-1-0-2/00. The suture material can be present insert in the body of the needle at the level that would be the eye of the needle traditional and is known by the name of catgut with needle incorporated.
- Suture packages: All the sutures are involved in 2 separate envelopes. The internal on is sterile both inside as well as outside. One side of the outer envelope is transparent allows easy inspection of the data printed on the envelope procedure. These include the type, size and length of the catgut, type and size of needle, date of manufacture and expiration date. The individual packages come in packs of 12 or 36 envelopes per box.
- Surgical plasters: type steri-strip. For linear lacerations, without voltage, superficial.
- Synthetic adhesives: type tissucol.





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MEDICAL CARE COURSE

REV. 9 - 2019

Atraumatic Silks

Metal suture by staples (Agrafes fine) Removes agrafes

† **Scissors:**



Types of scissors used at the sutures of wounds, Scissors straight to cut wires

And curves to cut tissue

Langers Lines

The voltage distribution lines in the skin. It is important that you always that you can put the points in perpendicular to these lines, so that the scar the lowest voltage support as possible (and so more aesthetic possible).


Continuous suture

Indications:

- † Long wounds, rectilinear.
- † In areas that are not subjected to tension.
- † Areas where the aesthetics is primarily (the intradermal continuously).

Contraindications: dirty wounds, with signs of infection, necrosis, poor vascularization.

Materials needed:

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	MEDICAL CARE COURSE	REV. 9 - 2019

- † Anesthetic.
- † Physiological serum.
- † Aseptic cloths, gloves, disinfectant.
- † Material of surgery:
 - Scissors straight nose
 - Suture material with needle: adequate depending on the type of skin, the wound, etc.
 - Needle guide.
 - Mosquito.
 - Caliper (with or without teeth).

Technique:

- † There is a first point of suture, but without cutting the capes, so that it continues to introduce the thread to constant throughout the incision.
- † Use the tweezers to remove the tissue.
- † Cross subcutaneously forming an angle of 45° with the axis of the wound, and exit by the dermis on the opposite side (in the form intradermal, both the input and output are made by the hypodermis) maintaining these angles, the vision of the tour makes it appear perpendicular to the surface area while it is tilted in the deep part.
- † Re-enter the twine through the area faced to the point of output above, and new 45° subcutaneous, across the wound.
- † In conclusion, cut the cape joined to the needle so that it protrudes by a little to secure it to the skin with a surgical tape, or performing a knot on the own cape.



Point Mattress

Indications:

- † Skin lax, where the edges tend to invaginar. In this way is dispersed in the tension of the same.
- † Areas of high tension.
- † The vertical subvariante allows, in the same operation, suturing several drawings of the wound with the same material.
- † The horizontal variant, this indicated in thick skins, subjected to tension, as palms or plants.

Contraindications:

Dirty wounds, with signs of infection, necrosis, poor vascularization.



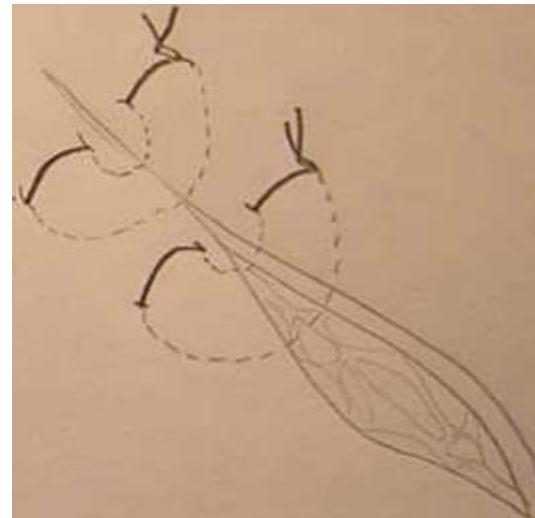
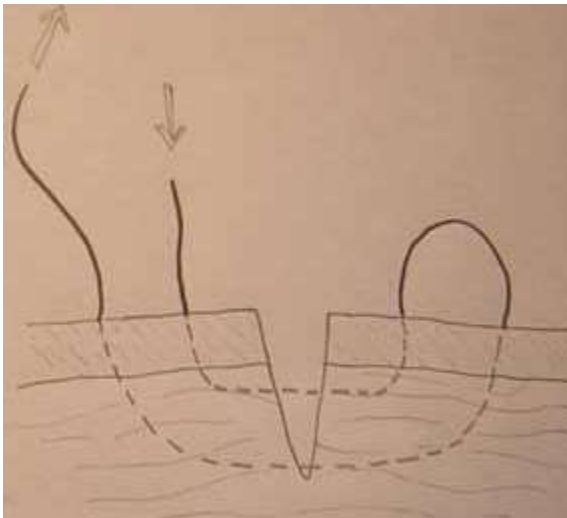
Materials needed:

- † Anesthetic
- † Physiological Serum
- † Aseptic cloths, gloves, Disinfectant
- † Material of surgery:
 - Scissors straight tip
 - Suture material with needle: adequate depending on the type of skin, the wound, etc.
 - Needle guide
 - Mosquito
 - Caliper (with or without teeth)

Technique:

- Vertical:

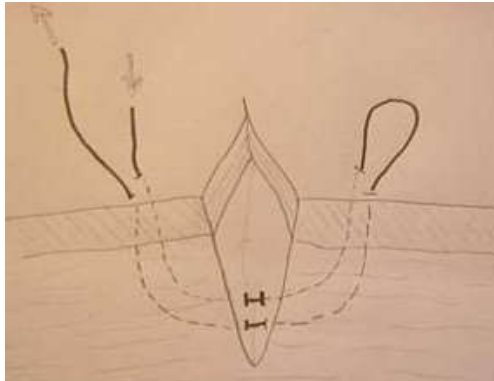
The needle is passed through the wound, from one end to the other to some 0,5 cm from the edge. Other 0.5 cm from the departure point, re-enter the needle to pass back through all the wound to the point source, but of profound manner, leaving approximately 0.5 cm from the first. It maintains the same direction in the four points. Is knotted twine, with both ends leaving the same side, with the usual knot.



- Horizontal:

Similarly, the needle is passed from one extreme to the other, but approaches moving the point to 0.5 cm to the side of the origin, staying in the same line parallel to the wound.

Is reintroduced to the same depth.



Intradermal suture

Indications:

- † Deep Wounds where both the dermis as the hypodermis must be nations.
- † Close margins by reducing the voltage in the wound.
- † Prevents the dead spaces where you can form hematomas, seromas.

Contraindications:

Dirty wounds, with signs of infection, necrosis, poor vascularization.

Must not be used for wounds under tension, since there would be ischemia of the margins and an ugly scar.

Materials needed:

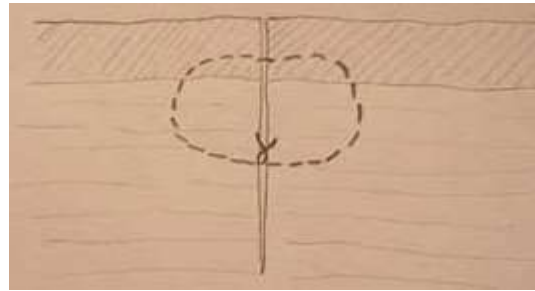
- † Anesthetic
- † Physiological Serum
- † Aseptic cloths, gloves, Disinfectant
- † Material of surgery:
 - Scissors straight tip
 - Suture material with needle: adequate depending on the type of skin, the wound, etc. to this point should be used resorbable material.
 - Needle guide
 - Mosquito
 - Caliper (with or without teeth)

Technique:

- † There is a need to join the hypodermis, without protrude dermis.
- † From the depth of the wound, the needle is inserted to exit by the hypodermis, below the skin surface.
- † Is reintroduced by the other side, this time from the top down.



- † It is important to note that the input angle and direction (from bottom to top) is different than on the other points, since that what interests us is that Los Cabos are more profound than the step of suture. Thus, when forming the knot, will be more profound, was buried and remain firmer suture.
- † It is imperative that the dermis is intact.



Laceration of the Scalp

Indications:

- † It is recommended the use of staples, for the simple linear lacerations.
- † For the complicated, nicked, may require the use of closed type mattress, continuous, etc.

Contraindications:

- † Dirty wounds, with signs of infection, necrosis, poor vascularization.
- † The clips can act as an artifact for the realization of a CT or MRI scan.

Materials needed:

- † Anesthetic
- † Physiological Serum
- † Aseptic cloths, gloves, Disinfectant
- † Material of surgery:
 - Scissors straight tip
 - Caliper (with or without teeth)
 - Razor to shave
 - Preloaded Stapler

Technique:

- † Shave the hair that hinders the wound closure, so that this is exposed. This must be done after cleaning the area, but before numb and desinfectarla.
- † Using the tweezers come together the edges of the wound just above where we are going to start the suture, in front of the stapler. So we get the clips close the edges.
- † The clips is removed by means of a special device, as discussed later.

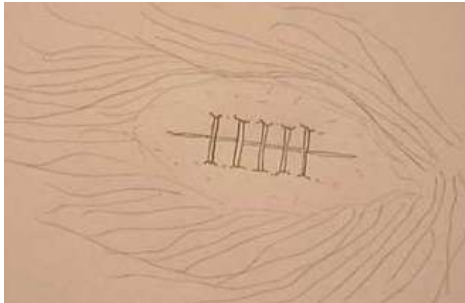


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MEDICAL CARE COURSE

REV. 9 - 2019



Corner suture (horizontal mattress partially buried)

Indications:

Wounds with triangular formations, nicked, with corners weak difficult to repair.

Contraindications:

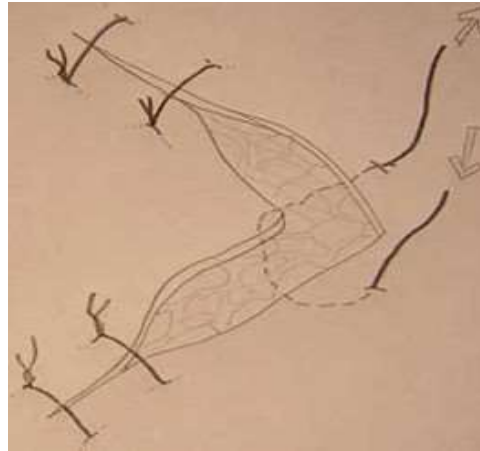
- † Shortage of tissue under the dermis in the corner.
- † Dirty wounds, with signs of infection, necrosis, poor vascularization.

Materials needed:

- † Anesthetic
- † Physiological Serum
- † Aseptic cloths, gloves, Disinfectant
- † Material of surgery:
 - Scissors straight tip
 - Suture material with needle: adequate depending on the type of skin, the wound, etc.
 - Porta Needles
 - Mosquito
 - Caliper (with or without teeth)

Technique:

- † The needle is inserted through the dermis by the opposite side of the flap, to some 0,5 cm from the corner of the wound.
- † The needle will go through the hypodermis the corner of the flap, and crosses the wound to leave by the dermis on the opposite side at the point of entry.
- † Thus, the two ends come up to the surface of the wound by the area opposite the flap, and it is here where the knot is performed as usual.
- † In the rest of the wound is used the usual discontinuous points or other to be decided.
- † With this point of suture, safeguarding the corner of the flap, which does not suffer injury or stress.
- † The depth and the distance of the points must be equal, to avoid dismetrías and the edges are improperly approximate.




Complications of the suture

The complications arising from the suture are similar regardless of the point we decide to use.

- † Bleeding intra-postoperative: to prevent it should be used a vasoconstrictor whenever possible, or digital ischemia. You can use the ligature of vessels, the scalpel of coagulation, etc. if necessary.
- † Bruising-seroma: by a poor approximation of tissues leaving dead spaces under the surface layer. Go to distort the wound, and can become infected. Must be avoided by approximating correctly the tissue in all its depth. It is particularly important to consider when you must use an intradermal suture, which avoids leaving gaps.
- † Infection: Both the tissue, such as the edges, you can get to prevent scarring correct. You should avoid paying attention to the asepsis before proceeding with the suture.
- † Dehiscence: by an incorrect approximation of edges, by the early withdrawal of the points or by the use of an inappropriate material (suture too thin, etc). You can get to require surgical intervention.
- † Granuloma: Produced by reaction of the individual with the suture material. This must be removed, and try to clean and return to close the wound.
- † Necrosis: by excessive tension of the points, which hinder the flow. The process of reepithelialization requires an adequate vascular supply. It is necessary to debride, treated as a dirty wound, and monitor by if is aggravated: Necrotizing Infection, deep-tissue necrosis, etc.
- † Hyperpigmentation: You must try to avoid recommending the patient to protect the scar of the sun for at least a year. The use of solar protectors, will make the new skin has a pigmentation is not excessive.
- † Hypertrophic scar: Prominent, but that respects the limits of the scar. It is usually necessary to bypass for surgery.
- † Scar Keloid: respects no boundaries. As palliative treatment is the infiltration with corticoids, pressure patches, etc. The skin of the young black men is very prone to this type of scar.

Most frequent errors

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	MEDICAL CARE COURSE	REV. 9 - 2019

- † Incorrect asepsis during the process.
- † Accidental needlestick injuries not to keep the needle.

Criteria for referral to specialist

- † When there is important necrosis, with affectation of deep planes, as myositis, osteomyelitis, etc.
- † When the wound is located in an area of risk, as is the furrow retroauricular, angle submandibular, next to important arteries, etc.

After the suture

- † The time for the withdrawal of the points depends on the place where the wound, the type of twine/material used:
 - Scalp: clips. 8-10 days.
 - Neck-face: fine wire of 4:0 - 4-6 days.
 - Trunk, limbs: wire of 3:0 to 4:0 - 8-10 days.
- † Used to remove points pliers and a sheet of scalpel.
- † To remove the clips there is a special device, the staple remover, which puts pressure on the mid-point of the clip and the ends come out easily.
- † The patient should be recommended to keep dry and clean the wound, and protected from the sun during the next 6-12 months.

General hygiene of the hands

The hands of the staff are the most likely route by which the microorganisms are transferred to the patients. The pathogens are purchased frequently through the hands by contact with the patients and their environment. To prevent infections, they should be deleted, especially prior to contact with susceptible sites such as open wounds or invasive instruments. The microorganisms acquired by contact is eliminated quickly with soap and water and also with alcoholic base gels, although the alcohol should not be used when the hands are visibly dirty.

A GPC on infections associated with health care established a series of recommendations on the washing of hands, from the preparation in the preoperative period until discharge of the patient (see these recommendations at the end of paragraph). The difficulties between them, ethical design adequately clinical trials to assess the impact of hand hygiene, cause some of these recommendations are based on results of studies and non-randomized experimental. However, the beneficial effects of the washing of hands are today indisputable, which justifies strong recommendations in this regard.

The abdomen is divided into three anatomical regions:

- a. The peritoneal cavity, which is subdivided into:



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MEDICAL CARE COURSE

REV. 9 - 2019

1. Upper abdomen, the region located under the diaphragm and the costal housing, where are the spleen, liver, stomach and transverse colon, and
2. Lower abdomen, the lower part of the peritoneal cavity that contains the small intestine and the rest of the colon intra-abdominal.

b. The retroperitoneal space, where are located the aorta, the inferior vena cava, the pancreas, the kidneys and their ureters, some portions of the colon and the duodenum.

c. The pelvis, which houses the rectum, bladder, prostate, ilíacs vessels and the female genital organs.

The **closed trauma** usually results in lesions of solid organs, such as the spleen, the liver or pancreas, in both that the penetrating trauma causes more frequently perforations of the hollow viscera.

The closed trauma is the impact on the abdominal wall; a frequent cause is the slowdown that occurs in a car accident, even in people who have placed the seat belt; a fall from great heights also produces the same effect of deceleration.

The closed trauma of the abdomen may go unnoticed, as occurs with relative frequency in patients who have suffered another severe trauma, especially trauma cranium-encephalic. Many fractures of the pancreas, an organ located deep in the retroperitoneal space, tend to be hidden, even in cases in which there is a peritoneal lavage and can have fatal results. The lesions of the duodenum retroperitoneal also exhibit the tendency to be manifested later, and also not to be detected by peritoneal lavage.

The penetrating trauma, in our midst who commonly occurs by multiple stab wounds or wounds with firearm, diagnostic is obvious or relatively easy.

All penetrating wound of the abdomen is synonymous with suspicion of visceral perforation, and must be managed as such. In general this means an exploratory laparotomy.


The penetrating wounds of the chest under the fourth intercostal space, as well as the closed trauma with impact on the lower portion of the costal Coulter, must be handled as abdominal trauma, as at this level are the abdominal organs, particularly the liver, the Spleen and Stomach, structures that most frequently are injured.

The fractures of the 9th, and 10th ribs left frequently associated with breaches of the spleen. Although only 2 per cent of patients admitted to a hospital with closed trauma develop intra-abdominal hemorrhage massive, 10 per cent of the cases of splenic rupture bleed to death and 40% occur in shock. Close to 55% of the deaths from liver trauma are due to bleeding and shock.

The vascular wounds - aorta, vena cava or its branches - are also cause of bleeding and of profound shock.

The majority of early deaths in patients who have suffered blunt trauma of the abdomen are due to the initial hemorrhage, its complications or to the complications of resuscitation.

Initial Assessment and Management

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The primary factor in the evaluation of abdominal trauma is not to establish the precise diagnosis of an abdominal injury, but rather to determine whether there is any intra-abdominal injury"

The evaluation of the patient with abdominal trauma has as its immediate goal:

- a. Determine the status of the airway and maintain its total permeability.
- b. To establish if there is difficulty of the ventilation, and proceed to resolve it.
- c. Reset the circulatory volume.

The assessment should include:

a. **A meticulous clinical history**, which must be obtained through questioning the patient himself or the story on the part of the personnel that assisted me in the first instance to the patient or that transported, or relatives and witnesses. The history should include a report on the very mechanism of trauma, the initial table, the response to the measures of immediate attention and the chronological evolution of the signs and symptoms.

b. **Systematic physical examination general**, with detailed inspection, palpation, percussion and auscultation of the abdomen. Examination of the abdomen is difficult in the patient who has suffered blunt trauma, and their results tend to be misleading; therefore, the doctor must strive to do so with the utmost care and attention. It is important to the examination of the neck and the back to investigate lesions of the column.

c. **Rectal examination**, in order to determine if there is bleeding that would indicate intestinal perforation, establish good sphincter tone in cases of trauma rachimedullary and feel the prostate, which can be "floating" in patients that have suffered breakdowns in the posterior urethra.

d. **Vaginal Examination**, which may reveal bleeding by fractures of the pelvis, and which is of great value in pregnant women who suffer abdominal or pelvic trauma.

e. **Nasogastric intubation**, a procedure that has the dual purpose diagnostic and therapeutic. The appearance and the examination of the intestinal aspirate may mean valuable diagnostic information, and decompression of the stomach is desirable to reduce the gastric volume, the intra-abdominal pressure and prevent aspiration traqueo bronchial.



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MEDICAL CARE COURSE

REV. 9 - 2019


f. **Bladder catheterization**, procedure to set if there is hematuria and determine the response to the administration of intravenous fluids during the reanimation process, as well as measure the hourly diuresis as a valuable sign of the state of the volemia and renal perfusion. But before the bladder catheterization must have been practiced the rectal exam/vaginal, in order to exclude lesions of the urethra that may contraindicate the passage of a probe.

g. **Lab tests**, which must include hematocrit/ hemoglobin, leukocyte count with differential formula, blood glucose, serum creatinine, amilasemia; urinalysis; pregnancy testing in women of childbearing age (if they do not give history of tubal ligation); levels of alcohol and/or drugs; blood gases. In addition, you must order tests for transfusion, and sort enough blood in reserve.

h. Imaging **studies**, they must be requested in a rational way, according to the type of trauma and the individual conditions of each patient, and usually include:

1. X-rays of the cervical spine (lateral and AP);
2. Simple X-ray of the chest AP and, if possible, side;
3. X-ray of pelvis;
4. The simple x-ray of the abdomen, but of very limited value in the abdominal trauma, may reveal the presence of pneumoperitoneum indicative of drilling a viscera, as well as the thinning of the psoas lines that is associated with lesions retroperitoneal and bone fractures; should be ordered only in selected cases;
5. The computerized axial tomography of the abdomen and pelvis, with contrast medium both oral and intravenous, today constitutes the consideration of greater importance in the assessment of the trauma, as it enables to identify specific lesions of the different bodies of the region (especially of the pancreas retroperitoneal and kidneys), the presence of blood and fluid and fractures. The TAC provides more precise information than the peritoneal lavage;
6. The ultrasonography of the abdomen and pelvis, in a similar way to the TAC, constitutes a non-invasive method that allows you to identify specific lesions, particularly in the liver and spleen, and the presence of bleeding and spills into the peritoneal cavity. Its accuracy and diagnostic yield is less than that of the TAC or the peritoneal lavage and the procedure is very operator-dependent. Its main value lies in being of a non-invasive nature and that it is a test that can be performed on the side of the bed of the patient.
7. Peritoneal lavage, which is a method of high diagnostic value, with an index of sensitivity of 98% for intraperitoneal bleeding, has come to fill in the gaps left by the physical examination and simple x-ray of the abdomen. Peritoneal lavage becomes a true management standard in the emergency rooms in modern hospitals.

Indications:

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- † Findings misunderstandings in abdominal examination;
- † Physical examination limited and unreliable by the neurological status of the patient (trauma skull-encephalic, cervical, paraplegia, poisoning, comma);
- † Need for prolonged imaging studies such as angiography;
- † Need for anesthesia to treat injuries extra-abdominal;
- † Hypotension or anemia cause is not established.

The technique the procedure of preferable for peritoneal lavage is the "open" through minilaparotomy, according to the corresponding protocol. The technique by percutaneous puncture, which is preferred by some, has higher risks and should only be performed by an expert.

8. Laparoscopy is a procedure of increasing application in the management of abdominal trauma. Its value in the patient with acute abdomen not traumatic is already accepted, both in terms of diagnosis and treatment.

The digital exploration of the penetrating wound constitutes a valuable diagnostic method in the stab wounds.


Indications for Laparotomy

The overall assessment and special of the patient with abdominal trauma is oriented, once completed the resuscitation, to determine the need to perform Laparotomy.

There is no justification to perform Laparotomy in all patients who have suffered a stab wound. By strict criteria of evaluation and observation, you will find that in around one third of these cases can be avoided the Laparotomy. Patients with penetrating wounds slight superficial can be observed by 24 hours, with sequential physical examination every 4 hours and frequent determinations, each 4-8 hours, hematocrit and leukocyte count (Holcroft & Blaisdell, 1989).

In general we accept the following indications for Laparotomy, according to are listed in the ATLS Manual of the American College of Surgeons:

- a. Hypotension with evidence of abdominal injury:
 1. unshot wound;
 2. Penetrating wound by ARMA BLANCA;
 3. Closed trauma with positive peritoneal lavage for blood.
- b. Peritonitis.
- c. Recurrent hypotension despite adequate resuscitation.
- d. Extraluminal air (pneumoperitoneum).
- e. Wound of diaphragm.
- f. Perforation of the bladder demonstrated in cystography.

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	MEDICAL CARE COURSE	REV. 9 - 2019

g. Ct demonstration of injury of the pancreas, gastrointestinal tract and specific lesions of the liver, spleen, or kidney.

h. Radiological examination contrasted positive of the gastrointestinal tract high or low.

i. Persistence of amilasemia high in the presence of positive abdominal signs.

The last point is based on the possibility of injury to the pancreas, traumatic pancreatitis or perforation of the intestine high with exhaust when peritoneum of duodenal content rich in amylase. The TAC may clarify the existence of a lesion of the pancreas, and differentiate it from an acute pancreatitis triggered by the closed trauma, but without a break or laceration of the pancreas, a finding that would make mandatory the Laparotomy.

The majority of the penetrating wounds by firearm require immediate Laparotomy. Occasionally observed wounds that penetrate the abdominal wall only, without entering the peritoneal cavity. In these cases it is usual to identify the subcutaneous tract of the step of the projectile, tract is painful to palpation, and check the situation through appropriate x-rays.

The realization of the Laparotomy must be preceded by the administration of prophylactic antibiotics. It is recommended to use a combination of clindamycin-gentamicin or cefoxitin as a single agent. As in any case of trauma, consideration should be given to the need of tetanus immunization.

It is recommended a vertical incision on the linea alba, that it can extend down according to need. The transverse incision through the epigastrium, or a large incision inverted V, also give excellent access to the peritoneal cavity. The wounds of the spleen are generally more accessible through a transverse incision with Lateral left extension.


The first priority to enter the peritoneal cavity is to control the bleeding, identifying as soon as it is a possible vascular wound. This is achieved by means of the detection and clear exposition of the injury, and the corresponding hemostasis; sometimes it is necessary to resort to hemostásic packaging. Then proceeded with a meticulous and systematic exploration of the diaphragm (on both sides), the liver, spleen, duodenum, kidneys and the total length of the intestine from the hiatus until the rectum.

The purpose of the exploration is to identify and treat all injuries, and therefore the exploration must be carried out in the form as systematic and meticulous that guarantees a 100% sensitivity.

In the closed trauma is necessary to display fully both the pancreas as the duodenum, bodies that frequently are injured in the lesions by compression against the spine.

The retroperitoneal hematomas of the pelvis in patients with pelvic fractures must not be opened by the danger of uncontrolled hemorrhage. But the retroperitoneal hematomas located on the outside of the pelvis, especially those associated with the inferior vena cava or with the kidney, yes should be open, drained and controlled.

When you need the packaging for hemostasis, as in certain wounds of the liver, or psoas and of the muscular wall later, closes the laparotomy and program re-exploration in 24-72 hours; in the case of the liver, in 24-48 hours. It is usual that during this interval is correct the abnormalities of coagulation and the second operation elapse without major difficulties.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

Minor Surgical Treatment

¿What is the minor surgery?

The Minor surgery includes a series of simple surgical procedures and usually of short duration, made on surface tissue and/or easily accessible structures, under local anesthesia, which have a low risk and after those who are not expected significant postsurgical complications.

Standardize the minor surgery helps to reduce the rate of referral to specialized care, improving the accessibility of the patient to the health system, subtracts the waiting time and increases the activity and the resolute capacity of the primary health care.

It is of utmost importance that the nursing staff are adequately prepared in order to be able to respond effectively to the operated clinics of minor processes, as it allows them to identify in advance the potential risks of infections and complications, as well as to focus their work on the modification of these.

Is made in the primary care centers by family doctors, which perform the differential diagnosis and valued the possible forms of treatment. During the first consultation the doctor appreciates the indication or surgical contraindications of the patient and whether it is feasible to do this for the health center. Once admitted, you are informed of the risks involved in the operation and the possible complications, and given the informed consent to firm. In the second consultation was carried out the intervention of minor surgery by a team formed by a doctor and a nurse.

The anesthesia that is used in this type of surgery is crazy, using various regional anaesthetic drugs.

Within the minor surgery is performed knotted techniques with different basic types of suture, court and dissection of tissues, management of the most frequent types of skin wounds, removal of cysts, and infiltration of anaesthetics.

The most frequent pathologies that are treated with minor surgery are:

- † Ingrown Toenail
- † Chronic Hidradenitis
- † Sebaceous cysts
- † Lipomas
- † Warts
- † Epidermic cyst and muroid
- † Seborrheic keratosis
- † Foreign body
- † Ulcers
- † Abscesses
- † Resection of the nail
- † Reconstruction of wounds
- † Infections of the skin



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

¿What are the advantages of the minor surgery?

- † Quick service (intervention without delay), accessible and appropriate to the needs of the patient
- † Integrated care: familiarity with the health sector and the professionals that perform the procedure
- † (center, doctors and nurses known)
- † Avoid unnecessary journeys and appointments, with savings in direct costs

bandage

"Bandage" Technique"

Bandage

The band is a strip of cloth or gauze, elastic material, length and width variable, which is used to wrap or hold a part of the body.

Definition: Defines the bandage as the ligature that is done with bandages or with other parts of canvas arranged so that fits the shape of the region of the body where they apply and hold the dressing.


Its more frequent use, at present, is to cover the skin lesions and immobilize the lesions osteo joints.

Applications: indications of the bandages are varied, being its main purposes the following:

1. Limit the movement of the affected part.
2. Set dressings or topical medications.
3. Attach splints, preventing their displacement.
4. Provide support to any part of the body.
5. Compress a part of the body.
6. Secure in place the apparatus of traction.
7. To encourage the return of the venous circulation to the extremities.
8. Shape areas of the body, especially journals of amputation.

Types of dressings:



	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Soft bandage or containing: Used to hold parts of a cure or dressing.
- † Compressive bandage: used to exert a progressive compression at the level of a limb, the distal to proximal, with the purpose of favoring the venous return.
- † Rigid bandage: with him is achieved a complete immobilization of the affected part.
- † Bandage jock strap: Holder of the scrotum or the breast.
- † Protective bandage: aims to cover a healthy part or sick to protect it from a harmful action.

Types of band:

The canvas strips used to perform the bandages are called "sell". These vary in size and quality in the manufacturing equipment.

Although you can improvise bandages from sheets or other waste of different tissues, the most practical and comfortable is to use bandages manufactured specifically for health uses.

The most commonly used sizes are widths of 5 cm, 7 cm, 10cm and 15 cm.

There are different types of bandages:

- † **Gauze bandage edged:** is the most common use. Made in cotton. Their quality and characteristics are determined by the number of wires per square centimeter. Are thin, lightweight, soft, and porous. Indicated mainly for set dressings.
- † **Kling gauze:** is a special type, woven in such a way that tends to retract. Molds and fixed easily.
- † **Sell of muslin:** Manufactured in cotton, but of consistency and thickness greater than the previous ones. It is slightly elastic but resistant being used to immobilise and hold splints. Allows repeated use, after washing.
- † **Elastic Bandage:** is distinguished by its elasticity. It manufactures interweaving cotton and synthetic fibers elastic. Useful if you need to apply pressure. Allows repeated use, after washing. Are the indicated when the dressing is applied on the extremities to facilitate the venous return.
- † **Adhesive Elastic Bandage:** has a face with glue, which facilitates its mounting. Must not be applied directly to the skin, by allergic problems or delicate skin. Fit under another gauze bandage or cellulose.
- † **Bandages impregnated with materials:** materials that after its humidification solidify and allow a bandage rigid, as plastering. At other times according to the impregnation is called: starchy, dextrinated, gelatinized, Silicate.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Bandages



✦ The knowledge on the use and application of the dressing is of great importance in daily life, since they frequently we are exposed to suffer injuries and wounds of various types; also enables us to provide properly the first aid to the injured and to ourselves.

The functions of the bandages are:

1. Attach gauze or dressing on a wound or burn.
2. Stop the bleeding from a wound.
3. Freeze joints injured by: injuries, sprains, dislocations and fractures.
4. Perform slings and secure splinting.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Types of Bandage:

Protective: is used to protect an area of the body against infectious agents.

Containing: applies to hold the cures covering a wound or burn.

Comprehensive: applies in circular form and is used to stop the bleeding

In eight: is used to immobilize articulated surfaces: elbow, wrist, knee, ankle, among others. *Circular: is used to protect and immobilizes the forearm, upper arm, thigh, and fingers of the hands.

By be the **bandage in eight** and the circular the most common use, we will detail its application.

Bandage is performed in eight: intertwining the laps of the band, forming the figure of a number eight.

Circular bandage: can be:

Simple: is one in which the laps of the band of overlap completely.

Spiral: is the bandage that is done from the bottom up in a limb, overlapping partially the flying of the band, in such a way that the bandages go covering progressively the injured limb.

- Special mention should be made of the **functional bandage** that is a specific technique of bandage that allows you to maintain certain functionality of the injured zone without prejudice to the same. The functional bandage is a species of tailored suit.

Applied as a therapeutic technique, seeks to limit selective and mechanically the mobility of a joint in the sense of the movement that affects the injured structures of the tissues peri-articular. With the functional bandage are placed the different organic elements in position of foreshortening, which in turn provides, in addition to an action antiálgica, a real protection against the pathological position as well as to the reproduction of the lesional mechanism.

With this type of bandage is intended to limit and reduce movements that cause pain, as well as download, to the extent possible, the tensions that are subject fibers muscle-tendon injured. As we see it, by its definition, this technique can be used both in the therapeutic field as in preventive maintenance.

There are different ways to perform the functional bandage, depending on the use you go to give, is not the same dress the ankle of an athlete of elite, that must play a major party, that the other person is not going to make a physical effort of the same magnitude, or one to which you are removed a plaster after a process of immobilization by a sprain or fracture. In the first case was almohadillan bony prominences, protects the skin and is performed the bandage. In other cases it may not be necessary.

We can distinguish three techniques depending on the materials used:



- **Technical elastic:** are used adhesive bandages, elastic in the longitudinal direction and bielastic (longitudinal and transversal).
- **inelastic Technical:** we use bandages of inelastic material, bandage type "Tape".
- **Mixed technique or combined:** uses materials of the previous two. With strips of tape conform the anchors and abutments and with the elastic bandages close the bandage.

The anatomical structures involved in a therapeutic bandage should be placed in position antiálgic of reduction and rest, position to be maintained throughout the time of realization of the bandage, because otherwise the bandage becomes ineffective although very esthetic.

Therefore, the indications of the functional bandage are the following:

- † Prevention of laxitudes ligament.
- † Ligament strain of grade I and II.
- † Small breakages of muscle fibers.
- † As a download on the tendinitis.
- † After the withdrawal of gypsum.

Another possible use is as a preventive measure when a patient presents numerous episodes of identical injury in order to avoid recurrences (are frequent cases of muscle injuries and tendinous). We should take into account that this type of bandage preventive functional should not be carried out in a systematic and repetitive, as it ensures that a passive stability which in turn causes the subject depends on the bandage and exposes it even more to the possible injury.



In general are contraindications functional bandage the severe injuries that require a strict immobilization:

- † Large cracks, ligament and muscle tendon.
- † Bone fractures.
- † Important wounds and burns.
- † Allergy to the adhesive, hypersensitivity of the skin.
- † Skin diseases such as psoriasis.
- † Neuro disorders sensitive important.
- † Venous insufficiency serious.



The joints susceptible to perform a functional bandage are: the ankle, knee, wrist and joints and phalangeal interphalangeal metacarpus.

To protect the ankles with the mixed technique and the procedure involves placing a few anchors of bandage of cloth, to prevent deformity, at the level of the calf and in

the forefoot, placed the strips of tape in the direction of the ligaments that we want to protect and



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

following their journey, ensuring that the strips do not join by the front side of the leg. What we complete with adhesive elastic bandage with circular turns until at least 20 cm. above the maleolos.

Nomenclador of bandages Fixed Assets


In order to clarify the name of any bandage or immobilization that we can hear in the service that we work, or read in any book, we are going to put name to all dressings and detentions of all parts of the body may be bandaged or immobilized.

Bandages:

- † Skull: capelina bandage.
- † Shoulder: v. Velpeau (currently in disuse).
- † Sling (Master-Sling).
- † Clavicle: 8 figure (prefabricated or made with bandage).
- † Elbow: brachial bandage.
- † Forearm, wrist and hand: v. Antebrachial or scaphoid.
- † Fingers: compressive (in thimble or baton).
- † Thighs: musieras.
- † Knee: compressive or Robert-Jones.
- † Ankle: compressive suropédico.
- † Feet: compressive suropédico and antepié.
- † Achilles tendon: compressive suropédico with walk in equine.
- † Neck: cervical collar (soft, semi-rigid, rigid and Philadelphia)

Immobilizations:

- † Humerus: U plasters or plaster pendant.
- † Elbow: brachial splint.
- † Forearm: forearm splint.
- † Wrist: splint antebrachial that in some cases must be completed in order to avoid the brachial pro- and supination.
- † Scaphoid: splint of scaphoid.
- † Hand: forearm splint with or without extension to the fingers.
- † 1 Finger: splint of scaphoid or splint digital.
- † Other fingers: digital splint or sindactyly.
- † Toes: sindactyly.
- † Foot: splint later or suropedica with "comb" (prolonged underneath the fingers) and with side reinforcements.
- † Achilles tendon: suropedica with walk in equine.
- † Ankle: splint later or suropedica.
- † Tibia and fibula: isquio-pedica.
- † Knee: isquio-pédica or isquio-maleolar.
- † Femur: Place traction transesqueletica.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

† Hip: traction percutaneous.

3. Aspects of Nursing.

Nursing is one of the professions dedicated to the care of the health of the human being. It basically focuses on diagnosis and treatment of health problems, actual or potential. The unique approach nurse focuses on the study of the response of the individual or of the group to a health problem.

General Principles of Nursing.

Observation of the condition of the patient.

- † Keep a written record of changes in the state of the patient.
- † To record the problems presented by the patient and the nursing care provided.
- † Collaborate with the physician in the diagnosis of the patient.
- † Serve as an instrument of information in the field of health as a scientific document legal.
- † Research Studies
- † We can assess the evolution of the disease in the patient.
- † Information serves the health team as a scientific paper and legal.
- † You can identify the needs of the patient.
- † Revision of patients:
- † State of consciousness mood pain.
- † Oxygen: the status of the device, humidifier, level of the water.
- † Intravenous fluids: solution installed, start time and ends, quantity in the bag, check label, see drip.
- † Venipuncture Sites: signs of phlebitis, date.-
- † Team of catheter placement and buretrol: Date, Status.
- † Dressings wounds: dry or with secretions
- † Drains: Mounting and connection of the drainage pipes, color of the fluid drainage.
- † Bladder catheter: open or pinched.
- † Patient comfort.

Observation of the behavior of the patient.

Examiner for the inspection body and behavior of the patient in order to detect aspects or features related to possible dysfunctions. The nurse or nurse remains impartial since any prejudice or personal attitude affect the objectivity of the observations.

The observation of the behavior of the patient and the physiological changes produced during the change of posture, allow professionals to objectify the pain in critical patients with difficulty for verbal communication. The increasing pain during the postural change recommends that you manage additional analgesia before a procedure nociceptive, in particular if they are treated in Postsurgical patients.

Observation and signaling the cardinal symptoms:



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

- † Skin: In adults, the color of the skin is evaluated at the level of the nails (or fingertips), oral mucosa, and conjunctiva or eyelid of the eye. Internal In the case of infants and children, is also examined the palms of the hands and soles of the feet. Abnormal colors of the skin include, namely: pallor (indicates poor infusion or circulatory deficiency, cyanotic (bluish color-grayish which indicates a deficiency in the blood concentration of oxygen or poor perfusion), blushing/redness (associated with exposure to excessive heat or carbon monoxide poisoning), and jaundice (yellow color of the skin, mucous and conjunctive caused by elevated levels of bilirubin in the blood; commonly associated with a disease of the liver). In individuals who possess skin of dark pigmentation, you must observe the tongue, lips, sides of the cheeks inside the mouth, nails (or fingertips), and the inside of the eyelids. Commonly these areas have a pink color. A person with dark pigmentation in a state of shock (with oxygen deficiency or cyanotic) evidence an aspect gray color around the nose and mouth, tongue and the sides of the cheek inside the mouth have a bluish color, and the lips and fingernails also have a bluish appearance. The palms of the hands and eyelids also highlighted this color blue. In those circumstances where the shock originates from a hemorrhage, one can observe a pale color, crisooso waxy and on the tongue and on the sides of the cheeks inside the mouth. The red color (blushing) commonly observed in people with fever, may be identified in the tip of the ears in these victims with skin of dark pigmentation.
- † Breathing: A normal breathing is characterized by being comfortable with a slight lifting of the abdomen and chest wall (chest), without the intervention of accessory muscles. During the evaluation of breathing the following factors should be considered: (1) frequency, (2) depth, (3) and Pattern (4) respiratory sounds.
- † Excretion: substances that are to be deleted are hugely varied, but the most abundant are the carbon dioxide ,and the nitrogen that occur by alteration of amino groups resulting from the catabolism (degradation) of proteins. The substance excreted can be:
- Ammonia. Is excreted by aquatic invertebrates, bony fishes and larvae of amphibians. It is highly toxic, but by its great solubility and dissemination, the surrounding water dilutes it and dragging with quickness. Animals excreting ammonia is called amoniotélics.
- Urea. Is produced in the liver by rapid transformation of ammonia, proving to be much less toxic and more soluble, although spreads more slowly. For these reasons it can accumulate in the tissues without causing damage and be excreted more concentrated. Is the main nitrogen waste of the cartilaginous fishes, amphibians adults and mammals. The animals that excrete urea are called ureotelics.
- Uric acid. It is characteristic of animals entering the water in small quantities. Is formed from ammonia and other nitrogenous derivatives. Is excreted in the form of white paste or solid given its minimal toxicity and low solubility. It is characteristic of animals adapted to live in a dry environment and lay eggs in shell and waterproof membrane, such as insects, molluscs pulmonate, reptiles and birds. Animals excreting uric acid are called uricotélicos.
- In mammals, for example, the two essential excretory processes are the training of urine into the kidneys and the elimination of carbon dioxide in the lungs. These wastes are removed by urination and respiration respectively. Also the skin and liver are involved in the drafting or discharge of toxic substances. The skin intervenes through perspiration, expelling the salt and water.



SEAFARERS TRAINING CENTER INC	M-MC(I)-16
MEDICAL CARE COURSE	REV. 9 - 2019

In terrestrial arthropods the excretory organs often lead to the beginning of the intestine, with which the excretion products are incorporated into the stool. However, in mammals, as man, only the liver pours substances of excretion into the intestine. Of these, only the derivatives of the heme group such as bilirubin blood, are incorporated in a meaningful manner to the stool, being the most reabsorbed into the bloodstream and eliminated by the kidneys.

- † Pulse: Represents the alternating expansion and contraction of the artery that results from the propulsion rhythmic blood with each beat of the heart. The pulse is determined to feel an artery that passes superficially (close to the skin) and commonly on a bone. The criteria used for evaluating the pulse are, namely: (1) frequency, (2) quality, and (3) rhythm. The radial pulse is the most frequently used to observe/evaluate these functions. The pulse rate can be determined by counting the number of pulses (or beats) in 15 or 30 seconds and is then multiplied by 4 or 2, respectively, to convert in beats per minute. For example, if identified 18 beats in 15 seconds, the pulse rate would be the result of the multiplication of 18 x 4.
- † Blood Pressure: blood pressure represents the driving force that moves the blood throughout the circulatory system. This measurement is taken Emergency Medical Technicians.

Age	Blood Pressure (mm. Hg.)
<i>New Born</i>	<i>80/40</i>
<i>1 year</i>	<i>82/44</i>
<i>3 years</i>	<i>86/50</i>
<i>5 years</i>	<i>90/52</i>
<i>7 years</i>	<i>94/54</i>
<i>10 years</i>	<i>100/60</i>
<i>15 years</i>	<i>110/64</i>
<i>Adult</i>	<i>120/80</i>

- † Body temperature - The temperature is the amount of energy in the form of heat that owns the body. Commonly is measured in degrees Celsius. A normal temperature can fluctuate 98 and



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

100 °F (36.7 °C and 37.8 °C. In the case of the first respondent (which do not have the training nor the equipment for a measurement of the temperature the more sophisticated) takes the temperature of the skin at the level of the front (in the head) of the rough. You should feel the temperature of the skin with the back of the hand. Determine the quality of the temperature using the following criteria: normal, hot, cold. In addition, determine if the skin is dry, wet or sticky.

The measurement and recording of vital signs will be of great value for emergency medical technicians and doctors in emergency rooms, can serve as a basis to begin with the specific treatment, such as oxygen therapy, ventilation, handling of shock, among others.

The interpretation of the vital signs is done on the basis of the normal values of these. For example, the normal breathing rate is between 12 to 24 breaths per minute in adults, so that any value outside of this is considered abnormal. In addition, you should also consider the situations and individual variables of the emergency, such as stress, anxiety, age of the victim, and drugs since that can alter the normal value or expected of the vital sign.

Nursing Care.

The Control of pain.


With Pharmacists.

The nurse responsible for the patient will establish which is going to be the pharmacological management of pain, leaving consist the pattern to be followed depending on the type of pain that are present for the patient.

Make sure that the choice of analgesics adapts to each person, taking into account the type of pain (acute or chronic, breakthrough, nociceptive, neuropathic,...), the intensity of the pain, the factors that influence the toxicity of analgesic (age, disease...), the general state of health, the attendant problems of health, the response to the previous medication or current, the costs to the patient, the family and the place where you make the care. Recommendation grade = to advise the use of the program easier for the dosing of the analgesics and the modalities of pain management less invasive:

The oral route is the preferred route to the chronic pain and acute pain in the healing phase. After a major surgery is usually chosen parenteral administration intravenously, either in bolus or by continuous infusion. Recommendation grade = C the intramuscular route is not recommended in adults, it is painful and unreliable. Recommendation grade = B Ensure that have been prescribed alternative routes of administration if this cannot be done through the mouth, taking into account both the preferences of the patient as the most efficient and less invasive. Recommendation grade = C

It must combine the pharmacological and non-pharmacological methods to achieve effective management of pain. The non-pharmacological treatments should not be used as a substitute for the appropriate pharmacologic treatment.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The selection of the nonpharmacological methods should be based on the preferences of the patient as well as the objectives of the treatment. Before applying any non-pharmacological method, you must take into account the potential contraindications of the same. Recommendation grade = C

Specific strategies should be established with a recognized effectiveness for certain types of pain as are surface application of heat or cold, massage, relaxation, viewing, and pressure or vibration, except contraindications.

Application of cold.

- † Contributes to lower the inflammation and the pain.
- † The cold can be wet (pads) or dry (bag of ice)
- † Explain the procedure to the patient.
- † Observe the skin and the general condition of the patient before and after the application.
- † In dry applications never is placed directly on the skin (wrapped in a towel or blanket).
- † Place during 15-20 min. discontinuously every 2 hours.
- † At the end of dry skin with care and by pressure, never rub.
- † Register the area where you applied, the time and the reaction (Grouping of care. Need:
- † Security. Management of pain: non-pharmacological treatment of pain)
- † Indications
- † Reduce or prevent inflammations due to injuries (sprains, bursitis, muscle tear...)
- † Decrease the pain associated with these inflammations.
- † Manage small bleeding
- † Headache.
- † Hematomas.
- † Contraindications

In areas with poor circulation (diabetic foot).


During the application of radiation therapy can be used in this area to the 5 days to finish the treatment provided that the skin is not scaly red or tender.

On a wound that this in the process of healing.

Raynaud's syndrome.

Application of heat

- † Helping to alleviate the pain and muscle spasms.
- † The heat can be wet (towels, water bath) or dry (hot water bottles)
- † Explain the procedure to the patient.
- † Observe the skin and the general condition of the patient before and after the application
- † Place during 15-20 min discontinuously every 2 hours.
- † Record the area where you applied, the time and the reaction.
- † Indications
- † Decrease the pain in the inflammations not traumatic joints (arthritis).

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Accelerate the maturation of infectious processes and facilitate a collection of pus drain to outside.
- † Relax a contracted musculature (contracture).
- † Contraindications
- † In any area that bleed.
- † In areas with a decrease of the sensitivity.
- † In the first 24 h after a wound.
- † If you are using any product containing menthol.

During the application of radiation therapy can be used in this area to the 5 days to finish the treatment provided that the skin is not scaly, red or tender.

Avoid applying over bony prominences. Nursing will assess the use of these methods, taking into account that many patients may think that they are not giving importance to your pain. Must be able to give an adequate explanation for the patient to know that adjuvant is a method to your pharmacological treatment.

Postural Changes

Postural changes are needed in many occasions to achieve positions antiálgic that improve the pain. Movements can change the intensity of the pain (e.g.: peritonitis) in which the patient tends to immobility.

Some positions as:

Flexing of hips in inflammatory processes (appendicitis) relieves pain by the relaxation of the psoas. Trunk Anteflexion, can improve the pain in processes of pancreatic origin.

Environmental measures comfortable

Temperature of the room comfortable, ambient light dim, prevent noise, bed linen without wrinkles, dry and clean...

Psychosocial Intervention, Psychoeducational and cognitive-behavioral

Deploy at the start of treatment Psychosocial interventions to facilitate the adaptation of the patient and the family (Grade of recommendation = B) and establish psychoeducational interventions and cognitive-behavioral as part of the overall plan of care for pain management (recommendation grade A can be very useful).

The emotions that usually appear concomitantly with the pain are anxiety, fear and depression, which emphasizes the importance of providing psychological support to patients, and in particular after aggressive interventions and/or vital prognosis uncertain.

- † In general lines the psychological intervention in the patient with pain, has the following aims:
- † Relieve and when possible, eliminate the pain.
- † Increase the levels of physical and mental well-being of patients.
- † Reset functions and activities necessary for the individual to regain their autonomy.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

- † Encourage the patient to make changes or modifications of habits, attitudes and behaviors maladaptive.
- † Prevent complications a posteriori, such as loops anxiety-pain-depression or the Chronification of pain.

The social support to people in a network of support, opportunities and care that also influence the pain and its control. The positive consequences of social support (allow the Emotional discharge, generate positive feelings, provide information on procedures and developments, facilitate opportunities...) contribute indirectly to improve the levels of pain and to reduce the intensity of the depressive disorders associated with that pain. Sometimes, however, the need for social approval and search for support can be a factor that in time to contribute to the relief of pain, suppose a variable incrementadora the same, to become the pain in a call of attention that leads to worsening of the disease.

Delivery of the injections

Most of the injections are unnecessary. There may be safer drugs and of equal effectiveness to be supplied to patients in other ways, such as: oral, skin or rectum.

- † Delete the unnecessary injections.
- † Use computers to inject and sharp objects sterile.
- † Prepare and manage the injections without contaminate it.
- † Discard the needlestick objects to prevent their reuse and the possibility to do damage.

Wash your hands under running water

- † Wash your hands with soap and water or with disinfectant solutions that contain alcohol without water, before preparing or administer the injection.
- † Wash your hands again after having contact with earth, blood or body fluids.
- † Follow the manufacturer's instructions for the storage and use of each drug
- † Some medicines should be:

Thrown after being open, because they have no preservatives or kept between 2-8 °C, or hydrated only with specific thinners.

Clean the skin before applying the injection is unnecessary


Clean the skin visibly dirty with clean water and dry with a clean cotton.

If the skin is cleaned with a gauze, use an individual package containing isopropyl alcohol or ethanol.

- Danger!
- † Most of the agents for cleaning and other alcohols (methanol or methyl-alcohol) are not safe to be used in humans.

Do not open blisters of glass with your fingers discovered

- Frequently, the staff is cut your fingers when you open the blisters of glass.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- Bleeding fingers contaminate the vials, syringes and the place of work.
- Use a pair of pliers clean, two small hinges, clamps bent facts with clean caps bottles, rigid parts of plastic or a curved part of wood.
- While the rigid materials better protect fingers, a piece of gauze offers less protection.

When injecting, prevent sudden movements of the patient that may cause punctures with needles

- Many punctures with needles happen when girls/OS or adults move unexpectedly.
- Immobilize the/children gentile and firmly on the lap of an adult, you hold your arms and legs.
- Assess the mental condition of the patients who have violent behavior or unbalanced and ask a colleague to help immobilize to these patients that could be confused.

Washing and cold sponge of the patient.

- † Loosen and remove bedspread, spread and Bata (caring Infusion Catheter), Leave
- † Wash your hands, Put dressing gown and put on gloves. top savannah covering patient.
- † Place a towel in the chest in transverse direction and perform oral hygiene.
- † Wash, flush face, ears, neck with rotating movements.
- † Position the patient in the supine position, zoom in the head to the top edge proximal to the bed, enter pillow under the shoulders and refit seat of Kelly (cloth ahulada).
- † Protect ear passages.
- † Proceed to wash the hair (water, soap) rub what is necessary, dry , wrap with towel, remove rubber cushion/and travel pillow until the head rest in it (raise).

4. Diseases.

The concept of disease is an approximation that provides guidance on the type of health problem in question, and helps your understanding. Every illness has specific characteristics that the categorized, and provides a point of reference for identifying what may have in common or differentiate a nosological entity of another.

An example: the name "diabetes" made significant reference to the "passage of water" evident in the increase of the thirst (polydipsia) and the excretion of urine (polyuria). This made to group two disorders (diabetes mellitus and diabetes insipidus) that the only thing they have in common is the polydipsia and polyuria, since their causes, frequencies and remaining manifestations are completely different.

Conditions and medical emergencies.

1. Acute respiratory difficulty- bronchial asthma in acute attack.
2. Hemorrhages of all types - including the obstetrical and gynecological.
3. Delivery.
4. Traumatic accidents- fractures or dislocations.
5. Acute abdominal pain- severe colic.
6. Foreign body in the area of eyes, ears or nose.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

7. Wounds, lacerations or multiple lesions.
8. Loss of vision or hearing.
9. Sudden loss of consciousness "shock" or coma, confusion, disorientation of any type.
10. Poisoning by ingestion, inhalation, etc.
11. Blow in the area of the head with loss of knowledge.
12. Severe burns.
13. Acute pain in the chest-episodes of angina, myocardial infarction (heart attack) coronary insufficiency, pulmonary embolism.
14. Bites from bees or wasps with secondary allergic reaction.
15. Fever Alta. Temperature above 40.0°C (104°F).
16. Neurological episodes with loss of knowledge.
17. Severe allergic reaction- (anaphylaxis).
18. Acute psychiatric reaction- madness, suicide attempt.
19. Severe dehydration.
20. Sexual assault or rape.

Reanimation

The procedure is vital to safeguard the life in an emergency is to know how to recognize and correct the respiratory failure or cardiovascular system.

The Basic support includes the steps or stages "ABC" affecting the via breathing, breathing and circulation respectively.

This is your application

- A. Obstructed airway
- B. Breathing (Respiratory)
- C. Circulatory or Cardiac (heart)

Ideally, in just seconds should intervene between recognizing the need and start with the treatment.

† **Cardiopulmonary Resuscitation (R.C.P.)**

The following steps in order

- 1) Perform a diagnostic of conscience.



- 2) Activate the H.E.M. (Emergency Medical System)
- 3) Perform hyperextension of the airway.
- 4) Perform diagnosis of respiratory arrest (L.L.F.)
- 5) Perform 2 breaths Mouth to Mouth
- 6) Perform fault finding of Unemployment Cardiorespiratory (pulse).
- 7) Perform External Chest compressions
- 8) To exist the resuscitation equipment (DCA: defibrillator) connect until the appliance indicate that you will continue.



1) Diagnosis of consciousness

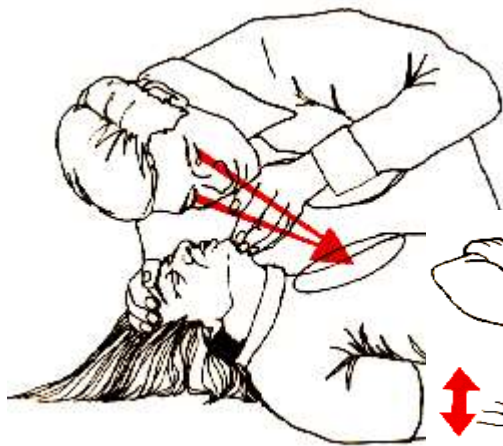
whether he is well. In case of no



Encourage the person tactile and sonically, grabbing it gently on the shoulders and asking answer, rotate:

- † Ask a person that I searched for help.
- † You, stay on the victim.

3) and 4) with the head in hyperextension, perform the L.L.F.



Look, listen and feel

The expansion of the thorax, air breathing noises in my cheeks

5) 2 breaths Mouth to Mouth
Pinch the nose; seal the mouth of the rescuer and exhaling.



Mouth
mouth of the patient with the



Between breaths, withdraw and unclamp the nose for air to escape.



6) Diagnosis of Unemployment Cardiorespiratory (taking the pulse)

7) Perform External Chest compressions



While a single lifeguard, compressions/breaths are carried out with the following frequency depending on the age of the victim:

ADULT	CHILD	INFANT
(8 YEARS OR MORE)	(1 a 8 YEARS)	(0 a 1 YEAR)
30 Compressions x	5 Compressions x	5 Compressions x
2 Insufflations	2 Insufflations	1 Insufflations
4 Cycles	10 Cycles	10 Cycles
2 hands	1 hands	2 fingers

Every 1 minute, check breathing (L.L.F.) and pulse. Always complete the cycle with the breaths.

Perform the maneuver of R.C.P. until:

1) The victim is to recover, in which case you must check until medical help arrives.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

2) the victim to recover the pulse but not breathing, in which case there should be performed only maneuvers of artificial respiration.

3) The lifeguard is exhausted or unable to continue with the maneuvers.

4) medical help arrives.

Remember: you are the first link in the chain of life":

Methods in cases of emergency.

Do not intervene if you do not know, call 911 immediately and neighbors.

Do not touch the wounds with the hands, mouth or any other non-sterilized materials used gauze if possible or a clean towel, never blow a wound.

Don't wash deep wounds or injured by fractures, only cover them with something very clean and immediately transported to the doctor.

Do not clean the wound inward, do it with moves toward the outside.

Do not touch or move the blood clots.

Do not try to sew a wound, since this is a matter of a doctor.

Do not place absorbent cotton directly on wounds or burns.

Do not apply adhesive fabric directly on wounds.

Not unpin with violence the gauze covering the wounds.

Do not apply wet dressings; nor too loose or too tight.

¿What to do if you have to provide first aid?

1. Behave calm and serene; acting with calm we will arrange much better our ideas and act better.

2. Send to call a doctor or an ambulance; remember to carry the emergency telephones.

3. Move to the curious; in addition to vitiate the atmosphere with their comments can disturb more the injured.

4. You must always give priority to the lesions that jeopardize the life, hemorrhages, absence of pulse and/or respiration, poisoning and shock or shock

5. Examines the injured; reviews if you have pulse, if you breathe and how it does it if the respiratory tract (nose or mouth) is not obstructed by secretions, language or foreign objects; notes if bleeds, if have convulsive movements, among others. If you are conscious interrógalo on the discomfort that may have.

6. Position the patient comfortable; keep it warm, do not coffee, or alcohol, or to let smoke.

7. Do not lift the person unless strictly necessary or if you suspect a fracture.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

8. Do not put alcohol in any part of the body;
9. Do not give fluids or in any case give hot water.
10. Prevent shock.
11. Control bleeding if there is one.
12. Hold your breath of the wounded.
13. Avoid panic.
14. Inspires confidence.
15. Much common sense.
16. Do not do more than what is necessary, until you reach the professional help.

Situations in which inevitably must be called to the doctor

1. When the bleeding is copious (this is an emergency situation).
2. When the bleeding is slow but lasts longer than 4 to 10 minutes.
3. In the case of foreign body in the wound that not can easily be seen with the wash.
4. If the wound is pinpoint and profound.
5. If the wound is wide and long and needs to be sutured.
6. If you have cut tendons or nerves (particularly wounds of the hand).
7. In the event of fractures.
8. If the wound is on the face or parts easily visible where it would be ugly a scar.
9. If the wound is such that cannot be thoroughly cleaned.
10. If the wound has been contaminated with dust, dirt, etc.
11. If the wound is bite (animal or human).
12. At the first sign of infection (pain, redness, swelling - pulsing sensation).
13. Any injury to the eyes.



Sexually Transmitted Diseases.

Sexually transmitted diseases (venereal) are those that are often passed on, if not in all cases, from person to person through sexual contact.

As sexual activity provides opportunity for microorganisms to find new guests, a wide variety of infectious microorganisms can be transmitted in this way. These range from microscopic virus (for example, the human immunodeficiency virus) to insects visible (for example, the crabs or the pubic louse). The spread of some sexually transmitted diseases requires no genital penetration. In spite of the fact that these diseases are usually the result of vaginal intercourse, oral or anal sex with an infected person, occasionally can be transmitted by kissing or maintain a narrow body contact. Certain agents of sexually transmitted diseases may be infected through food and water or blood transfusions, the contaminated medical instruments or used needles by drug addicts.



Syphilis

Syphilis is a sexually transmitted disease caused by the bacterium *Treponema pallidum*.

This bacterium enters the body through the mucous membranes, such as those of the vagina or the mouth, or through the skin. Hours later comes close to the lymph nodes and then spreads throughout the body through the blood. Syphilis can also infect a fetus during pregnancy, causing birth defects or other problems.

A person who has been cured of syphilis is not immune and can become reinfected.

Symptoms

Symptoms usually begin 1 to 13 weeks after infection; the average is 3 to 4 weeks. The infection with *Treponema pallidum* passes through several stages: primary, secondary, latent and the tertiary. The infection can last many years and rarely causes the heart, brain injury or death.

Treatment

Because people with syphilis in the primary or secondary stages transmitted infection, should avoid sexual contact until they and their sexual partners have completed the treatment. In the case of syphilis in primary stadium, all the people with whom you have had sex in the previous 3 months are at risk. With syphilis in secondary stadium, all sexual partners of the last year may have been infected. These people need to be controlled with an analysis of antibodies and, if the result is positive, should receive treatment.

The penicillin, which in general is the best antibiotic for all stages of syphilis, is usually administered by intramuscular route during the primary stage and is being applied in each buttock only once. In cases of syphilis in secondary stadium, apply two additional injections with intervals of one week. The penicillin is also used in cases of latent syphilis and tertiary stadium, in spite of the fact that there may be a need for intravenous treatment more intense. People who are allergic to penicillin can receive oral doxycycline or tetracycline for 2 to 4 weeks.



More than half of the people with syphilis in its early stages, especially in the stadium

Gonorrhea



Gonorrhea is a sexually transmitted disease caused by the bacterium *Neisseria gonorrhoeae* that infects the mucosal lining of the urethra, cervix, the rectum and the throat or white membrane (the conjunctiva) of the eyes.

The bacteria can spread through the bloodstream to other parts of the body, especially the skin and extremities. In women, can ascend by the genital tract to infect the membranes that are within the pelvis, causing pelvic pain and reproductive problems.

Symptoms

In men, the first symptoms usually appear 2 to 7 days after infection. Begin with a slight discomfort in the urethra, followed a few hours of a mild or severe pain when urinating and a discharge of pus from the penis. The man has an imperative necessity and frequent urination, that gets worse as the disease spreads to the upper part of the urethra. The opening of the penis may adopt a reddish color and swell.

In women, the first symptoms usually appear between 7 and 21 days after infection. Infected women do not usually present with symptoms for weeks or months and the disease is discovered only after that to their male partner is diagnosed with the same and it is examined for having been in contact with him. If symptoms are usually mild.

However, some women have severe symptoms, such as a frequent need to urinate, pain when urinating, vaginal discharge and fever. The cervix, uterus, fallopian tubes, ovaries, the urethra and the rectum can become infected and cause a large pelvic pain or discomfort during intercourse. The pus, which apparently comes from the vagina, may come from the cervix, urethra or of the glands near the vaginal opening.

Women and gay men who have sex rectally can gonorrhea rectal. The disease can cause discomfort around the anus and secretions from the rectum. The area around the anus is reddened and remains in living flesh, while faeces are covered in mucus and pus. When the doctor examines the rectum with an anoscope (viewing tube), it is possible to distinguish mucus and pus on the wall of the same.

The oral sex with an infected person can produce gonorrhea throat (gonococcal pharyngitis). Usually, the infection causes no symptoms, but in certain cases produces a sore throat and discomfort when swallowing.

If the humors infected come into contact with the eyes, there may be an infection of the eye (external gonorrhoeal conjunctivitis). Newborns can be infected with gonorrhea through his mother at the time of delivery, which causes swelling of both eyelids and a discharge of pus from the eyes. In adults



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

usually occur the same symptoms, but usually only one eye is affected. If the infection is not treated can lead to blindness.

Treatment

Gonorrhea is typically treated with a single dose of ceftriaxone intramuscularly or with a week of oral antibiotics (usually doxycycline). If gonorrhea has dispersed through the bloodstream, the sick person receives usually treated in a hospital, often with intravenous antibiotics. Due to the infection with Chlamydia is common in both men and women with gonorrhea, is difficult to diagnose, patients receive a treatment of a week with doxycycline or tetracycline or a single dose of azithromycin, another antibiotic of prolonged action.

If symptoms recur or persist at the end of treatment, you can obtain specimens for its cultivation in order to ensure that the patient is cured. In men the symptoms of urethritis may use, causing a disease called urethritis posgonococica. Is almost always caused by Chlamydia and other microorganisms that do not respond to treatment with ceftriaxone and occurs particularly in patients who do not follow the treatment plan.

Genital Herpes

Genital herpes is a sexually transmitted disease of the genital area (the skin that surrounds the rectum or adjacent areas), caused by the herpes simplex virus.

There are two types of the herpes simplex virus, called HSV-1 and HSV-2. Hsv-2 is generally transmitted by sexual intercourse, while HSV-1 usually infects the mouth. Both types of viruses can infect genitals, the skin around the rectum or hands (especially the beds of nails) and can be transmitted to other parts of the body (such as the surface of the eyes). The herpes sores usually do not become infected with bacteria, but some people with herpes also have within ulcers other microorganisms transmitted through sex, such as syphilis and chancroid.

Symptoms

The symptoms in the first outbreak (primary) start 4 to 7 days after infection. Tend to be itching, tingling and discomfort. Then appears a small plate Red, followed by a group of small and painful blisters. These are broken and merged to form ulcers circulars, which generally are painful and a few days are covered with scabs. The person concerned may have difficulty urinating and in certain cases feel pain when walking. Ulcers heal in about 10 days, but can leave scars. Lymph nodes in the groin tend to increase slightly in size and present sensitivity to touch. The first outbreak is more painful, prolonged and widespread that the subsequent, can cause fever and malaise.

In men, the blisters and sores can appear anywhere in the penis, including the foreskin if you are not circumcised. In women, appear on the vulva, in and around the vagina and on the cervix. Those who have anal intercourse may submit such lesions around the anus or in the rectum.

In the immunocompromised patients, such as those infected with the human immunodeficiency virus (HIV), the sores of herpes can be serious, spread to other areas of the body, persist for weeks or more and, on rare occasions, become resistant to treatment with acyclovir.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The lesions tend to recur in the same areas or in other adjacent, because the virus persists in the nearby pelvic nerves and wakes to infected the skin. The VSH-2 wakes better in the pelvic nerves. The VSH-1 wakes better in the facial nerves, where it causes fever sores or herpes labialis. Anyway, either of two viruses can cause disease in both areas. A previous infection with one of these viruses provides a partial immunity to another, causing the symptoms of the second are milder.

Treatment

No treatment cure genital herpes, but may reduce the duration of an outbreak. The number of these can be reduced by applying a continuous therapy with low doses of antiviral drugs. Treatment is most effective if it starts quickly, in general 2 days after the onset of symptoms. The Acyclovir or antiviral drug related can be administered by mouth, or in the form of cream directly on the lesions. The antiviral medicines reduce the spread of the live virus from lesions, thereby reducing the risk of contagion. It also can reduce the severity of symptoms during the initial outbreak. However, even the early treatment of the first attack does not prevent recurrences.

Patients with a history of herpes can infect their sexual partners even if they do not realize that they are passing by the outbreak of another.

Genital warts

Genital warts (Condylomata acuminata) are localized lesions in or around the vagina, penis or rectum caused by sexually transmitted human papillomavirus.

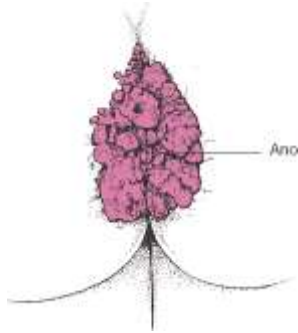
These warts are frequent and cause concern because they have a repulsive aspect; can superinfected with bacterium and may indicate that the immune system is not working well. In women, HPV types 16 and 18, which affect the cervix but do not form warts on your external genitals, can cause cervical cancer. This and other types of papillomavirus can generate intraepithelial cervical dysplasia (indicated by abnormal results in a Pap smear) or cancer of the vagina, vulva, anus, penis, mouth, throat, or esophagus.

Symptoms

These lesions usually occur in the wet surfaces and warm the body. In men, the most common areas are the head and the body of the penis and under the foreskin (if the penis has not been circumcised). In women, occur in the vulva, the vaginal wall, the cervix and the skin around the vaginal area. Genital warts can appear in the area around the anus and rectum, especially in homosexual men and women who practice anal sex.

The warts usually appear 1 to 6 months after infection and begin as tiny tender lumps, wet pink or red. They grow rapidly and can develop stalks. In the same zone usually appear many warts and their rough surfaces give the appearance of a small cauliflower. They can grow quickly in pregnant women in the immuno-depressed (for example, because they are sick from AIDS or because they perform a treatment with immunosuppressive drugs) and in those who have inflammation in the skin.

Condyloma Acuminatum



These genital lesions tend to be diagnosed by their appearance. However, can be confused with ulcers that appear in the second stage of syphilis. Warts look strange or persistent can be removed surgically and analyzed under the microscope to have the certainty that there are cancerous. Women who have warts on the cervix should be Pap smear regularly.

Treatment

No treatment is completely satisfactory. Genital warts can be removed with a laser, cryotherapy (freezing) or surgery using local anesthesia. The treatments with chemicals, as resin podophyl or purified toxin or trichloroacetic acid, are applied directly on the warts. However, this system is to perform multiple applications for weeks or months, usually burn the surrounding skin and fails quite frequently.

Warts on the urethra are treated with anticancer drugs, as thiotepa or fluorouracil. Alternatively, they can be deleted from the urethra using an endoscopic surgery (a procedure that uses a flexible viewing tube with surgical accessories). It was at present considering apply alpha-interferon injections directly into the wart as a possible treatment, but it is still not known its usefulness.

Genital warts often resort and need a new treatment. In men, the circumcision will help prevent recurrences. All sexual partners should be examined and treated, if necessary.

Acquired Immunodeficiency Syndrome (AIDS)

The AIDS or Acquired Immunodeficiency Syndrome is a disease caused by the human immunodeficiency virus (HIV). This virus destroys or damages the cells of the immune system of the person by interfering with the ability of the body to fight effectively against viruses, bacteria and fungi that cause the disease. The HIV infection makes the person more susceptible to infections that normally the human body can withstand such as pneumonia, meningitis and certain types of cancer.



The virus and the infection are known as HIV. The term AIDS is used to catalog the later stages of the infection by the HIV virus. But both terms, HIV and AIDS relate to the same disease.



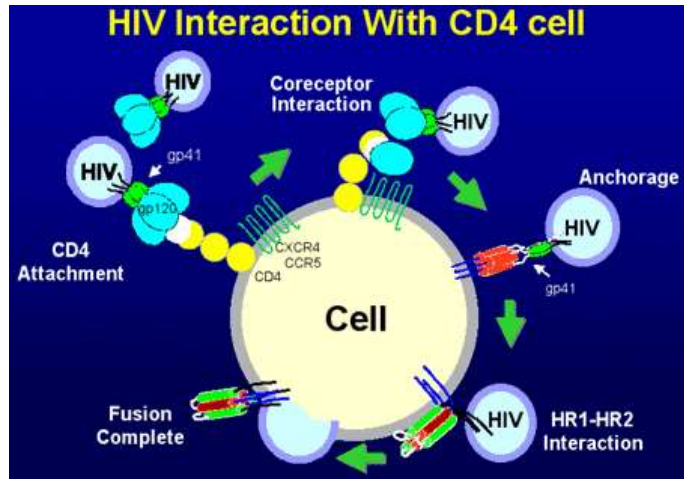
Description

Normally, the white blood cells and antibodies attack and destroy any foreign organism that enters the human body. This response is coordinated by a type of cells called lymphocytes CD4. Unfortunately, HIV attacks specifically to the lymphocytes CD4 and enters them. Once inside, the virus injected with its own genetic material and used to replicate or make copies of **itself**.

When the new copies of the virus out of cells into the blood, seek to other cells to attack. While, the cells where they come from die.

This cycle is repeated again and again. Therefore, many copies of HIV occur every day. To defend against this virus production, a person's immune system produces many CD4 cells daily.

However, the virus wins. The number of CD4 cells progressively decreases and the person suffers from immunodeficiency, which means that the person cannot defend against other viruses and bacteria that cause diseases.



Risk Factors

HIV is transmitted in the following ways:

Sexual transmission. People can be infected with HIV if they have vaginal sex, anal and oral sex with an infected person whose blood, semen or vaginal secretions enter your body. The virus is found in the semen and vaginal secretions of a person who is infected and enters the body through wounds or small lesions in the rectum or vagina during sexual activity.

Transmission via infected blood. In some cases, the virus can be transmitted through blood and blood products that is received by blood transfusions. However, currently the risk of acquiring the AIDS virus or HIV through a blood transfusion is extremely low since the blood is tested to see if you are infected with the virus before transfuse.

Sharing needles. HIV is transmitted through contaminated syringes and needles with infected blood. The Avoid injecting drug use is the most effective way of preventing infection. However, if this is not an option, it is recommended that you use chlorine to sterilize syringes and needles and prevent the transmission of HIV.

Transmission through needle punctures. The transmission of HIV from infected patients to doctors or nurses is low. The risk is approximately 3 in 1,000.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Transmission from mother to child. Around a quarter to a third of pregnant women infected with the AIDS virus is transmitted to their babies.

Symptoms

The symptoms of infection with HIV and AIDS vary depending on the phase of the infection. When a person is first infected with HIV may have no symptoms although it is common to develop a flu-like syndrome in 2 to 6 weeks after becoming infected. These symptoms can be confused with other diseases and the person may not suspect who is infected with HIV.

However, even if the person has no symptoms, can transmit the virus to others. The person can remain without symptoms for 8 to 9 years. During this time, the virus continues to multiply and destroying cells. There are tests that can be run to observe the decrease in the number of these cells in the blood. People infected with HIV can develop mild infections or symptoms such as:

- † Diarrhea
- † Weight Loss
- † Fever
- † Swollen Lymph Nodes
- † Cough and shortness of breath
- † During the last phase of HIV infection (which occurs approximately 10 to 11 years after the initial infection), you can develop more serious symptoms filling the requirements of the official definition of AIDS.


When developing the AIDS, the person is susceptible to opportunistic infections. The signs and symptoms of any of these infections include:

- † Night sweats
- † Chills and fever for weeks
- † Dry cough and shortness of breath
- † Chronic Diarrhea
- † White lesions on the tongue and mouth
- † Headache
- † Altered vision
- † Weight Loss

Treatment

Currently there are guides for the treatment with antiretroviral drugs in people with HIV. The purpose of the antiretroviral drugs is to reduce the amount of virus in the blood to have low levels or undetectable although this does not mean that the virus has disappeared. This is usually accomplished with a combination of three or more drugs.

The guides of the treatment emphasize the importance of quality of life. Therefore, the goal of treatment of AIDS is to find the treatment easier that has few side effects.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The response to treatment was measured by levels of HIV in the blood (viral load). These levels must be measured at the beginning of treatment and every 3 to 4 months.

Infectious and Tropical Diseases

- Malaria: predominates Plasmodium vivax and there is a risk of Plasmodium

Falciparum in Panama (province of Bocas del Toro, zone of malaria sensitive to chloroquine, and the provinces of Darien and San Blas, including San Islands

Blas, these latter areas, with the presence of malaria resistant to chloroquine).

- Leishmaniasis: cutaneous and mucocutaneous extended; visceral on El Salvador,

Guatemala, Honduras, Mexico and Nicaragua. - Filariasis: In Costa Rica and two small pockets of onchocerciasis in the south of Mexico, and as well as scattered foci by Guatemala. - Chagas Disease (American trypanosomiasis) in rural areas of the eight countries. - Dengue. - Venezuelan equine encephalitis.

Yellow Fever: without risk, some of the countries may require 'certificate vaccination against the yellow fever if the traveller comes from a country of the tropical zone of South America or in sub-Saharan Africa.

- Gastrointestinal infections by parasites and bacteria. - typhoid fever.

- hepatitis A, hepatitis B. - Cholera. - Schistosomiasis. - Rabies.

Influenza signal is an acute respiratory disease caused by any of the three types of virus of the influenza signal that are known: A, B and C. Type A is subclasifica according to their surface proteins: hemagglutinin (H) and neuraminidase (N) of which depends on its capacity to cause severe forms of the disease.

Name: virus of the influenza signal

Type: Type A, Type B or Type C

Subtype: type A may occur in up to 144 combinations, from H1N1 to H16N9 since they have detected 16 hemagglutininas (H) and 9 neuroaminidasa (N) from the point of view of public health, the most important is the virus of the influenza signal type A, which has the ability to infect humans and some species of animals such as birds, pigs, tigers, among others. The current box is related to a new virus identified as influenza- A, H1N1 of porcine origin.

Symptoms

- † Headache
- † Nasal congestion
- † High fever of sudden onset (usually more than 38° C)
- † Cough, burning and/or sore throat
- † Muscle pain and joints



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

¿How is transmitted?

Can travel through the saliva droplets that are ejected to speak, coughing or sneezing up to a meter of distance. The virus survives between 48 and 72 hours on smooth surfaces such as hands, handles, railing, as well as in porous areas as disposable tissues and fabrics. It is also spread by speak close, shaking hands or kiss to a sick person.

The pneumonia or pneumonia is a disease of the respiratory system that involves swelling of the alveolar spaces of the lungs.¹ Most of the times the pneumonia is infectious, but it is not always so. The pneumonia can affect a complete pulmonary lobe (lobar pneumonia), a segment of lobe, the alveoli next to the bronchi (bronchopneumonia) or interstitial tissue (interstitial pneumonia). The pneumonia causes the tissue that form the lungs see red, swollen and painful again. Many patients with pneumonia are treated by primary care doctors and not admitted to hospitals. Community-acquired pneumonia (NAC) or pneumonia extrahospital is that acquires outside hospitals, while the nosocomial pneumonia (NN) is the one that is acquired during the hospital stay after 48 hours or two weeks after receiving the high.

Pneumonia can be a serious illness if is not detected in time and can be fatal, especially among the elderly and among immunosuppressed patients. In particular aids patients contract often Pneumocystis pneumonia . People with cystic fibrosis have also a high risk of pneumonia due to continuously accumulates fluid in your lungs.


It can be highly contagious, as the virus spreads rapidly in the air, through sneezing, coughing and mucus; a patient who has suffered from pneumonia may be with sequelae of this in your body for a long time, this makes it potentially contagious and people more likely to get it are those that are in course of a flu, a box asthmatic, among other diseases of the respiratory system.

The viruses need to invade the cells for playback. Normally viruses reach the lungs through the air, being inhaled by mouth or nose, or to a food. Once in the lung, viruses invade the cells lining the airways and the alveoli. This invasion often leads to cell death, either directly or by means of apoptosis. When the immune system responds to the viral infection causes more damage to the lung. The leukocytes, mainly the lymphocytes, trigger a variety of chemical mediators of inflammation as are the cytokines, which increase the permeability of the wall alveolar bronchus allowing the passage of fluids. The combination of cell destruction and the passage of fluids to the alveoli worsen the gas exchange.

In addition to the lung damage, many viruses favor to other organs and can interfere multiple functions. The viral infection may also be more susceptible to the host to the bacterial infection.

The viral pneumonias are mainly caused by the influenza virus, virus without respiratory cital, adenovirus. The herpes virus is a rare cause of pneumonia except in newborns. The cytomegalovirus can cause pneumonia in immunosuppressed patients.

Human salmonellosis is a transmissible disease produced by enterobacteria OF THE GENUS SALMONELLA. It comprises a set of clinical whose main manifestation is acute gastroenteritis, one of the most common food poisoning caused by contaminated food and water, especially meats. Both salmonellosis AS THE GENUS SALMONELLA are a Latinization of the name of Daniel Elmer Salmon (1850 - 1914), a veterinarian American.

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	MEDICAL CARE COURSE	REV. 9 - 2019

Diagnosis

It is based mainly on coprocultures, crops from other tissues and blood cultures if suspected bacteremia (as might be the case, for example, when a febrile syndrome that extends more than expected).

Must be immediately notified the finding to the preventive medicine office nearest you.

Treatment

Antibiotics should not be systematically. Antibiotics do not alter the clinical course of the disease and, however, facilitate recurrences, at the same time that delay the elimination of the microorganism. Rehydration is the main treatment for this disease, for promoting the recovery of water and electrolytes.

Antibiotics should only be given if there is risk of spread of the bacteria in the body. Should be administered orally or intravenously during 2-3 days, until the fever submitted. If there are local infections or bacteremia, you should suspect of resistance to the antibiotic. In this case, you must manage third generation cephalosporins or ciprofloxacin (a quinolone).

In patients with HIV (immunosuppressed), the treatment will be 1-2 weeks intravenously and 4 weeks by mouth. In patients with endoarteritis or endocarditis antibiotics will last for 6 weeks and added cephalosporins.

Typhoid or enteric fever is an infectious disease caused by *Salmonella typhi* (Bacillus Eberth), or *Salmonella paratyphi* A, B or C, bacteria of the genus *Salmonella*. Its reservoir is the human being, and the mechanism of contagion is fecal-oral, through water and food contaminated with excrement. Not to be confused with typhus that occurs by several species of bacteria of the genus *Rickettsia* transmitted by external parasites (lice).

The bacteria enters through the gastrointestinal tract and reaches the intestine, passing finally to the blood, causing a phase of bacteremia toward the first week of illness; subsequently is located in various organs and produces inflammatory phenomena and necrotic, due to the release of endotoxins. Finally, the salmonella are deleted when outside by the stool.

In the incubation period, which lasts from 10 to 15 days, you can appreciate disorders of the general state, a phase of bacteremia with fever that increases progressively to reach 39-40°C, at which time it maintains, headache, stupor, roseola in the belly, swelling of the nasal mucosa, language toast, ulcers in the palate and, sometimes, hepatosplenomegaly and diarrhea.

The disease may progress to healing in 2 weeks or extended with focal locations from the fifth week. If it is not put to an appropriate treatment may be serious complications such as hemorrhage and intestinal perforation, septic shock. There is a certain degree of immunity which, although it does not protect against reinfections, when they occur are more benign. The carrier state may be transient or chronic.

Cholera is an acute intestinal contagious infectious disease caused by the serotypes O1 and O139 of the bacterium *Vibrio cholerae*, which produces a secretory diarrhea characterized by stools similar to rice water, with a marked a fishy odor, a high amount of sodium and potassium bicarbonate, and a small amount of protein.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

In its severe form, is characterized by a high volume watery diarrhea that quickly leads to dehydration.

Sudden onset without incubation period (Farreras: period of 2-3 days that varies from 5 hours to 5 days) unlike salmonellosis.

Abdominal pain by irritation of the mucosa.

Watery diarrhea with a high number of stools (30 or 40 in 24 h). This orients quite to the diagnosis of this box.

The depositions have a whitish hue with small granules. They are called "rice water". This is a result of the release of products of flaking, fibrin fragments and cells destroyed. In addition, due to the ions secreted Are isotonic, i.e. with a osmolarity similar to the plasma (this happens in the most severe forms). It should be noted that this diarrhea has a slight smell of fish, or a foul odor.

The diarrhea is accompanied with vomiting, which leads to a rapid loss of water and electrolyte (potassium, sodium, magnesium, chloride, hydrogen phosphate, bicarbonate), causing rapid dehydration.

Does not cause fever (or it is moderate) because the box is produced by the enterotoxin and not by the germ.


For all the above reasons, we are faced with a patient who could present one or more of the following:

- † Apathy, decay.
- † Sexual dysfunction.
- † Loss of memory.
- † Diarrhea, defects in the intestinal flora.
- † Coldness and cyanosis.
- † Muscle cramps.
- † Hypotension manifest (for the great loss of liquids), weak pulse (the irrigation is hampered in peripheral tissues), tachycardia.
- † Hands wrinkled, by the subcutaneous dehydration.
- † Increased blood viscosity by loss of fluids. This, in predisposed, can lead to complications such as stroke and stroke, intermittent claudication, ischemia, among others.
- † Dehydration stormy.

Except in their more advanced forms it maintains the state of conscience unscathed. When the loss of electrolytes is intense vomiting may arise as a result of the acidosis and intense muscle cramps fruit of hypokalemia. In these cases serious signs of intense dehydration, hypotension and oliguria.

Dysentery (formerly known as flow or flow of blood) is an inflammatory disorder of the intestine, especially of the colon, which produces severe diarrhea containing mucus and/or blood in the stool. If it is not, dysentery can be fatal.

The dysentery is usually caused by a bacterial infection or of protozoa or parasitic infestation, but can also be caused by a chemical irritant or a viral infection. The two most common causes are infection with a bacillus of the Shigella group, and infestation of an amoeba Histolytica Entamoeba. When it is caused by a bacillus is called bacillary dysentery, and when it is caused by an amoeba is called amebic dysentery.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

In addition to this, the Shigella dysentery or bacillary dysentery can give meningeal signs that are confused with a meningoencephalitis: this was the cause of epidemics in the boats in the old; also in the great wars, at times was the cause of more deaths than those that caused the war itself.

- † Fever: presents sharply reaching 40°C
- † Myalgia
- † Asthenia
- † Watery diarrhea with colic
- † Anal bleeding predominant data.
- † Mucus
- † Pus
- † Tenesmus
- † Headache
- † Abdominal pain
- † Vomiting

Malaria (Paludism)

- infectious agent: parasite. Protozoan. Sporozoa, Apicomplexa:

Plasmodium sp.

- Geographical Distribution: malaria represents 2.3 per cent of all diseases at the global level and 9 per cent in Africa. It is estimated that annually occur from 200 to 500 million cases, being among the

50 and 90 per cent in Africa. Occurs primarily in South and Central America, the Dominican Republic, Haiti, Africa, Asia (India, Southeast Asia and the Middle East), Eastern Europe and South Pacific. The distribution by species is: *P. falciparum*: Africa, Southeast Asia, India and South America. Different according to the species. *P. malariae* is observed in the whole area intertropical (is rare). *P. ovale* predominates in

Africa (isolated cases in other continents). *P. vivax* is observed in

Central and South America, Asia, the Middle East and some countries in the Mediterranean basin (Turkey, Morocco, Egypt).

- biological Cycle: The reservoir are humans, the vector is the mosquito

(Anopheles) and the vehicle of transmission the blood.

- Incubation period: 12D-30d.

- Clinic: Fever (chills, tiritona and sweating), anemic syndrome, splenomegaly and/or hepatomegaly, jaundice, diarrhea (in children "intestinal malaria"), vomiting, neurological alterations (cerebral malaria, diffuse encephalopathy, seizures), syndrome of splenomegaly tropical.

- Diagnosis: Analytics: hemolytic anemia, leukopenia, thrombopenia,



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Hypergammaglobulinemia, elevation of LDH and bilirubin, hemoglobinuria and hematuria. Thick; blood smear: Presence of trophozoites, esquizontes and/or gametes. Serology, antigen and microscopy techniques. Amplification of the nucleic acid.

- Treatment: P. falciparum: resistant to chloroquine: Treatment by mouth: quinine sulphate 600-650 mg (salt)/8 h, 7 days + Doxycycline 100 mg/12 h, 7 days or clindamycin 900 mg/8 h, 5 days (of choice in the pregnant woman and the child less than 8 years) or Fansidar 3 tablets in a single dose at the end of the treatment with quinine. Mefloquine: 25 mg/Kg/divided into 3 doses every 8 h, that in adult 45-60 Kg assumes 750 mg to 0 h and 500 mg to 8 h, and for adult >60 kg assumes 750 mg to 0 h, 500 mg to 8 h and 250 mg at 16 h. +/- Pirimetamina-Sulfadoxina: Fansidar®: 3 tablets monodose. Artemeter-Lumefantrina: 4 tablets to the 0, 8, 24, 36, 48, 60 h. Atovaquona-Proguanil: 1,000 mg-400 mg/d/3 days, which in adult means a total of 12 tablets (4 comp at 0 h, 4 comp at 24 h and 4 comp at 48 h or 2 comp every 12 h for 3 days). Artesunate (hemisuccinato of artemisinin): 12 mg/kg/managed in 3 days (4 mg/kg/dose/D/3 d) than in the adult is 6 comp of 50 mg per day, in a socket for 3 days + Mefloquine: 25 mg/kg in three jacks or Pirimetamina-Sulfadoxina (3 tablets of Fansidar® in a dose). Treatment by parenteral route: formate of quinine initial dose of 20 (salt) mg/kg iv diluted in serum dextrose 5 % or in physiological saline and administered in 4 h, followed by 10 mg (salt) /kg/8-12 h (maximum 1800 mg/day) managed in 2-4 h until you can start the oral administration. Quinidine gluconate 10 mg/kg (maximum 600 mg) diluted in physiological saline and administered in 1-2 h, followed by a continuous infusion of 0.02 mg/kg/min until you can start the oral administration. For both options are recommended ECG monitoring, the TA and the glycemia especially in pregnant women and children.

Gastrointestinal diseases

Among the most common ailments that doctors must treat are diseases of the stomach, the organ that receives, stores and partially digested food after he was known as a bolus in the early stages of human digestion. The gastritis, for example, is an inflammation of the lining of the stomach that usually cause abdominal pain, nausea and vomiting. Can be allegedly caused by the bacterium Helicobacter pylori, by a viral infection, or it can be due to stress, to various allergies, to reactions to alcohol, drugs, or to certain substances. It is necessary to identify the causative agent in order to treat inflammation.

The gastroenterologists are also very specialized in the treatment of peptic ulcers, sores and erosions in the lining of the stomach or the first portion of the small intestine, called the duodenum. The shallow ulcers cause indigestion and other disturbances; ulcers responsible for deeper erosions may cause an abdominal hemorrhage that, if not treated, can lead to death. In recent years, researchers have found a suggestive link between Helicobacter pylori and chronic ulcers. The gastroenterologists prescribe antibiotics to kill the bacteria, as well as medicines that fight the acidity of the stomach or reduce the Secretion of digestive acids.

Also addresses many diseases related with other bodies involved in digestion. The esophagus, for example, can become inflamed because of the presence of gastric acid from the stomach, causing heartburn. This ailment, known as reflux of acid can be combated with weight loss, drugs that limit the secretion, acidity of gastric acid and surgical procedures. In the liver, the more normal disorders are the hepatitis, an inflammation caused by an infection or toxic agents, and cirrhosis, which is usually caused by alcohol and that can lead to the liver to stop functioning. The gastroenterologists also treat gallstones,



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

(stones or masses of solid matter found in the gallbladder), inflammation of the pancreas, called pancreatitis, and inflammation of our colon, called colitis.

5. ALCOHOL AND DRUG ABUSE

Alcohol

People with alcohol use disorders do not seem to learn from their mistakes. As a result, continue drinking and having problems.

¿What is alcoholism?

"Alcoholism is a chronic disorder of the conduct which is manifested by repeated intakes of alcohol, exaggerated compared to the dietary regulations and social environment of the community and by cover interfering in the health or in the economic and social functions of the drinker".

Alcoholism is an addiction, a chronic and progressive disease that usually have a destructive impact on the lives of the people who suffer from it. The ruptures of couples, social isolation, social suffering, as well as the deterioration of the physical and mental health, always accompanies this disease.

Drinking alcohol is converted to these people in an injurious behavior that may not stop despite their adverse consequences.

This lack of control is often accompanied by a lack of awareness that really these problems are closely linked with the consumption of alcohol.

Ensure that the sick alcoholic start the treatment is not an easy task; it is not aware of his illness, the denied. Normally it is necessary that the destructive effects of alcohol will lead you to "touch", the disaster fund staff or significant damage to begin to consider the need for treatment.

Only when the addict accept the lack of control in the use of alcohol and consider the negative effects that this has on its relations of couple, family, friends, work, economy, etc. and recognize that this is a sick will start really its recovery.

This acceptance of the disease will lead to the development of a new and healthier way of being and living far more rewarding than ever could provide you with alcohol.

¿Who is an alcoholic?

"are alcoholics drinking in excess and whose dependence on alcohol has reached such a degree that determines the appearance of visible disturbances in the proper interpersonal and social functioning and economic; so too are those that show the prodromic signs of these phenomena.

Obviously it will be alcoholic, or be in the process of being, the person that taking damage and problems because of alcohol, keep drinking.

No matter the amount of alcohol you drink, nor its frequency.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The flag is the way in which is drunk. This "need" that feels the alcoholic is what differentiates it from the others.

Within a society that worships wine and alcoholic beverages, the addict can go unnoticed for a long time.

Whoever detects and first suffers the consequences of this problem is its family.

The children of alcoholics have real emotional problems, schoolchildren, mental, etc. to grow and to develop their personality in an environment distorted by alcoholism of one of its members.

Signs and Symptoms

To learn more about the many stages, experts have categorized the signs and symptoms of drug abuse, the abuse and alcohol dependence.

The abuse of alcohol is when your habit of drinking is out of place for the environment or causes an unnecessary risk. For example:

- † Drink in the school or at work.
- † Drink while taking prescription drugs.
- † Drink while performing a relatively dangerous, as hunting, skiing, driving or operating machinery.

The abuse of alcohol, sometimes, can occur by not being aware of their effects. Usually, it's helpful to get educated about the nature, the results and the dangers of doing so.


Alcohol abuse is a pattern in relation with the drink that cause harmful results. The signs include:

- † Problems in the workplace, at school or at home.
- † Drink while driving a car or operating machinery.
- † Discuss with your family about the use of alcohol.
- † Fighting or causing unrest while drinking.
- † Accidents or injuries related to alcohol.
- † Legal problems related to alcohol, as DUI or conduct contrary to public order.
- † To blame others or to special events by the alcohol-related problems.
- † Failed attempts to abandon or reduce consumption.
- † Continue drinking despite the negative outcomes.

Alcohol Dependence includes all the signs referred to above and, in addition, a greater tolerance and physical dependence of the drink.

Other signs of alcohol dependency:

- † Loss of control. Drink more than what is planned or lose control of their behavior.
- † Withdrawal symptoms when you do not drink. This includes an upset stomach, sweating, tremors and anxiety.
- † Leave other activities to drink.
- † Tense relations with their family and friends.
- † Drinking only or hidden.
- † Temporary loss of memory. Do not remember what he did or how he came to his home.

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	MEDICAL CARE COURSE	REV. 9 - 2019

- † Feel guilty for their own actions while drinking.
- † Say to yourself that you are going to stop drinking, tomorrow.

Drugs

A drug is any chemical substance, natural or synthetic, that once ingested alters the behavior, perception, modifies the mood, increases or decreases the physical or mental performance. Its most important feature is that creates the habits, there is an irrepressible desire to repeat its use, because it gives the man a feeling of well-being.

Drug addiction is a state of alteration, sometimes of poisoning caused by ingestion of one or more drugs.

Drug addiction is poisoning caused by different agents such as alcohol, tobacco or the alkaloids that disturb the life and can lead to its destruction.

The main reasons for all drug addiction are the fear of pain and anxiety of welfare. All drugs that cause dependence are injurious to health and lead to disorders that are manifested by internal pain, loss of knowledge and disturbances increasingly serious nerve ending in crisis of hallucinations and delusions, similar to those of schizophrenia.

The neurological bases of the unit to the drugs are almost checked. There is talk of an alteration in the levels of dopamine in certain brain areas as the main cause of addiction. The addictive drugs can change the brain of fundamental modes, to produce anxiety and compulsive drug consumption and uncontrollable.

¿What is drug addiction a brain disease? If so, what is a possible treatment?

¿The drug-dependency: how is a brain disease?

The fundamental phenomenon of becoming addicted is a biological phenomenon, therefore, the underlying principles that describe the vulnerability or the propensity to become addicted are universal.

There is no doubt that there are individual differences in the experiences of drug consumption, and that not all become addicts with the same ease; some do so with marked quickly, while others no. This will depend surely the genes and of other factors such as the environment, the social context and the person.

According to an Israeli multicenter work, the predisposition to addiction to heroin or any other opioid can be hereditary: has been found in several addicts a gene that encodes a gene of dopamine in the brain. For years scientists have tried to deepen in this hypothesis but did not have the tools necessary to do so. Now there are several genes of dopamine which have been related tentatively to drug abuse and alcohol (especially D2 and D4). Hereditary variations in these genes changed the effectiveness with which the dopamine neurons processed. As a result the scientists speculate about the possibility that a gene super efficient dopamine transporter "clean" Dopamine of the synapses extremely quickly can be this is a factor that would predispose them to some individuals to the consumption of substances.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

¿How central is the role of dopamine in the different addictions?

The scientists are trying to find out. It is not accidental, ensure, that people are attracted by the drugs. The most addictive drugs older, so are stimulants such as cocaine or heroin as depressants, mimic the structure of the neurotransmitters. The neurotransmitters are substances that underlie or that are "behind" of every thought, every emotion, of the processes of learning and memory; they raise the signals between all the nerve cells in the brain.

Of the approximately 50 neurotransmitters discovered until today, a good amount, including the dopamine, play an important role in the addictions. The neurons that produce this messenger molecule are surprisingly rare. These neurons influence the neurological activity in several regions of the brain, including the nucleus accumbens, a primitive structure that is a kind of "key" from the center of pleasure in the brain. At the biochemical level, all the experiences that the human being can find pleasant (either listen to music, eat a chocolate, hugging a loved one) are due to an increase, to a kind of "explosion" of dopamine in the nucleus accumbens.

Dopamine is a amine biogenic, along with norepinephrine and serotonin is a catecholamine that is synthesized primarily from the amino acid tyrosine. There are three important dopaminergic tracts in the Central Nervous System, namely:

The nigrostriatal tract projected from their cell bodies in the substance nigra on the corpus striatum; the cell bodies of the tuberoinfundibular tract; and the tract mesolímbic mesocortical projected from their cell bodies in the ventral tegmental area (ATV), toward the greater part of the areas of the cerebral cortex and the limbic system.

Both cocaine as tobacco, alcohol, marijuana, heroin, barbiturates, inhalants has its own receiver system and mechanisms of common action. This mechanism of joint action is what in reality is a circuit called the Way of the bonus mesolímbic, which has a neurotransmitter that is the dopamine. All the drugs that cause addiction stimulate this circuit of brain reward. This circuit activates a region of the limbic system which is the one that regulates the emotion and behavior and gives us the perception of pleasure. When neurons release certain neurotransmitters and trigger these circuits is when we feel well. However, drugs of abuse can alter this mechanism of reward. What do these drugs is to teach your consumer to take them again and again. It is as a reinforcement for the reward system.

The prolonged use of a particular substance may modify these systems of the brain as the brain would require the presence of exogenous substances to maintain its homeostasis. Initially, the consumption of opiates would increase the levels of dopamine, but with time it needs the incorporation of more substance to achieve the same effect of euphoria or pleasure.

There are a number of published studies that show that the greater the activation of the system of dopamine, the greater is the experience of euphoria. Therefore, it is known that dopamine is the critical element and that any addictive substance would alter the levels of dopamine in this part of the brain. The idea that everything can be related to a single chemical has keenly interested scientists and has changed the way of looking at a wide range of dependencies. Dopamine is not only a chemical that transmits signals of pleasure but that it is also the most important molecule involved in the addiction.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

This does not mean that the dopamine is the only chemical that determines the chronic drug abuse, we know that the brain is far more complex. Drugs modulate a variety of brain chemicals each of which interacts with the other. The dopamine hypothesis provides a framework for understanding as a genetic key (as the tendency to produce little dopamine for example) can interact with the environment and create a serious dysfunction in the conduct.

The dopamine, as most of the biologically important molecules must be kept within certain expected levels. Little dopamine in certain areas of the brain trigger the tremors and the paralysis of the Parkinson Disease; too much dopamine cause hallucinations and thoughts bizarros of schizophrenia.

In these years we have found more evidence that relate to the dopamine to drug addiction. Namely: amphetamines stimulate the production of dopamine in the cells; cocaine blocks an enzyme called DAT whose normal function is to absorb the dopamine neurons that discharge being the consequence of this lock a generalized increase of dopamine in the brain; heroin it binds to the receptor of the neurotransmitter and directly stimulates the channels of reinforcement; nicotine and alcohol trigger a complex cascade "chemistry" that increases the levels of dopamine and there is also an unknown chemical on the cigarette that increases the levels of dopamine by blocking the enzyme MAO B.

The dopamine, as I already mentioned, is more than a molecule of pleasure, also plays an outstanding role in regard to learning and memory. The degree to which the learning and memory argue, so to speak, the addictive process, is being studied. Each time that a neurotransmitter as dopamine arrives at a synapse, circuits that gatillan the thought and the motivation to action are triggered and scattered by the brain.

In addition the neurotransmitter that maintains the addiction is so powerful that people, objects, situations and places in which they consumed drugs are printed in the memory. It has also been demonstrated that stimulated by the smell of tobacco smokers cannot control the urgency by ignited a cigarette as well as dogs of Pavlov could not fail to salivate.

The brain has several ways to ensure that the irrational act of taking drugs that cause pleasure of being involved the dopamine, go to be repaired. PET images reveal that the absorption of the cocaine by the neurons this markedly reduced in the addicted to this substance in contrast with normal subjects. A possible explanation would be the following: neurons of addicts, "assaulted" by an abnormal and high amount of dopamine respond defensively and reduce the number of recipients of dopamine. In the absence of drugs these neurons they are likely to experience a deficit of dopamine, which explains why the drug addicts start taking drugs to feel better to then have to use drugs to prevent the feeling of decay and malaise, as well as why increasingly need more substance to achieve the same effect.

Other studies carried out in cocaine have shown a marked inability to process glucose (the main source of energy of work of neurons in the brain). This disability occurs mainly at the level of the prefrontal cortex, in an area rich in dopamine which controls the unreasonable behavior and impulsive.

The addicted therefore have some symptoms of patients who have suffered ischemia or injury in the prefrontal cortex. A damage in this area of the brain, as I already said, would destroy the emotional measure that controls the behaviors that the patient knows and unacceptable.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Could it be that the problems of drug addiction are in relation with some hereditary factor? Could it be that an inability to absorb dopamine is the cause of a preponderance to the consumption in the subjects who presented this dysfunction?

These are controversial speculation, by what I suggest that many people would be or are genetically predisposed to abuse drugs. What if there is a controversial issue is the social costs of drug abuse, that whatever the cause, is enormous: tobacco increases the risk of cancer and heart problems; alcohol is the main cause of domestic violence; the needles used by the cocaine and heroin addicts to inject substances increase the odds of AIDS.

Americans tend to think that the addiction is a failure in the character. But this stereotype is being neglected today for recognized that reliance on drugs has clear biological bases. Many scientists dare to say that addiction is a disease of the brain that is not different from other types of mental illness.

We could think so to dopamine as a reward that the brain distributes neural networks to improve the options of survival.

Recognize that drug addiction is a disease of the brain can be a key factor to put the problem of abuse of substances under control. They needed to see the abuser as someone whose mind (read: brain) has been fundamentally altered by the drugs. If then we can recognize the addiction as a chronic brain disorder sets the focus of attention in the medical treatment. Since drugs make changes in the processes of the brain, the main objective of treatment must be reversed and compensate for such modifications.

A drug therapy and behavior will be able to offset the cycle of addiction that if maintained without treatment, can be detrimental to the affected by life.

As an example of medical treatment for drug addiction will use the treatment (worth the redundancy) that is used in addicted to heroin. Before you begin to speak of the chemical treatment of heroin addicts seems to me to be of importance to make a brief overview of what some fundamental aspects of this substance.

Heroin is an opioid that acts on the brain receptors of the same name.

It is a drug derived from morphine, which is obtained from the flower of opium. Is known by the names of "Black Sugar", "horse" "Smack", "Horse", "Big H", among others.


Is a powder of white to dark brown or substance similar to tar. Its appearance may vary according to the purification processes to which it is subjected.

The diacetylmorphine or heroin can be ingested in the form of tablets, or drying with a few drops, drawn in through the nose, up to 3 or 4 grams daily, smoked (reaching the brain in approximately 7 seconds). Its form of administration is the most frequent injected, either intravenous or subcutaneous. If you injected into a vein or a muscle, its effect reaches the brain between 15 or 30 seconds.

The effects of heroin are basically the same as those of morphine but more serious:

Immediate negative effects:

- † Nausea.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Sneezing, coughing
- † Nosebleed
- † Fatigue
- † Lack of coordination
- † Loss of appetite
- † Decreased heart rate and breathing.

Long-term use or the use of large amounts in a short period of time can produce:

- † Disorientation
- † Violent Behavior
- † Unconsciousness
- † Suffocation
- † Death
- † There may be permanent damage to the nervous system
- † Eliminates the sensation and the perception, is a central nervous system depressant
- † Creates strong physical and psychic dependence, as well as rapid tolerance, depending on the power or wealth of heroin.
- † Brands in veins, arms and legs. Develop sores, ulcers and wounds by perforation of the areas in which it is practiced by the injections.

Biological therapies for heroin addiction:

A treatment under suspicion:


Have been published forms of wean addicts from to the heroin by a method developed in 1988 which involves blocking with naloxone or naltrexone receptors that has the heroin in the brain while the addict is anesthetized. On the contrary that the methadone these have no narcotic properties and nor cause dependence.

The heroin addict must consume the blocking by mouth for that, in the case of return to inject the drug, not feel any effect.

What is achieved with this procedure is that the patient does not feel most of the physical disorders that abstinence to opiates usually cause. After, the way to maintain the abuser insensitive to the effects of a new dose of heroin is achieved through the placement below the skin of a system that release steadily naloxone. With this treatment are kept permanently blocked the brain receptors of opiates and the person does not feel the pleasurable effects that a new relapse into drug would provide.

This therapy has bases behaviorists since it is expected that by blocking the effects opiate agonists is likely that people with a dependence on heroin or other opiates (morphine for example) lose interest in these substances and deconditioned this behavior to go in search of them.

The treatment, the scope of the majority of the doctors, mainly need the help of a team of specialists in anesthesia or intensive care.

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	MEDICAL CARE COURSE	REV. 9 - 2019

However, with time, which seemed to have both future has become the target of criticism. Experts believed that at some point in the have been entirely against its use.

Prolonged treatment with methadone (MMT)

The consensus conference on effective treatment of heroin held the week of 20 November 1997 in the United States shows that the prolonged therapy with methadone is the "weapon" more effective against this dependency. A statement based on the data collected after having followed over four years to 10,000 drug addicts to very diverse who tried to be treated with a hundred different programs of 11 cities in the USA. In a random fashion, 3,000 of these addicts were interviewed a year of having begun its treatment of addiction.

The 70% of the people who used heroin often reduced in a drastic way the use of this drug thanks to a therapy in which methadone played an essential role.

Also, both the prolonged income in institutions dedicated to treat addiction, as placement in these institutions, but for shorter periods, were effective at the time of control a high percentage of the problem.

Anyone, therefore, who wants to face the heroin abuse with the science in the hand has to be aware that the best ally to get at the moment this purpose is methadone administered by oral route.

The methadone was discovered by scientists during the second world war, is a synthetic drug with which it has sought to eliminate the toxic risks of morphine and heroin.

Pharmacological investigations, have highlighted the addictive drugs, 1 milligram can replace 4 of morphine or heroin 2, and prevents the occurrence of withdrawal syndrome.

Mechanisms of action:


Its analgesic action is performed in different areas of the CNS, altering the perception of pain, as well as the emotional response to the same. Compared with morphine, analgesic doses produce greater respiratory depression, with a lesser degree of sedation, a circumstance that makes it truly useful in smoking of opioid dependence. Like all opiate antagonists, increases the smooth muscle tone may affect the intestinal tracts, urinary and biliary. Delays the digestion by lower gastrointestinal secretions.

Stimulates the release of vasopressin could decrease the diuresis. Suppresses the center of the cough. Produces release of histamine, inducing peripheral expansion bottle and hypotension.

Pharmacokinetics:

Good absorption after oral administration. Beginning of his action after oral dose, 30-60 minutes and the 10-20 minutes after its parenteral administration. The duration of its action is greater when administered by the oral route (6-8 hours, and may be extended to 22-48 hours in opioid-dependent and in those who receive repeated doses of methadone). The depressant effects by over dosage may persist 36-48 hours. Average life ranges between 13-47 hours. The cumulative effects and its prolonged elimination are explained by its high union to the tissues.

Indications, dosage and route of administration in opiate withdrawal syndromes and ethylic:

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

A dose by mouth of 15-40 mg a day during the first 2 - 3 day, then start individually dose reduction in intervals of 2 days, taking care to avoid a withdrawal syndrome. Maintenance dose: 20-120 mg. by mouth, by adjusting the dose to the needs.

Side effects:

The most significant adverse effect is respiratory depression, being the minimal risk to the therapeutic doses. However Methadone may cause more depression than morphine. Like other opioids can cause dizziness, vomiting, headache, nausea, sweating, constipation, drowsiness, confusion, sedation. The anticholinergic effects (dry mouth, blurred vision and urinary retention) are rare.

Poisoning and on dosage: Deep Sedation, coma and respiratory arrest. Treatment Support. The specific antidote of opiates is naloxone doses, 0.4-2 mg at intervals of 2-3 minutes until you get the desired response. Special care must be taken in dependent patients to opiates, because it can trigger a withdrawal syndrome. It must also be borne in mind that the life of the methadone is prolonged, and that can appear resedation.

Pregnancy and lactation:

In pregnancy to use if there is not a safer option. Contraindicated in the breast. Tablets and ampoules of metadin containing methadone, widely used for the treatment of dependence to heroin.


The experts agree that there are several effective pharmacological agents to treat this disease but all agree that methadone is the best results brings. The prolonged use of MMT reduces or eliminates the use of heroin, reduces the transmission of infectious diseases; as well as the number of criminal acts. According to conclude the experts a dose of 60 mg of methadone daily can prevent the withdrawal syndrome. However there is a need for a prolonged treatment with MMT, of several years, even in some cases, life for the therapy with this drug is effective. The success of the detoxification with methadone depends, in addition to the employment of other therapeutic strategies as the psychological.

The advantages of its use are basically three: reduces the risk of the spread of the HIV virus since it relieves the person of the injectable heroin; rarely produces euphoria depression or drowsiness when administered for prolonged periods; and finally allows the patient to return to society because it does not need to carry out criminal acts to achieve the heroin. Although their advantages are considerable, the patient continues to rely on a narcotic.

The competitor of methadone

Heroin addicts may be able to reduce their consumption of drugs in a 90% with a medication whose effects are more durable than those provided by the methadone. This is the conclusion of a work done with the medication LAAM (levometadil acetate hydrochloride) that has been published in the Journal of the American Medical Association.

The study confirms that patients only needed to take the product three times a week to come unhooked from the heroin. On the contrary, methadone, the most widespread treatment against this type of addiction, has to be administered as has already been said, daily. The work carried out by the researchers

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

of the Research Unit of the pharmacological behavior of the Johns Hopkins University School of Medicine, in Baltimore, USA, demonstrates that the intake of LAAM can reduce the consumption of heroin when administered three times a week both in low doses, medium, or high. However, its effectiveness increases with higher levels. In the work involved 180 volunteers (70 women and 110 men) addicted to heroin. None had been included in a detoxification program.

Before receiving the product, the patients had an average consumption of heroin of 29 days in the last 30 days. After 17 weeks of therapy with higher doses of the product, the consumption was reduced to 2.5 days in the past 30 days.- In the group that received average dose, the consumption of heroin declined to 4.1 days; and 6.3 in patients with lower doses of LAAM. The study determined that among addicts who took higher doses of LAAM was demonstrated a capacity two times higher to maintain complete abstinence during four weeks, compared with those who took low doses.

The addictive drugs can change the brain of fundamental modes. You must separate the initial consumption of the drug addiction. While the addiction is the result of the voluntary consumption of drugs, the same is no longer a voluntary behavior, is an uncontrollable behavior. So that the consumption and drug addiction are not part of a single continuous process. One comes from the other, but the individual passes in reality to a qualitatively different state. At some point of the pattern of drugs - unit is shooting a neurological switch. When this happens the individual moves to the stratum of the addiction.

The brain of the addict is distinctly different from that of a non-addicted. The prolonged use of drugs cause changes in brain function that persist long after an individual stops the input of substances. It is known that some medications may offset or improve the changes in the ability to produce dopamine. What is not yet known is whether improve to return to normal total.

To a large extent society ignores the neurological aspects of addiction, preferring to concentrate the addictive behaviors in motivations of moral and social character.

However, if the addiction is a neurological disease, from a medical perspective, we must consider the affected as to the patients who suffer from other brain diseases like schizophrenia or Alzheimer's disease.

This is not to say that we must put the drug-dependent on any closed institution as to the schizophrenic at the beginning of the century, but like them drug addicts need of medical treatment that accompany the therapy for the recovery process to be carried out satisfactorily.

Psychiatric problems

The concept of mental health is a social and cultural construction, although they can be defined or determined some common elements. For this reason, different professions, communities, societies and cultures have different ways of conceptualizing its nature and causes, determining what is mental health and deciding what are the interventions that are deemed appropriate. However, scholars have in turn different cultural and religious contexts and different experiences that can determine the methodologies applied during treatments.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The holistic model for mental health in general includes concepts based on prospects of anthropology, education psychology, religion and sociology, as well as in theoretical concepts such as the psychology of the person, sociology, clinical psychology, psychology of the health and developmental psychology.

Many mental health professionals have begun to understand the importance of the religious and spiritual diversity in the competence of mental health. The American Association of Psychology explicitly states that religion must be respected, while the American Psychiatric Association said that education in religious and spiritual affairs is also a necessity.

An example of the welfare model was developed by Myers, Sweeny and Witmer and it included the following five vital areas:


1. Essence or spirituality.
2. Work and leisure.
3. Friendship.
4. Love.
5. Self-control.

In addition twelve sub-areas:

1. Sense of value.
2. Sense of control.
3. Realistic sense.
4. Emotional consciousness.
5. Ability to fight.
6. Problem solving and creativity.
7. Sense of humor.
8. Nutrition.
9. Exercise.
10. Sense of self-protection.
11. Control of the own tensions.
12. Sexual identity and cultural identity.

All these points are identified as the main features of a healthy functionality and the main components of the mental well-being. The components provide a means to respond to the circumstances of life in a way that provides a healthy functioning

Psychopathology

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The scientific consensus about the conditions of mental health plans and very particularly neurobiological disorder neurochemicals. Other functions of the brain identified as contributors to the conditions of mental health include the circadian clock, neuroplasticity, the ion channel, signal transduction, cognition, the brain network, among many others. Images of the brain shows physical changes in the neuroanatomy of disorders such as schizophrenia, autism and the so-called bipolar disorder.¹¹ The studies include also the observation of environmental factors, of the development and the level of interpersonal relations of the individual. The best medical evidence, as are defined by the National Institute of Health and Medical Excellence of the United Kingdom in its guide to treatments¹² indicate that the bipolar disorder, for example, requires a combination of medications, psychotherapies, self-help and social support. For its part, the mental health agencies promote currently the encouragement of methods of self-help and personal improvement.

Other forms of psychological states "non-healthy" (Psychopathology), as is contemplated from the psychology, can be related to mental processes (cognitive) or learning and not necessarily with psychiatric categories.

Psychosomatic disorders

The psychosomatic pathology constitutes an area of great importance for the study of the interaction physical health-mental health, this in both understand that what affects the mental or psychological welfare will have demonstrations in the physical condition of the individual. In this sense, the disorders or psychosomatic phenomenon refer to this phenomenon, so that in their study is to find the bridge or underlying connections between a psychological and physiological event another that occur at the same time ; between psychological mechanisms and activities neuroendocrine and between socio-environmental influences and answers psycho-organic¹³ so ,the functions of the brain to receive, interpret and store information captured the environment and internally from the agency itself, serve to face situations of external reality and maintain the balance by means of the transduction of information in a directive to the entire body. Such transmission is performed through the nervous system and endocrine: while the neuronal reaction is rapid spread but of short duration, the hormonal reaction has, rather, a slow development but a prolonged duration. Thus, the psychosomatic disorders have very specific characteristics, that in the best of cases, can be useful to clarify the source of a disease. According to the studies of psychiatry made by Rivera some of the meanings about this upheaval are the following:

- † Psicogenicidad: The etiology of the disease or condition has as a source emotional factors, psychological or caracteriológicos. This means that there is a cause and effect relationship between factors of mental source and a specific disease.
- † Specificity: a disease of psychosomatic origin is associated with a set of specific features * of psychological variables. In this way, the set of affective attitudes, to proceed behaviors and certain cognitive elaborations relate to specifically with certain clinical entities.

6. Dental Care.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Healthy teeth are clean and have no cavities. Healthy gums are pink and firm. To keep your teeth and gums healthy, follow these steps:

- † Brush your teeth at least twice daily, preferably after every meal and at bedtime.
- † Use dental floss at least once a day. If the used once a day, it is best at bedtime.
- † Go to the dentist for a routine cleaning and examination. Many dentists recommend having the teeth professionally cleaned every 6 months.
- † Hold the retaining dental prostheses, and other appliances clean. This includes regular brushing and may include soaking them in a cleansing solution.

¿What is the best way to take care of my teeth as an adult?

The key to maintaining a bright smile and healthy throughout adult life is to practice a correct oral hygiene. Adults also suffer from tooth decay and gum disease that may become serious problems.

¿What special dental topics I must know as an adult?

Even when you brush your teeth and use dental floss regularly, you will probably have to face certain problems of oral health in adult life. Fortunately, your dentist can help you prevent and heal the majority of these situations successfully.

- † The gum disease starts as gingivitis, which in its initial stage is still reversible. The symptoms of gingivitis are reddened, swollen gums or very sensitive, which tend to bleed during brushing or spontaneously. If you notice any of these symptoms, see your dentist before the problems are more serious. The disease in its more advanced stages, can cause the loss of teeth.
- † The health of the gums also affects your general state of health. Recent studies have shown a possible relationship between periodontitis (a disease of the tissues that secure the tooth to the bone) and other diseases such as diabetes and heart conditions; and a possible link with the premature births. To prevent the occurrence of gum disease, brush your teeth at least twice a day, use dental floss daily and schedule professional cleanings every six months.
- † The cavities around existing fillings (called recurrent caries) and cavities in the root surfaces of teeth are more common with advancing age. It is therefore important to brush with toothpaste with fluoride, use mouthwash before or after brushing, as well as the use of dental floss daily and visit the dentist regularly.

The sensitivity can worsen as we age. The gums are retracted naturally over time, exposing areas of the tooth that are not protected by the enamel. These areas are particularly prone to pain at the food or hot and cold drinks. In severe cases, there may be sensitivity to cold air, drinks and acidic foods and sweets. If you experience sensitivity, try a toothpaste for sensitive teeth. If the problem persists, see your dentist, since sensitivity may indicate a more serious disorder, as a caries or a tooth cracked or broken.

Crowns are used to reinforce the damaged teeth. A crown covers or "donned" completely the damaged tine. It is also used to improve their appearance, shape or alignment. The implants and bridges are used to replace missing teeth. Dental implants replace one or more teeth, or are used to hold full or partial dentures. See your dentist to know if the implants are right for you. The bridges are often used to replace one or more missing teeth, serve to cover the gap. The bridges are cementan to natural teeth or to the implants that surround the empty space.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

¿How can I help my teeth are more white?

The deep cleaning done by a dentist or hygienist will eliminate most of the external stains caused by food and tobacco. The use of a whitening toothpaste can also help eliminate these surface stains. If they have been present for many years, you may need to go to a dentist for you to perform a professional bleaching and remove stains more rebels.

Internal stains can be bleached, cementarse or covered with a crown. While each of these methods is safe and effective, your dentist will recommend appropriate treatment for you according to the status of your teeth and the results that you want to obtain.

7. Gynecology and Pregnancy

Gynecology



The gynecology is the specialty of medicine dedicated to the care of the female reproductive system. The gynecologists, therefore, are the specialists that address the issues linked to the uterus, vagina and the ovaries.

The Greek physician Soranus, school Methodist, is considered as the author of the first treaty of gynecology. The advance of medicine has been associated with the Gynecology with obstetrics, which deals with the pregnancy, childbirth and the puerperium. At present, the majority of gynecologists are obstetricians and vice versa.

The gynecology allows the diagnosis and treatment of diseases such as cancer, the prolapse, amenorrhea, dysmenorrhoea, menorrhagia and infertility. To perform this task, the gynecologists using such tools as the speculum, that enables the development of tests in the vagina and the cervix.

Women should perform gynecological periodically to enjoy good health and to prevent the disorders. However, the intimate nature of these studies generated a certain discomfort and makes many times, are passed.

The Pap test, also known as pap smear or PAP, is the most common gynecologic study. The gynecologist takes samples of the epithelial cells that are in the transition zone of the cervix, which lets you know the hormonal status, identify inflammatory changes and guide on a possible diagnosis of cervical cancer.

Invented by the Greek physician Georgios Pap (1883-1962), it is a simple test, cheap and efficient that should be done by all women from that start their sexual lives until approximately the age of 65.

The gynecologist and safe sex

The gynecologist in some way becomes the personal adviser of the women in aspects that have to do with their sexuality and the care of their intimate bodies. It will be him who, after studying the case of each patient will recommend one or another contraceptive method, so when it comes to



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

maintaining relationships is important to go to a specialist of this branch to enable it to advise us in a way that best suits us and have a safe and healthy experience.

It is known as a contraceptive method, also called contraception to which prevents or reduces the chances of a fertilization; they are fundamental to the time to talk about birth control (number of children that you want to have) and represent a way of maintaining safer sex. Anyway it is important to note that there are no methods better than others, but rather more suited to every circumstance in particular; a gynecologist would be the most appropriate person to recommend that one that more suits us and make a follow-up to the impact that the use of one or the other method has on our organism. In addition, in the case that you want to use a condom internal, will be the person that you place and to ensure that everything is in order.

At the time to help us to opt for one or the other method, the gynecologist we will perform a series of questions and checks on our health in general, with what degree of frequency we have sexual intercourse, etc.



Each time a woman starts your sex life is highly recommended to be served by your gynecologist in order to ensure a healthy experience and above all without risk of getting pregnant, if this is not what you want, hence the great importance of the gynecology in the life of every woman. You can collaborate significantly with the integral health of this and allow you to feel less alone in regard to the care of itself.

The signs of pregnancy

In the first few weeks of pregnancy, the body of a woman begins to change to accommodate the growing embryo. For the mom-to-be, this means a wide range of new sensations, some more pleasant than others. Some pregnant women experience only some of these symptoms, while others experience all:

- † Amenorrhea or the absence of the menstrual period. When you become pregnant, rising hormone levels prevent the uterine lining is shown in the time that you would expect to have your period. You can also not having your period if you are not pregnant. Other possible causes of amenorrhea include: weight gain or loss, hormonal problems, tension, stress, breastfeeding and discontinue the pills or injections.
- † Nausea in pregnancy that are nausea and dizziness, which are generally experienced in the morning, but sometimes during the entire day. It is thought to be caused by a high level of the hormone human chorionic gonadotropin (HCG) in the blood, the rapid stretching of the muscles of the uterus, excessive acidity in the stomach and increase the sense of smell. The nausea of pregnancy, usually begin between the second and eighth weeks after conception. Other possible causes of nausea include food poisoning, tension, infection, colecistopatía and other diseases.



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M-MC(I)-16


MEDICAL CARE COURSE

REV. 9 - 2019

- † Sensitive breasts and inflamed . The breast of a pregnant woman change as the levels of the hormones estrogen and progesterone rise in the first few weeks of pregnancy. Some women even notice milk that is out of the breast, although this usually happens later in the pregnancy. The sensitivity in the breasts usually starts a few days after conception. Other possible causes of breast tenderness include birth control pills, beginning of your period and conditions fibroquísticas of the breasts.
- † Darkening of the areolas , the skin around the nipples. The bumps on the areoles (called nodules of Montgomery) may look more prominent. These changes occur gradually during the first few weeks of pregnancy, to measure that the breasts are prepared to produce milk. Other possible causes include hormonal imbalance, prior pregnancy, tanning and the physical changes of puberty.
- † Food cravings reflect changing hormone levels. Food cravings are usually experienced during the first quarter. Other possible causes include poor nutrition, stress and the start of your period (MPS).
- † Frequent urination . Women gain weight by the water at the beginning of the pregnancy and this increase in the volume of body flows and pressure from your uterus on growth mean more frequency in trips to the bathroom. This usually starts from the sixth and eighth weeks after conception. Other possible causes of frequent urination include infection in the urinary tract, diuretics, tension, diabetes and drinking excess fluid.

Fatigue . During the first months of pregnancy, your body is developing your baby's placenta, the organ that will provide nutrition in the following 9 months. This consumes energy and, coupled with high levels of the hormone progesterone, tired a lot to mothers. As it nears the end of the first quarter, women often begin to feel less fatigued. Other possible causes of fatigue include tension, stress, depression, poor feeding, flu, lack of exercise, little sleep or lack of sleep.

Bleeding . About half of the women with normal pregnancies will have some loss of blood of pink or brown, sometimes accompanied by stomach cramps. While the majority of women with blood stains or bleeding continue and have normal pregnancies, bleeding can also be a sign of miscarriage or an ectopic pregnancy, a life-threatening condition. If you have bleeding, contact your doctor to have an ultrasound done and

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

ensure that your pregnancy is progressing normally. Other possible causes of bleeding include the beginning of your period or bleeding from the pill.

¿What should I do?

If you are having signs or symptoms of pregnancy, take a pregnancy test. The following are the different types:

- ✦ **Home pregnancy test** . The majority of these tests can determine if you are pregnant as the first day of absence of your menstrual period or even a couple of days before. They detect HCG in your urine (HCG), and results are available in just five minutes. If the test indicates you are pregnant, contact your doctor as soon as possible for you to practice a physical examination. Home pregnancy tests are very accurate - If your pregnancy test is positive, it is highly likely that you are pregnant. If your test is negative, but equally experiencing symptoms of pregnancy, contact your doctor.
- ✦ **Laboratory test** . A lab pregnancy test can determine if you are pregnant even before they present the amenorrhea. It also detects HCG in your urine. You must go to your doctor's office or lab to take the test. The results are available in just a few minutes if the test is done in the doctor's office. The accuracy is close to 100%.
- ✦ **Blood test** . This can determine if you are pregnant a week of conception. Analyzes the presence of the human chorionic gonadotropin hormone in the blood. You must go to the doctor's office or to the lab to take the test.
- ✦ Once you have a positive pregnancy test, call for an appointment with your health care provider to begin prenatal care. If you have bleeding or spotting, it is important to tell your doctor or nurse midwife to check in an ultrasound and ensure that your pregnancy is developing normally.

8. Medical care of Rescued persons, including Distress, hypothermia and Cold Exposure.

✦ Excessive cold

The injury caused by the cold appear more frequently in recent years. The exhibition of our body to the low temperatures entails the production of local lesions (freezes) and generalized (hypothermia).

Determinants of the severity:

Environmental:

1. Temperature. More seriousness unless temperature.
2. Exposure time. Is equal to the product of the intensity by time. In this way, the stay during 20 minutes to 1 ° C is equal to stay 1 minute to -20 ° C.
3. Speed of confrontation.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

4. Moisture. Facilitates the loss of body heat by radiation. With moisture, even at temperatures above 0 degrees C, can appear injuries (trench foot).
5. Wind. Increases the heat losses by convection; for example, a wind of 74 km/h to 4 ° C is equivalent to a wind of 3 km/h, to -40 ° C.
6. Height. The temperature decreases 0,5°C per 100 meters of height.

Characteristics of the subject:

1. Age. More danger in children and the elderly to have worse the system of thermal regulation.
2. Race.
3. Biotype. Obese people generally are best nurtured the low temperatures.
4. Mental Preparation.
5. Diseases. Malnutrition, diseases of the muscles and the arteries.
6. Immobilization. More frequent in wounded, soldiers in the trenches, etc.
7. Appropriate clothing. Protect the distal areas of our body, hands, feet, nose and ears.
8. Ingestion of alcohol and drugs. It is false that the alcohol protect from the cold, since what causes is a peripheral expansion bottle that entails the loss of heat.

⚠ Hypothermia

Widespread cooling of the body in which the internal temperature falls below 34° C, Hypothermia occurs in healthy people and is due to exposure (atmospheric or immersion) to intense cold for a long time.


There are people with predisposing factors that present hypothermia due to exposure, even at temperatures slightly low, as a result of weakness or disease. It is more likely to occur in the elderly or in people with certain medical conditions or predisposing causes, appearing:

- ⚠ Tremors
- ⚠ Redness.
- ⚠ Drowsiness and muscle weakness.
- ⚠ Loss of consciousness and death.

Treatment

The treatment of hypothermia consists in a careful monitoring, intensive care support, overheating and treatment of basic disorders and complications.

It is vital to the careful monitoring of vital signs, heart rate, arterial blood gases and of the central venous pressure. Oxygen is administered humidified. Tracheal intubation is indicated in patients comatose and in patients with respiratory insufficiency; it should be practiced carefully and skillfully in order to prevent the emergence of a ventricular fibrillation.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The methods of overheating depend on the severity of hypothermia and the resources and facilities available. These are:

- † Overheating passive (hot environment, blankets)
- † Active external overheating (immersion in hot water, electric blankets, heaters environmental)
- † Central heating active (gastric irrigation or colonic with crystalloid solutions hot, heating by inhalation, by intubation and oxygen administration hot and humid, infusion of intravenous solutions hot, heating by radio waves and heating by external heat exchanger).

Intravenous fluids to manage will preheat to 39-40°C. Thyroid hormone should be reserved for those patients under strong suspicion of being hypothyroid patients. They are not indicated corticosteroids or antibiotics administered in prophylactic form.

It proceeds with the overheating in continuously and staggered, since doing so suddenly and sharply is dangerous since patients hypothermic are prone to cardiac arrhythmias fatal. It is advisable to do so based on the clinical condition of each patient in particular.

It is suggested that the following guidelines:

Mild hypothermia with stable cardiovascular status

It is preferable and may be sufficient passive overheating by the coverage of the patient with blankets dry and hot and the application of intravenous solutions preheated.

Hypothermia with inadequacy or cardiovascular instability

No patient should be given up for dead while hypothermic. This determination is made only after the patient to overheat to 32°C and after having applied the correct measurements of resuscitation.

We must transfer the patient to a warm room and dry if it is wet.

⊕ Dizziness

The dizziness is an unpleasant sensation that often occur when turning the head repeatedly, when bending or to join. The term is imprecise, even more among laypeople. The confusion with vertigo and concinetosis abound.

Aspects of the Symptom

The dizziness can also be triggered by traveling in vehicles (the evil of navigator, movement of a boat or a trip by car). In these cases, the more intense is the movement, tends to worsen the discomfort (a more intense shuttle in a boat or a series of curves when driving on a road). In mild cases there is only a slight feeling of nausea, but when the discomfort is more serious there are problems of balance, vomiting, dizziness and loss of coordination.

Generation of dizziness.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The dizziness is due to over-stimulation of the semicircular canals, small bodies that are located in the inner ear whose function is to perceive the changes of position of the head (the three dimensions: X, Z and Y) to maintain a sense of balance. One of the most common cases is when the body, initially in a constant movement (running, for example), stops abruptly and in so doing and due to inertia, channels semi-circular remain in motion, which makes them sent to the brain, through the liquid containing the signal that the body is still in motion, which generates the feeling of dizziness.

When pacing is prolonged, it is frequent that the feeling of dizziness persist for several hours or even days, after the completion of the stimulus. The most typical case is the so-called dizziness on land, to experience the sailors that have long been shipped. In these cases, the person maintains the feeling that the ground is still shaking even days after having landed on solid ground. Usually the effect disappears in the first 48 hours


Causes

The aforementioned over-stimulation of the semicircular canals of the inner ear may be due to a multitude of factors: the consumption of virtually any type of medication may cause dizziness, whether it is not the medication indicated for the suffering which seek to attack with him as if the dose is greater than the amount stipulated; dizziness is one of the many symptoms of pregnancy in women; the consumption of many addictive substances may cause dizziness, even before you generate the addiction to that substance (is one of the most common sensations caused by the consumption of alcoholic beverages, for example), and many types of ailments studying, initially or in their more advanced phases, with feelings of dizziness (for example, panic attacks). You can also be a symptom dehipercolesterolemia.

Differential Diagnosis

Many sufferings have dizziness among its symptoms. The medical conditions that include dizziness are:

- † Benign paroxysmal postural dizziness
- † Meniere's Disease
- † Vestibular neuritis
- † Labyrinthitis
- † Otitis Media
- † Neurinoma of the acoustic
- † Chronic motion sickness
- † Ramsay Hunt syndrome
- † Migraine
- † Multiple sclerosis
- † Gestation
- † Low blood pressure (hypotension)
- † Low content of oxygen in the blood (hypoxemia)
- † Acute myocardial infarction
- † Iron deficiency in the blood (anemia)
- † Deficit of glucose in the blood (hypoglycemia)

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Hormonal changes (for example, thyroid disease, menstruation, pregnancy)
- † Panic disorder
- † Hyperventilation
- † Anxiety
- † Depression
- † Skills diminished by the age, visual, balance and perception of spatial orientation
- † Syndrome of the temporalis muscle

9. Death at sea.

What to expect and how to respond to the natural process of death? No one can predict the time of death. But the doctors and nurses involved in the care of persons sentenced to death are aware that certain symptoms can usually be associated with a "blackout" of the body. These symptoms of proximity of death are specific to the natural process of death (apart from other effects of particular diseases of the person may have).

Not all symptoms of death is present in every person, but most are experiencing a combination of the following symptoms toward the end of his days:

- **Loss of appetite.**

Energy needs are in decline. The person may start to resist or reject the foods and liquids, or accept only small amounts of soft foods (such as cereals). The meat, which is difficult to digest, will be rejected in the first place. Even your favorite foods have unattractive.

Near the end of life, the person who dies can be physically unable to swallow.

How do you respond?: Not feeding the force, follow the signs for the person even though you may be distressed by the loss of interest in the food. Periodically offer ice chips, popsicles, or a sip of water. Use a cloth dampened warm around the mouth and apply balm for lips to keep moist and comfortable.

- **Fatigue and excessive sleep.**

The person can begin to sleep for the greater part of the day and night the metabolism slows down, with the decrease of the food and water contributes to the early dehydration. He or she are quite difficult to awaken once they get the dream. The fatigue is so pronounced that the knowledge of the environment immediately begins to be lost.

How do you respond?: Allow sleep. Avoid giving shoving a person awake. Suppose that everything you say can be heard, as it is thought that the sense of hearing persists, even when the person is unconscious, coma, or otherwise is not responding.

- **Increase of the physical weakness.**

A decrease in food intake and energy leads to a lower energy, even for activities such as lifting the head of its own, or go toward the bed. The person you can even have difficulties to drink from a popote.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

How do you respond?: Concentrate on keeping the person comfortable.

- **Mental confusion or disorientation.**

Components start to fail, including the brain. The awareness of a higher order tends to change. "Few conditions cause hyperactivity in people who are dying," says the doctor of palliative care Ira Byock, author of Dying Well (Die well).

The person may not be aware of who is or who else is in the room, can speak or respond with less frequency, can respond to people who are not in that moment there, you might be able to say things without sense or confused about the time.

How do you respond?: Remain calm and tranquility. Talk to the person in a low voice and identify yourself when you come closer.

- **Difficulty breathing.**

Breathing becomes irregular and laborious. A characteristic pattern called Cheyne-Stokes could be heard: a noisy inhalation, in the background followed by a pause of not breathing (apnea) between five seconds to a minute before a resumption strong, deep breathing and slowly again a depletion.

Sometimes excessive secretions create strong inhalations and exhalations with fluids what some call a "proxy of death."

How do you respond?: The suspension of the breathing or noisy phlegm can be alarming for the listeners, but the person who is dying is not aware of this change in your breathing, must focus on the overall comfort of the sick. Positions that can help: the head slightly raised with a pillow, sitting well supported, or the head and the body tilted to one side slightly. Moisten the mouth with a damp cloth and humecte lip balm or petroleum jelly.

If there is a lot of phlegm, allow it to drain of natural form of the mouth, since the aspiration toward outside can increase your amount. A vaporizer in the room can help.

- **Social isolation.**

As the body is turned off, the person who dies little by little you can lose interest in the vicinity. He or she can stop speaking or murmur something unintelligible, fail to respond to the questions, or just get away.

A few days before backing up socially by the last time, the person who dies sometimes surprise your loved ones with an unexpected explosion of a behavior alert and attentive. This can take less than one hour or until a full day.

How do you respond?: Please note that this is a natural part of the process of death and not a reflection of their relationship. Maintain a physical presence touching and speaking to the dying person, if he feels it necessary, without demanding anything to change. Treasures an interlude of attention when it happens because it almost always is fleeting.

- **Changes in urination.**



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

If you enter little (as the person loses interest in the food and drink) little will come. The drop in blood pressure, part of the process of death, also contributes to the kidneys are closures. The concentration of the urine is reddish brown in color, or color tea.

The loss of bladder and bowel control may occur late in the process of death.

How do you respond?: The medical staff of the hospice sometimes decides that it is necessary a catheter, although not in the last hours of life. The renal insufficiency may increase the toxins from the blood and contribute to a state of coma before death peaceful.

- **Swelling in the feet and ankles.**

As the kidneys are less able to process the body fluids, can accumulate and be deposited in the different areas of the body, from the heart, in the feet and in particular the ankles. These places, and sometimes also the hands, face, or the feet, take a look swollen.

How do you respond?: Usually, no special treatment (such as diuretics) is supplied when swelling appears directly related to the process of death. (inflammation is the result of the process of natural death, not its cause.)

- **Cold hands and feet.**

In the hours or minutes before the death, the circulation of the blood is removed from the periphery of the body to help the vital organs. While this is happening, the extremities (hands, feet) are cooling down. Even nails can also appear more pale or bluish.

How do you respond?: a thermal blanket can keep the person comfortable.


- **Veins mottled.**

The skin that had been uniformly pale or ash develops a distinctive pattern of purple spots / red / blue as one of the last symptoms that the death was about. This is the result of the reduced blood circulation. You can see for the first time in the soles of the feet.

¿How do you respond?: there are no special measures to be taken.

Note: These general signs of impending death may vary in sequence and combination of person to person. If a person is life support (respirator, feeding tube), the process of death may be different. The signs of death contained in this list are described as part of a natural process of death.

We connect to study two types of death, intimately connected with the legal medical problems: The actual death or real and apparent death. This differentiation is given by a definitive or temporary cessation of activities, cardiac and respiratory brain.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

Apparent Death

The apparent death is characterized because the agency maintains its vital functional activity, but she is reduced to its minimum expression, which is evident with sensitive diagnostic items. This situation occurs in cases such as the following: Shock anesthetic. - concussion. - suffocation. - poisoning - anesthetic accidents - Traumatic Coma - Impact vagal or by inhibition.

The apparent death, is a state that is confused with the actual death. There is a set of circumstances in which the agency is at a minimum of their functions, either by the influence of processes of disease, poisoning or accidents (such as traumatic)

Real Death

The actual death or death true from the point of view of the forensic doctor is characterized by the abolition or stops of the great final heart vital functions, respiratory and brain. The death of the tissues that make up the different bodies not running parallel with the loss of consciousness, it having been established that certain organs during the first hours continue to carry out some of its functions, as happens with the liver that continues in its role and uropoietic glicogénica.¹³

One of the first signs of death is the loss of the movements and the sensitivity, although there are many cases of hysterical subject or in a state of syncope, in that the sensitivity is abolished, pretending to a state of actual death. Death is not a moment, but a process, and you can start with the cessation of breathing, circulation and nerve function, culminating with the disintegration of the tissues.

The respiratory function is abolished and that we can determine by the test commonly known of the mirror, which is to bring the nostrils a mirror, which is not impaired when the death data of many hours; however, this test can spoofed by the release of gas and water vapor which overshadow the mirror. The circulatory function, the suspension of the heartbeat, ceases, therefore, if the expert makes a small incision in the skin of the Corpse will warn that it springs blood or if out what will do for the section of the vessel that has been full of blood, but it is poured out without force, index of the absence of movement.

In the legal medical technique is used the test called the sign of Lcard", which consists of introducing in the nostrils of the corpse, the paper is blackens by hydrogen sulfide that emanates from the lung in decomposition. Another test is to inject in cubic centimeter of fluorescein solution, checking the actual death if there is the dissemination of the color, not appearing the yellow color of that substance as noted in the subject with life. It is also usual to the procedure which consists in the section of an artery, and radial or temporary, in which there is no sprouting blood, as you get used to see in any section of an artery, in life of the subject.

Abolished the sensitivity, breathing and circulation, we find another element that enables us to say the state of actual death, and is the decrease of the temperature, which drops as time elapses. This heat loss starts from the first minutes and can be caused by radiation, conduction, convection and evaporation, following the curve of cooling of Newton, in the sense of an exponential curve, depending on internal factors heat loss by conduction occurs in the deaths by drowning in stagnant waters, as well as deaths from heart disease. The heat loss by conduction and convection is manifested in the deaths by submersion



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

in water currents and losses by irradiation in the suffocation by hanging, in which the body is located in enclosed spaces with high humidity. The heat loss by evaporation occurs when the body is outside and with dry air, as happens in the deserts and desolate places and dry.

The rectal temperature drops slowly; at 24 hours disappears the heat in the body, excluding, some states of subjects who have died with high temperatures in which the descent leads a more prolonged period of time, due to the fact that the cease the functions continues to rise in longer time, to descend later; it is also said that in dead subject in a state of drunkenness, the temperature rises up to 10 degrees.

To clarify these facts related to the temperature, the movement and the human body there are various tests as the ether injection colored with methylene blue, which injected at a dose of 2 cubic centimeters beneath the skin of a subject that is still with life, accumulates and does not come out, thus allowing to determine the sign of Regullé positive or negative. The test of Monteverdi is to inject 2 cc of ammonia by subcutaneous injection, which in the subject with life causes a red spot and none in the body, or in any case, of brown color, according to López and Gisbert. The dry suction test causes flushing in the living subject, not in the body. Another test that provides the epidermal scraping that involves scraping the skin with a knife and place a piece of blue paper of calculus, which is colored in red, indicating that the body is found in acidity. The test of paper impregnated with lead acetate, than in the mouth of the deceased becomes black, by the presence of sulfurous vapors, is another test in this group. The test of the forcipresión is to take the skin with a pair of pliers to Pean, during three minutes away after a fold, parchment ones mahogany color, that lasts for a long time in the corpse, disappearing in the event that the subject is alive.

The Hippocratic facies or cadaverous constitutes another sign of affirmation of the true death and is characterized by the forehead wrinkled, sunken eyes, nose sharp, temples depressed, empty and wrinkled, ears retracted upwards, lips hanging, sunken cheeks, chin wrinkled and parched, dry skin and Plumbate, nose hair and ears with a white dust, this phases are presented in the subjects who have had long agony, unlike the dead in a violent form, which presented cadavéricos spasms. The immobility is another characteristic sign of death true; all bodies remain immobile before the rigidity; the hand holds a position in which the last four fingers are flexed and the thumb is covered by the other, addressing one toward the little finger.

The sphincters, after death, tend to relax pupillary dilation manifesting, palpebral dilation, dilation of the anus, exit of faecal matter, fall of the jaws and the presence of semen in the urethra. We must leave noted that the pupil contracted during the agony is dilated after the death; this dilation is transient, because after tends to contract. For the forensic physician can intervene at the request of the judge and certify the death, shall take into consideration the signs, demonstrations and background, among the many who knows medical science.

Natural Death

Is one death due to a cause of pathological or physiological type, i.e. a disease, which may have been acute fulminant or not, or chronic reagudizada always and when she has been the determining factor of death. According to the speed of their production can be:

Natural death slow



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

That is mediated, for example a consumptive caquetizante disease, tuberculosis or cancerous, but may also be the case of a cardiac infarct which led to the death of the patient after 2 or more days.

Natural death quickly

That is to say immediately, for example an allergic hypersensitivity, or a meningeal hemorrhage of pathological origin such as those produced by cerebrovascular accident type rupture to aneurysms of the polygon of Willis. Also takes the name of Sudden Death, Sudden Death or unexpected death.

In practical terms, are often referred to in the forensic medical and judicial language with the generic name of deaths SUBITAS to all deaths of natural type installation be they slow or fast. On the other hand, we must mention that there are two unique types of natural deaths of interest forensic doctor and that occur in both children of age infant as in adults without that the autopsy demonstrate facts that explain the death. These cases are: THE SYNDROME OF SUDDEN INFANT DEATH AND DEATH physiologic adult instant

Unnatural Death

Is any death which is not due to pathological reasons or to any disease. Implies accident, suicide or homicide. According to the speed of your production can also be: a.- unnatural death slow.- that is mediated, for example of an assault in which the death occurred after 2 or more days.

In the same way can be examples of homicide or suicide in which death does not happen instantly. b.- unnatural death quickly.- that is, immediate, for example a gunshot wound or ARMA BLANCA of deadly need with death immediately or in the very short term, 24 hours. It takes the name of violent death.

In practical terms, are often referred to in the forensic medical and judicial languages with the generic name of violent death to all the deaths which are not of type natural and therefore are due to accidental, suicidal facts or homicide. Are the deaths of greatest interest forensic physician and judicial or prosecutor. With the term study of violent deaths is known as natural deaths cannot be settled quickly or slowly.

In general terms we can refine that: natural death and violent death, are words that allow both the profane as the doctor know quite precisely to what we mean when we speak of a natural death or of a violent death. But what is often overlooked is the legal and social significance that each one has. The only deaths that have significance in the area of criminal law are the violent deaths and the suspicions of crime, because in them raises the possible intervention of a third party, and therefore, the existence of a criminal responsibility.

It is therefore appropriate to define with the greatest precision both concepts: natural death has no other medical interest lawful for the to extinguish the legal personality, a fact that is set with the opportune certificate of death and its subsequent entry in the Civil Register. It is an act of the utmost importance; hence that the diagnosis of certain death acquires a great importance. But the natural death can occur under the sign of suspicion and doubt. Are the cases in which, by happen quickly in an apparently healthy person (sudden death), is suspected of crime, or because the circumstances of place and time prevent a precise diagnosis of the immediate cause of death. In these cases it will be mandatory autopsy; and, the violent death from the legal perspective is broader than the term could make us think. Includes a part those cases in which its mechanism is clear and obvious: violent deaths per physical mechanism,



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

mechanical or chemical, when they are of such magnitude that causes the death of a very obvious mode or quick. This happens with the traffic accidents, falls, rainfall, ahorcaduras, submersion and deaths by electricity, lightning or ARMA BLANCA or fire, mechanisms that are discussed in detail in the special forensic pathology. But it also includes those other cases in which neither the mechanism, or the injury, or the third party responsible are presented with so much evidence.

It is necessary to make reference to the sudden death in children; because in a statistics on 1.525 sudden deaths occurring in children, 218 were presented between the ages of 1 to 5 years; 40 cases between 5 to 10 years; 14 cases between 10 to 15 years. The sudden death in newborns has produced most of cases by certain hereditary tares as syphilis, which produces less resistance to external influences and the children who come to the adolescent, hypertrophy of the thymus, bronchopneumonia and the toxicosis. In the hypertrophy of the thymus gland that produces the understanding in the trachea, the child presents cornajes, suffocation and asphyxiation followed by death; other times it is due to syncope nocturnal, tetany latent or laryngospasm; there are also chaos of deaths evil due to decided endocrine disorders neurovegetativos. In all, sudden death of children must be considered at length the lungs and digestive tract, because the laryngeal spasm leaves no traces.

It must be taken into consideration that a large number of deaths is often of functional nature. In newborns can produce congestion of the airways by meconium aspiration and vaginal secretions; in children more advanced in age, can occur in children: pseudocrup more advanced in age, can occur the pseudocrup, also by aspiration of vomitados materials that generate suffocation certain foods of a toxic nature can cause death; certain hemorrhages caused by the vomiting may occur in the form capillary, in the pericardium, below the pleura and below the endocardium; in addition, the brain, the liver, spleen and kidney.

What to do after they are diagnosed with death

Immediately after, we must try to distinguish if it has been due to:

- † Death by natural causes.
- † Death in violent or suspicious circumstances.
- † If the person was followed in his illness, it should be noted the whole process of the same (symptoms, vital signs, Medical consultation via radio, medicines, etc.).

The responsible for the boat, next to the death certificate, must collect in a document:

- † Date, time and place where he was found dead.
- † The name of the people who have been witnesses to the time of death.
- † Circumstances determinants of death.
- † Result of the ocular inspection of the body and of the place.
- † Last words, if the comment before witnesses.

The golden rule will be "touch as little as possible and not to change anything in place until the arrival of the judicial authority and of the forensic doctor, if the circumstances of the death are suspicious". When



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

the distance to the nearest port is necessary to do so, before moving the cadaver is must make a drawing, or preferably photographs, the scene of the killing, taken from different angles.

Always retain the corpse on board until the arrival at port. The burying in the sea is already a thing of the past.

It should be a record of the crew died as detailed as possible, whether has died on board as if is rescued from the sea, which serve for identification:

1. Copy the name and other personal demographics, if known.
2. Strip the body and keep the clothes, documents and household found, as well as material that could relate to the cause of death (for example: syringes, weapons, etc.).
3. Record the bodily characteristics of the deceased: apparent age, height, race and color of the skin, hair, deformities, tattoos and scars, prostheses, wounds and injuries, dental pieces.

Act of death occurring on board a vessel

In the sea, on board the vessel, with IMO number....., i,, responsible for the said vessel, I come to lift the death certificate of the crew

D. (Add as many data are possible: Place and date of birth, address, marital status, DNI, etc.), as reflected in the documentation on board or in the found in the possession of the deceased.

The death befell the hours (GMT/Local) of the day.../.../....., as a result of (Accident,..... or ignoring the causes), preserving the corpse to his landing on arrival at the port of....., transcribing this act in the logbook of navigation.

And for the record, and refer to the competent authority, I hereby promulgate this on board to the..... hours a day...../.../.....

Fdo.:

(Name and Surname)

Note: This death certificate is written in a Folio for delivery to the arrival to port and is written exactly the same thing in the Logbook.

Conservation of the body

After having extended the death certificate (according to model exposed) and 24 hours have elapsed since the same, we will proceed with the following steps:

1. Should be washed and dried the body, except in the case of suspected that the death had been due to disease cuarentenable or criminal act or violent; in this case, do not touch the pulpejos of fingers, the furrows of the nails or the natural orifices.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

2. You close the eyes.
3. It will seal the mouth, holding it with a wide band that will go under the chin and will bind in the head.
4. There is inserted a cotton plug in each nostril.
5. With a pair of tweezers introduce a cotton plug in the rectum.
6. It anudará firmly with a bandage or adhesive bandage to the base of the penis, to prevent the output of liquids.
7. Will be placed the hands crossed on the chest, tying the wrists to avoid separation.
8. Extend the legs and secured by a bond to the height of the ankles and knees.
9. Will wrap around the body with a blanket and will be introduced in a bag of conservation (SAC mortuary for cadaver, DRAWER 15, first aid kit A) or in a tarpaulin, by shutting it down, and shall be deposited in a cold store, at refrigeration temperature (4-8° C), not freezing.



Wrap the body with a blanket.



into a bag of conservation.

10. Environmental Control on Board Ship

🏠 Hygiene

Hygiene of the skin and of the hair

The skin is the barrier that prevents the passage of germs to our agency, and at the same time contributes to the regulation of body temperature through the production of sweat glands. Other sebaceous glands,, produce a fat which waterproofs and lubricates the skin.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

These products of secretion, in union to the remains of flaking of the skin and the dust and dirt outside, arrive to rot, producing a very unpleasant smell and are also a favorable field for the development of germs and emergence of diseases.

The daily shower with soap and water, especially in hot weather, or after hard work or in dirty environments, eliminates all these secretions.

Special attention should be paid to the armpits, groin, around the anus and genital area, hands and feet.

The hair should be washed with soap or shampoo frequently. The combs, always for personal use, must be kept clean through the use of detergent solutions. If you have detected parasites (lice...) it will be necessary to use specific lotions and shampoos.

After the shower, the skin will dry perfectly. Each member of the crew must have its own towel.

Hand Hygiene

The hands are our main working tool and will stain with very various substances, to the time that are a source of contamination of everything we touch, because in them, especially around the nails, accumulate many germs. It is therefore necessary that the wash frequently with soap and water by using the brush to clean the nails, and always before eating and after going to the toilet.



Figure: How to cut the nails

Of the hands and feet.

The nails must be cut regularly to prevent the accumulation of dirt, curved shape the straight of the hands and the feet. The food handlers ensure especially these measures of hygiene, because if you are not able to transmit various diseases. Will not leave without trying the wounds or cracks located in the fingers.

Foot Hygiene

The feet should be washed daily, because they abound the sweat glands and the accumulation of secretions occur very unpleasant odors, in addition to cracks and infections.

In the event of excessive sweating, apply specific preparations that the decreases, and shall be kept dry to prevent the growth of fungi.

Other skin care

The skin must be protected from excessive exposure to the sun, using appropriate clothing for the climate and type of work.

It should also avoid the humidity, as is soaked and loses its ability to barrier to infections. Will dry carefully and will change the clothes frequently, especially the interior, in order to always keep it clean and dry.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

The Continual rubbing of the skin with the waterproof clothing, footwear, etc., will produce easily chafing and infections, so it has to be avoided; will remain always clean these elements of protection.

The hands require a specific protection through the use of gloves, which must be adapted to the type of task you are currently performing.

Hygiene of the mouth

The use of a toothbrush for cleaning after every meal is an essential factor to prevent the onset of infection in gums and caries. The food and beverage leave residues between the teeth that, to ferment, is conducive to the emergence of these processes.

The toothbrush is for personal use only and must be replaced with regularity, approximately every three months.

If you use dental prostheses, must be kept perfectly clean, because if not the remaining natural teeth can decay easily. The complete artificial dentures should be washed thoroughly after each meal to avoid infections and bad smell.

Must be carried out regular visits to the dentist, especially before long trips. Exit to the sea always with the denture in perfect condition.

Hygiene of the Eyes

We can highlight three aspects:

- † The refraction defects (myopia, hypermetropia, astigmatism) should be treated and corrected properly, heavily on personal Bridge, since the security of the whole crew will depend on its correct vision.
- † Protect the eyes against physical agents, chemical or mechanical, through the use of goggles or protective screens appropriate to the specific risk. Use sunglasses in bright environments intense.
- † Eye Infections, mainly the conjunctivitis, are very contagious, so that have to be treated immediately, and all objects that are in contact with the eyes shall be for personal use (towels, handkerchiefs...).

The staff that uses corrective glasses must carry a spare pair, in anticipation of possible breaks.

Hygiene of the ear

The ears must be cleaned daily to remove their secretions, but avoiding the introduction of chopsticks, cotton swabs, etc. in the ear canal, as this facilitates the formation of plugs of wax and can easily damage the duct, and even perforate the eardrum.

Workers exposed to noise levels high (greater than 85 dB.) must use hearing protectors to prevent occupational deafness. Can use plugs or helmets.

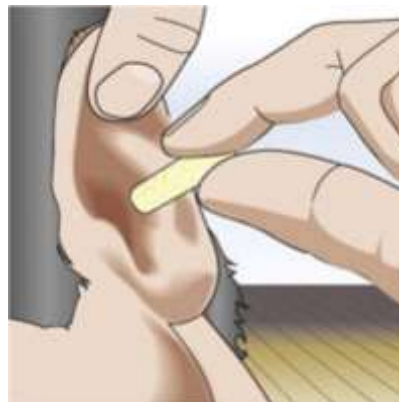


The plugs ensure adequate protection, provided they are placed correctly. Can be molded (foam; for the shape of placing them, or semi (rubber), and it is advisable to have clean hands to their placement. Are personal use only and must be replaced or flushed periodically, depending on the type.

The helmets, easier to fit, have the disadvantage of being worst tolerated during long periods. Must be kept perfectly clean and dry.

Figure: Types of hearing protectors.

Figure: How to fit a plug moldable.



Hygiene of the clothing and footwear

The clothing they use should not be too wide, to avoid entrapment in the machinery, or very close to produce compression. Must not hinder the normal movements of the body.

The cleanliness of the same, and especially of the underwear, is very important. The latter shall preferably be of natural fibers, which facilitates the perspiration and hinders the emergence of allergies.

The footwear must be comfortable and flexible, allowing the variation in volume of the foot throughout the day and the transpiration of same. In addition, must be adapted to the climate and type of work, since in many cases will require a special footwear of protection. Will be kept clean and dry, using if necessary powders deodorants or against the fungus.

Sexual Health

The term "sexually transmitted diseases (STDS)" includes a series of infectious diseases whose track of infection is through sexual relations

In addition to the classic (syphilis, gonorrhea, chancroid, lymphogranuloma venereum), include other which have increased significantly in recent years, as is the genital herpes, viral hepatitis and AIDS.

To prevent these diseases, it is essential to refrain from any sexual contact with persons suspected of allergies. And if so, you should use a condom.

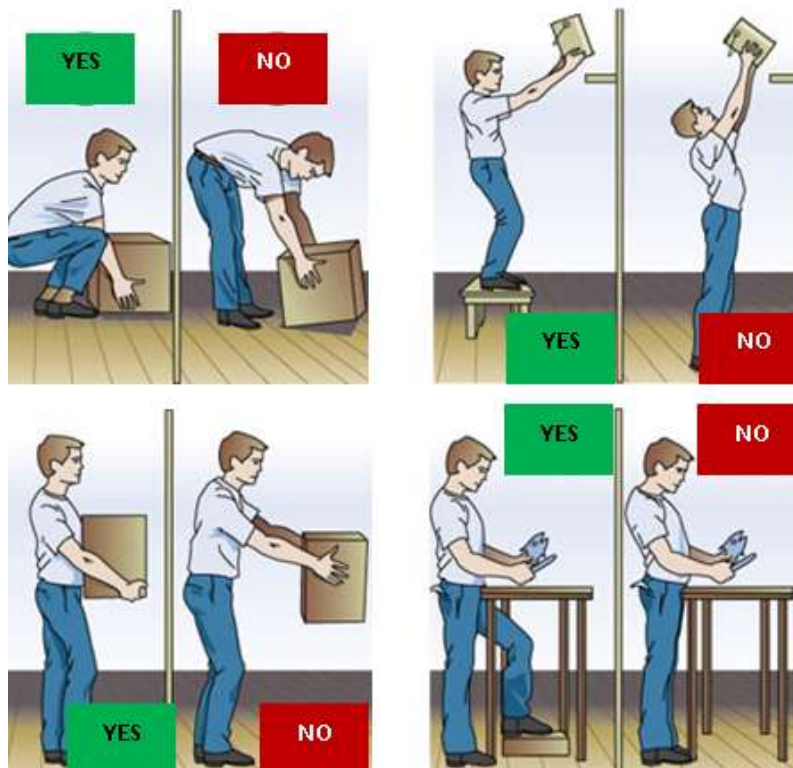


The appearance of the first symptom or suspicion of STDS, you must go to the doctor. This will depend on the effectiveness of the treatment in many cases. Must not auto-treated in any case; seek medical advice by radio.

You must save a sexual abstinence until the complete healing. It is very important to locate, to study and to treat all people with which they have had sexual relations, in order to prevent new infections.


Hygiene of the position

The back pain, sciatica, lumbago, even the herniated disc... occur frequently to maintain postural vices or lifting weights incorrect-mind. To avoid this, the column will remain straight, flexing the legs, and making the incorporated the greater effort with them. We must avoid turning the column to lift the weight.



BASIC MEASURES AGAINST THE LUMBAGO

1. Sleep on hard bed, placing a table of wood between the mattress and the mattress. Use thin pillow, or none.
2. Avoid lifting or carry weights excessive.
3. To pick something up off the floor, it will do so by bending the knees, squatting.
4. It should not remain in foot long time. If you have to be on foot, separate the feet, perform contractions without movement of abdominal and buttocks, lean on the wall and give you a few steps from time to time.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

5. There are jobs, both industrial and domestic, that are often made at foot but that it could make sitting. Use a swivel seat with backrest adjuster to have a correct posture.

6. It would be advisable, if possible, to practice swimming during their holidays as well as sunbathing in the back.

7. If you cannot apply infrared rays, it would be advisable the use of dry heat (a warm cloth or a bag of hot water) on the region that it hurts, one or two times a day for 15-20 minutes.

8. Are Also desirable baths or showers of warm water or moderately warm for 15 minutes, followed by resting in bed, and massages with jets of hot water for 2 or 3 minutes.

General conditions of habitual

Hygiene is the rules designed to conserve, maintain and increase health.

Life on board is characterized by some peculiar conditions very different from those of the earth, with the possibility of sudden changes of temperature (travel between different climatic zones) and even seasonal changes (step of northern hemisphere to south, or vice versa), with the consequent alteration of the biological rhythm. It also highlights the continued effect of noise and vibration of the boat, the limitation of the living space or even the little physical activity of Marino (apart from the fisheries, where the physical activity is remarkable), or exposure to biological risks that make the worker is exposed to a higher risk of seeing altered its health.

The Marino must enjoy conditions of habitability, environmental and adequate supplies. The collaboration of the members of the crew is essential for maintaining a healthy environment. At the same time, the captain or master of the vessel or to whom they delegate must ensure good sanitary conditions on board, through regular inspections.

The roominess of the boat is conditioned by its design and construction which, fortunately, is an area of increasing care in new ships. Subsequently these conditions will be influenced by the maintenance and by the type of activity to be developed in each area of the boat.

We will analyze the aspects that most affect the prevention of risks to health on board.

Order and cleanliness

Are fundamental to the whole boat. His absence is a frequent cause of accidents and diseases. Should be tightened in the covers, kitchen, sanitary facilities, and accommodations.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019



Figure: Food sorted

VENTILATION

Effective ventilation ensures the air renewal of a local closed. This requires a constant supply of clean air with enough oxygen, appropriate to the activity that develops in the same and the temperature and humidity of the atmosphere.

Maintain effective ventilation in the spaces where they live and in the food very important for the health of the whole crew.

The ventilation should achieve:

- † The removal of excess ambient heat;
- † The decrease of the excessive humidity;
- † The renewal of air without causing discomfort to the occupants.

Generally, in modern vessels ventilation is ensured by air conditioning systems, but even on ships that do not have air-conditioning can be achieved a certain degree of comfort with a rational use of all openings and the help of electric fans.

In any case, and with any of the systems used, the flow of air should not apply directly to the body, because they can cause colds and colds.

There are two special risks associated with this paragraph: the microbial contamination of the air and the accumulation of toxic fumes.

It is not desirable that the air of a cabin occupied by an infectious illness is recirculated by the air conditioning system, because the disease could spread to the rest of the crew. If it is not possible to override the air recirculation system of the cabin, measures should be taken as leave open a gate or door, whenever possible, to let the air out contaminated.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Another common risk on board is the accumulation of gases in enclosed spaces (storerooms, wineries, tanks), which can be toxic or oppressive to reduce the oxygen.

These gases can come from the products stored (paints, solvents, petroleum products...), of goods transported and even from the decomposition of the waste of the vats of fish. They are also very dangerous closed compartments or tanks freshly painted, if they have not been previously ventilated.

On these and other toxic substances in the vessels as well as on the health risks involved in their transport, you will find extensive information on the publication First Aid Guide for use in accidents involving dangerous goods, of the International Maritime Organization (IMO).

Figure: cloths of paintings.

The own air conditioning systems can be hazardous by the ammonia leaks, freon or other coolants to the closed spaces.

Also have to be adequately ventilated so the spaces that have been fumigated for desinsectar with hydrocyanic acid or other gases before entering the same.

When you have to enter some space closed, it should be properly ventilated, free of toxic gases or explosives and with enough oxygen; or, in its defect, must be done with a sufficient supply of air to the self-contained breathing equipment. In addition, it must be checked that the first person to enter what then tied with a rope of rescue, to be able to be recovered in the event of a loss of knowledge. During the work should be continuously monitored by if necessary the rescue, which will be carried out with self-contained breathing equipment and by qualified personnel.



Must be frequent training exercises, especially in ships carrying dangerous substances, in the use of the rescue teams and autonomous respiratory masks.

Lighting

A correct lighting on board is essential to ensure an effective work and without risks, while increasing the well-being of the crew and prevents fatigue and eye irritation that is caused by a defect or an excess of light.

Each area of the boat has a need for different lighting, according to the activity that develops in the same, and that may be small (pantry, warehouses, cold store), medium (toilets, bathrooms, cabins in general) or higher (machine room, kitchen, dining room, control room, rooms of free time...). There are even areas with some very special requirements, as can be the bridge, which does not require in night navigation general lighting but high in the area of the chart.

The lighting has to avoid unnecessary shadows and disturbing reflections, and light perfectly the work area.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

It should also be borne in mind that the period of adaptation of the vision is considerably greater than the pass of the light into the darkness that vice versa, and this frequent need of rehabilitation leads to visual fatigue. In areas where there is the need of good night vision have to be avoided unnecessary lights; in the step toward the outside, artificially illuminated, it must be possible to adjust the light, in a way that is more intense day and less at night, in order to avoid long periods of adaptation and glare.

Water is an essential element for life and is more than 70% of our body.

Its Management Board will require all our care, because it is one of the most important aspects of the hygiene of the vessels.

The water we use mainly for direct consumption (drinking water, preparation of meals) and cleaning of the food itself and of the kitchen utensils and dining room; also of secondary form for personal hygiene, laundry, cleaning of accommodations, etc.

The water intended for human consumption must meet a number of requirements:

- † Will not have germs capable of producing diseases.
- † Will not have harmful chemicals.
- † Its appearance, color, taste and smell have to be pleasant.

The water with these characteristics is that we call "drinking water".

This water can occur on board by distillation or desalination of sea water, but the most common (and especially in small boats) is coming from port, in which case it may have been treated in earth; before the doubt shall be treated on board to ensure its potability and protect the health of the crew. The water supply systems and deposit should be thoroughly checked to avoid contamination of the same.

The drinking water circuit includes deposits, pumps and the distribution system and has to be absolutely independent from the rest of the pipes of the vessel, especially of the circuits of wastewater. Should be constructed with materials resistant to corrosion and non-toxic. Will consist of antireflux devices and filters in the vents of the deposits, to prevent the passage to insects and rodents, and indicators for automatic level, to avoid the use of rods.

The tank must be able draining fully and will have a side log for inspection and regular cleaning.

Especially important is the load, which will have a filler in cover and with a jack for connecting to the hoses from the port. The sleeves will be saved in a special cupboard labeled "Sleeve of drinking water", and should not be used for another purpose. These sleeves must be cleaned and disinfected regularly to ensure its correct state.

To make the supply of drinking water we will take into account minimum needs by crew and day 32 liters for drinking and cooking and 88 liters for washing. These amounts can be increased in order to obtain better sanitary facilities, reaching consumption of 200 liters/crew member/day. The consumption will also depend on the type of vessel and navigation area, so that there will be a need to increase the provision for navigation by warm waters.



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M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

When there are doubts about the quality of the water or there is a suspicion of contamination of the same shall be purification: the simpler system, practical and safe is chlorination, which is carried out with bleach commercial non-detergent.

If the ship has distiller plant will have to check their state and disinfect the equipment on a regular basis and will be disconnected when you browse by highly contaminated waters (are generally considered polluted the waters less than 12 miles from the coast, drainage areas and areas of cleaning of oil tankers, factory ships, etc.)

The ice that will be in contact with food or drink has to be done with drinking water, and must be handled in hygienic conditions, with clothes, shoes and clean gloves, and bathe himself with drinking water before use.

Drinking water of the boats and life rafts

The traditional drinking water reservoirs of the lifeboats have been replaced by individual rations hermetically sealed in bags or cans, which facilitate the maintenance task (only verify expiration dates and absence of losses). If the boats have your reservation of drinking water in tanks, it has to be renewed every month, proceeding at the same time to the inspection of the tank.

The hygienic control of the food comprises all stages, since its acquisition, transportation, storage, conservation, preparation and handling up to the evacuation of waste, as well as the fight against the Disease Vectors (insects and rodents).

The acquisition has to be carried out in places with the due sanitary guarantees, especially the food fresh meats and vegetables. Transportation to the ship must also be hygienically to avoid contamination.

Subsequently, storage conditions on board will determine the state of conservation of the food. Each article needs special conditions of temperature: ambient temperature, low temperature, refrigerated warehouse or chamber of freezing.

Non-refrigerated foods

Can be items in bulk (in boxes or bags) or split in cans or packages.

Never stored with non-food items.

Require a clean and dry place protected from insects and rodents.

It is not desirable to place articles in the soil, but in a bookcase with 15 cm of separation of the ground, in order to facilitate cleaning and hinder the nesting of rodents.

Cereals, beans, potatoes, onions... must be protected in closed containers.

The Canned Items are very resistant, but it is necessary to take an inventory to delete the expired, discarding the deformed tins or damaged.

The packaging cartons it is advisable to remove them, since they can carry insects.



Refrigerated Foods

In addition to the above requirements, need some temperature conditions which must be respected in order to prevent their deterioration.

May require temperature of 4 to 8° C (Cooling), as is the case of fruits or vegetables; 0 to 4° C, for dairy products, eggs, prepared meal or pastries; -18 to -23° C in the case of frozen food, even it is advisable to -30° C for conservation of frozen for more than three months (meat and fish).

The frozen foods have to be used immediately after be thawed, and in no case can refreeze.

The remains of prepared food should not be kept for more than 48 hours by the risk of bacterial contamination, always at lower temperature of 4° C and separated from food in crude oil.



Figure: Fourth of cold.

Both the cooler and the freezer must have very precise thermostats, and minimum-maximum thermometers, to control potential temperature elevations that may damage the food. Furthermore, it must be kept perfectly clean, avoiding condensation or plates of ice thickness greater than 5 mm. Therefore diminish their effectiveness.

The handling of food has to be carried out exclusively the cook and their assistants, who cannot be sick or be carriers of diseases that can be transmitted to the food, for which they must pass an initial review and subsequently will be subject to a periodic medical control (Carnet of Food Handler, which is obtained from the competent bodies of each Autonomous Community). If the food handler has a wound in the hands (ulcer or furuncle), nasal exudate or gastrointestinal process, must be relieved of his task until the total healing.

This staff must maintain a proper hygiene of the body, face, hands, hair and nails and wear clean clothes and exclusively for their work. Before entering service, and in the breaks or after going to the toilet, wash your hands carefully with soap and water and dry them with a clean towel, to be disposable.

Important rules for food preparation

1. Choose foods treated hygienically (for example, pasteurized milk instead of raw).
2. Cook food thoroughly. Reach 70° C in the whole mass of them to eliminate pathogens that might have been contaminated.
3. Eat cooked foods immediately.
4. Store cooked foods carefully. If you are not going to consume immediately, should be refrigerated (-8° C) to prevent the proliferation of germs.
5. Reheat cooked foods thoroughly. Proper storage delays the proliferation of germs but not destroyed. The reheat above 70° C ensures the destruction of germs.



6. Avoid contact of the raw food with the cooked. The well cooked food can become contaminated with crude oil.
7. Wash your hands often. At the start of the preparation, to touch any food crude, to go to the toilet...
8. Keep scrupulously clean all working surfaces of the kitchen.
9. Keep the food out of the reach of insects, rodents and other animals.
10. Use drinking water for both the preparation and the cleaning.

The design of the kitchen and the computer that it uses are other factors to maintain a good food hygiene. All ceilings, floors and bulkheads should be smooth and easy to clean, work surfaces smooth and impervious, preferably stainless steel, with JOINTS WELDED well to prevent the accumulation of dirt.



Figure: Kitchen on board.

All working surfaces must be cleaned regularly with drinking water and soap and then with bleach.

The cookware and utensils should be easily cleanable, non toxic materials and shall be washed with detergent and water to about 60° C, with a subsequent flushed to 82° C for 30 seconds, or during 1 minute in a solution of bleach to kill the bacteria.

11 Disease prevention


Disinfection, Insect and rat clearance

It is always better to prevent than to cure. There was a tendency at the present time whenever possible to the prevention of diseases, and in a few places will be more important than on board a vessel.

The conditions in the sea are not favorable to health. Opportunities for recreation, exercise and a hygienic way of life are limited; the housing is less comfortable and there are fewer opportunities to obtain fresh food. During long periods of time the seafarers are separated from their land and their family; spend months in the limited space of your boat, with a small number of crew around it (always the same). These conditions give rise to boredom and tension that may contribute to the emergence of some diseases.

Furthermore, a large part of the countries whose ports or fishing grounds frequents the Spanish fleet are endemic in many infectious diseases, do not have adequate sanitation facilities and is easy contracting diseases transmitted by water, food or insect bites.

Communicable diseases are those that can be transmitted from a person or animal) to another. There may be a direct transmission of an infected person or animal to a healthy person, or there may be an

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

indirect transmission, sometimes by means of an animal host intermediary (mosquito, rat...) and other via the environment (air, water, food...).

The agencies that produce disease in man, called infectious agents, belong to various groups: bacteria, viruses, fungi,..., and can penetrate into the organism through the different routes of entry: digestive, respiratory, skin and mucous membranes.

GENERAL RULES FOR THE PREVENTION OF COMMUNICABLE DISEASES

The chain of infection is formed by the following links:

1. Source of Infection: man or animal sick; polluting products (vomiting, faeces, urine, blood...).
2. Means of transmission of the infection: water, food, dust, air, insects, rodents, soil, objects...
3. Man healthy, where the infectious agent can reach by the different routes of entry: digestive, respiratory...

The measures of prevention are directed to break this chain, acting on one or on all the links in the same:

1. On the source of infection: insulation, disinfection and deworming, early treatment.
2. On the means of transmission: personal hygiene and the environment on board, disinfection, insect and rat clearance.
3. On the healthy man: vaccinations, chemoprophylaxis, gammaglobulinoprophylaxis and health education.

There is also a prevention of nonspecific type but very important to prevent the infection appears in the community, such as adequate food and shelter, drinking water, wastewater treatment...if each crew member is concerned of their personal hygiene, if the hygienic conditions of the boats are maintained in a few minimally acceptable levels, if the water and food are retained and are handled properly, we will make more difficult the emergence and spread of infectious diseases on board.

Now we will elaborate on the insulation, vaccinations, sexually transmitted diseases and diseases transmitted by arthropods, with particular emphasis on the prevention of malaria or malaria.

Health

On board will produce solid and liquid waste. These last are classified into:

- † Fecal waste water ("Sewage"), from the drains of toilets and the cargo in which animals are transported alive.
- † Sewage no coliforms ("gray water"), which come from showers, sinks, laundry, etc.

The two drainage systems will be differentiated to prevent reflux of sewage in other areas.

The black waters can transmit a series of diseases such as cholera, typhoid and dysentery; gray waters, although less dangerous from the point of view of health, can be harmful to the marine environment due to its impurities, especially those coming from the kitchen, rich in fats, and the laundry room with remains



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

of detergents, so that the download of the same is limited by international conventions (banned in port areas and coastal waters outside 12 miles, in the case of the faecal waters).

The circuits of wastewater will be totally independent of the drinking water circuit in order to prevent the pollution of the same.

The solid residues are those waste materials which by its nature or size cannot be deleted with the wastewater; come from kitchen and cabins (remains of food, wrappers, cans, magazines...), the workplace (brushes, rags, cans of paint, grease etc.) and the machine room (Engine Parts Discarded, lubricants and oils...).

Sanitarily, the most dangerous of these are the remains of food and packaging, since their presence can attract insects and rodents. The rest of the waste poses a risk on all environmental, so that the MARPOL Convention limits the discharge of solid waste not only to the port waters, but also to the coast. More away from 12 miles may be disposed of those bottoming out easily or quickly become degraded by the sea, and that float, only to more than 25 miles. The Convention limits the landfill of waste plastics in the maritime routes.

The waste has to be stored in plastic bags, properly closed and stored in sealed containers, test of rodents, and they can wash easily.

An alternative solution to the storage of waste and its unloading in ports are the teams of incineration on board.

Sanitation is the control and regulation of those environmental factors that can affect the health, thus avoiding the disease and increasing the well-being.

A good number of infectious diseases can be transmitted by mosquitoes (malaria, yellow fever...), fleas (plague), lice (typhoid), ticks, flies and cockroaches. Rodents can also be carriers of diseases, by themselves or by their parasites.

Thanks to effective measures to control the spread of communicable diseases by insects and rodents is currently less important than in the past, but remain an important part of the prevention of the diseases on board.

Three are the techniques of sanitation: disinfection, insect and rat clearance.


Disinfection

Is the chemical or physical procedure capable of destroying the producing germs of diseases.

The substances capable of producing the death of germs acting on surfaces alive or inanimate are called disinfectants.

We can use several techniques:

- † Immersion.
- † Lotion and wetting.
- † Spraying.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Fumigation and vaporization.
- † To disinfect clothes, objects and furniture used by a sick person will be carried out:
- † Washing with soap and water.
- † Introduction in disinfectant solution (bleach to concentration 1/5000). If this is not possible, wetting or spraying of the surfaces with this solution.
- † It is also effective, if possible, the boiling of the same.

† Concentration of the bleach (number of grams of free chlorine Per liter of bleach) This data is contained in the packaging	† To clorar 20 liters of water
20 g. of chlorine in 1 liter of bleach	1.000 c.c. of bleach
40 g. of chlorine in 1 liter of bleach	500 c.c. of bleach
80 g. of chlorine in 1 liter of bleach	250 c.c. of bleach
100 g. of chlorine in 1 liter of bleach	200 c.c. of bleach

After you add the bleach (another material out of drawers, first aid kits A and B) to water must be stirred well. Immerse in this mixture clothing during two hours. After this term, will incur clothes and bathe himself in the usual way.

The disinfection of the Cabin will be scouring first floor and bulkheads with soap and water, then using a disinfectant solution.

On the other hand, depending on the route of elimination of germs by the Agency, we can act in the following way:

1. When the deletion occurs through the urine or stools, as in the case of diarrhea is collected these excretions in containers with disinfectant solution (e.g. bleach).



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

2. If the route of elimination is through the mouth, as in the case of tuberculosis, there that collect sputum and exudates in containers with disinfectants.

3. When germs are eliminated by skin and mucous membranes (diseases of the skin, eyes...), it is necessary to wash the skin with soap and water.

In all cases you have to wash your hands with soap and water after using subsequently a disinfectant solution, and the clothes are disinfected in the manner described above.

DISINSECTION

Is the technique by which we seek the elimination of insects and arachnids, by be annoying and dangerous for their role in the transmission of some diseases.

In the fight against insects and arachnids, in addition to the mechanical means with which we can act, such as metal or nylon fabrics, mosquito nets, garbage disposal, etc. will be conducted periodically disinsectisation operations with equipment and appropriate means to achieve an action of lasting effect. We are going to insist here in those techniques more advisable, taking into account the arthropods more frequent and the place where we are going to find.

Lice

It is located in the man, and it is the Council who have to deal with.

Always take into account:

- † The nits or eggs are resistant, so you have to make successive weekly applications.
- † Always should be considered those who have been in contact with the people parasitized.

Flies and mosquitoes

In phase of larvae live in ponds and wastes, so that on board it is important the bilge of coves and bilges and the correct evacuation of waste.


In its adult phase, these insects find flying or resting on ceilings and bulkheads, therefore, it is here where we must act, spraying the surfaces of the premises with insecticides or through the production of smoke or aerosols, which eliminate the flies and mosquitoes of the premises treaties.

It is important to insist on the need for personal protection against mosquito bites, using mechanical means (insecticide, adequate clothing...) and lotions repellents.

Fleas

In this case you must treat animals parasitized by lotions, powders, or aerosols, as well as the premises in which they are located.

Cockroaches

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

Nest in corners, crevices, dark and humid sites. It is a common plague on the boats and difficult to eliminate.

The treatment of choice is the use of solutions or emulsions and varnish or lacquer insecticides in all places where nest (sinks, toilets, kitchens, lockers...).

Chinches

Live in cracks and crevices of the walls, assemblages of furniture, mattresses, beds.

Fight implemented in these sites emulsions or solutions insecticides, being very important periodic cleaning of the beds and mattresses.

Scabies mite


Affects men, causing intense itching and characteristic lesions in the skin.

In addition to the specific treatment with medications, you must disinfect the clothing, by washing with boiling water and clean the mattresses.

INDICATIVE TABLE OF INSECTICIDES	
LICE	POWDERS: LINDANE, MALATHION LOTION OR SHAMPOO: CARBARYL, MALATHION, BIOLETRINAS
MOSQUITOES	SOLUTIONS OR EMULSIONS: CARBARYL, BAYGON VARNISH: FICAM W
FLEAS	POWDERS: BAYGON, LINDANE LOTION: CARBAMATES (CARBARYL, BAYGON) EMULSION: CARBAMATES
COCKROACHES	SOLUTIONS, EMULSIONS, VARNISH OR LACQUER: BAYGON, FICAM W
BEDBUG	SOLUTIONS: CARBAMATES VARNISH: BAYGON

Vaccines

All of us have a system of defense against infections, the so-called immune system, which produces defensive elements (antibodies) against the foreign substances entering the body (antigens).

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The Vaccination consists of introducing into the agency an antigen in form and amount controlled, for the immune system to produce antibodies in sufficient quantity to expire the infection in the future. This protection is decreasing over time, so you have to manage booster dose (revaccination) each time, different for each type of vaccine.

Any person who go sailing should be vaccinated, if only for their own protection and convenience, against tetanus, influenza, diphtheria and poliomyelitis. Must be administered every ten years booster shot of immunization against diphtheria and tetanus.

The need for the seafarers are immunized against yellow fever and typhoid fever depends on the route and the destination of the ship. Whether or not other vaccinations (hepatitis B, etc) are dependent on the existence of risk factors that suggest it: age, previous diseases, sexual behavior...

VACCINATIONS REQUIRED					
Type	1th vaccination (no. of dose)	Range Between Dose	Top Of the Effectiveness	Booster dose	Warnings
YELLOW FEVER	1		10 DAYS	10 DAYS	The validity of the International Certificate of Vaccination starts at the beginning of the tenth day following the vaccination.

VACCINATIONS REQUIRED					
TYPE	1th vaccination (no. of dose)	Range Between Dose	Top Of the Effectiveness	Booster dose	Warnings
Tetanus (or in The form of Diphtheria- Tetanus)	3	2.Th: 1 month 3.Th: 6- 12 Months	2.Th Dose	10 days	This vaccination, as follows, are mandatory in the childhood vaccination schedule spanish. It is recommended for all workers in the sea.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Poliomyelitis	2 (injection)	1 months	2.Th Dose	6-12 months	Indicated for people who are directed to areas of epidemic. The booster dose can be administered in the oral form in place of the injection.
Fever Typhoid	3 (oral) 1 (injection)	2 days	5 days after the last dose 10 Days	1 year 3 years	Recommended for people who travel under precarious conditions of hygiene.
Measles	1		10 days		This vaccine is administered associated with the rubella and mumps epidemic in the Spanish Child binding timetable. Only it is advisable if you have not experienced before.
Hepatitis A	2 or 3 (injection)	1 month	2. ^a dose	¿10 years?	It is indicated for travel to developing countries.
Hepatitis B	3	1 month	2. ^a dose		Recommended for the person who makes an extended trip and with frequent stays in countries of strong endemics.

VACCINATIONS REQUIRED

TYPE	1th vaccination (no. of dose)	Range Between Dose	Top Of the Effectiveness	Booster dose	Warnings
BCG (TB)	1		2 months		It is recommended only to young adults who are likely to have an extended stay in an area of high endemicity of tuberculosis



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Cholera	2 (oral dead)	7 days	7 after day 2.th dose	6-12 months	Perform hygiene measures of drinks and food. The risk of cholera is very low for the travelers. It does not protect against some strains
	1 (oral live)		8 days		
Meningococcal meningitis	1 (A + C or tetravalent)		15 days	3-5 years	Indicated for people who travel to areas of endemism in the event of a close contact with the local population. In some areas is recommended according to the season.
Rubella	1		1 month		See measles
Mumps (mumps)	1		2-3 weeks		See measles.
flu	1		1 weeks	1 year	The risk of occurrence varies according to the season and the destination. In the tropics, the flu may occur throughout the year; in the southern hemisphere, especially in April or September; and in the northern hemisphere from November to February. Particularly recommended in certain risk groups (chronically ill).
Rabies	3	2. ^a : 7 days 3. ^a : 28 days	3. ^a dose	1. ^a : 1 year follow: 2 ó 3 años	Indicated for professionals of high risk and at risk in areas of endemism. Supplementary doses of remembrance should be given in case of a rabid animal bites or suspect. Beware of pets!
Japanese Encephalitis	2-3	7-14 days	10-14 days	1-4 years	Indicated in the case of a stay in a rural environment in the area of endemicity (Southeast Asia).



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

12. KEEPING RECORDS.

The aim of bringing the medical records is to provide a health guidance on the action that should be provided in each particular case when a health care problem arises on board.

The data to be account to make an assessment of the process are those provided by the patient and the responsible sanitary on board.

It is very important to keep a history of each crew member who is assisted in nursing for any reason.

It is important to perform a complete clinical examination, whenever possible.

All history begins with the patient demographics:

- † Documents
- † Place and date of birth.
- † Because it takes on board.

Disease

- How did the disease?
- What was your first symptom?
- How long does it take with this?
- How and where you angry?
- What happened later, how evolves?
- Do you already happened before?

The sick must respond to three key questions:

1. What happens? Describe what you feel the sick, or what is the same, the symptoms (pain, itching, nausea...), and also what it presents, the signs (which we can check: cough, vomiting, diarrhea,...).

It is very important to point out the main reason for the query.

2. Since when? When it began to notice it, the day and, if possible, even the hour.

3. What attributes it? If you related to some activity: food, drink, exercise...

- Do where it hurts and where is the pain? (Where radiates?). Indicate according to the sheet of situation of symptoms,
- How is the pain?:
 - Continuous or intermittent.
 - Deep or superficial.
 - Soft or intense.
 - Oppressive, stinging, burning...
 - Abrupt onset or gradual.
- When does it hurt?: Has relation with meals, the movement...



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

- What is relieved or worsens?: medication, meals, positions...

With regard to vomiting, phlegm, urine or stools, we note:

- † Quantity and frequency.
- † Appearance and consistency.
- † Color and odor.
- † The presence of blood.
- † Presence of pus.



Identify the color of the urine with some of the samples of the photo:

Finally, you must be in this clinical history:

Background. Major illnesses that suffer or have suffered, surgical interventions, hospitalizations, previous episodes of the present disease, diseases of the stomach...

Known allergies to food, medicines or of another type.

Consumption of alcohol, drugs, tobacco or usual medicines. Also, medicines you have taken by the current disease, when it began to take them, quantity and frequency.

ACCIDENT

When it comes to an accident it is important to indicate:

- How was the accident and in what place of the ship is produced, at what day and time.
- Part of the body that is affected.
- Description of the type of injury: In case of burns, hemorrhages, fractures, contusions, wounds... will seek to clarify the affected area, size and depth of the lesion, alteration or not of movements, loss of strength or sensation.

In addition, there is a need to record all the symptoms that accompany the process such as pain, loss of consciousness, difficulty breathing.

- † Some of the logs that are carried on board the boats that help to maintain an effective control of the crew, the medicines issued to each person. Among other factors that involves the health area aboard a boat.

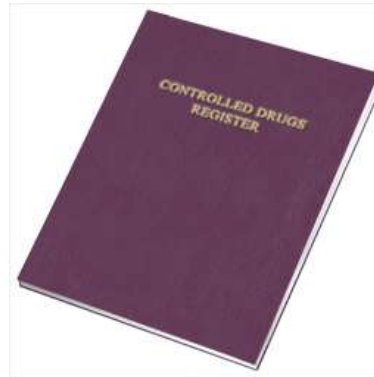


SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019



Inventory control of medicines

The provision and renewal of the contents of the medicine chest and the antidotes will make an exclusive responsibility of the shipowner, but in no case can involve any cost for the crew.

The kit and the antidotes must be installed in a suitable place and maintained in good condition at all times. Must be completed or be renewed as soon as possible and in any case, priority will be given in the normal procedures of supply.



Figure: How does not bring the medicines.

stocks.

The management and maintenance of the kit and the antidotes will be a responsibility of the captain or person holding the command of the vessel. Without prejudice to the same, it may delegate the responsibility for its use and maintenance in one or more crew especially appointed for their expertise. They will be responsible for the go scoring in the registry book of the administration of drugs on board, medicines administered to each crew member, as well as to make on a regular basis a list of medicines, equipment or antidotes to replenish as soon as possible either by expiration or by depletion of


The inventory of the drugs has to be done periodically by regulation.

Each time you beat any medication must withdraw and try to replace it with another at the earliest possible date.

Also the packaging of a medication has more relevance than we sometimes might seem.

How important is the packaging of a medicine?

The drugs last only until the storage conditions are favorable. Medicines can lose its power before the expiration date if they are exposed to oxygen, heat, light or moisture. To maintain its power, medications should be stored in a place that is dry, cool and dark. Despite the popular practice, this means that they

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

must not be used his cabinet of medicines in the bathroom, due to its high level of moisture can cause the drugs to break down and lose its effectiveness. Also the FDA recommends keeping medicines in their original containers, far from other substances that could be confused with other. You must always follow the specific instructions. For example, nitroglycerin must be kept away from the light. Also your pharmacist may give you additional instructions of storage in the form of a label on the bottle or in a brochure.

National and International Regulations

In 1967, the World Health Organization (WHO) published for the first time the Health Guide on board, which was the subject of minor amendments in the year 1987. In the past, reference was made directly to the guide at the International Health Regulations (IHR) (Article 14), and its purpose was to standardize the sanitary measures taken in relation to ships to safeguard the health of passengers and to prevent the spread of infection from one country to another.

The guide of 1967 was based on the results of a survey conducted in 103 countries and represented a synthesis of the best national practices of that time. Covered the supply of drinking water, security in swimming pools, waste disposal, food safety and the control of parasites. Before its publication was sent to the International Labor Organization (ILO) and other international agencies for comments. This guide complemented the requirements of the IHR and was the world reference journal of the health requirements for the construction and operation of ships.


Since 1967, have developed a number of guidance documents, conventions and specific regulations that provide full descriptions of the design and operational details relating to ships, and many have into account the wholesomeness. To some extent, these have made that the original purpose of the guide has become obsolete, and that the purpose of this revised guide is different. Have not been made explicit references to the guide from the version of the year 2005 of the IHR, hereafter referred to as RSI 2005 (WHO, 2005)

This document is intended to provide examples of good practice is accepted. However, it is recognized that there may be equally effective alternative solutions that could be developed to achieve the desired objectives. If alternative solutions are adopted, it is necessary to provide objective evidence on their effectiveness. The primary consideration is that the results are effective.

The Maritime Labor Convention, 2006

The Maritime Labor Convention (2006),

1 adopted by the 94th (Maritime) Session of the International Labor Conference, the main body of the ILO, consolidates more than 60 maritime labor standards of the ILO adopted since 1919, many of which address issues relevant to health on board vessels. Article IV, "Work of the navigators and social rights", of this Convention, establishes, in subparagraph 3, that "Every boater has the right to work and decent living conditions on board ships", and in paragraph 4, that "Every boater has the right to the protection of their health, medical care, welfare measures and other forms of social protection". The following rules of the Convention specifically address the health topics:

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- Rule 1.2: Medical Certificate, paragraph 1, provides that "The Seafarers will not work on vessels unless they are provided with a medical certificate attesting that they are medically fit to perform their functions". The standard mandatory related sets the requirements related to the medical examination of seafarers and the issuance of a medical certificate attesting that they are medically fit to perform the functions to be carried out on the high seas.

- Rule 3.1: accommodation and leisure facilities, paragraph 1, provides that "Each Member shall ensure that vessels flying their flag provide and maintain accommodation and recreation facilities worthy for the navigators who work or live on board, or both, according to the promotion of the health and welfare of the navigators".


Establishes specific requirements with regard to the size of the cabins and other lodging places, heating and ventilation, noise and vibration, sanitary facilities, lighting and hospital services. Standard A3.1, paragraph 18, provides that "the competent authority shall require frequent inspections on board ships, either by or under the orders of captain to ensure that the housing of the navigators is clean and decently habitable and in good state of maintenance. The results of each one of these inspections must settle in a record and be available for review" (The competent authority is the one that is to the orders of the ILO).

- Rule 3.2: Food and food service, paragraph 1, provides that "Each Member shall ensure that vessels flying its flag transported on board and serve food and drinking water for the quality, nutritional value and the amount adequate to cover the needs of the ship properly taking into account the different cultural and religious contexts". Standard A3.2 stipulates, among other things, that "Each Member must ensure that vessels flying its flag comply with the following minimum standards: ... (b) the organization and the team from the Department of food services must provide the navigators nutritious food, varied and adequate prepared and served in conditions of hygiene, and (c) the personnel in charge of food service must be properly trained or instructed for the exercise of their functions". There are other requirements and additional guidance related to the proper handling and food hygiene.

- Rule 4.1: medical care on board ship and on land sets, in paragraph 1, that "Each Member shall ensure that all navigators of vessels flying its flag are covered by appropriate measures for the protection of their health and that they have access

1. A swift and adequate medical care while working on board"; in paragraph 3, that "Each Member should ensure that the sailors on board of ships in its territory that need immediate medical attention they have immediate access to the medical facilities of the Member in Earth"; and, in paragraph 4, that "the requirements for the protection of the health and medical care on board established in the code include standards for measures to provide for the protection of the health and medical care to the navigators comparable to those generally receive the workers on the ground."

In addition, Rule 5.1: Responsibilities of the flag State, paragraph 1, provides that "Each Member is responsible for ensuring the implementation of its obligations under this Convention in the ships flying its flag"; and paragraph 2 provides that "Each Member should establish an effective system for the inspection and certification of the conditions of the maritime labor Convention, ensuring that the conditions of work

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

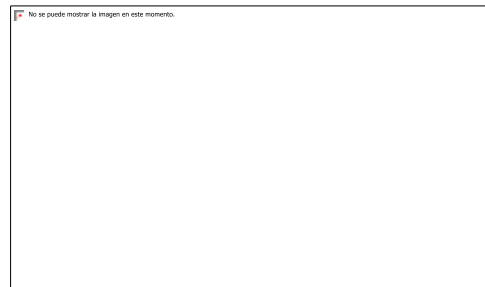
and life of seafarers on ships flying their flag comply with and continue to fulfill, with the rules of this Convention".

Rule 5.1.3: maritime labor certificate and declaration of maritime labor compliance sets, in subparagraph 3, (for ships of a gross tonnage of 500 or more) that "Each Member should require that vessels flying its flag transported and maintain a maritime labor certificate certifying that the conditions of work and life of the navigators in the ship, including measures for the continuous compliance to be included in the declaration of maritime labor compliance... have been inspected and comply with the requirements of the national laws or regulations or other measures to implement this Convention"; and, in paragraph 4, that "Each Member should require that vessels flying its flag Transported and maintain a declaration of maritime labor compliance that establish the requirements that implement this Convention to the conditions of work and life of the navigators, stipulating the measures taken by the owner of the vessel in order to ensure conformity with the requirements of the vessel or vessels concerned". It is necessary that the flag State, or a recognized organization that has the delegated authority to do so, inspect, among other things, the accommodation, the food and the service of food and medical care on board Before issuing the certificate is valid for a period not to exceed five years (also prescribe interim certificates and intermediate).

13. Medicines and Medical Equipment

List the contents of the kit boat

In pharmacies there is a wide variety of drugs for each category and for worse, various pharmaceutical forms and brands for each drug or item. The following list, (based on the list of items suggested by the P. N. A.), is a set of suggestions, elements and brands, more on the basis of experiences and personal taste than anything else, without involving by this that necessarily has a way of demonstrating that these products are higher or better than others or that are not replaceable by others.



The variety and quantity of elements that must be available in the kit varies according to the type of navigation and at the same time it would take to get to the nearest place where to receive medical attention. It is not the same a navigation by the day in front of olive trees, a crossing to Cologne several hours or an ocean cruise of several weeks. In these lines is considered a fairly complete kit, as for those who perform a navigation to the river of the Silver outside, while a few hours of travel of one of its ports.

The composition of elements will also depend on the clinical background of those who are on board (diabetes, asthma, allergic, etc.), time of year (solar filters in summer or antitussives and antibiotics in winter) or of the places where one goes to land (for example, lately can be considered as the lead antiofidic polyvalent serum if one goes with boys in summer to Creek).



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

It shall periodically review the kit, controlling that medicines are not dirty, wet, defeated, disturbed in their consistency (for example ointments dry and harsh) or in its color (changed or cloudy), or with damaged packaging or who lose fluid. In any of these cases, you need to replace them. This is especially valid for those who are easily contaminated, as eye drops and eye baths, syrups and nasal drops. This task will be made easier if we have in the cover of the kit an inventory of all its content. This also prevents, to those who are not familiar with such content, unnecessary loss of time wasted because what is available and looking for something that does not yet exist. Once made the effort to collect the following items, and keeping it updated, a first-aid kit with the proposed features will be of great utility for a long time.

- Medicines:

Antianginosos, antihemorrágicos, anti-ulcer treatments, antacids, antiemetics, antidiarrheals, analgesic, antipyretic, anti-inflammatory, anticinetósicos, glucocorticoids, antiseptics and ointment type an analgesic and anti-inflammatory.

- general medical material for healing,etc:

1 gelatin sponge hemostatic, 1 tube of guedel, elastic bandages elastic adhesive, bandages, compresses several measures of sterile gauze, bandage, Latex Gloves nitrile or vinyl, adhesive dressings sterile, compressive sterile, gauze dressings, straight scissor acute of Rome, digital thermometer, disposable syringes with needle, cervical collar for immobilization, a thermo-blanket and the Health Guide on board.

Member of medicines and drugs contained in the chest.

- Dosage level

For a drug may exert a therapeutic action, has to reach in the site of action an effective concentration and it must remain constant for an appropriate length of time, in such a way as to allow continued therapy. As has been pointed out above, the blood level cannot be maintained constant because, just entered the body, the drug begins to be eliminated by different mechanisms so that the concentration reached initially drops to subclinical levels with a speed that is characteristic for each drug. The ideal management system is, without doubt, the intravenous continuous infusion, in which the drug is administered so that the patient receives exactly the amount you need to keep the blood level required and obtain the desired response.

All models or designs of dosage try to adhere to this principle, in order to administer one dose that quickly raise the plasma level of the drug and then followed by keep it no fluctuations too significant as to cause toxic symptoms or undesirable or that fluctuations fall below therapeutic levels. There is therefore an appropriate concentration of the drug in the fluids of the body, which may fluctuate within narrow margins give an individual to another. This concentration is called "minimum effective concentration"(CEM) and is a characteristic of each drug.

There is also a therapeutic area defined by a maximum level, beyond which there is a risk of toxic manifestations, and a minimum level under which there would not be a suitable concentration for a pharmacological response. The safety in the handling of drugs is based, in the majority of cases, to



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

establish the actual levels and toxic levels. The "therapeutic index" is the relationship between the toxic plasma concentration and the minimum effective concentration. This index has very low values in those drugs which the toxic dose is very close to the effective dose; in contrast, in the drugs whose toxic levels and troops are very far away the therapeutic index reaches very high values, as happens with the methapyrilene, whose therapeutic index is around 20,000. In contrast, drugs such as procainamide and quinidine have an index of 1.5 approximately.

Dosing schedules should consider, since then, the speed of elimination of the drug or the average time of elimination and at least two variables: the magnitude of the single dose administered and the frequency with which this dose is repeated, which is usually called "dosing interval or administration" and that, in terms of pharmacokinetics is expressed with the Greek letter T (Tau).


The limits of fluctuation in the level of drug in the body between the dosing intervals depend on several factors. For a speed of elimination determined, while more quickly is the absorption, the greater the fluctuation. When the absorption is very fast, the total dose penetrates to the movement in a short time, the blood level is high at the beginning and then decreases rapidly, whereas if the absorption is slow, the blood level maximum is reached in a less rapid, but is more sustained.

For a given speed of absorption, fluctuations are obviously higher while more quickly is the elimination. On the other hand if the elimination is slow, the drug in a regime for the administration of repeated doses, tends to accumulate in the system with the risk give cause toxic manifestations. For this reason, any alteration in the eliminator bar function also modifies the management regime in order to maintain the blood levels inside of the concentrations effective. This is especially true with patients nefróticos in which the excretory capacity of the kidney is reduced.

- Beneficial Action

Is currently investigating the medical use of marijuana for various diseases, which has generated again, some controversy. Many studies argue that is effective against nausea caused by chemotherapy treatments or of AIDS treatment, its stimulating effect of appetite helps to combat the lack of appetite, as well as the anorexia. You can also help reduce eye pressure associated with glaucoma.

- Neurological pain: Because of the role, neuroprotectror immunomodulatory and anti-inflammatory marijuana some studies have been carried out on neurological diseases and auto immune as well as it has been shown that aid in the neurological pain overcoming clearly to any placebo.
- Glaucoma - The use of cannabis reduces eye pressure significantly improving the injury by glaucoma. The medicinal cannabis has shown in a series of cases reductions in the PIO around 24%, Studies in patients with open angle glaucoma achieved reductions of 60-65% of the patients.
- Multiple sclerosis: There are studies that suggest that can slow down other neurological diseases such as multiple sclerosis; in this regard, it has been suggested that one of the components of the marijuana (CB2) slows down the progress of this neurological disease in animals, reducing the death of nerve cells in up to 50%. There are many studies about the multiple sclerosis that have

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

shown that can help reduce the fear, tremors, insomnia, spasticity, relax muscles, reducing the intraocular pressure or improve the control of sphincters.

- Alzheimer: With regard to the of Alzheimer's, some research suggests that certain components of this psychotropic reduces levels of the brain of β -amyloid and improve the cognitive behavior in animals. On the other hand, it has been reported that some active ingredients of marijuana could reduce the progression of this degenerative disease, however, recent research has not only shown their ineffectiveness potential, but also that their use could worsen the disease.
- Schizophrenia: In contrast with the apparent dangers of THC for psychotic users or pre-psychotic, the CBD (cannabidiol) appears to be as effective as the antipsychotic drugs in common use for the treatment of schizophrenia, and more effective than the latter in the case of negative symptoms.
- Cancer. An investigation carried out by the University Complutense of Madrid has shown that cannabis can have very beneficial effects against cancer. The active principle of cannabis has shown itself capable of putting an end to the cancer cells, to kill people and, at the same time, keep alive that are healthy. It should be clarified that such research was carried out in rats and not in humans.
- Against addiction to amphetamine: on the basis of the relationship between the system endocannabinoico and neurobiological processes related to addiction to stimulants such as cocaine and methamphetamine; a therapy based on cannabinoids can be used to treat addiction to amphetamine.

Side effects

Although side effects are not common, they can occur. Tell your doctor if any of these symptoms are severe or do not go away:

- † Sensation of dryness in the mouth
- † Unpleasant taste
- † Diarrhea
- † Constipation
- † Vomiting

Some side effects can be serious. If you experience any of the following symptoms, call your doctor immediately:

- † Increased blood pressure
- † Palpitations
- † Agitation
- † Dizziness
- † Tremors
- † Insomnia
- † Shortness of breath)
- † Pain in the chest
- † Swelling of the legs and ankles
- † Difficulty to do exercises that has been able to perform before



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Lists and shows the use of medical equipment on board the vessel.


Recommendations

Brands in particular:

1. Anti-allergic by mouth ("Deltisona").
2. Anti-allergic higher (injectable), (for crisis urticarianas, asthma or acute allergic: "Decadron", injection, 2 or more boxes of 1 ampoule of 2 ml).
3. Antidiarreico tablets ("Suprasec", "Estreptocarboftiazol").
4. Antispasmodic ("Sertal").
5. Antihistamine ("Clarytine").
6. Antiinflamatorio - analgesic, compressed ("Dioxaflex plus", "Kemanat", "Paraflex Forte").
7. ("Empecid antifungal cream", "Micolis").
8. Antiseptic with povidone iodine ("Pervinox").
9. Antitérmico (Adults: "Paracetamol Fecofar 500 mg", children: "Multin").
10. Aspirin (Adults: "Bayaspirina", children: "Aspirinetas", "Ibupiretas").
11. Anticinetósicos (against the dizziness), (If you can get: "Bonine" (USA), "Aeromar" (Uruguay), or the self-adhesive wafer scopolamine "Transderm-Scop" but: "Dramamine").
12. Eye drops descongestivas, ("Kalopsis").
13. Ear drops descongestivas, (For earaches), ("Esodar").
14. Antiseptic soap ("Pervinox").
15. Cough syrup ("Bisolvon compositum NF").
16. Liquid antipruritic-antihistamine, (pitting, burns, solar radiation), ("Caladryl").
17. Solar screen ("Hawaiian Tropic", Children: factor 32, adults: 20 factor or according to individual sensitivity).
18. Throat lozenges, ("Ernex").
19. Surgical adhesive strips of cloth type Steri-Strips.

Any brand

1. Oxygenated water
2. Alcohol external use

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

3. Pins of hook (2 or 3).
4. Absorbent cotton
5. Appliance to remove hooks, (if you are going to catch on board followed and with medium or large hooks).
6. Compresses (are large and thick gauze).
7. Eyewash Cup and Expert of rubber.
8. "Band aids" (or similar, of various sizes and shapes).
9. Sterile gauze, (usually in quantity, since when is necessary, it usually never reaches). It should be of various sizes, (and but of 15 x 15 cm., and trimmed with scissors).
10. Gauze furacinada (for skin breakdown by burn or trauma, a box or envelopes).
11. Latex gloves (2 pairs).
12. Syringes for intramuscular or intravenous injection (2).
13. Tweezers.
14. Rolls of adhesive fabric, (with the same recommendations as to the gauze).
15. Sachet of saline solution (eye rinse, washing, rehydration).
16. Slats of several measures to fractures (low-languages and others).
17. Thermometer.
18. Blunt scissors.
19. Bandages several (3 or 5m x 5cm, 3 or 5m x 10cm, several rolls).

Non-pharmaceutical items useful in certain clinical situations on board:

- † Rice (diarrhea).
- † Ice (trauma).
- † Salt, wines and drinks (insolation, vomiting, diarrhea).
- † Soups, dry clothes, blankets (hypothermia).

Lays down the procedures for the destruction of medicines with date has expired.

Expiration date-La expiration date identifies the time during which the prescription medication can be expected to meet the requirement of the Pharmacopoeia documents monograph, provided that they remain under the prescribed storage conditions. Prescription medications will not be dispensed after the expiration date on the container of the manufacturer. The expiry date placed on the label of the medicine must be the effectiveness of the drugs. That date, in most circumstances, is the date printed on the container of the manufacturer. Adequate storage conditions of prescribed medicines should be reinforced during the consultation of the patient. The guidelines of the States Pharmacists Beyond Use date-El



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

beyond- use by date is the date after which the prescription medication may not be used. The date beyond the use defines an appropriate period of time during which a prescription medication may be held by a patient after that is dispensed and takes into account factors such as the conditions under which the medicine may make you stored in the patient's home.

- The first recommendation is to follow the specific instructions for disposal of medication given by the manufacturer, which might be identified in the labelling of the same.

- Do not discard medications for the toilet (health), garbage or sewage, unless this information is on the label on the medicine.

- If the medication has not expired, you can think of to offer a bank of medications in your city or town.

- If the medicine does not contain instructions on the label and/or in their place of residence there is no return program, discard in the trash could afford, but you must first:

Take them out of their original packaging and mix them with an undesirable substance, such as ground coffee or sand. This makes it less attractive to children, pets and people.

Put them in a bag hermetically closed, this prevents the medicine is exit.

Scratch all the identification information on the label to be unreadable.

In addition, note that...

Give the drugs to friends should not be done, because the medical prescriptions are specific for each person and are made taking into account history, symptoms, Precautions and contraindications.

If there is any doubt about the correct form of elimination, refer to a pharmacist.

Describes how to delete the hospital waste.

Can be removed small amounts of solid and semisolid medicines, not more than the equivalent of 1 per cent of the daily total of wastes, directly in a landfill together with large volumes of municipal solid waste, if there is no other suitable method. The figure of 1 per cent was based on the opinion of the experts and not on scientific evidence. In addition, it is accepted that in emergencies and in situations in which there is a large volume of pharmaceutical products (many hundreds of tonnes), could be eliminated an amount equivalent to 5-10 per cent of the daily total of urban waste, provided that they exceed the 50 metric tons per day. In this case the landfill must be well managed and the waste should be performed during a given period.

Liquids

Pharmaceutical products non-toxic or of low toxicity

The pharmaceutical products which can be classified as readily biodegradable organic material include the liquid vitamin, which may be diluted and thrown to the sewerage system. Can also be removed in this way harmless solutions in different concentrations of certain salts, amino acids, lipids and glucose.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Other Pharmaceutical Products fluids (except the controlled drugs, the anti-infective drugs or antineoplastic)

Can throw themselves into the sewerage system small amounts of other pharmaceutical liquids, that are not controlled substances, anti infectious, or anticancer drugs. If there is no sewerage system or a wastewater treatment plant in operation, the liquid drugs can be diluted in large volumes of water and poured in Great Ways of water, always it disperses immediately in the current.

Blisters

Can be crushed on an impervious surface lasts (for example, concrete) or in a drum or metal container using a thick block of wood or a hammer. Workers must use protective equipment, as protectors of eyes, boots, work clothing and gloves. The crushed glass must be swept and placed in a container suitable for sharp objects, which must be sealed tightly and disposed of in a landfill. Fluids flowing out of the ampoules must be diluted and removed as described above.

The blisters should not be burned or incinerated because burst, with possible injury to the operator and damage to the boiler or the incinerator. The melted glass also plug the grid of the oven or the incinerator if the operating temperature is above the melting point of glass. Volatile liquids in small quantities may be left to evaporate in the open air. Anti-infective drugs

Should not be discarded without being anti-infective drugs previously discussed.

In general are unstable and it is better to incinerate, and if this is not possible, must be encapsulated or inerted. The anti-infective drugs liquids can be diluted in water, and after two weeks you can throw the mixture to a sewer.

14. Surgical Equipment, instruments and supplies.

Describes and applies the appropriate measures of disinfection and sterilization

Physical methods:

Moist heat: Autoclave

The autoclave is the appliance more commonly used in the laboratories to sterilize crops and solutions that do not desnaturalicen at temperatures greater than 100°C. A temperature of 121°C (15 lbs of pressure) with an exposure time of 15 minutes is used to destroy microorganisms, even the trainers of spores.

Advantages of moist heat:

Rapid heating and penetration.

Destruction of bacteria and spores in short time.

Leaves no toxic waste.

There is a low deterioration of material exposed.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Economic.

Disadvantages of moist heat:

Does not allow sterilize solutions that form emulsions with water.

Is corrosive on certain metallic instruments.

Materials that can be sterilized with steam:

- Textile Material - glass material- rubber material - stainless steel surgical instruments- aqueous solutions
- all that material whose manufacturer certifies can be sterilized by steam.

Materials that cannot be sterilized with steam:

- oily substances- fatty substances - Powders- surgical instruments or nickel plating chrome- electrical items without special coverage - All material that does not tolerate the exposure to heat and humidity.

AUTOCLAVE

Movement of the steam inside the autoclave

Pressure ratio Vs temperature in the autoclave

Pressure (Pounds) temperature (degrees C)

5 108

10 116

15 121

20 127

25 131

30 134

Summary of a sterilization cycle in autoclaves:

1. The intake valve is opened steam to the sleeve by preheating the camera.
2. At the end of the air out of the liner opens the valve that communicates shirt and camera allowing the entry of steam to the camera.
3. When the steam occupies fully the camera and the thermometer marks the set temperature starts the sterilization cycle.
4. At the end of the cycle is ejects steam according to needs: slowly if it is liquid to avoid rapid decompression or quickly if it is other loads.
5. Once expelled the steam opens the valve that communicates the shirt with the atmosphere. Negative pressure occurs and is performed by means of drying air suction in the camera.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

In the autoclaves of displacement by gravity that are the first models manufactured, the penetration time is extended by an incomplete penetration of air and therefore the times of sterilization are also greater. At present even when work on the same principle, facilitate its operation and increase the level of security by means of the incorporation of automatic controls, Vacuum pump and microprocessors.

Dry heat: Oven

All the microorganisms are susceptible in varying degrees, to the action of heat. The heat causes in them coagulation and denaturation of the proteins.

The effectiveness of heat as a method of sterilization depends on:

-- Temperature

-- Exposure Time

The stove sterilization (oven), is the artifact used in laboratories for sterilized by dry heat. Requires greater temperature and time of exposure to the autoclave. The temperature varies between 120° and 180°C, requiring different exposure times. 140°C you need at least 5 hours of exposure, while 160°C are required at least 2 hours of exposure.

Microwave

Advantages of dry heat:

It is not corrosive to metals and instruments.

Allows the sterilization of substances in dust and non-aqueous, and viscous substances non volatile.

Disadvantages of dry heat:

Requires more time for sterilization, respect to the damp heat, due to the low penetration of heat.

Materials that can be sterilized by dry heat.

Surgical instruments chrome- Materials glass, aluminum or porcelain- oils, paraffin, fatty substances, petroleum jelly- powder (talc).

Materials that cannot be sterilized by dry heat

- textile material (cotton, silk, linen, etc.)


- Rubber - synthetic materials - all material that was altered to the working temperature.

Temperature

The temperature of dry heat sterilization should be between 160°C - 170°C.

Times

The exposure time of the material is determined by the corresponding cycle validation.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The material to be sterilized must be loaded with the steriliser cold, taking into account the following recommendations:

Each unit shall be separated from the neighboring. The materials shall not be in contact with the walls, floor and roof of the steriliser. The load of the sterilizer is homogeneous and must not exceed 80% of the total capacity of the camera

Stages of the cycle of dry heat sterilization:

Refit the material inside the steriliser
 2. Turn on the steriliser
 3. Check that the control instruments of cycle, time and temperature are in the correct position
 4. Wait until the measuring instruments recorded the temperature selected for the cycle
 5. When it reaches the selected temperature will start to discount the Sterilization Time
 6. Fulfilled the exposure time will turn off the steriliser
 7. The download of the sterilizer shall be carried out once the material has cooled down

Precautions

During the sterilization cycle should not be opened the door of the sterilizer because this would abort the cycle, but in this case recomenzarlo.

Other physical agents:

- † Ionising radiation (Gamma Rays)
- † Ultraviolet light
- † Filtration (Millipore filters ®)
- † Ultrasound

Chemical methods:

The effectiveness of these agents depends on the conditions under which act:

Concentration: varies with the type of agent and of the micro-organism, as a concentration of the agent can produce a different effect in different microorganisms.


Time: organisms are not susceptible to an agent in the same way, so not all microorganisms die at the same time. pH: pH determines the degree of dissociation and the effectiveness of the chemical agent, because less dissociation, greater permeability and greater effectiveness.

List of disinfectants (grouped by its radical chemical)

- † Phenolic Compounds:
 - † Phenols
 - † Cresols
- † Alcohols:
 - † Ethyl
 - † Isopropyl Alcohol

Halogen bulbs:

- † Iodine

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

- † Chlorine
- † Oxidants:
- † Hydrogen Peroxide
- † Potassium permanganate

Coloring:

- † Methylene blue
- † Giemsa
- † Acridine

Heavy metals:

- † Bichloride of Mercury
- † Silver nitrate
- † Vapors and gases:
- † Formaldehyde (2 - 5 %)
- † Ozone (O₃)
- † Ethylene Oxide
- † Glycol.
- † Acids:
- † Acetic acid (1%)
- † Boric acid

Demonstrates the uses of the equipment and surgical instruments available to board the ship for the appropriate applications.

All the boats from the medium to the largest have some type of surgery room, with sterilizers, ECG monitors, defibrillators and surgical material, as intravenous solutions, needles, catheters, tubes, ET, gastric lavage and a kit for accidents.

1. Diaeresis
2. Dissection
3. Hemostasis
4. Exposure
5. Pretension
6. Measurement and percussion
7. Synthesis
8. Specials

1. Umlauts are all those who allow labrarnos a way toward the area to intervene. Cutting Elements: scalpel, queratomo Jaeger, dermatomo, pinzade Kevorkian, electro-scalpel and scissors.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

- Scalpel (scalpels) The escápelos are the primary instruments used to affect tissues. They are used in form of sliding court.
- Scissors Scissors are classified in general: 1.According to its branches - Straight - Curves2.According to its tip - Rome - Acute according to its edge - Plain - Sawing 1.Scissors of dissection in general 2.Scissors strong 3.Scissors of special features
- Scissors metzenbaum: Are the thinner, scissors metzenbaum: Are the thinner, should be reserved for delicate fabrics and fine. Should be reserved for delicate fabrics and fine.
- Scissors May: are the largest and coarse, thus Scissors May: are the largest and coarse, therefore are used to cut tissue denser. used to cut tissue more dense.

Dissection - are those who help us to separate the tissues but without being cut. This technique is also called divulsión.

Surgical tweezers or tooth mouse (standard) in general should not be used in tissues that are traumatized with ease. Anatomical Clip Standard These do not possess tooth mouse, to be smooth edges are recommended for delicate fabrics.

1. Surgical Adson clip 2. Anatomical Adson Clip

Curet as are similar to a spoon with handle. There are different sizes.

Ribbed probe is used to explore fistulas.

Gripping tools gripping instruments. Are instruments that enable secure cloths of field in the patient or allow us to fix anatomical structures

Instruments of hemostasis: are elements of crushing employed for clampear blood vessels. Can be straight or curved. The differences between one and the other will be given by its size and striations that has among its branches.

The Kelly and Crile clips are used for larger cups. The furrows between the branches prevent slipping tissue. In the case of the grapple kocher, in addition to its transverse striations has a tooth at the end of its branches that further helps to prevent this slippage tissue (eye that the tooth makes of traumatic features)

Instruments of exposure: separators not static Auto statics manuals or of the steering rack (Balfour, Finsen, Finochietto, Gelpi) Manuals or dynamic (Collin-Hartman, Davidson, Farabeuf) Leaflets Manuals (Deaver and Doyen) Auto-static (Auvard, serious, Anal, nasal and ophthalmological) Flexible Films

Spacers manuals: The ends of the spacers can be in: - Hook - Curved - Spathulate - Dented-Some spacers can be molded to fit the structure that is being retracted.

- Needles: Classification according to:
- Form-straight-mixed-curves
- According to your eye-closed-open or automatic.
- Cross Sectional View-cylindrical--flattened-triangular



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019

Porta Needles: used for the handling of the needles. The selection of the size and type of needle holder is determined by the characteristics of the needle to be sustained and the location of the tissue-suturing. The porta needles Mayo-Hegares the employment more commonly used. The needles in general should be placed perpendicular to the needle holder because it achieves maximum maneuverability.

15. External Assistance

Medical advice by radio

Applies and demonstrate general principles of medical advice by radio, including

- † Gmdss
- † The use of the section of the list of proper verification of the International Code Signal

In an emergency situation you must follow certain guidelines for action. Emergency situations can be own or third parties.

Own situations

Transmit the alert by the team LSD (digital selective call) by pressing the button for relief of radio equipment (distress) until you receive the "acknowledgment of receipt". If time is available it is best to perform the call of relief through the channel 16 VHF or the frequency 2,182 kHz medium wave as follows:

- † Ayday, MAYDAY, MAYDAY. Pronouncing MEDÉ, MEDÉ, MEDÉ (from french M'aidez! "HELP MEEEE!").
- † Here the boat (the name of the boat). Repeat three times.
- † I am in the position (coordinates).
- † NEED IMMEDIATE ASSISTANCE BECAUSE OF (cause of emergency).
- † Activate the beacon.

If you need help but there is no situation of danger system must be used LSD in the category of urgency and then give the signal "BREAD bread, bread bread, bread Bread" in relief frequencies VHF channel 16 or the frequency 2,182 kHz Medium Wave.

If the emergency has been solved before the arrival of relief should be notified as soon as possible of the fact.


Situations of third parties

If you receive a distress signal of another boat to go as quickly as possible to her help without putting in danger the own life.

Contact with the relief centers or other vessels that are in the vicinity. Keep listening to the frequencies of relief (VHF channel 16 or the frequency 2,182 kHz medium wave) and follow the instructions of the Rescue Center or of the corresponding coastal station.

The transport of the sick and wounded

Identifies the problems associated with the transport of the sick and wounded.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

The general procedure for the air transport of patients. As for any medical transport, is part of an assessment of the case that must take into account both the medical aspects of the patient, as the aspects of the air operation, very different from those found in the terrestrial environment. Thus, to recitals doctors classics (pathology present, prognosis, treatment that is required), you must add other as are the meteorology, the hour (some devices do not operate night), the location of the airport or the heliport and the type of appliance available.

If the transfer is done in commercial aircraft, it will be necessary to make a processing and request authorization. We must also provide for the transfer to the airport and from this to the center receiver.

This entire process can take many hours and even days, as is the case of a sanitary transfer in commercial airline, in which it will be necessary to take into account the availability of places. Is therefore to assess carefully the situation of the patient and their foreseeable development to determine the most appropriate time for the transfer.

Nor should we forget the cost factor, as air transport is expensive and the means we use will necessarily be paid by a public entity, private (in general insurance) or by the patient himself or his family.


For all the above reasons, we see the urgent need to analyze and organize with rigor each decision of air transportation of a patient. Pressure changes produced when the aircraft rises, assumes the appearance of moderate hypoxia and dilation of the gases contained in the cavities of the Agency. Pneumatic Hypoxia

In healthy people (pilots, health personnel that accompanies the patients), the hypoxia does not pose major problems in the usual flights, since the agency is able to tolerate without significant alterations the moderate hipoxias thanks to the characteristics of the dissociation of hemoglobin; in these circumstances the use of single oxygen is required above the 3500 m of altitude. However, from 10,000 feet / 3000 m, the quantity of oxygen begins to be sufficiently low as to advise a supplementary contribution, in particular on long flights at those levels. These altitudes are not present in normal conditions in pressurized aircraft (whose pressure in cab is around 5000 - 6000 feet, without exceeding the 8000 feet). In the air transport of patients, pressurized aircraft must be used, thereby avoiding to a large extent the problems linked to the hypoxia. When helicopters are used, the low altitude at which they operate is not generally assumed an obstacle.

- dilation / contraction of gases

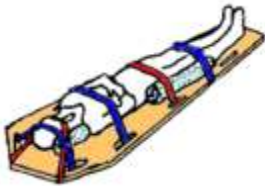
This factor should be taken into account in the transportation of patients with pneumothorax, pneumo - peritoneum, ileus, otitis, sinusitis, or who have been subjected to laparoscopic surgery or certain diagnostic tests such as a colonoscopy. It should also be considered when using sera in glass containers (increase in the rate of infusion to ascend, with risk of bends) and pneumatic equipment: balls of probes of intubation, vacuum mattresses (lose rigidity when raising the aircraft) and splints pneumatic (increase the pressure with the altitude which can produce ischemia of members). We will highlight once more that liquids do not dilate in the aircraft.

Uses Stretchers

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

Meanwhile one of the nurses pushed the table below the patient and this was supported on the table and tied to it. Then the table arose and put on the cradle of transport. The detention could be done through a vacuum mattress placed on the cradle.

It is a metal table, wood or better of polymer with a metallic structure (rigid, washable and invisible to the X-ray) is a little larger and longer than a human body, with handles. It is quite systematically used to remove victims of vehicles.



The immobilization of the column can be carried out:

With a rigid cervical collar;

- ✦ With a side bracket to the head, to prevent rotation of the neck. It can be a blanket wrapped (stretchers modern provide specific blocks); depending on the size of the patient, it may be necessary to wrap a blanket around the pelvis;
- ✦ Attaching the patient to the table (front, the jaw, shoulders, pelvis and knees (adaptable to specific injuries)).

Its advantages compared with the vacuum mattress are:

- ✦ It is lighter and rugged;

Prevents a transfer to another immobilization device.


Disadvantages:

- ✦ Is tough, so it can cause consequential damage;
- ✦ It is uncomfortable;
- ✦ Has no borders, so that the patient does not feel safe during the movements of the table;
- ✦ Due to bonds, is not useful for injuries of the pelvis or members.

When there is no suspicion of spinal trauma, the vacuum mattress can be used directly as camilla (because it has handles), which is important in narrow sites where the cradle does not could maintain horizontal; is more secure and comfortable that tying the victim to the cradle.

Describes the procedures for the evacuation by helicopter and by the pilot of boat / lifeboat.

In the case of a situation of helicopter rescue the following points should be taken into account and followed: All operations will be directed by the crew of the helicopter follow all the instructions that emit. Not to be distracted by the noise of the helicopter overhead, it may be necessary to have a member of the crew positioned inside the boat to maintain radio communications with the helicopter due to excessive noise in the outer covers. Prepare sufficiently in advance of the arrival of the helicopter; ensure

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

the crew are well informed about the correct procedures. Clear all obstacles in the cover before your arrival to ensure that there are no loose items of equipment or mobile in the cover. The pilot will give you specific instructions on course and the address that you want to direct, in general, ships remain a course to give the wind at 30 degrees to the amura of port and the preferred area to carry out operations hoisted is normally the wing of tack. This allows the visual contact Pilot both with the boat and its man winch. Because of the risk of static buildup from a helicopter, follow the instructions exactly pilots in regard to ground to a static discharge cable before placing the man of the winch on board, in general, the wire is dropped in the sea to download the static electricity , before to start the operation. - In no case must the winch line quick fact at any time to the boat. - to the arrival of man on board of the lathe, which will assume command of all subsequent operations - follow their instructions at all times.

Potential survivors should be aware that in most cases the first helicopter will mark the location of the survivor. The pilot will fly the helicopter directly on the survivor and then fly away from the position of the survivor. At this time two and fifty nine marine markers (flares) or electrical position lights of the sea shall be discharged before the beginning of the pattern of rescue. The Survivor must take care not to touch the markers, as it can be dangerous. A naval helicopter to serve as a rescue vehicle on the water will have a rescue swimmer as a crew member. When deployed the swimmer rescue, the survivor must remain in the raft and wait for further instructions of the swimmer.

The medical care of the sick and wounded

Describes the procedures to cooperate with the authorities of port health and ambulatory rooms in ports.

The pathologies of urgency are a cause of medical consultation that require an adequate and prompt attention by the personnel that works in the emergency services of the health institutions. It is of vital importance that this staff has the knowledge and the skills necessary to be able to diagnose and manage, in the best possible way, medical emergencies that may be present in their daily work. In turn, the medical knowledge evolves and is constantly updated thanks to the work of scientific research being carried out throughout the world, which allow each time they are addressed more effectively this type of diseases or conditions.

- Pre-hospital care: comprises the set of actions of rescue, medical care and rescue that you provide to a patient stat in the same place where it happened the fact, or during their transport to a health care center, or when it is sent from one center to another. This attention is performed by the personnel trained and equipped that essentially seeks to interrupt the damage to health, stabilize the conditions of the patient and safely transport it to a hospital.
- Emergency care: is the set of actions carried out by a team of health duly trained and with the material resources needed to meet the demand of attention generated by emergencies.
- Initial attention of urgency: are all actions provided to a person who presents some pathology of urgency, with the encouragement of stabilize in their vital signs, make a diagnosis of printing and define the destination or the immediate conduct to follow, taking as a basis the level of attention and the degree of complexity of the entity that performs the initial attention of urgency, in accordance with the ethical principles and the rules that determine the actions and behavior of health personnel.



SEAFARERS TRAINING CENTER INC

M-MC(I)-16

MEDICAL CARE COURSE

REV. 9 - 2019


- Assistants in the areas of health: it is considered as auxiliary staff in the areas of health care the following: Auxiliary in oral health, auxiliary in public health, auxiliary nurses, auxiliary in pharmaceutical services and administrative assistant in health. Your application must be adjusted to the denominations, occupational profiles and training.
- Protocol: is the set of rules and activities to be carried out within a service or program, compared to a specific situation within the institution; its implementation should be mandatory. Obviously, in the institutions is only require the guides and protocols of the procedures to perform.
- Basic Life Support - defined as the attention not invasive that is made to a patient and should include the primary valuation, the basic operation of the air, oxygen therapy, the external Automated defibrillation, the containment of bleeding, immobilization and the transfer of patients.
- Advanced Life Support - defined as the attention invasive and non-invasive that is made to a patient and that should include the primary and secondary valuation, the basic and advanced management of the airway, oxygen therapy, the external Automated defibrillation, the electrocardiographic recognition, the containment of hemorrhages, immobilization, transfer of patients, the refitting of volume and the administration of drugs.
- Ambulance service of transfer assistance: ambulance transfer basic care can be manned by an auxiliary nurse or medical emergencies, or a technologist or professional technician in pre-hospital care, with certification training in basic life support of minimum 20 hours. The driver must have training in first aid of 40 hours minimum. In regard to the ambulance transfer advanced care, must be manned by a general practitioner with training certificate in advanced vital support of 48 hours, minimum, and nursing assistant or medical emergencies, or technologist or technician in pre-hospital care, in any case, with certification training in basic life support minimum of 20 hours. The driver must have training in first aid minimum of 40 hours.

Identifies potential problems with language and cultural differences.

The cultural and linguistic diversity of human societies poses problems of communication that have been resolved in a different way. At the administrative level, actions and policy measures have oscillated between two extremes. On the one hand, the suppression of the problem with the cultural and linguistic homogeneity of the populations under their charge; on the other, the creation of mechanisms and translation tools that facilitate interaction and joint comprehensive communication, without imposing a homogenizing model and unfair.

If the doctor-patient communication is a challenge between doctors and patients who share cultural contexts and speak the same language, is much greater when the doctor and the patient come from different contexts and do not speak the same language, a situation that although it seems rare and occasional is not in multilingual and multicultural countries.

However, the most appropriate means, in the absence of the desired language competence of health personnel, is the availability of professional interpreters. This resource has been adopted by countries also recipients of emigration, but depends on the concurrence of two main factors: 1) legislation to regulate the selection, training, recruitment of this professional in both to understand and operate at the Professional level and conversational the whole event and linguistic that involves the patient care, and 2)

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

to have a balance of economic resources that allow permanently to maintain an appropriate template to a linguistic diversity, thus have reduced to one or two interpreters per language in each center doctor or hospital center is a very large cost if it implies, in addition, the non-availability of resources to expand the own health personnel.

This problem is evident, first in the interpersonal communication. Medical care is faced with the fact that the population to which it directs describes ethnic and linguistic characteristics differentiated. Both the diversity of the local population as an immigrant affect basic aspects of medical care, as the appointment with the patient, the registration of symptoms and the description of the disease by mouth, the knowledge of their personal and family situation, the communication of a diagnosis or compliance with a treatment.


The linguistic distance also affects unevenly to various groups. While the Latin Americans and Vietnamese suffer less problematic to have doctors who speak their native languages, the Iranians, Cambodian and Armenians do not enjoy such a possibility. It is also more rare than can count with authoritative interpreters. There is an effort on the part of the federal administration to develop a comprehensive template of professional interpreters, especially if we note that in 2008 18 per cent of the population of the United States more than 5 years speak another language that is not the English and that 8% not dominates it properly.

Describes the detailed history that must be maintained and demonstrate its use.

In addition to the clinical data that relate to the current situation of the patient, incorporates the data on your personal and family history, their habits and everything related to their health biopsychosocial. It also includes the evolutionary process, treatment and recovery. The clinical history is not limited to be a narrative or exposure of facts simply, but includes in a separate section the trials, documents, procedures, information and informed consent. The informed consent of the patient, which originates in the principle of autonomy, is a document where the patient stops registered and signed their recognition and acceptance on their health situation and/or illness and participates in the decision-making of the professional of the health.

Models

- † There are several models of clinical history:
- † The chronological order: the traditionally used in hospitals;
- † The guided by problems of health,1 managed especially in primary care and described by Dr. Lawrence L. Weed In 1968;2
- † The protocolized: with closed questions, is used for the monitoring of very specific diseases; used in specialized units.
- † Physical Media
- † Basically the clinical history in the currently has two types of media:
- † Paper: a series of forms that are sorted in a folder. May be individual or family.
- † Electronic: is the so-called electronic clinical history stored in computers through the use of computer programs.

	SEAFARERS TRAINING CENTER INC	M-MC(I)-16
	MEDICAL CARE COURSE	REV. 9 - 2019

Managing the file in paper format

This documentation duly already filed passes to the central archive and only in the hospital or health center for its custody. It is the responsibility of this sector the timely delivery of the same to the different professionals who request it. It is not strange to find hospitals that delivered/receive several hundreds and even some thousands of medical histories to day. It is easy to imagine the difficulties that this implies.

Known, at least, three different procedures of archive: correlative (for consecutive numbers starting from the one), per digit terminal (for example from the patient date of birth) and by value dynamic positional assisted by computer.

The first two correspond to designs made in the pre-computer, and are characterized by occupy large spaces and generate a lot of work for your refiling. Of all modes are the most widely spread at this time. Both imply the existence of unequivocal location (a place for each folder and each folder in place) in perfect order.

From more than a decade ago, some hospitals have embraced the system of dynamic Positional Value.