

Heart and blood circulation system Cardiovascular system

Introduction

Know the heart and circulation are also cardiovascular system cardiovascular system. The system is designed to meet the ongoing needs of your body of oxygen and other foodstuffs dissolved in the blood.

The heart is the driving force in the status of the system, which is a powerful pump, but simple. The accuracy of all the heart pumping blood rich with oxygen and nutrients to all parts of your body via the complex of the "tubes" known blood vessels that transport blood and the circulatory system together constitute the body.

100000 failing heart beat on the day with a tool called the governing node sinoatrial node Pocket Atrium Right there in the Atrium.

Electrical signals generated from this node are initially Atrium, causing Inaqqadhma and the payment of blood to the ventricles.

After a short period of the delay allows Bimtbla ventricles, with references in the ventricles, which Inaqqadan, pumping blood to the body and lungs.

Regulating pacemaker suffer sometimes dysfunctional and fails to make the heart more slowly or too quickly, and in such cases can be installed in order to govern the organization of artificial heart and the speed of systems.

Move forward in the direction of blood

To keep the blood flow in the right direction, there are a series of one-way valves.

Atrium valve is located between the mitral valve and left ventricle Auricle left.

The Triode honor tricuspid valve, where he will meet the right Auricle Balbtin right.

Prevents blood Hmatn Alsmaman Back to Atrium when Inaqqad Albtinan.

There are a couple other valves separate the ventricles from the arteries, flow, and prevent the return of blood Hmma To relax at the heart Atrium.

The aortic valve aortic valve between the left ventricle and Alobehr (the largest arteries of the body)

The pulmonary valve is located between the right ventricle and pulmonary artery.

When the doctor listens to the heart, he heard the familiar sound (Loeb - Dube - Dube Loeb) and that voice is the voice of Grinding valves may be closed, if the valves do not open or close properly, blood flow becomes turbulent, such as Flow of water in the slope, causing the emergence of more voices known Balnfajat murmurs

Heart

Introduction

Divided by the heart to Ayman and the other more, and divided each of the two sides to a room called the top Baloven

The room called the bottom Balbtin.

Atrium Khjrta working to fill a temporary Btinin which are

the two main rooms of pumping.

The left side pumps blood to different parts of the body, and therefore find it more to the right side and stronger.

While the right side pumps blood to the lungs via the shortest.

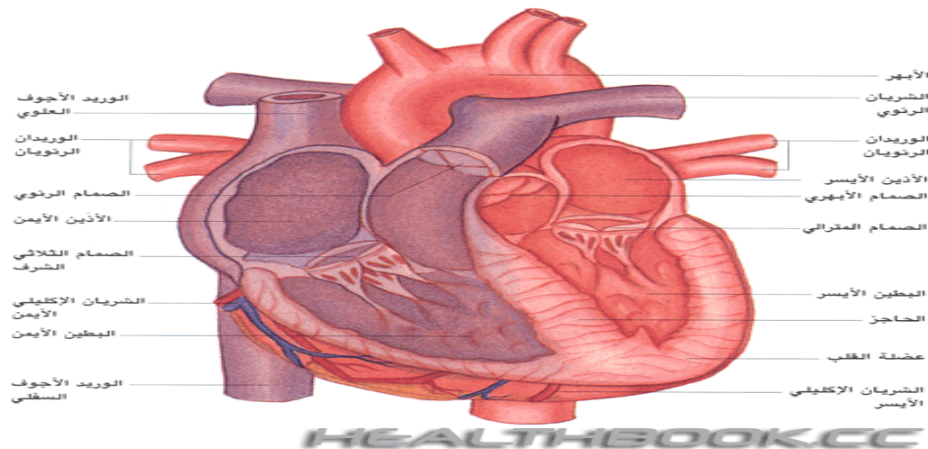
- The heart muscle tissue, such as any need to supply another Palden continuing to stay and live, and the coronary arteries The blood supply to the heart muscle.

And coronary artery disease occurs when the arteries that Taatv because of where fat is deposited, as in the case of Atherosclerosis of the arteries. These fats impede the entry into force of blood to the heart muscle.

See the picture below

Noting that the color blue as life = blood oxygen (oxygen depleted from the cells by the body)

Color = red blood Almwksj (oxygen-rich)



Heart and blood

Blood carries nutrients to each cell body, at the same time, get rid of the waste produced by the cells

To this end, there is no need to continue in the blood circulation and always run.

Each of the heart and blood vessels responsible for the payment of blood in all parts of Oualjism.

Pumping

Kamadkp heart works, and although it is not larger than a fist P, e has a strong and visible with the degree of And a member of the heart muscle consists of four rooms or rooms.

It enters the blood drained from the oxygen (blood Mwksj others) of the veins, which return the body to the Chamber of the Supreme

On the right side of the heart (called Baloven right)

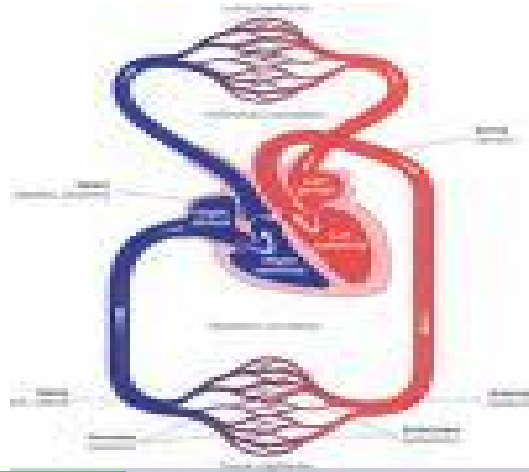
And was lower than in the room (called the right ventricle) are Zkha through the pulmonary artery to the lungs.

During Mroraldm through the lungs, it takes a new oxygen and get rid of waste (so-called carbon dioxide)

This blood is then Almwksj from the lungs through the pulmonary veins and enters the upper house of the left side of the heart

(Called the left ventricle) and pumped to all parts of the

body through the aorta Or the so-called Alutin or Alobehr
 aorta is the body's largest artery.
 Every minute is Albtinan together to pump the equivalent of 5
 Quartat (about 5 liters) of blood through the body.
 And moving the blood in about 60 thousand miles of blood
 vessels to all body tissues. And your heart pumping all the
 time, whether you are asleep or awake.
 See the image below



Rhythmic pulse of the heart

Activities begin with the formation of the heart or cardiac rhythm of a small group of cells working as an organizer (or a specific rhythm)Rate of the beats (or the speed or the activity of) the heart, and this group node called Pocket Alovenip

In brief, it is called a node c.

There is a node c in the Atrium, a right pack attached automatically, but also receive orders from the brain, the brain is constantly

Control of physical activity, the amount of oxygen in the blood, and blood pressure in the arteries.

If I feel the brain needs the body to increase or decrease the rate of heart rate or the so-called rapid heart rate, can be sent

Signal through the nerves that reach a node c.

And node c in order to make a heart beat, it sends an electric signal, first make Alovenin Inaqbadan, Vidkhan blood to the ventricles below.

Then up, then pointed to another group of specialized cells called Alovenip Albtinip node or a node b.

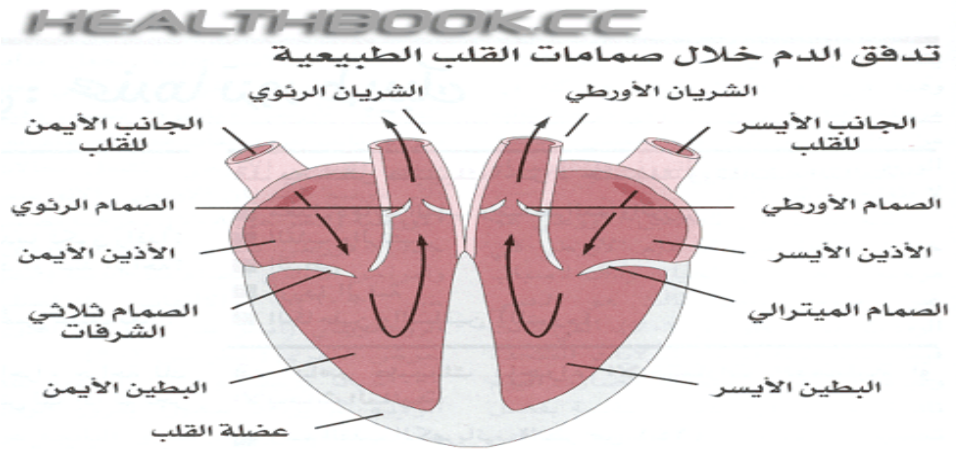
In this particular node out of the fiber bundles (called branches of the package) was to refer to both the nerve right ventricles. And easier to give them orders Balinaqbad pumping

lood out of the heart.



Heart valves

Contains four heart valves is an important direction of blood flow through the normal healthy heart. Between Left Atrium and the left ventricle there Almitrali or valve Kulnsoi Atrium and the right ventricle and the right valve there is a three balconies These two Alsmaman Kpoabat Alovenin and between the ventricles, which are opened to allow the blood to start pumping the money from Alovenin to the ventricles, and Ingleghan to prevent blood from rushing back toward Alovenin when Inaqbd Albttinan. And between the left ventricle and aorta Aorta valve there. The right ventricle and the pulmonary artery and pulmonary valve is located. These Alsmaman allow for the hosting of blood pumped out of the heart and prevent blood from rushing back toward the heart. If the valves hit the aforementioned damage, the heart can be disturbed and functions



This takes the form of Algshaoualve bag protects the heart and contains, if severe, it was possible to impede the movement of the pumping by the heart and cause chest pain Systolic pressure and Alinbsati Reduced when the heart muscle so-called Inaqbada (systolic pressure). When relax between Inaqbaddin called flatter (pressure Alinbsati) Distinctive form of heart The difference between the volume Asamamin gives distinctive shape of

Vascular family

There are five types of blood vessels:

1 - arteries

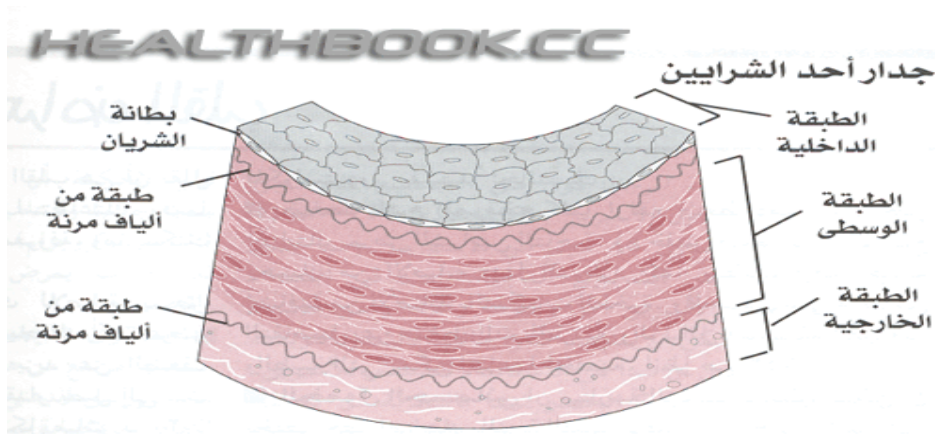
Arterial blood vessels are arteries carry blood from the heart to the lungs and to all parts of the body.

The walls of the arteries is composed of three layers:

A - inner liner

B - middle class muscle membrane.

T - external layer of connective tissue



When passing through the arteries, liver and kidneys to get rid of the waste then some of the waste
When passing through the intestine, it picks up nutrients.
And while the effect of blood through the body, it picks up or give in many different materials (such as hormones and nutrients)

Coronary arteries (coronal)

Coronary arteries named because they bypass the heart, such as crown or wreath around the head

Branch off from the aorta left and right of the aorta.

Send blood from the aorta (the body's largest artery) to the left main coronary artery,

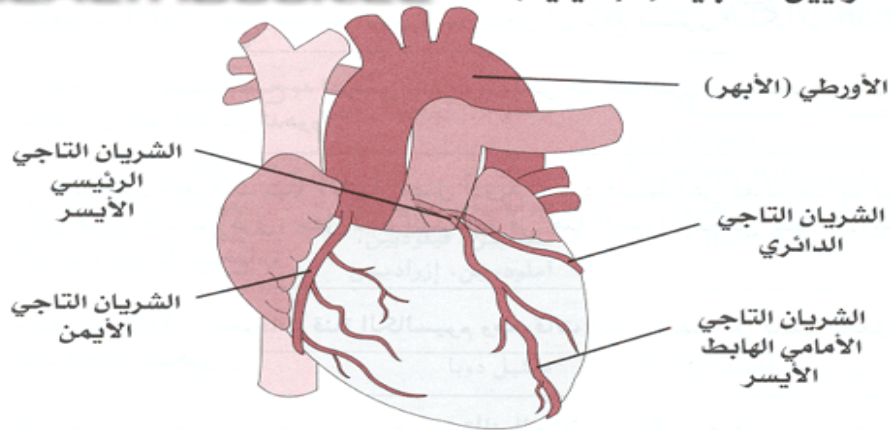
The branch of this vessel (ie, the left coronary artery) to the front two sections of the heart downward

And the artery ring.

These sections carrying blood to the parts of the front and rear and side of the heart.

The right coronary artery is the vessel of another branch of aorta and feeds the right side and the lower part of the heart.

See the picture below



Aharinat (Acharinat)

The artery, which passes through the blood Almwksj branched and branched more narrow and smaller tubes called Acharinat

3 - capillaries

These smaller tubes called Baharinat subdivided in turn, increases until it reaches the narrow vessels of smaller Balsairat called, when they finally microscopic blood vessels that feed a minute of each tissue in the body approximately.

4 - worda

After passing through the blood capillaries, it enters the worda, a smaller and Aloodrp Odigaha.

5 - veins

Then the blood flows through the veins to widen and increase the size until it reaches the body's largest and Reid, a hollow vein Atrium, which go right to the heart.

And blood in his return trip from the body tissues through the veins going to the heart is moving many of the fast speed at the pump Through the arteries to the tissues of the body, as they are paid - a lesser degree - by force of systole, but more strongly retractile Muscle (which put pressure on the walls of the veins in which the payment of blood)

There are valves have a one-way income Alouladp to prevent blood from rushing to back away from the core, the impact of gravity.

Scattered information on the family of blood vessels

- Aharinat arteries and the movement away from the heart blood vessels to the capillaries that feed the tissue
- While the worda and veins blood to the heart.
- Pressure of blood in the arteries, high, and the muscle walls are vibrant and flexible with all the pressure wave from the Each heart beat
- The arrival of the blood to decrease blood pressure Aloodrp to a large degree.
- Veins have valves closed quickly to prevent blood back to back and keep the flows in the right direction when returning

to the heart.

- If there is deformity in the valves and the legs become blocked, it would appear Koothar purple veins, called varicose veins.

- Ensure that the blood vessels supplying blood to the heart of oxygen to the lungs removed and returned after the capture of oxygen And then pumping blood to the body Almwksj

Blood

Is a dark sticky mass of blood vessels and fills the rush to all parts of the body through the contraction of heart muscle And blood.

Breathing:

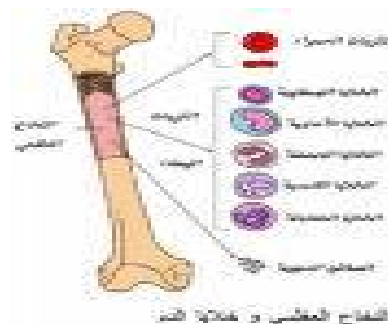
Blood carries oxygen from the lungs to the tissues, as well as carbon dioxide generated by the activity in the tissues to the lungs exhale air

Nutrition:

Blood carries food absorbed by the intestine of primary cells to different use in the production of energy necessary for the activity of the body

Eviction:

The blood to carry the remaining waste harmful result of the process of metabolism in the body, through the organs and skin Kalkly O Vikhals including the body through urine and sweat and blood



Immunology:

Blood contains white blood cells and produce antibodies Which play an essential role in protecting the body and prevention of diseases

Water balance of the body:

Water moves easily between the body fluids of different means of cell means between blood cells and helps in the maintenance of the balance of water to carry the body of water in excess of the output devices so that there is balance between what we get from the water through the food and drink and what is lost through urine and sweat

Regulation of body temperature:

The blood absorbs heat from the internal organs, muscles and

during transmission to the Foreign Affairs and the Member under the skin of the body that can get rid of the heat In excess of the radiation through the pregnancy and evaporation

Metabolic regulation of the process:

Blood carries hormones and some of the material important for the organization of the process of metabolism in the body.

Keeping osmosis of blood and other tissues:

And thanks to plasma proteins, the pressure necessary for the maintenance of blood volume and composition of tissue and urine means

Installation of the blood

* Means red is the blood volume of about 5-6 liters per person of which consists of liquid called plasma, swimming three types of cells are:

* Red blood cells

* White blood cells

* Blood platelets

If the prevention of blood clotting and to leave aside, we find that the cells fall to the bottom of the high density plasma, leaving the liquid in the upper part of the transparent yellow italics has been found that the volume of cell = 45% of the blood, the plasma volume is 55%, and this is called the value of Alheimatokret

Red blood cells

Balls are in the form of tablets Alstahin have concave wall of a slave and have no nucleus, and contained inside the article, the hemoglobin is a compound of iron, protein and hemoglobin, which is given a blood red color of the characteristics of this compound is that the plain, therefore, called the oxygen red blood cells carrying oxygen and the number of balls red blood in the man about five million cells per cubic mm in the number of women is about four and a half million cubic mm.



When it absorbs oxygen and becomes red in color and pours it to be the rule Alooixihimocalobin This happens when the blood pressure was high, as is the oxygen in the lungs, when Alooixihimocalobin to the low pressure of oxygen in the tissues such as losing a part of it becomes blood Okseginh to the blue color of your ads, and united with the hemoglobin carbon dioxide in the tissues and abandon them in the lungs and therefore we find the blood in the arteries, while the red color of your ads found in the blue veins.

Place of the formation of red blood cells

Begin the formation of red blood cells from the fourth week of

pregnancy until the sixth month in the spleen and liver in the last three months of pregnancy is composed of these balls in the bone marrow and a few in the spleen and liver.

In children and adults, consisting of red blood cells in red bone marrow in the bone flatfish Kaazam face, shoulder and skull, ribs and spine and the ends of long bones in the body Kazmp thigh and upper arm.

Omar and the fate of red blood cells:

Performed this function for the ball and a limited period of time of about 120 days, and then pick up the balls, which have become old spleen and broken Vijrj to analyze which of hemoglobin and hemoglobin are also analyzed the composition of bile pigments, which get rid of them with blood expel yellow liquor. The blood cells that break in the case be replaced by new cells in the bone marrow.

Factors, the composition of red blood cells

Factors that must be available so that the formation of red blood cells:

A - must be the sound of bone marrow, and, if illness or injury to any damage as in the case of exposure to radiation x Owalicaaat Agency or some of the toxins that lead to a decrease in the number of red blood cells.

B - must contain an element of food iron that is in the synthesis of hemoglobin is iron in the spinach, beans, apples, meat, egg yolk, and if there is no iron in the food or the body has not been able to take advantage of the iron in food becomes blurred and the color of blood that's what happens in one of the types of anemia and easily treated by giving the patient drugs that contain compounds of iron.

C - must contain food vitamin b 12, which called the anti-pernicious anemia has been found that this vitamin combine with another factor which is the procedure and it bears the stomach and then absorbed from the intestine and stored in the liver to be used by bone marrow and this vitamin is very important to complete the

The growth of red blood cells

Functions of red blood cells

A - through the hemoglobin of red blood cells carry oxygen from the lungs to the tissues and carry carbon dioxide from the tissues to the lungs for disposal.

B - the maintenance of the rule within the hemoglobin of red blood cells so as not to degrade into biliary or dyes to produce in the urine.

C - the red blood cells play an important role in regulating the interaction of the blood.

White blood cells

Different cells and white that there is no hemoglobin, but it is characterized by the presence of the nucleus, and in fact, the original color of this cell is transparent, but the result of reflection of light under the microscope, they are showing white.

Number of cells:

Numbering from 4,000 to 10,000 per cubic milliliter of blood



Types of white blood cells

Can distinguish five types of white cells under the microscope, and this distinction depends on the type of kernel and components and on the type of character gained by the cell.

A - loved cells include: (Granulo cytes)

* Cells Niotrovil Neutrophil:

And represent about 60% of the total - is a red dye

* Iizinovil cells:

And represents about 1 to 3% of the total - is a blue dye.

* Cells Bazovil Basophil:

Represent the 0 to 1% of the total number

B - cells unpopular:

Lymphocyte Imfawip cells represent about 20-45%.

* Monocyte Monosait and represent about 1 -8%.

Place of the formation of white blood cells

A - cells favorite: consists in the red bone marrow. (Red bone marrow)

B - non-favorite cells: tissue consisting Kaltahal nodes, liver and lymph nodes.

The duration of their life? :

It is very short compared to the blood cells Fmrha about a few hours in the case of lymphoid cells, and day to day in the rest of the white cells and white cells usually leave the body Periodic functions of the tissue.

Change in the number of white blood cells:

A - more than in children, pregnant women, all acute diseases such as severe acute respiratory syndrome.

B - less than in cases of chronic diseases Kaltevod, famine and malnutrition

If the red marrow was ill (damage).

Functions of white blood cells

The white blood cells, many of the important functions such as:

A - its primary function is to defend against the invasion of microbes

Valenetrovil for example, by movement of amebiasis leave the circulatory system in place to meet, where the microbes Tlthmh and analyzed during the war and the white cells with the microbes die and some cells that have Alsididip.

B - cells produce histamine Alozinovil article which affect the

Causing blood vessels to widen and increase the sensitivity of the body

C - create Albizovil of heparin to prevent blood clots

D - Allifawip cells produce antibodies that are either equivalent to toxins or microbes are microbes deposition
 E - Monosait function: it is like Alenetrovil eating bacteria, but the large size is also estimated at different Kalomibia eating Protozoa and other, as well as help to heal the tissue
Blood platelets

Very small objects, which are oval and have no nucleus, and a total of about 250,000 to 500,000 cubic mm of blood, consisting of the red bone marrow and their life span of approximately five days later spleen taken for fragmentation and analysis.

Functions of blood platelets:

The function of these platelets to cause blood clots at the time of the injury so doing, help to stop bleeding and heal wounds.



What is blood plasma

Is a means of alkali transparent interaction tends to yellow with a plasma volume of 55% of the volume of plasma Aldmuthtoy on the following elements:

A - Water will be about 90% of the volume of plasma

B - plasma proteins and is about 7% or 7 grams per 100 cm Tkaaib, the most important plasma albumin and Globulin and Alvebrinogen.

C - food absorbed from the intestine, the most important Algelkoz, amino acids, fatty.

D - Inorganic salts: The most important salts of sodium and potassium, magnesium and calcium ... Etc.

E - endocrine secretions.

Functions of plasma proteins

A - albumin: the first as the chief of the osmosis of blood, it maintains the volume of blood and did not leak out of the tissue Soailh This preserves for us the necessary level of blood pressure until it reaches the blood to all parts of the body.

B - Globulins: it consists antibodies protect the body from microbes and toxins and working to the body immunity against it.

C - Alvebrinogen: help the formation of blood clot at the injury and that he was responsible for the degree of viscosity of blood necessary for the formation of the peripheral resistance to maintain the level of blood pressure.

D - as can the various tissues in the body from the use of plasma proteins in their representation in the case of lack of food protein in food.

E - and these proteins help to maintain the degree of acidity of the blood.

And - with these proteins and biological materials such as iron, iodine, calcium, and therefore preserve this material and to prevent leakage out of blood so as not to lose out of the body.

Blood groups

We may need to transfer the amount of blood from healthy people free of the disease to another person in cases of severe bleeding after injury, and in severe cases, surgical trauma, and in some cases of chronic anemia; in an attempt to save the life of the person injured or sick and are required to approve the transfer of blood type the transfused blood, and it is therefore necessary to examine the blood of the parties before the transfer of blood to check the compatibility of the platoon, and the reason for this is that the blood of some people, if mixed with the blood of another person collects red blood cells then decompose and leave the ball outside the hemoglobin and blood transfusion, one of those persons to another may show a series of symptoms may lead to the death of the person transferred to the blood, has necessitated consideration of the contents of red blood cells and plasma contents of individual items found in red blood cells in plasma and materials if these materials mixed together and then analyze the collected happening of red blood cells, It was named the material in the red blood cells active substances (or the female genes) identified Baharovin AG.

Interactions of the different blood groups

* As named in the articles of the plasma (or antibodies) and symbolized by the letters AB.

* If the article met the effective A in blood cells with anti article A occurs in the plasma collected and then analyzed erythrocyte A.

* If I met the active substance in the B red blood cells with anti article B in the plasma collected and then analyzed the case of red blood cells. B

* If the article met with article effective anti A or B B of the active substance with anti article A does not occur in a decomposition of red blood cells.

The division of blood groups

The possible division of persons in terms of the red blood cells to four basic groups:

A - A platoon of red blood cells containing the active substance A. B plasma containing anti article B

B - type B red blood cells that contain the active substance B.

A plasma containing anti article A

C - type AB red blood cells that contain the active substance AB, the plasma does not contain any materials countermeasures.

D - type O does not contain any red blood cells active substances, while the blood plasma containing anti article AB. As the platoon O does not contain red blood cells on any materials effectively; ValdM of the platoon did not accumulate the red and tested his opponent degrade if transferred to another person, and thus serve as O blood group O to transfer to any person, and the patient who does not accept any type of blood only typing the same, while the AB blood platoon

contains active substances tested his opponent with the red A + B does not contain any plasma antioxidants, and therefore this family to accept blood from any other person, but this blood must be transferred to another platoon but the platoon of the same.

Note: The platoon is O, while giving the platoon AB is the future years.

The method for determining blood groups

To determine a person's blood come clean glass slide, and put points on one side of the plasma type B at the other points of the plasma type A, then we put on each of these points, the blood of a person typing and the volatility of a blood plasma, even with the points mixed with one, wait a moment and read the result as follows:

A - If there is a (clot) blood cells with the second point A, were not gathered with the point B be the first platoon A.

B - If there is a red blood cell with the first point B was not happening with the second point A platoon B.

C - If there is a red blood cells with a platoon points AB.

D - if there is no blood cells collected with the points O platoon must check through the magnifying glass or microscope to confirm whether or not an assembly.

Although it is possible to determine blood type by the previous method, however, must be before any blood transfusions or infected patients to conduct a direct examination of the blood of the patient required blood transfusion and blood to be given to this patient and that the blending of points from the patient's plasma with the blood of the points in the small bottle to accompany a bottle of blood transfusion, and then examined under a microscope to confirm whether or not an assembly of blood groups in addition to the above, a process known manner (double mixing).

Factor Reces

Found that in about 85% of the white members of the human race there is this factor in red blood cells while there was no group in the remaining 15%, called the blood contains a Reces "undue Alreces blood", and the blood that lacks this factor, "the negative blood Reces ", and I'daaml Alreces substance contiguity and transmitted according to the laws of genetics, a dominant genetic factor. (ie, if a man married a woman with a positive Working Group had a negative fetal undue Kabyè Group).

It was found that if the transfer of human blood contains a Reces positive blood to a person free of the negative blood group is composed in the blood of the latter antibodies to this factor; that any such transfers are not only in the formation of antibodies in the plasma only the future and do not have any damage But if the same person for a blood transfusion from another person unduly Alreces serious complications occur because of antibodies to this factor and the cause of the contiguity of red blood cells, analysis and output of the components of blood plasma and the attendant damage that could lead to death.

Bleeding bleeding is the loss of blood from the circulatory system, the most dangerous thing that can be subjected to rights and the bleeding of two types:

- 1- External bleeding due to external injury.
- 2- Internal bleeding in the tissues of the body and Tjaoifa.



Bleeding person has a large amount of blood in a few moments (and the so-called acute bleeding)

Or a small amount of blood in a long time (called chronic bleeding) - The first type is the most dangerous.

The impact of bleeding:

The impact of bleeding depends on two factors:

First: the amount of blood that the body loses: if less than 30% of the volume of blood in the body then the body can compensate for this shortfall, but if more than 30% can not compensate for this shortage, leading to death - unless it has been a rapid blood transfusion to this person - and death occurs due to a decline in the circulation of the blood in respiration. factors which affect the Alenzevthania: the speed with which the blood which has been: if there is bleeding, the bleeding quickly a large amount of blood to be hazardous, if the bleeding rate was slow, it could be compensated by various organs in the body.

Symptoms resulting from the bleeding:

Bleeding leads to a lack of blood volume and this leads to a lack of volume of blood from the heart and paid per minute, which lead to:

- Lack of blood pressure.
- A rapid and weak pulse.
- More than breathing in the speed and depth.
- The skin is pale and cold due to the speed of blood flow.
- At least the volume of urine.
- Fainting may occur in cases of severe bleeding

Interactions that help to offset the rapid Alnzivaltvaalat:

- Aims to close the wound and the blood pressure.
- Blood clot: The blood clot in a few minutes and aims to close the wound that was bleeding to prevent loss of blood.

* Reactions in the circulatory system:

When the blood pressure drop was a result of the blood lead to more rapid heart rate, and this leads to an increase in blood pressure which helps to Anbsaty filled coronary arteries, as well as the lack of blood to increase the constriction of blood vessels, thereby reducing the volume of the circulatory system to help reduce the lack of pressure blood, showing constriction of blood vessels and vessels in the skin clear and the region of visceral (bowel) .* session respiratory reactions:

Increase the respiratory rate, depth, and this helps to increase the amount of blood Baloksegin carrying water due to the heart increases the heart and paid more than blood

pressure.

Changes in the level of hormones in the blood:

* More than the hormone adrenaline and Alnorodrnalin of ultrasonic renal gland, bone marrow (or adrenal), and these hormones lead to increased constriction of blood vessels and lead to widening the coronary arteries feeding the heart muscle; help to increase the blood flow, as well as lead and Alodrnalin Alnorodrnalin to build up, which helps Alvebrinogen in the blood clot and lead to contraction of the spleen paid stock of blood to the circulatory system, and by the impact of these hormones on Alheioethelams (center parts of the brain) Alchortizonat alert secretion of the gland above the kidney cortex, and these help to increase the sugar in the blood and increase the volume of blood.

* More than the hormone Aloldosteron of the gland above the kidney cortex and this leads to an increase in the volume of blood.

* Also increases secretion of cortisone from the crust above the total gland, which helps to take out more than the bleeding .- hormone inhibitors Urostomy of the pituitary gland, and this helps to prevent the generation of increasing the volume of urine, blood.

- As a result of lack of oxygen in blood increases Alortherobiotin out of the kidneys and this helps to increase the formation of red blood cells from the bone marrow.

* Spleen contraction:



Over the spleen contraction due to the lack of oxygen in the blood pressure and increase the secretion of the hormone Alodrnalin paid spleen about 200 cm from the rich blood erythrocyte This helps to increase the volume of blood. Slow reactions:

* Aimed at restoration of blood volume and blood components.

* Re-composition of water: this is within 24 hours of bleeding is the nomination of the liquid between the cells and absorbs this blood through the blood capillaries.

* Re-composition of the plasma: this is either:

Quick way: in a few hours by adding a protein from the liver

tissue is the slow way: a few days by the manufacture of

plasma proteins from the reserves of existing proteins or

tissue proteins, which dealt with the person in the food * the

composition of red blood cells: also this is either:

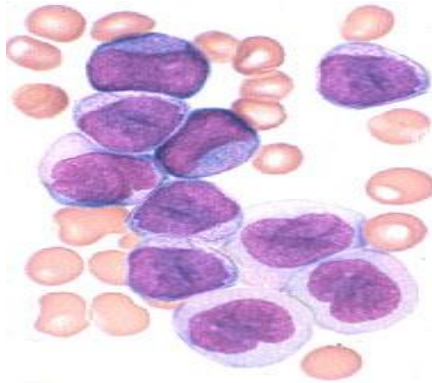
* Quick way: by spleen contraction.

* The slow way: by alerting Alortherobiotin by the bone

marrow, which produces a result of the kidney to the lack of

oxygen in the blood pressure.

Functions and the importance of white cells



Is a white blood sleepers relatively inactive, because the blood has only a means of transmission, but often leave those vessels by amebiasis and feature Slinking through the wall to reach the vascular connective tissue surrounding blood vessels, there can have a number of actions (functions) of the them.

Neutrophils and neutrophil functions

The functional characteristics of these cells are:

1. Slinking: the migration of Alenetrovil found in the blood through the walls of blood vessels to the tissue.
2. Movement amebiasis: the Aladlp which are exchanged between the blood and other connective tissue, and, where necessary, and ready, as in the inflammatory Aladelh b large numbers migrate to the site and know the name of the process of shedding, as well as moving Diapedesis Aladlp within the tissue of this movement for basic work which Albelamp .
3. Feature attraction Chemotaxis: It is a move towards Aladlp chemicals that produce from the bacteria.
4. Engorgement or Albelamp Phagocytosis: Aladlp devour the alien elements in the body and its interference to the movement of her body and Sitoblazemha the most important of these bodies are bacteria, when bacteria invade the tissue Aladelh the increase in the blood and tissue and eat the bacteria and enzymes to break through that explode, causing Isusumadtha death Aladelh At the same time, the death of bacteria, and accumulation of dead cells that have formed periungual (pus).

5. Secretion

Aladelh excrete yeast and some of which relate to the process, such as yeast Albelamp Glikoji of the situation necessary for the digestion of the ingested material and tissue to digest the ingested material and tissue Almtamotp, and also produce some other materials such as Transcobolamin and Globulin, which demonstrate and take vitamin B 12 in plasma and its relationship to certain blood diseases, for example, increase in red blood of Transcobolamin, and this means that they have

nothing to Aladelh the number of cells in the blood increase when more of these materials and decreased when the amount of the decrease of these materials.

Jobs acid Eosinophil cells

1. Directly related to the sensitivity for the absorbed histamine is believed to be caused by allergies, as well as cases of prohibited toxic substances and the impact of alien proteins within the body.

2. A role in blood clot: believed to be called to sort out material, or Plasminogen Profibrin olysine Fibrinolysin to become, which is the enzyme works in the digestion of blood Alleven Almtakther.

3. A role in the process of simple Albelamh.

Functions of the basal cells and Basophils

1. Formation and liberation of heparin within the blood that prevents clotting of blood and fat as well as free of blood.

2. Directly related to the sensitivity it produces or absorbs histamine.

- Has nothing to do with Balblamp.

Lymphocyte functions

1. The formation of anti-AIDS Antibodies can turn into Plasma cell, which is the main part of the production of these antibiotics.

2. Can enter the blood to the tissue to be transformed into the cells Belamih large and have the ability to Albelamh are the same, but do not have the capacity to do so.

3. The formation of stimulating hormone, thyroid gland, which is working or exciting stimulus to the thyroid gland.

4. DNA in the nucleus of dead cell lymph possible use in another cell.

5. These cells contain the case of yeast lipids.

The single-core functions and Monocyte

1. Albelamh: always leave the blood to the tissue through the movement into a cell, amoeba Belamip macrophages eat up a large foreign bodies.

2. Help rebuild the shattered after tissue inflammation.

- Valuable tips for maintaining heart health

Appropriate to add a proverb to heart that a healthy mind in a healthy body and mind to become a good heart in a healthy body. Can maintain the heart and sound, if able to maintain adequate food which is not in the short and long term is any risk to the arteries that feed the heart the basic components. You should keep the heart healthy and at full capacity and capabilities to be able to work around the clock tirelessly to pump blood to all other areas of the body including the brain and the body of the heart itself.

Statistics show that was held in Britain that every two minutes from time, there is a heart attack in the country, which is more than the amount of exposure on the proportion of

French or Italian or Spanish to this situation. The other heart disease is the biggest cause of death in this country who enjoy good quality of health care and guidance. The number of wounded who die because of angina of 140.000 people every year, one out of every four deaths among men and a woman from among the five women.

Is there a way to reduce the dangers of heart disease? Are there ways can be used to stop and return the wheel of time with regard to heart disease, which hit any of us? The answer to these questions is yes and in a manner that may be accessible to virtually everyone. The basic guidelines in this area in a slight change in the style of food to be followed and is a very simple style of life. Changing the quality of the oil for cooking and Tstkhaddmin focus on the use of a lot of olive oil and garlic, and so is not only important to keep the specter of heart disease, as in the case of the peoples of the Mediterranean Sea. There are how to deal with food for example, where it is important as nutrition experts say that one of us to deliberately eating a food "rest" any of them.

Heart disease

Cause heart disease after the gathering of the masses of fat on the walls of blood vessels to narrow from the inside so the blood stream. Composed of such blocks in the interaction of fatty acid from Amini named Humusistin with the accumulation of cholesterol on the arteries that feed the heart. The increase in the amount of material Alhumusistin may cause material damage to the walls of sealed containers, which will accelerate in the composition of fat and collected as research has shown that the increase in the amount of material Alhumusistin women add to the incidence of heart disease.

Heart attack

Heart attack occurring when a clogged artery that feeds the heart.

Either angina or chest pain is the diphtheria caused due to the shortage of the blood stream in the arteries after a fatty material. It usually happens after the exercise of the noose type of sport or heavy exposure to psychological stress, which requires the infusion of more oxygen to the heart to stay active as required.

The inability of the heart

It is a situation in which the heart is unable to continue to work properly as the body of oxygen needed to fully recover the remaining members and the performance of its duties as the best.

The type of food and its effects

Dr. Derek Ktng in his book "to stop the heart attack," said one of the most important factors that could be used to protect against heart Ail is that the individual addresses of at least five grains of fruits and vegetables a day. Valfoake and vegetables rich in chemicals such as the chemical element potassium is important for the organization of the heart rate and blood pressure control. The fruits and vegetables are rich in elements of anti-oxidants that prevent the formation of cholesterol from the blocks on the walls of blood vessels and

arteries of the heart as it helps to get rid of harmful chemical elements.

Professor Stephen Palmer, director of the Center for control of the psychological pressure of the City University in London that he could add anything from coffee, tea and some chocolate, and also add "all of these rich materials with Alkatchinn of Ohi Filawoonoeidat a material anti-oxidants help to reduce the proportion of cholesterol in the blood.

Fish

Is the intake of fatty fish such as sardines and Alanchovez three times a week, one of the factors that greatly help in maintaining the heart. Fatty fish contain omega-3 lipid and send help to the proportion of lipid in blood and called the Turaigliseraid and thus reduce the risk of fatty groupings. The vegetarians can address Alrabesid fat or oil, walnuts, soy, which can benefit the body of the composition of Omega 3.

Carbohydrates

Of factors other assistance intake of carbohydrates such as pasta, bread, rice and Asmar potatoes and reduce the fat and address the qualities that Atwther to increase the proportion of cholesterol in the body.

Cholesterol

Cholesterol enters the blood stream and are transported by proteins called type - for Ibobrotin -. Allibobrotin type of non-Hamid, a type called low-density Allibobrotin turn alleged chemical reaction is oxidation and entry into the cells lining the walls of the intravenous blood to form small blocks that causes narrowing of the Hungarian and then close for good. The Allibobrotin high-density cholesterol-Hamid is a type Ienql cholesterol from the blood stream and assist in the protection from exposure to heart disease and hardening of the arteries.

Fat

Saturated fats such as butter, cheese and Alakectp and animal fat free oil, coconut oil and poorly raise the amount of cholesterol, which requires non-Hamid reduce them completely. Can use small amounts of unsaturated fats such as corn oil and sunflower oil, soybean oil and fish oil, where such Alzion to reduce both types of cholesterol, therefore it is better to use olive oil or nuts, or avocado oil, which is to reduce the amount of low-density Allibobrotin without affecting Allibobrotin to high density.

Lifestyle and their impact on heart disease

As already mentioned, it is not only the quality of the food but the way in which Taatnaoulih got a lot of the food also have a major impact on heart disease.

Professor Palmer says that research conducted indicated very clearly that the people of the kind - a - people who are always aggressive competitors who are moving a lot and talk fast, eat the chance of heart disease 40% lethal than others. People kind of - a - to surrender more than many other hormones of stress hormones, which help our ancestors to defend themselves in their struggle with the beasts Alcasrp was originally designed to cope with the demands of civilization of psychological stress of another kind.

Professor Palmer says, "You have to owe it, and simply learn that the late arrival is not always to the end of the world."

If the request is that of the respiratory Aasabk Vatalekayaa trumpet in a discreet thing.

It is important to develop the ability to express what Ectlj in your chest, it is very useful for the heart. Dr. Dean Aorneshoho is one of the pioneers in the use of the pattern of food and exercise and life style of the case to return the heart to normal use of emotion in a healthy way through to say Iatlj of feelings in your chest. Recent research has shown the importance of this method in treating many diseases, not just heart disease. If you'd like to avoid any kind of Saddam, you can resort to something, or groups, as a pillow for example, walking or jogging, one of the events that are often used to vent on the state of crisis within the human psyche. Dr. Dean also advises in his book "Love and Survival" Tmayi that the participation of others in the chest with Iatlj participation of others to feel the benefit of the heart and makes it more validity. The self-care and pay attention to the needs of your body and mind of the rest are the greatest influence on keeping the heart healthy and well. However, some customs offices Tjunbi.

some habits are harmful to heart health, smoking is the most important, according to statistics of the Ministry of Health in the British case of 45.000 and a heart disease deaths were due to smoking. It is important to note that damage caused by addiction to smoking could be recovered from the body over time after stopping smoking. Ten years after the injury will be reduced chance of a heart disease for those who smoked and had become completely equal to those who did not smoke at all.

Exercise

Walking, swimming, sporting events of the task that will help to reduce the chance of injury, a heart disease. Can effectively exercise five times a week for at least half an hour each time. In the end, do not forget the psychological Valastrecha sporting events and paying attention to extraneous self is important in maintaining heart health and survival of the event.



Pictures illustrate some exercise