



SAFALTA CLASSTM

An Initiative by **अमरउजाला**

FUNGUS/कवक :

- is a multicellular saprophyte/बहुकोशकीय मृतजीवी.
- E.g. mushroom, yeast , bread moulds.
- cellwall of fungi is made of 'chitin.'
- Study of fungus is called 'Mycology.'

RINGWORM (fungal disease)

FUNGUS/कवक : Tricophyton rubrum

AFFECTED PART: Skin

Caused by blade fillers used by barbers.

/नाइ के द्वारा उपयोग किये जाने वाले ब्लेड के कारण

DANDRUFF and BALDNESS/गंजापन are also caused by fungal infections.



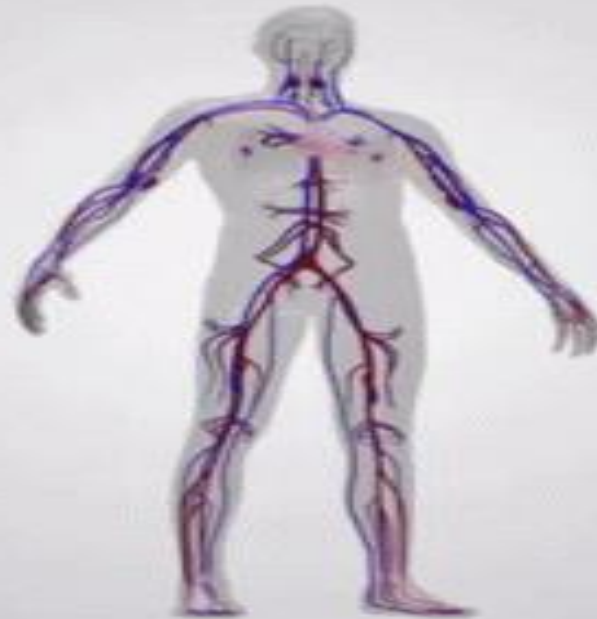
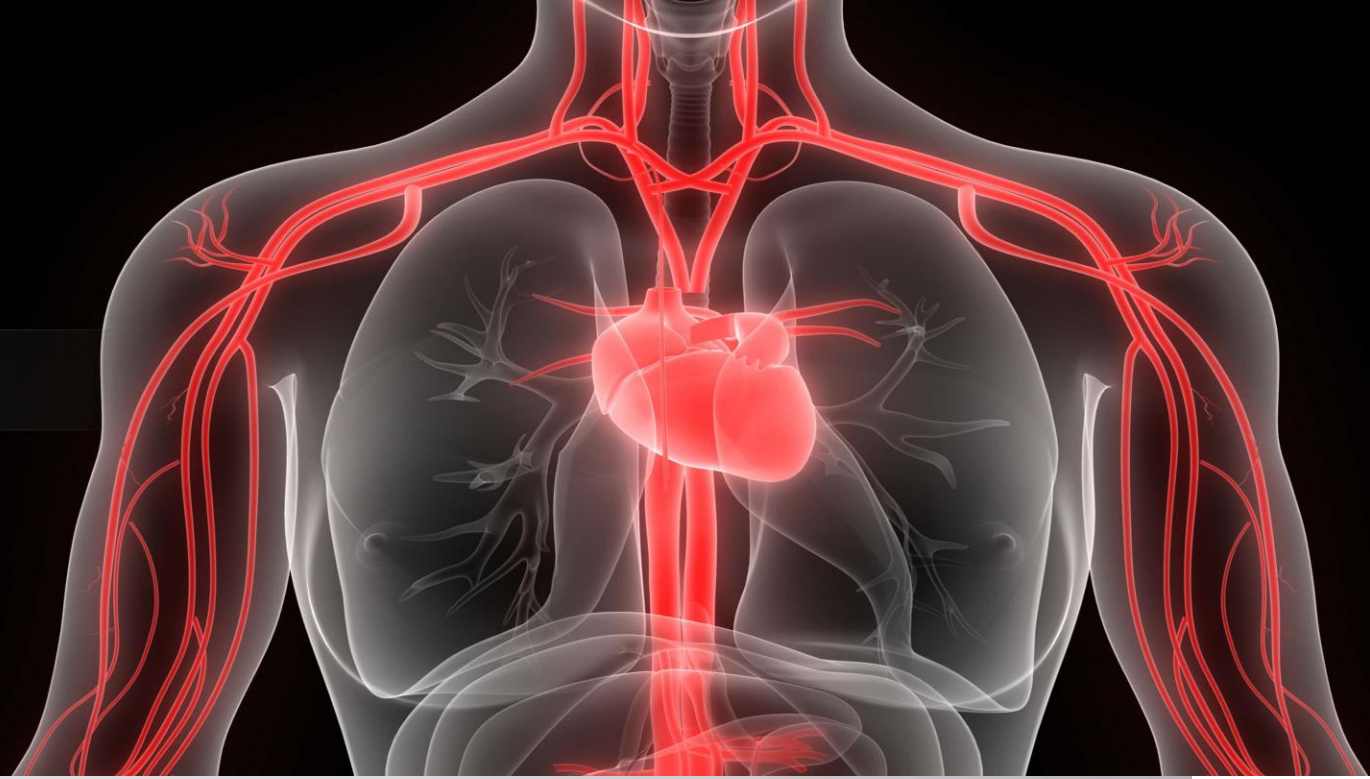
SCABIES/खाज:

Caused by : ITCH MITE

Scabial lotion/खाज लोशन is used to prevent it from further continuation.

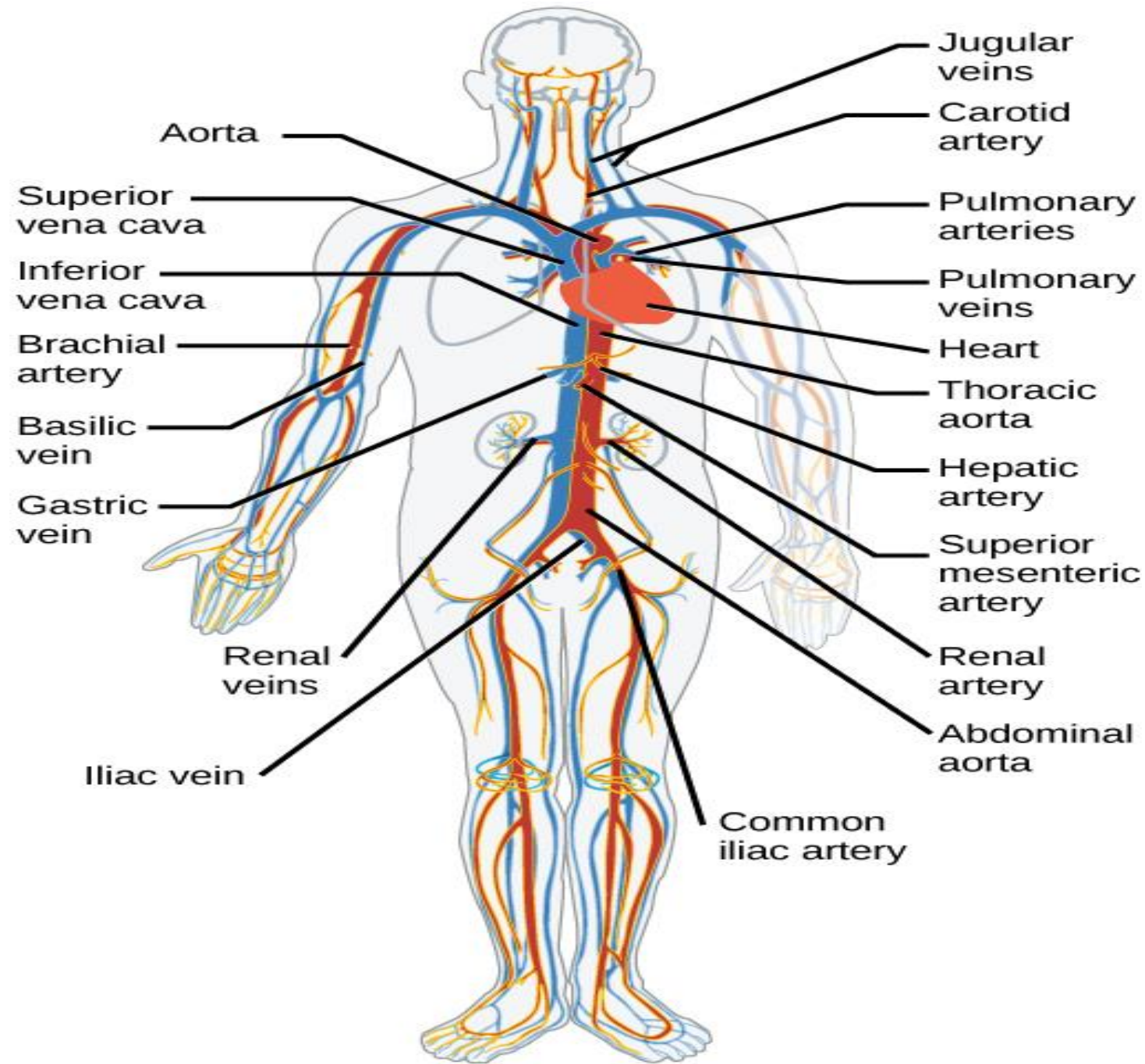
Dermatitis also known as eczema/एकजीमा is an inflammation of skin/ त्वचा में सूजन , it is also a fungal infection.

Circulatory System



BLOOD CIRCULATORY SYSTEM/रक्त संचार प्रणाली

- Heart/ हृदय
- Blood Vessel/ शिरा
- Blood / रक्त
- Lymph / लसिका



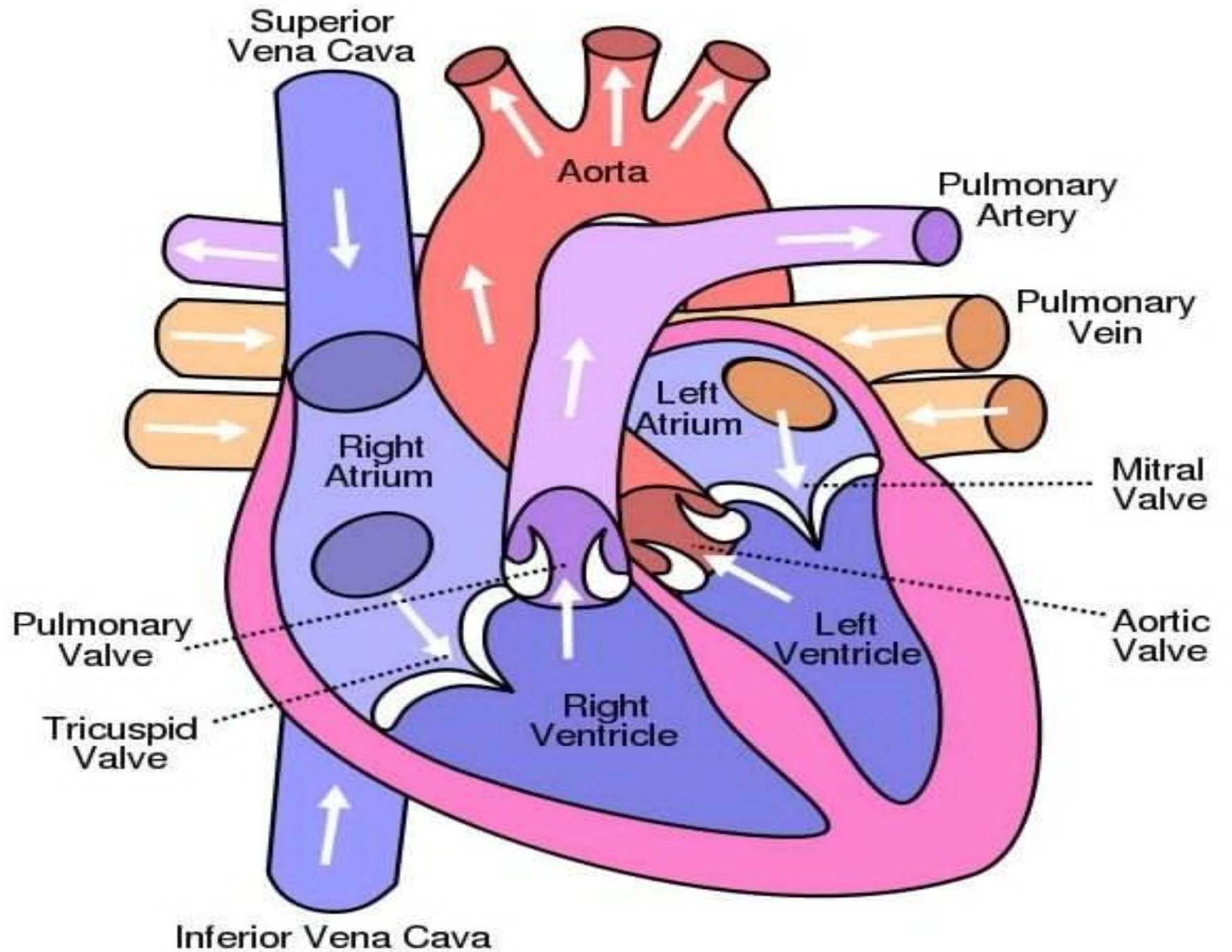
William Harvey/विलियम हार्वे discovered Blood Circulatory System in 1628.

HEART/हृदय

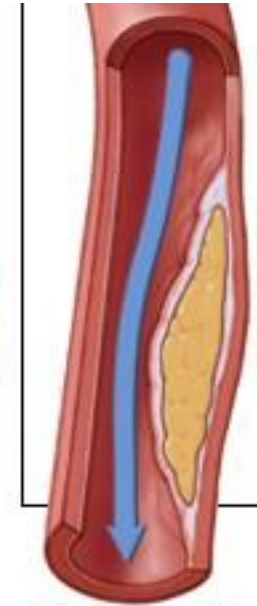
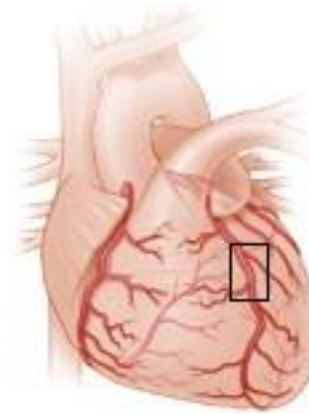
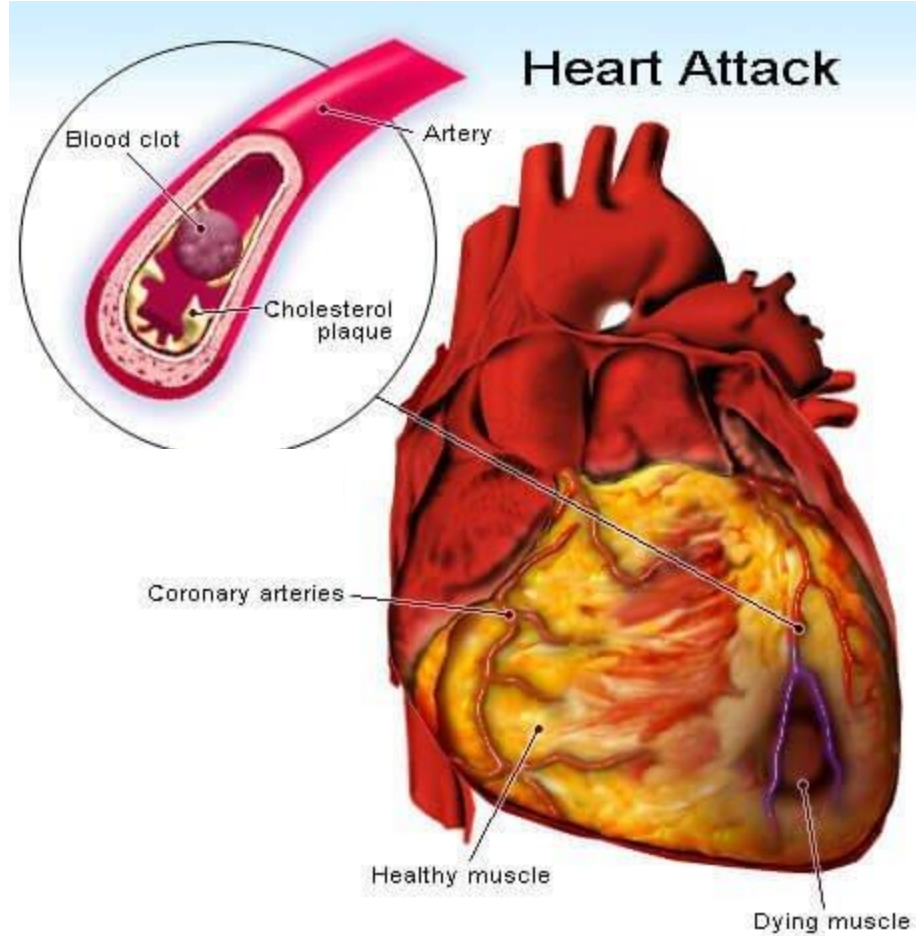
- It's a hollow muscular organ that pumps blood to the whole body.
- Mammal's heart has four chambers/कक्ष ; Fish have two-chambered/कक्ष heart; Amphibians have 3 chambered heart.
- 13 Chambered heart is found in Cockroach (blood circulation type-Open)
- Heart has involuntary muscles/अनेक्षिक पेशी .
- Formation of heart takes place on the 40th day of development of embryo/भ्रूण का निर्माण .

- Male -300 gm wt. of heart
- Female- 250 gm t. of heart
- Outer Covering of Heart /हृदय की बाहरी परत - Pericardium.
- 3% of total blood it takes to feed itself./कुल रक्त का 3% यह खुद को खिलाने के लिए लेता है।
- Heart pumps 5 to 6 litres of blood in a minute./ हार्ट एक मिनट में 5 से 6 लीटर रक्त पंप करता है।

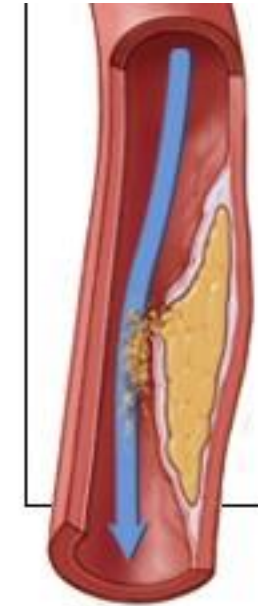
Heart Of Human Body



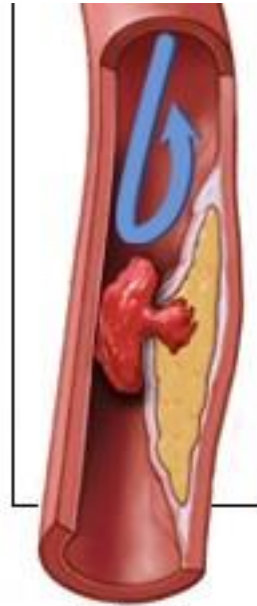
HEART ATTACK/हार्ट अटैक



Plaque with fibrous cap



Cap ruptures



Blood clot forms around the rupture, blocking the artery

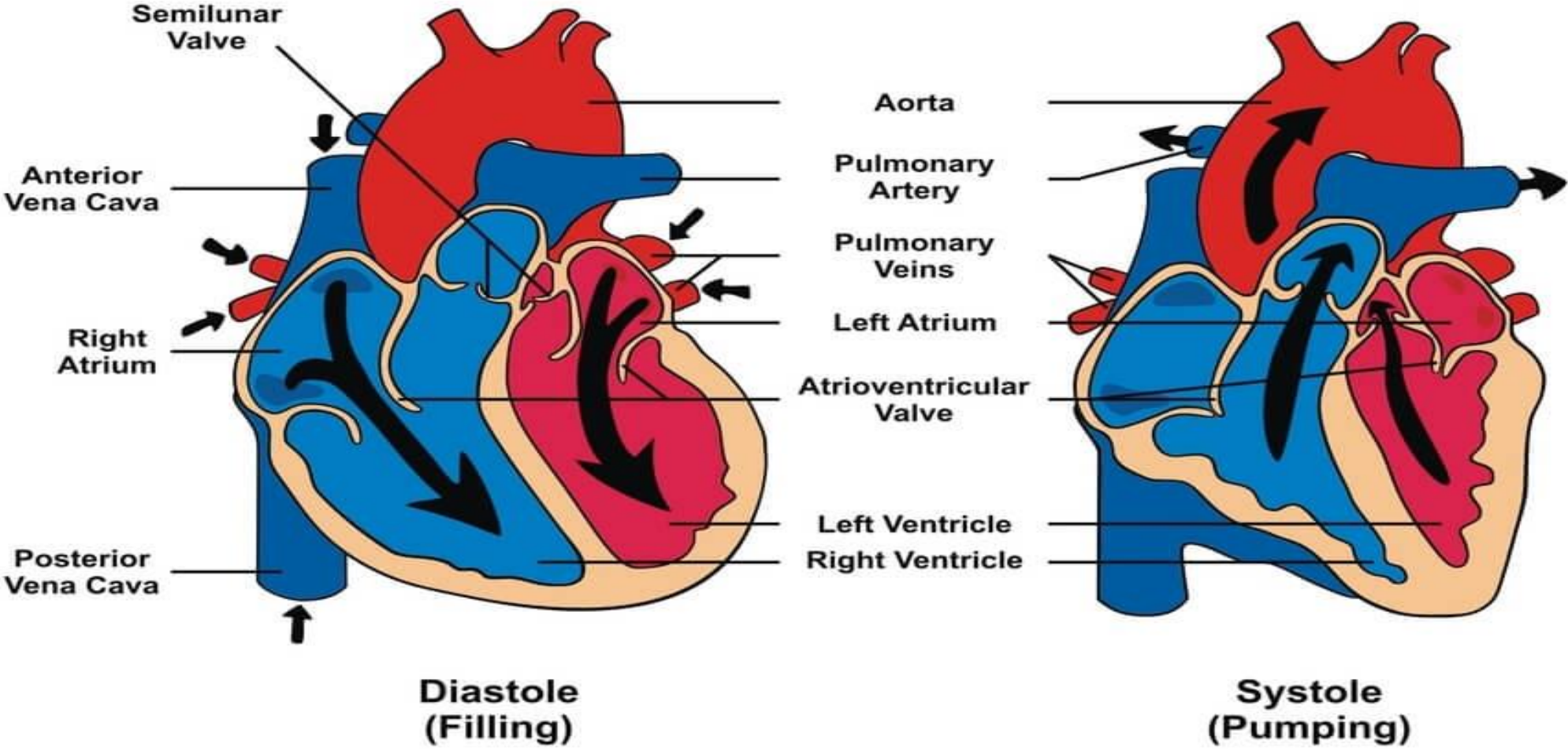
HEART ATTACK/हार्ट अटैक



Facts Related to the Heart

- Avg. Heart Rate of the adults/आदर्श हृदय दर = 72 to 76 beats per minute.
- Heart Rate of infants 120 -140 beats per minutes.
- Blood Pressure/रक्त चाप - Adults 120/ 80 mm Hg
- Systolic/सिस्टोलिक Pressure- 120 mm Hg
- Diastolic/डायास्टोलिक Pressure– 80 mm Hg
- Sphygmomanometer used to measure blood pressure

Diastole & Systole of Human Heart



ADVANCEMENT IN BLOOD PRESSURE REASONS/रक्त चाप के कारण :

CHOLESTEROL- HDL(High Density lipid (Good)) and LDL (Low Density Lipid)
(Salmon fish contains omega -3 which reduces cholesterol

- Obesity – Heart Problem and Diabetes
- Stress(Hypertension)
- Alcohol
- Smoking

Bad vs. Good Cholesterol



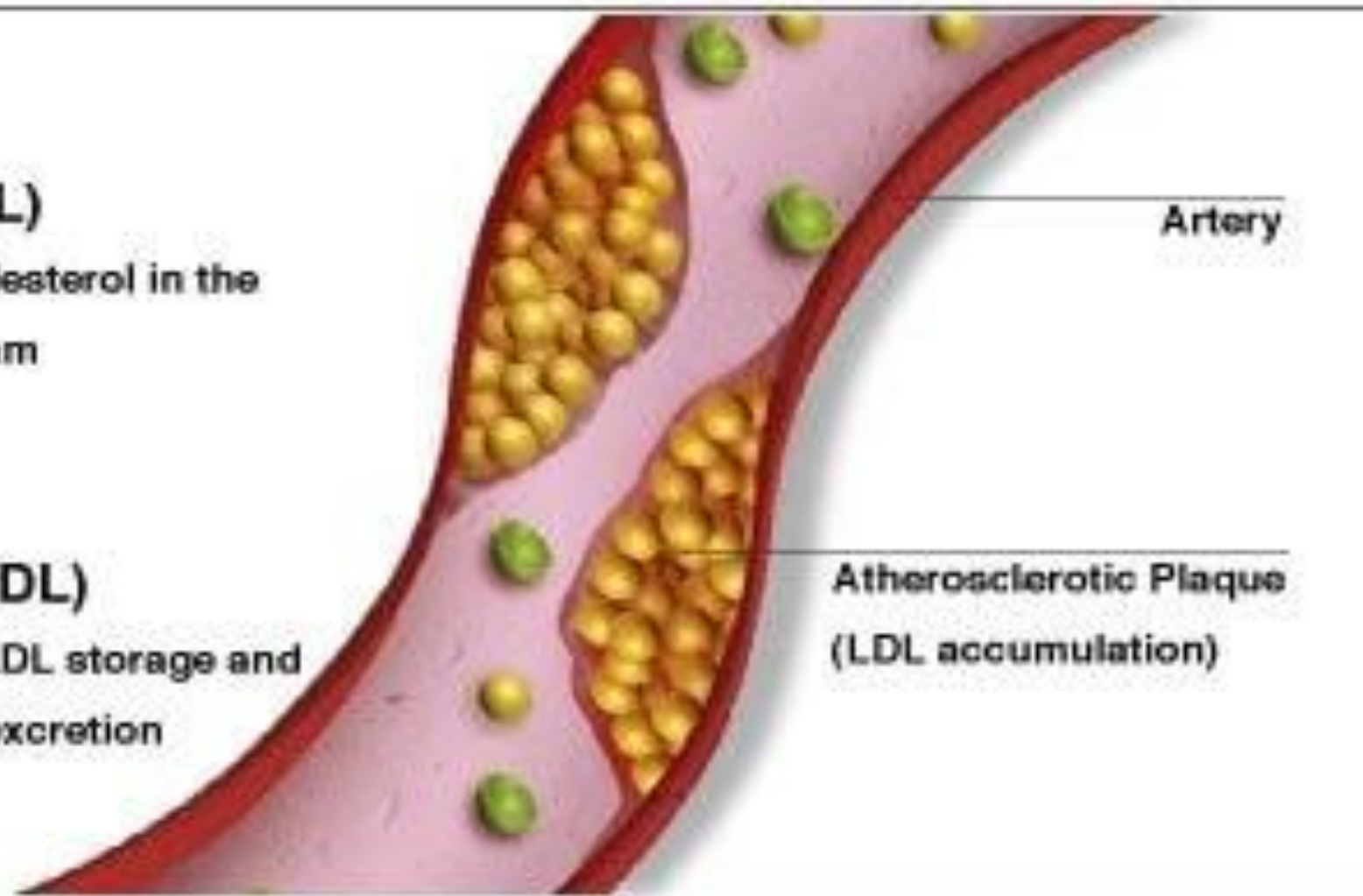
Bad (LDL)

stores cholesterol in the
blood stream



Good (HDL)

regulates LDL storage and
promotes excretion



Cardiac Cycle/हृदय चक्र :

The Cardiac Cycle refers to the sequence of mechanical and electrical events that repeats with every heartbeat.

Duration is of 0.8 sec.

- Systole (0.3 sec)
- Diastole (0.5 sec)

When The Heart pumps it makes Lub – Dub sound/लुब डब आवाज़ (during opening and closing)

Angiography is done to test the blockage in the heart.

1) ARTERIES/धमनी :

- It carries pure blood, from the heart to the body except Pulmonary Artery/पल्मोनरी धमनी (it carries impure blood from the heart to the lungs)/ हृदय से शरीर तक अशुद्ध रक्त ले जाने वाले
- Heart directly pumps blood to artery.
- Aorta is the largest artery of the heart.

2)Veins/शिरा:

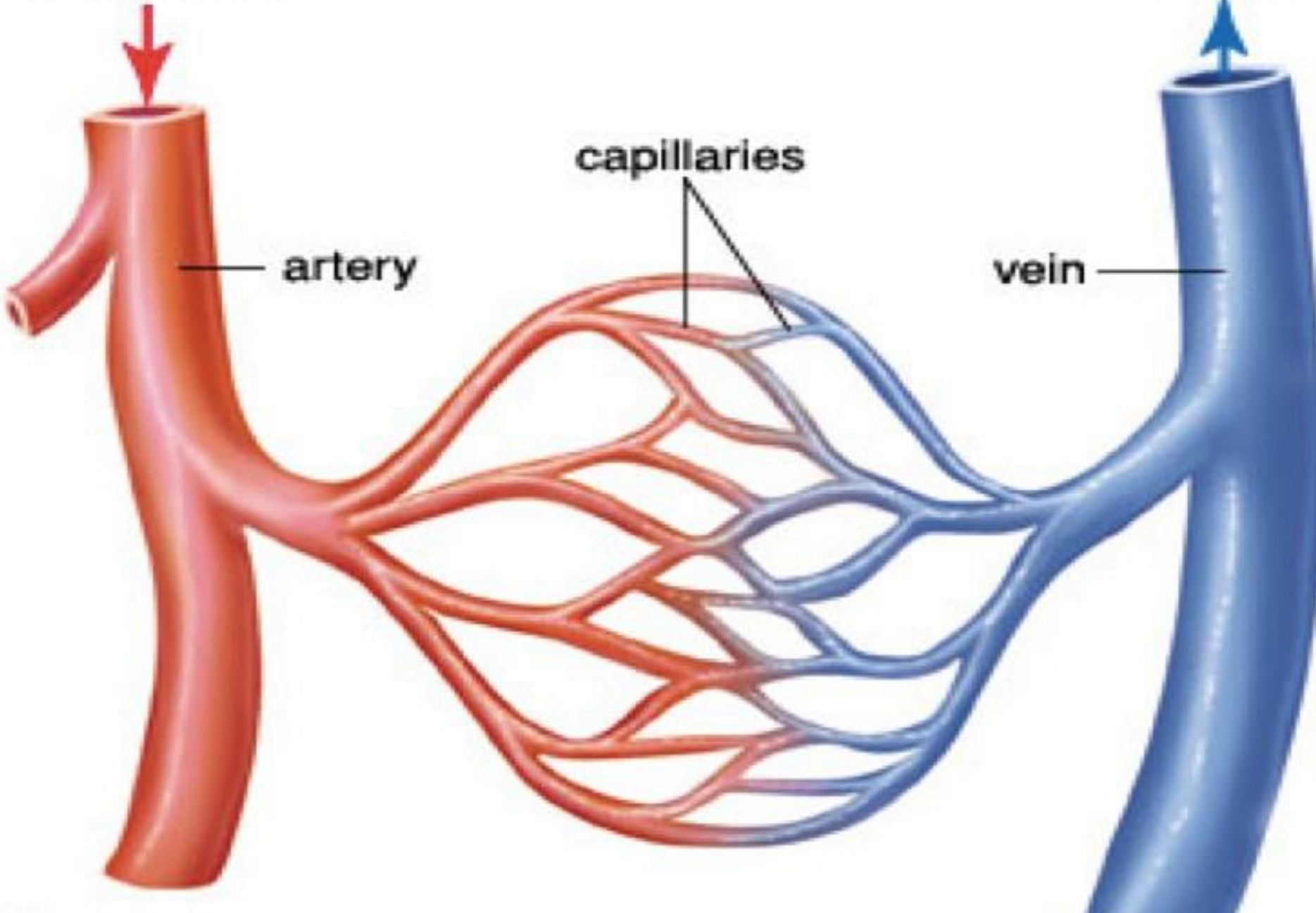
Carry impure blood from body to the heart, except Pulmonary Vein (carry pure blood from lungs to the heart.)/शरीर से हृदय तक अशुद्ध रक्त लेजाने वाले

3)CAPILLARIES/केशिका :

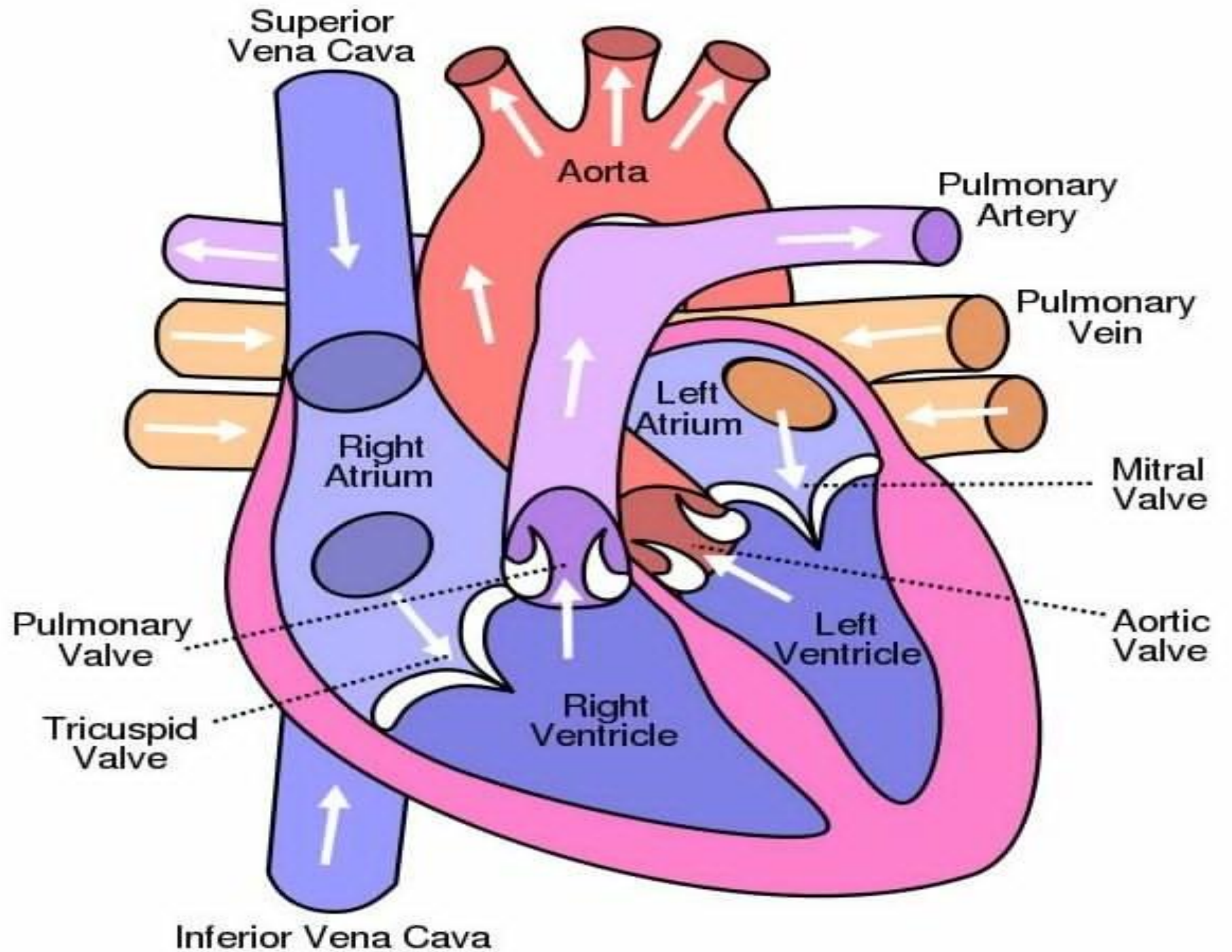
Tiny blood vessels that connect the arteries to the veins-शिरा को धमिनियो से जोड़ने वाले .

from heart

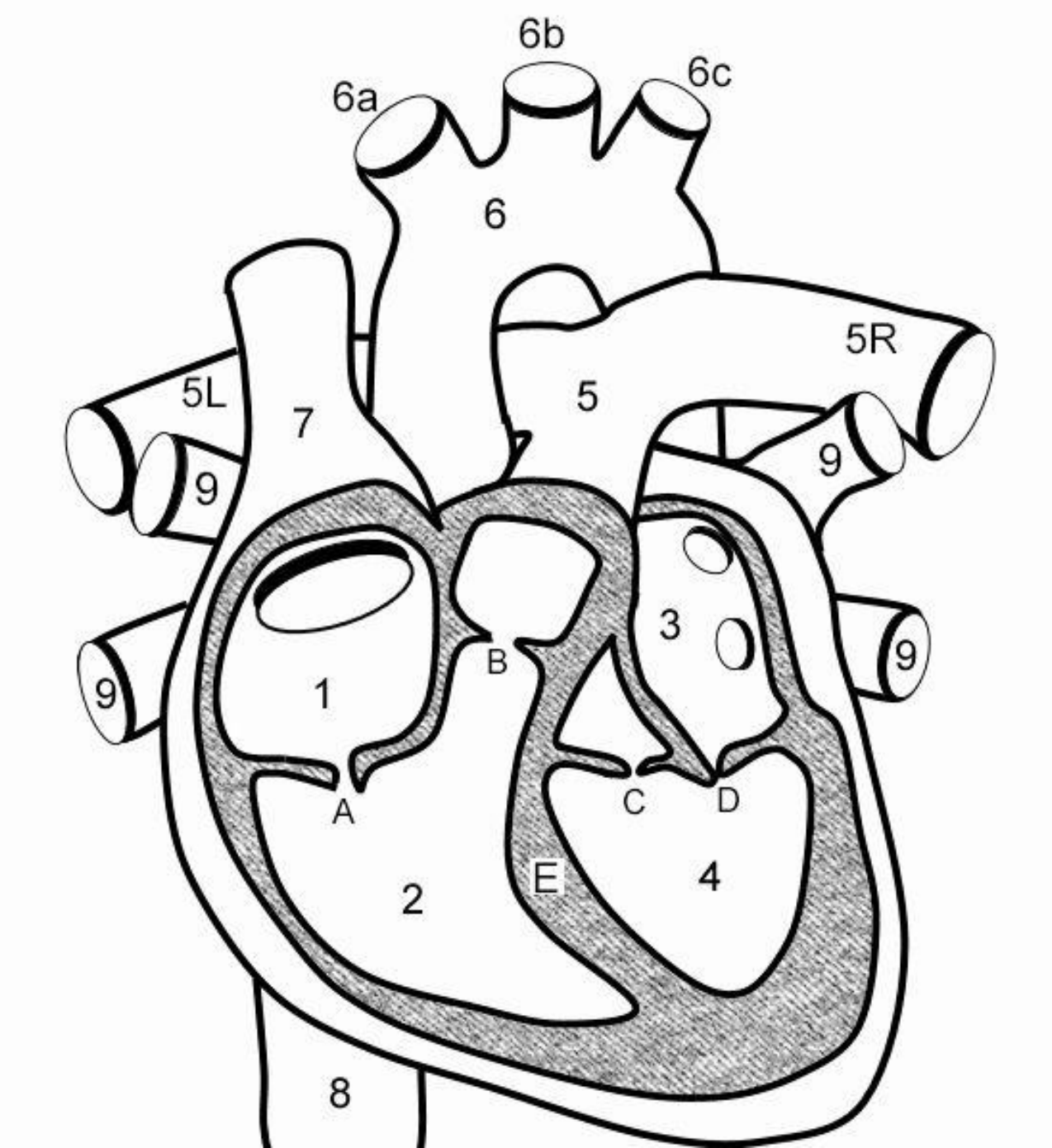
to heart



Heart Of Human Body



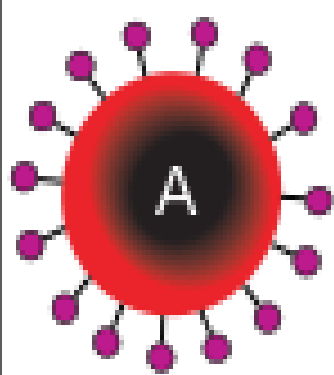
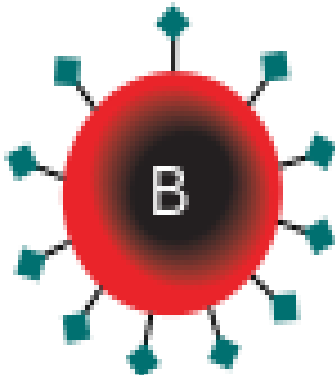
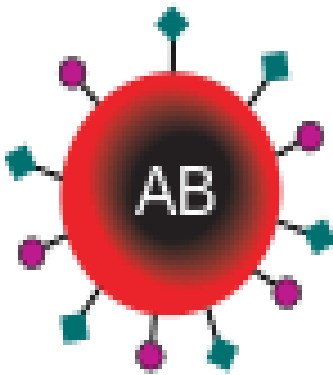
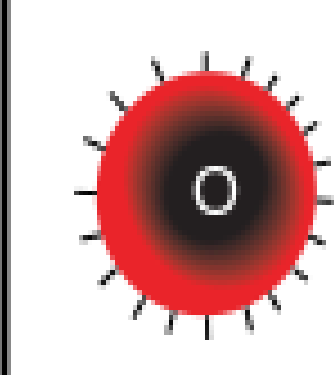
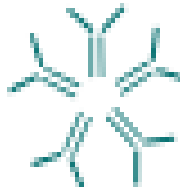
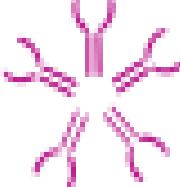
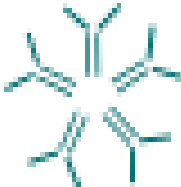



Heart Of Human Body



BLOOD GROUPS/रक्त वर्ग

- Discovered by Karl Landsteiner/कार्ल लैंडस्टीनर in 1902 (ABO system was given initially)
- AB blood group came later

- Blood has two types of protein
- Antigen/प्रतिजन - on the surface of R.B.C's
- Antibodies/एंटीबाडी - fight against diseases and are found in plasma.
- According to reaction of antigens and antibodies/एंटीबाडी एवं प्रतिजन की क्रिया के आधार पर
- blood group are divided into 4 parts.

	Group A	Group B	Group AB	Group O
Red blood cell type	 <p>A</p>	 <p>B</p>	 <p>AB</p>	 <p>O</p>
Antibodies in Plasma	 <p>Anti-B</p>	 <p>Anti-A</p>	<p>None</p>	 <p>Anti-A and Anti-B</p>
Antigens in Red Blood Cell	 <p>A antigen</p>	 <p>B antigen</p>	 <p>A and B antigens</p>	<p>None</p>

R.B.C. (Red Blood Cells)

RBCs are Biconcave/उभ्यावत्तल in shape.

It does not have nucleus except in Camels and Mammals/ऊंट एवं स्तनधारी .

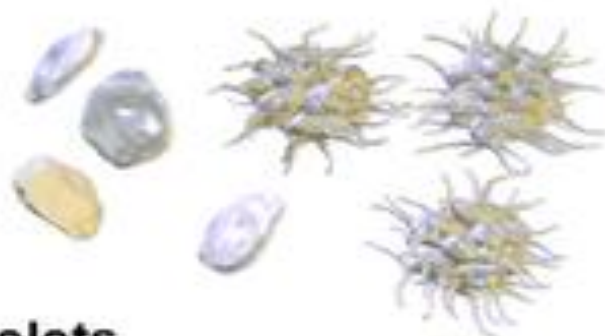
*RBCs in adults are formed in Red Bone Marrow/लाल अस्थि मज्जा and Spleen/प्लीहा and in infants RBCs are formed in liver.

- RBCs count in male is 4.5- 6.5 million per cubic mm
- And in female 3.8-5.8 million per cubic mm
- Average Life Span/औसत जीवन काल of RBCs - 120 days.
- RBC function is transportation of gases like Oxygen and carbon Dioxide
- At high altitudes the count of RBCs increase./ऊंचाई पर आरबीसी बढ़ता है
- RBCs are also known as **Erythrocytes**.

Formed Elements of Blood



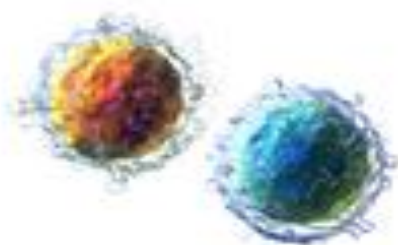
Red Blood Cells



Platelets



Monocyte



Lymphocytes



Eosinophil



Basophil



Neutrophil

White Blood Cells

WBCs (White Blood Cells) also known as Leucocytes / ल्यूको साईट

It fights against diseases/रोग से लड़ना . Less in count as compared to RBCs
It is of 5 types:

- Eosinophils/एओसिनोफिल : Avg value (1% to 6%)
- Neutrophils/न्यूट्रोफिल : highest count among all WBCs-सर्वाधिक
- Basophils / बेसोफिल : Skin disease related eg Pimples
- Monocytes / मोनो साईट : largest of all the WBC cells – सबसे बड़े
- Lymphocytes / लिम्फो साईट : helps in maintaining the body.

WBCs are formed in red bone marrow; they have an average life span of 3-9 days.
Uncontrolled growth of WBC is known as Leukaemia /ल्यूकेमिया

PLATELETS (Thrombocytes)/थ्रोम्बो साइट

- Help in blood clotting process.
- Found only in Mammals.
- Are formed in liver./यकृत

Average life of platelets 15-35 days

Count in Male – 2.25 -4 lac

Female 1.5 – 4 lac

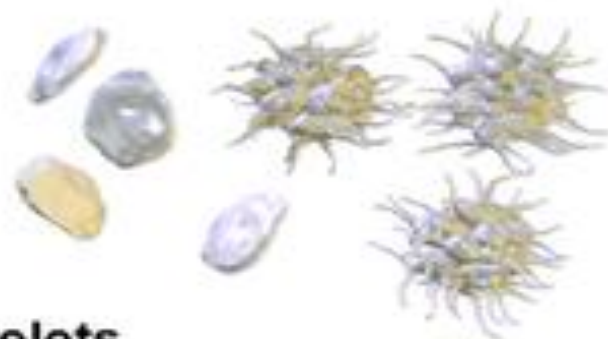
It is most dangerously affected in Dengue fever and Ebola Fever.-

इबोला एवं डेंगू में सर्वाधिक प्रभावित

Formed Elements of Blood



Red Blood Cells



Platelets



Monocyte



Lymphocytes



Eosinophil



Basophil



Neutrophil

White Blood Cells

Which of the following are the possible blood groups of the offspring of the parents with blood group O and AB?

1. O, A, B and AB
2. A and B
3. A, B and AB
4. O and AB

निम्नलिखित में से कौन सा रक्त समूह O और AB के साथ माता-पिता की संतानों के संभावित रक्त समूह हैं?

1. ओ, ए, बी और एबी
2. ए और बी
3. ए, बी और एबी
4. ओ और एबी

White blood cells act

1. as a defence against infection
2. as source of energy
3. for clotting blood
4. as a medium for oxygen transport from lung to tissues

श्वेत रक्त कोशिकाएं क्रिया करती हैं

1. संक्रमण से बचाव के रूप में
2. ऊर्जा के स्रोत के रूप में
3. रक्त के थक्के के लिए
4. फेफड़ों से ऊतकों तक ऑक्सीजन परिवहन के लिए एक माध्यम के रूप में

Universal receivers can receive blood from

1. Group AB only
2. Group O only
3. Groups A, AB
4. Groups O, A, B, AB

यूनिवर्सल रिसीवर से रक्त प्राप्त कर सकते हैं

1. केवल ग्रुप एबी
2. ग्रुप ओ केवल
3. समूह ए, एबी
4. समूह ओ, ए, बी, एबी

The average life span of red blood corpuscles is about

1. 100 - 200 days
2. 100 - 120 days
3. 160 - 180 days
4. 150 - 200 days

लाल रक्त कणिकाओं का औसत जीवन काल लगभग होता है

1. 100 - 200 दिन
2. 100 - 120 दिन
3. 160 - 180 दिन
4. 150 - 200 दिन

From which one of the following chambers of human heart is the oxygenated blood pumped into aorta?

1. Right atrium
2. Right ventricle
3. Left atrium
4. Left ventricle

मानव हृदय के निम्नलिखित कक्षों में से कौन सा ऑक्सीजन युक्त रक्त महाधमनी में पंप किया जाता है?

1. दायां अलिंद
2. दाहिना वेंट्रिकल
3. बायां अलिंद
4. दिल का बायां निचला भाग

If the radius of blood vessels of a person decreases his/her blood pressure will

1. increase
2. decrease
3. remain unaffected
4. increase for males and decrease for females

यदि किसी व्यक्ति की रक्त वाहिकाओं की त्रिज्या घटती है तो उसका रक्तचाप कम होगा

1. बढ़ना
2. कमी
3. अप्रभावित रहें
4. पुरुषों के लिए वृद्धि और महिलाओं के लिए कमी

Mineral impurities in blood are removed by

1. Lungs
2. Kidney
3. Spleen
4. Liver

रक्त में खनिज अशुद्धियों को हटा दिया जाता है

1. फेफड़े
2. गर्दा
3. तिल्ली
4. जिगर

The pH of Human Blood is ____?
मानव रक्त का पीएच ____ है?

1. 7.4
2. 7.2
3. 7.8
4. 6.6

