**ID 16525**

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**Assignment for Viva**

**Course Title: Human Physiology II**

**Rad 2nd semester section A**

**Instructor: Dr. M .Shahzeb khan (PT)**

 **Marks: 100**

**Note:**

**VIVA MARKS WILL BE GIVEN ON BASIS OF THIS ASSIGNMENT**

**Q1:** (A) What is blood pressure? Explain systolic, diastolic, Normal and Abnormal Blood pressure

Answer:

BLOOD PRESSURE:

As we know that the rhythmic pumping of the heart pours the blood into the arteries. This pulsation can easily be felt in those arteries ( like radial artery) which are near the surface of the skin and we generally call it pulse. The throb we feel as pulse is due to the pressure of the blood which makes the elastic layer of arteries to expand rhythmically allowing blood to pass through. The force per unit area that blood exerts on the inside Wales of a blood vessel is called blood pressure.

SYSTOLE:

Contraction of heart is termed as systole.

DIASTOLE:

relaxation of heart is called diastole.

BLOOD pressure are of two types.

SYSTOLIC BLOOD PRESSURE:

which is felt during ventricular contraction.

DIASTOLIC BLOOD PRESSURE:

which is felt during ventricular relaxation.

Systolic B.P is greater than the DIASTOLIC pressure. The B.P is generally expressed as a ratio in which numerator shows the systolicand denominator depicts the diastolicB.P. An average, healthy adult human being has a B.P of 120/80. With. Increasing age the normal value of BP also increases due to decrease in the elasticity of the blood vessels. The blood pressure is generated by the contraction of the left ventricle. Therefore, pressure is highest in the aorta. As the arteries brach and travel greater distances from the heart the blood pressure decrease. In capillaries the difference between systolic and diastolic pressure disappears. In capillaries the B.P is about 40mm Hg. It decreases to less than 20mm Th when the blood leaves arteries and further drops in vanuoles. The pressure of the blood is almost 0mm Th when it enters the right atrium from upper and lower bana cavae.

Name of vessel. SYSTOLIC B.P. Diastolic B.P. B.P

Aorta. 120. 80.

Arteries. 102. 60.

Arterioles. 60. 45

capillaries. - - 40

venules. - - 20

veins. - - 10

veins cava. - - 0

certain sensors ( nerve endinigs) are located in the blood vessels of the human body are called Baroreceptors.

The detect the pressure of blood flowing through them, and can send messages to the central nervous system increase or decrease total peripheral resistance and cardiac output. They work as short term blood pressure regulation mechanism.

Baroreceptors detect the amount of stretch of the blood vessel walls, and send the signal to the nervous system in response to this stretch.

Baroreceptors can be divided into two categories.

High pressure arterial Baroreceptors

High pressure arterial Baroreceptors are present in the aortic arch and the carotid sinuses of the left and right internal carotid arteries

Low pressure Baroreceptors

Low pressure Baroreceptors are found in large systemic veins and in the walls of the right atrium of the heart.

Normal blood pressure:

Normal or ideal blood pressure is 90/60 mm Hg and 120/80mm Hg

Abnormal blood pressure:

Often no cause for chronic high blood pressure can be identified , but sometimes it occur as a result of underlyingdisorder of kidney or hormones. Other risk factor include obesity etc.

Systemic hypertension is usually considered sustained elevation of diastolic B.P is greater than 90 to 95 mm Hg or systolic B.P is greater than 140 to 160mm Hg .

(B) How will you measure Blood pressure?

Answer :

The force per unit area that blood exerts on the inside walls of a blood vessel is called blood pressure

Measurement:

It is measured in millimetre of mercury ( mm Hg). It is measured with the help of an instrument called sphygmometer.

to measure B.P the doctor wraps a cuff around the arm of the patient. Then this cuff is inflated with the help of a pump this inflation compresses the brachial artery against the muscles around the humera bone, temporarily stopping the blood flow. The doctor places a Stethoscope near the compressed artery and start releasing air gradually from the cuff. Now the doctor concentrates to listen to the sound of the pulse. When the first pulsation is heard , through the stethoscope. The sphygmomanometer is read. This reading shows the systolic blood pressure. The second reading is yaken when the sound of the pulsation stops ( because due to further decrease in air pressure in the cuff blood start flowing evenly through the artery ). This reading. Depicts diastolic blood pressure. Nowadays different types of automatic digital B.P apparatus are also available but the manual method is more reliable for accurate reading.

ALL THE STUDENTS ARE REQUESTED TO UPLOAD YOUR ASSINGMENT BEFORE FINAL SATURDAY.