

Puspa Shrestha

Best Quality Resource Site for Class 11 And 12
Students (Based on Updated Curriculum 2077)



PDF Collections

Notes

Books

Model Questions

This PDF was downloaded
from **puspas.com.np**

Visit our website for more
materials.



puspas.com.np

Follow us on:



AR Dinesh



puspas.com.np



Puspa Shrestha

EXPERIMENT NO. 1

NAME OF EXPERIMENT: TO DETERMINE BLOOD PRESSURE OF HUMAN

APPARATUS REQUIRED

1. Sphygmomanometer
2. Stethoscope

THEORY

Blood pressure is a pressure exerted by the blood on the wall of the blood vessels through which it flows. It is expressed in terms of the systolic pressure (maximum blood pressure during contraction of heart) over diastolic pressure (maximum blood pressure during relaxation of heart) in the cardiac cycle. It is measured in millimeters of mercury (mmHg). Blood pressure is one of the vital signs together with respiratory rate, heart rate, oxygen saturation and body temperature.

During ~~heart~~ each heartbeat, the arterial blood pressure arises to about 120 mmHg in systolic and falls to about 80 mmHg in diastolic phase. The difference between the systolic and diastolic pressure is called pulse pressure which is 40 mmHg.

The blood pressure is influenced by age, body size, obesity, tension, fear, exercises, food, etc. The two main problems related to blood pressure are:

- i) Hypertension - It is the condition in which a person has persistent high blood pressure which is 150/90 mmHg.
- ii) Hypotension - It is a condition in which a person has persistent low blood pressure which is 100/50 mmHg.

The blood pressure is measured by an auscultatory method with the help of an instrument called sphygmomanometer.

PROCEDURE

1. Sphygmomanometer was taken and it was tied around the upper arm because heart and brachial arteries are located at the same level.
2. The chest-piece of ~~sth~~ stethoscope was placed over the brachial artery to hear sound.
3. Sphygmomanometer's rubber hand pump was pressed to raise pressure upto 160 mmHg.
4. Then, the air pressure in cuff was released

gradually with the help of screw fitted in the hand pump.

As the air pressure was released, three types of sound were heard through stethoscope.

- Taping sound - It was first sound that indicated systolic pressure.
- Murmur sound - It was next sound just over disappearance of first sound.
- Muffled sound - It was heard after disappearance of second sound that indicates diastolic blood pressure.

OBSERVATION TABLE

S.N	Name	Systolic pressure (Sp)	Diastolic pressure (Dp)	Pulse pressure (Pp) = Sp - Dp	Mean pressure = $Dp + \frac{1}{3} \times Pp$
1.	Anish	110	70	40	83.33
2.	Apeksha	115	65	50	81.67
3.	Aadina	110	85	25	93.33
4.	Mahesh	113	70	43	86.33
5.	Asmin	112	75	37	87.33
6.	Binisha	120	80	40	93.33
7.	Manish	125	65	60	85
8.	Dinesh	120	60	60	80

9.	Binay	125	80	45	95
10.	Pooja	115	60	55	78.33

RESULT

Hence, the blood pressure was measured and the highest systolic blood pressure was of Manish and Binaya i.e. 125 mmHg and the lowest systolic blood pressure ~~was~~ was of Aadina and Anish i.e. 110 mmHg. The highest diastolic blood pressure was of Aadina ^{i.e.} 85 mmHg and lowest was of Pooja i.e. 60 mmHg.

PRECAUTION

1. Device should be used carefully.
2. Observation must be taken properly.