



AL-MUSTAQBAL UNIVERSITY COLLEGE

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Clinical Biochemistry

(Cardiac Function Test)stg4



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Cardiac muscle

(or myocardium) makes up the thick middle layer of the heart. It is one of three types of muscle in the body, along with skeletal and smooth muscle. The myocardium is surrounded by a thin outer layer called the epicardium (AKA visceral pericardium) and an inner endocardium.

This cardiac test are methods of identifying heart condition associated with the healthy and unhealthy pathological heart function.

Physical Examination

- Blood pressure (Direct method)
- Palpation (Indirect method)
- Auscultation
- Heart sound variation.

Blood pressure

Blood pressure is the force (pressure) that the blood exerts inside the arteries (blood vessel walls). A certain amount of pressure is required to keep the blood flowing throughout the body. When you run or walk fast the heart will beat faster and the blood pressure will rise. This is normal and is good training for heart. However if the blood pressure is always high, then the lining of the blood vessels can be damaged. Smoking and high cholesterol will increase damage of blood vessels. When the blood pressure is high, the heart has to work much harder to pump the blood around the body.

Causes of hypertension

- overweight.
- eating too much salt and lesser fruit and vegetables.
- not do enough exercise.
- drink too much alcohol or coffee (or other caffeine-based drinks)
- smoking.
- do not get much sleep or have disturbed sleep.
- are over 65

Causes of hypotension

Blood pressure is measured using a device known as a sphygmomanometer. If the measurement drops 30mmHg below the person's usual blood pressure, this is considered to be hypotension.

Low blood pressure has many different causes including:

- Emotional stress, fear, insecurity or pain (the most common causes of fainting)
- Dehydration, which reduces blood volume
- The body's reaction to heat, which is to shunt blood into the vessels of the skin, leading to dehydration
- Blood donation
- Internal bleeding, such as a perforated stomach ulcer
- Blood loss from trauma, such as a road accident or deep cut
- Pregnancy
- Medications for high blood pressure
- Diuretics, which produce fluid loss
- Medications for depression
- Medications for certain heart conditions
- Allergic reaction to certain drugs or chemicals
- Some forms of infection, such as toxic shock syndrome
- Heart disease, which can hamper the pumping action of the heart muscle
- Some nervous system disorders, such as Parkinson's disease
- Addison's disease (where the adrenal glands fail to produce sufficient blood-pressure-maintaining hormones).

The measurements

- Systolic blood pressure
- Diastolic blood pressure

1. Systolic blood pressure:-

Contraction phase

ejection phase

It is force exerted by arterial wall during systole. it is maximum pressure during ventricle contraction.

2. Diastolic blood pressure:-

Relaxing phase

filling phase

is the force exerted by blood against arterial wall during diastole. it is the maximum pressure when the ventricles are relaxed.



Normal blood pressure is 120/80 mm of Hg (millimeters of mercury)

Here, systolic pressure is 120 mmHg

Diastolic pressure is 80 mmHg.

Pulse pressure is the difference between systolic and diastolic pressure

The normal pulse pressure is 40 mmHg

Usually the treatment is for life
Remember by controlling high blood pressure
the risk of heart disease and stroke is greatly reduced.