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(1) EPSP = Excitatory post-synaptic potential
IPSP = Inhibitory post-synaptic potential

(2) Two types of surface electrodes are -
(a) Metal plate electrodes
(b) ~~Cup type electrodes~~ floating / flexible electrodes

(3) Synapse:- a junction b/w two nerve cells, consisting of a minute gap across which impulses pass by diffusion of a neurotransmitter
Types
(i) chemical synapse
(ii) Electrical synapse

(i) chemical synapse → electrical activity in the presynaptic neuron triggers the release of chemical messengers. Consequently the neurotransmitter diffuse across the synapse and bind to the specialized receptor of the postsynaptic cell.

(ii) Electrical synapse:
Two neurons are connected by specialized channels known as gap junction
Electrical synapse allow electrical signals to travel quickly from the pre synaptic cell to postsynaptic cell.

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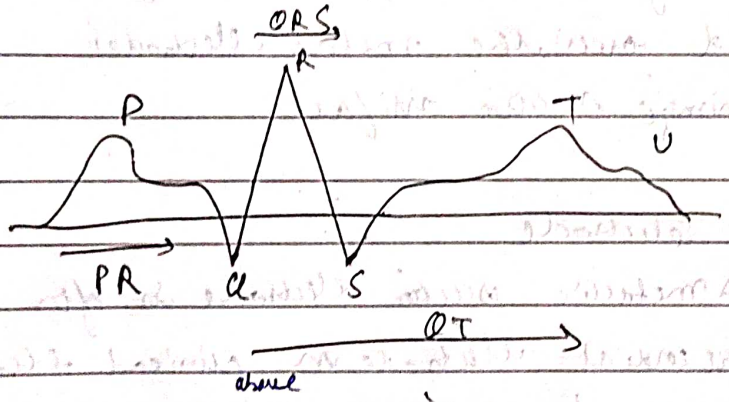
(6) There are two ways to do fetal heart monitoring, external and internal.

(a) External fetal heart monitoring
→ This method uses a device to listen to and record your baby's heartbeat through your belly. One type of monitor is a Doppler ultrasound device. It is often used during prenatal visit to count the baby's heart rate.

(b) Internal fetal heart monitory
This method uses a thin wire put on your baby's scalp. The wire runs from the baby through your cervix. It is connected to the monitor. This method gives better reading because things like movement don't affect it.

(8)



→ P, R, T waves are base line drawn as +ive waves
→ Q and S below base line drawn as -ive waves
→ P (atrial origin) (Q, R, S, T) → ventricular origin

(a) P → Wave indicate atrial depolarisation.
(b) QR → produced by ventricular contraction. It represent the spread of impulse of contraction. It lead to ventricular depolarisation
(c) The RS wave represent the ventricular contraction of about 0.35 sec
(d) The ST wave represent the ventricular relaxation of 0.4 sec. during this ventricles relax and return to their normal state.
(e) The T wave represents ventricular relaxation.

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(5) (a) Metal electrode: formed by electrolytic alloy etching the tip of fine tungsten to the desired size and dimension.
- Then the wire is coated almost to the tip with any type of insulating material.
- The metal-ion interface takes place where the material tip contacts the electrolyte.

(6) (a) (a) metal electrode
⇒ metal electrode used for application to limbs
→ metal disk electrode applied with surgical tape
→ disposable foam-pad electrodes.

(b) floating electrode
→ The recess in the electrode is formed from an open foam disk, saturated with electrolyte gel and placed over the metal electrode.
→ minimize motion artifact

(c) Suction electrode
→ A metallic suction electrode is often used as precordial electrode in clinical electrocardiography
→ no need for strap or adhesive and can be used frequently.

(d) Micro electrode
→ It is an electrode of very small size, used in electrophysiology for recording of neural signal
→ MEAs are circuit less chips
→ Sufficient small to be placed into cell
→ Sufficient strong to penetrate cell membrane