

Use of electricity in diagnostics

Measurements of the active and passive electrical properties of the human body can be used for diagnosis. In practice, the use of active electrical properties of the human body, i.e. the fact that some tissues act as a source of electrical voltage, is by far predominant.

Overview of electrodiagnostic methods

▪ Methods using active electrical properties

- **Electrocardiography (EKG)** – registration of potentials arising as a result of myocardial activity
- **Electroencephalography (EEG)** – registers the potentials arising in the brain, it is scanned from the skin on the head
- **Electrocorticography (ECoG)** – signals are taken directly from the surface of the exposed cerebral cortex during brain surgery
- **Electromyography (EMG)** – skeletal muscle potentials; either from electrodes inserted into the muscle or from the surface of the skin over the muscle in question
- **Electroretinography (ERG)** – recording of retinal action potentials using electrodes placed on the patient's cornea and temple
- measurement of GIT electrical activity
- measuring the electrical activity of the sphincters

▪ Methods using passive electrical properties

- measurement of skin resistance in a polygraph ("lie detector")
- bioimpedance measurement of the amount of body fat
- bioimpedance measurement of hydration
- bioimpedance tomography

Links

Source

- KUBATOVA, Senta. *Biofot* [online]. [cit. 2011-01-31]. <<https://uloz.to/!CM6zAi6z/biofot-doc>>.