

rural areas. The life of India is in the villages. Unless villages are clean, healthy, educated and of good character, there cannot be any redemption to this great land of India with its seven millions of villages and 355 millions of people.

ELECTROCARDIOGRAM

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An electrocardiograph is a machine which is used in finding the condition of the heart in certain diseased conditions, in order to make a correct diagnosis in heart disease. It is an important aid in the study of heart disease of any kind.

Electrocardiogram is of much value in three ways :—

1. It tells us more clearly than any other procedure about the condition of the heart muscle.

2. It clearly points out and differentiates abnormal rhythms such as Auricular Fibrillation, Auricular Flutter, Ventricular Tachycardia, when these cannot be diagnosed by physical examination. Electrocardiogram does a great deal in understanding and treating these conditions of the heart.

3. It is a valuable aid in several specific diseases, namely, Coronary Occlusion, Acute Rheumatic heart disease, Arterio-sclerosis of the coronary arteries, Pulmonary Embolism, Pericarditis, Heart Disease associated with hypertension, Congenital heart disease and Digitalis poisoning.

Main principles in operating the machine :—

First of all the patient who is to be examined, should be placed in a desired position. The electric wires which are called leads, are usually attached to the left arm, right arm, left leg and over the apex of the heart. A satisfactory contact between the wire and the skin is ensured by scrubbing and coating the skin with a good conductor, such as a line jelly or pads wet with normal saline. These are strapped in place and a metal electrode to which the wire is attached, is applied over them. These preparations should be done by the person who is operating the machine. When the patient is ready the operator puts on the electric switch. The currents are thus carried to the machine where they place a tightly stretched silver-coated glass string to move backwards and forwards. In the magnetic field, according to the beatings of the heart the movements of the glass string are photographed by a camera on a moving film. The rate of the movements of the string are marked. This will be done for one full minute.

When the heart muscle contracts, changes occur which result in the production of electric current which passes first through the auricles and then through the ventricles during each heart beat. The record obtained by their operation will vary with the condition of the heart muscle. A diseased condition in the heart muscle will often interfere with the passage of the electrical impulse and result in an abnormal record. Abnormalities of rhythm can be found out by the various kind of waves.

This sort of graphic method can help the nurse to understand what the physician is seeking to discover through the electrocardiogram.

It deserves special mention in conclusion, that though the electrocardiogram is of great value to the physician, yet it is used only as an aid for diagnostic purposes and a guide in treatment. It is a method of thoroughly examining the heart, which reveals changes often not to be detected in any other way. But it must be fitted into the clinical picture as defined by the history and physical examination.

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