

patients to halt the spread of infection through their bodies. Attempts are also being made to find a drug or chemical that would stimulate the body to produce more

anti-hyaluronidase itself. Discovery of such a chemical might give a kind of vaccination method for protection against polio.

Science News Letter, July 24, 1948

PHYSIOLOGY

Gage Muscles by Sound

A new machine called an electromyograph, reveals the state of health of muscles by allowing the doctor to hear the sound they make when they contract.

► DOCTORS can now tell by the sound a muscle makes when it contracts whether it is paralyzed, getting better or normal.

If it clicks, the muscle is in bad shape. If it makes a deep-toned "glup-glup," it is healthy. Sounds in between the click and the glup tell when the nerve of a polio patient is regenerating and the muscle coming back to normal functioning.

The machine that lets the muscle tell its story in sound as well as on a silent screen was developed at Northwestern University's Department of Nervous and Mental Diseases. It was shown at the First International Poliomyelitis Conference in New York by Dr. L. J. Pollock, head of the department, and Dr. Alex J. Arieff.

Called an electromyograph, the machine is similar to the electrocardiograph which picks up electric potentials from the heart and the electroencephalograph which picks up potentials from the brain, popularly called brain waves.

Tiny needle electrodes are stuck into the muscle to be tested and the machine turned on. The doctor then can both see and hear what the muscle is doing as it contracts. In cases of paralyzed muscle, an electric stimulator to the nerve is used. This is just placed on the skin surface over the muscle being tested. The stimulator tells whether

the nerve fibers have come down to the muscle. The machine used without the stimulator tells whether the impulses are getting to the muscles.

The machine is being used for diagnosis in war veterans and other patients with peripheral nerve injuries as well as for polio victims.

Science News Letter, July 24, 1948

Muscle-Testing Machine

► A MACHINE that takes the guesswork out of muscle testing and gives a big boost to the polio patient's spirits with its record in pounds of his improvement was shown at the same meeting.

The machine was devised by Dr. Willis C. Beasley of the U. S. Public Health Service.

With this machine doctors and physical therapists can for the first time get an accurate measure, in pounds, of the strength of even the weakest muscles. Heretofore strength of weak muscles has been gaged by the examiner who reports muscles as being "poor," "fair," or "good." The reports are based on the examiner's estimates from experience with how much strength he must exert to counteract the force of the muscle being tested.

Now the examiner can make the test in

the same way, but a small gage strapped on the examiner's hand is connected by means of an electronic device with the machine that gives the measurement in pounds.

Muscles so weak they can exert pressure of only one-tenth of a pound can be tested as well as strong muscles capable of exerting 300 to 400 pounds of pressure.

Patients, especially children working to strengthen weakened muscles, are greatly encouraged by hearing reports given in figures rather than in vague terms. A child, Dr. Beasley explained, is stimulated to compete when he finds a muscle that rated six pounds has gone up to eight or ten. Whereas a difference from "poor" to "fair minus," for example, would not be so encouraging.

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