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THE HUMAN IGNITION SYSTEM

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When you take your car to the garage for a tune up, the first thing the mechanic checks is the ignition system. He knows that it is the electrical system which regulates the activity of the motor and without its proper performance the best motor is unable to perform well. He checks the timing, the points, the battery and other electrical connections and corrects the things he finds wrong. The result is usually a noticeable improvement in power and smoothness.

The nervous system

One of the greatest contributions of nutrition science has been the means of improving the function of the human ignition system – the nervous system of the human body. It also possesses a "timing mechanism," has its "points" and "battery," so to speak, which we should understand something about if we are to apply nutrition to improve our nerves. Let us examine the prevalent theories of nerve conductivity.

The Membrane Theory is used to explain the manner in which an impulse travels along a nerve route. It begins by stating that an impulse does not travel *through* a nerve, but rather along its outer membrane, just as an electrical current travels along the outer portion of a conducting wire. Now, just how does it progress along this membrane circuit? The theory states that certain mineral ions (mineral charges) combine, or join hands, so to speak, and the impulse is conducted along its route much like the "bucket brigade" in the volunteer fire departments of old. This is called "polarization," and from this we get the term "resting potential." In other words, the faster the impulse is carried along, the least resting potential the nerve cell has, and, if the resting potential is considerably reduced we begin to have unpleasant symptoms.

Resting potential symptoms

For example, we know that the eyes, the throat and heart are constantly receiving nerve stimulation from our environment – stimuli which put nerve impulses on the circuit. Now, if the resting potential of the cell is diminished, too many impulses are put on the system and we have symptoms like the eyes being abnormally sensitive to bright light, a tight feeling (or a "lump") in the throat and an abnormal heart rate, the heart pounding and failing to calm down as it should after excitement.

Nutrition factor

What nutrition factors regulate this resting potential? Calcium and potassium, which we will illustrate. Dr. Ringer perfused various minerals through an excised heart muscle in the laboratory. He found the greater the concentration of potassium, the slower the pulse and more relaxed the heart muscle became, while when calcium was increased in concentration, the heart contraction became faster and more vigorous. In other words, potassium increased the resting potential, while calcium decreased it. This is one reason why people get more nervous as they grow older, calcium being accumulated in tissue deposits in the oldster. Both calcium and potassium and their metabolizers are necessary, and there must be a balance between these two important minerals.

Mechanism

Now, what happens after the nerve impulse reaches the location where it is to do a job – reaches an effector organ, as it is called? Here it must get across an "open space" – an interval between the nerve ending and the muscle fiber. Here we have what are known as "mediator substances." These are enzyme systems which act like a breaker-switch, similar to the points in the distributor of your car. If these "points" in your nervous system are not working properly, the mechanism misfires, or, like the sluice gates which control the amount of water in a dam, allow an overflow of impulses. The result is a series of mishaps in the regulation of body function. Angina pectoris – or chest pain – may result, as well as intestinal cramps or spasms for which "no cause" can be found, or at worst, we may have a spasm of the coronary artery with the dread coronary occlusion. Irritability, mental depression and any number of vague symptoms may be traced to this disturbance in enzyme activity – for which commercial preparations known as "tranquilizers" are commonly prescribed, providing only a temporary excursion into euphoria. Incidentally, the nerve-gas warfare we read about is brought about when these same enzyme systems are blocked by anti-enzyme poisons – the same poisons which paralyze the bugs seen to stiffen and die when touched on even a claw of one foot by many of our commonly used insecticides. This is something to think about when we hear that "a little poison" can do no harm. Maybe it isn't such a long way between insecticide and heart attack?

Diet for nerves

The natural food factors of the vitamin G complex supply the enzyme precursors which promote activity of the mediator substances. Yeast, sprouted grain and brain tissue are the richest food sources of these precursors. The fresh, raw potassium of organically grown vegetables and vegetable juices are the best source of vital potassium, necessary for the regulation of the resting potential of the nerve cells. And, the calcium factors (in protein combined form) are best supplied by raw milk (unpasteurized and not homogenized or otherwise tampered with). Cooked food diets cannot produce people with healthy, sound nerves any more than a roasted chicken can lay an egg. Only by a high percentage of raw food in the diet can we produce bodies with a high degree of resistance to stress and an increased threshold of irritability which is the mark of a normally functioning – but rarely found – nervous system.

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