

## MEDICINE

# Promising Cancer Attack

**Glandular treatment has resulted in prompt and considerable improvement in nearly all of group with advanced prostatic cancer.**

➤ A PROMISING line of attack on cancer, which has helped though not cured a number of far advanced cases, was outlined by Dr. Charles Huggins of the University of Chicago, at the Science Writers' Dinner of the American Society for the Control of Cancer.

"Prompt and considerable improvement" in nearly all of a group of 60 men with advanced prostatic cancer has been achieved by surgical or chemical castration, Dr. Huggins reported.

The first two patients operated on in the three and one-half years since Dr. Huggins devised this method of treating cancer of the prostate are now free of symptoms. Not all, however, have survived. Nearly all enjoyed considerable improvement after the operation for six months, and about one-half are in good condition two years after the operation. Some bedridden patients have gained enough strength to return to work. Pain disappears and morphine may be discontinued usually within several days after the operation.

Chemical castration, alternate to surgical operation, is accomplished by giving doses of female sex hormone.

With either treatment, there is a reduction in the amount of activity of the male sex hormones which seriously interferes with the enzyme systems of prostate cancer cells. Such interference with the enzyme systems of cancer cells seems "to be the most promising line of attack" in cancer treatment, Dr. Huggins stated. The results in treatment of cancer of the prostate, although the method is not believed to be a cure, encourage the hope that this line of attack in future may prove successful in treating all kinds of cancer even in advanced stages.

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## Manpower Shortage

➤ CANCER RESEARCH has been greatly slowed down" by the war and a manpower shortage in this field is developing, a spokesman for the cancer

control society reported at the meeting.

The most serious situation, he stated, is caused by the loss of technical workers, numbers of whom, who have not gone into the armed services, have been attracted by high wages offered by commercial firms.

Practically no new men are coming into the field and most of the cancer researchers left are giving at least part time to war problems unrelated to cancer.

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## PHYSIOLOGY

## Muscle's Relaxation Before It Contracts Is Analyzed

➤ MUSCLE, when stimulated, relaxes a fraction of a hair's breadth in a hair-split fraction of a second before it starts pulling. What happens in that brief interval of time, only about three thousandths of a second, has been analyzed by Prof. Alexander Sandow of New York University.

Using frog muscle in a delicately balanced apparatus of his own invention into which parts of a phonograph and a television set were built, Prof. Sandow learned that this "latency relaxation", as it is called, begins with a period of 1.5 thousandths of a second during which no change occurs. Then the muscle "gives" about one two-thousandth of an inch for about two thousandths of a second. Following this the muscle goes into full contraction.

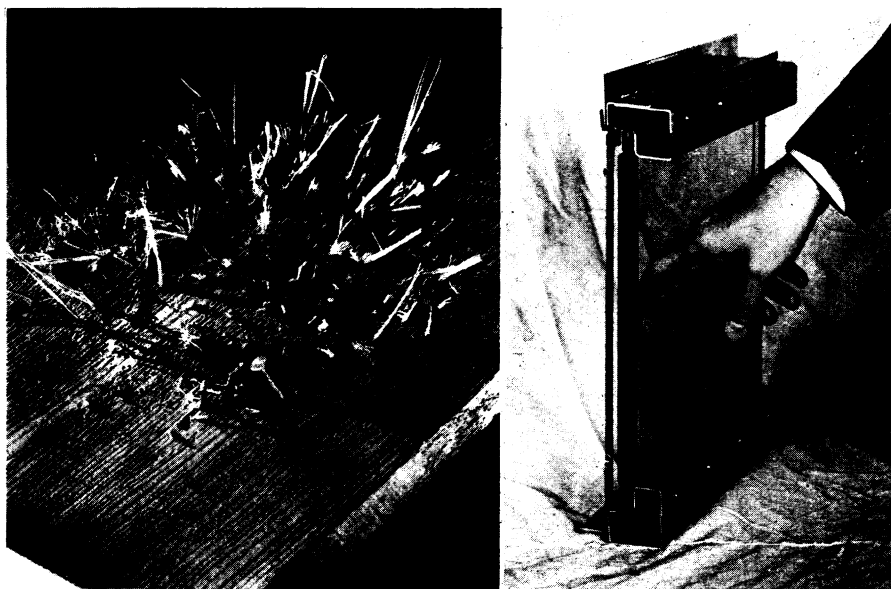
This period, brief as it is, appears to be one of great importance in the life processes, for during that short time the muscle organizes its stores of energy and "gets set" for the effort that follows.

Prof. Sandow offers a picture of the process, which he emphasizes as strictly hypothetical. The muscle protein, myosin, combines briefly with a complex compound of phosphorus known as adenosinetriphosphoric acid. During this period, about two thousandths of a second, the myosin is made more extensible and this results in the latency relaxation.

During this time the myosin is also splitting the acid and appropriating to itself the energy thus released. The energized myosin then contracts, releasing its energy as work and heat production.

The latency relaxation was first described by a German scientist, Dr. Fritz Rauh, in 1922. Pioneer work in the chemical reactions of myosin was reported recently by a Russian, Academician W. A. Engelhardt, of Moscow.

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**TEST AND RESULT**—Straws shot from a gun at a speed of 300 miles an hour against a pine board drove them in as though they were nails as shown at the left. The picture at right shows how a newly developed ice-free and bird-proof windshield is constructed with a space for warmed air between the front pane of glass and the rear plate of plastic. These pictures and the one on the facing page are official photographs of the CAA.