

MEDICINE

Artisone Aids Arthritis

► GOOD results with a new anti-arthritis drug closely related to cortisone but promising to be more plentiful were reported at a regional meeting of the American College of Physicians in Philadelphia.

Tried on 15 patients, the drug brought moderate improvement to three, marked to very marked improvement to nine, and failed to help three, Drs. Donald R. Fitch and Peter J. Warter of Hahnemann Medical College and Hospital and Dr. Joseph Seifter, director of the Wyeth Institute of Applied Biochemistry, reported. The three patients who did not respond to the drug were very advanced cases.

All improvements occurred "without side effects or the slightest evidence of toxicity" so far, the doctors reported. The drug has been given for a maximum period of 10 weeks to some patients.

The new drug has been named artisone by its manufacturers. It can "eventually" be made available in "very substantial

quantities" and large scale production is expected to reduce its cost.

The drug is a steroid chemical, like cortisone, but chemists identify it as delta 5, pregnene, 3 beta, 21 diol-20 one-21 monoacetate. Scientists who have studied the chemistry of cortisone will recognize that this new drug differs from cortisone chiefly in lacking oxygen at the eleventh position. They will be surprised because heretofore the oxygen at the eleventh position in cortisone's chemical structure has been considered the key to cortisone's activity.

Raw materials used as the starting point for artisone production come from the roots of wild Mexican plants known by the natives as "yams." Artisone was developed through collaborative research between the Wyeth Institute and the Research Laboratory of Syntex, S. A., Mexican manufacturers of steroid chemicals from vegetable sources.

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ENGINEERING

Car Industry Looks Ahead

► THE progress of the 50-year-old automobile industry was well illustrated at the General Motors "Midcentury Motorama", which opened recently with a preview for the press. Even more interesting than the 38 models of 1950 motor vehicles were evidences of even better cars in the future.

The automobile industry is definitely looking forward another half century. No decrease in highway transportation is expected in spite of increased use of airways. There may be little change in the outward looks of a car; the changes may be principally in construction materials and in mechanisms. Safety and economy are important considerations. The economy will come in operation and maintenance costs, not in first costs.

These Cadillacs, Buicks, Oldsmobiles, Pontiacs and Chevrolets displayed are the work of engineers. But behind the engineers are the scientists whose laboratory research is responsible for the high-strength alloys used in modern cars, the carburetor and ignition systems that assure reliable engine performance, the self-starter and high flash batteries that make winter starting almost a certainty and every other advancement in the car of today. These scientists are hard at work on advancements for tomorrow.

Some of the factors that will influence the car of the future were outlined by J. M. Crawford, vice-president of General Motors, in charge of engineering. So many "X" factors make up the equation of the future that the answer is necessarily vague, he said.

Form, shape and operation of future vehicles will depend on various inventions and manufacturing techniques that are bound to appear. Materials available will influence the future car. Also the industry must shape its plans and products to the country's economic trends.

Much future emphasis will be on engineering, because in some respects tomorrow's automobile will be more complex than today's. As an example, we have automatic transmissions that are highly refined mechanisms. So far as we can determine, they can not be simplified.

Although more expensive devices may be added to motorcars, the engineering emphasis of the future will be directed to more economical motoring, he declared. That may appear illogical, but the record shows that it is not. As an example he pointed out that one of General Motors' major projects is to get more work energy out of gasoline, more miles per gallon.

In an engine already tested, he stated, "we have found that by increasing compression ratio, the air-fuel 'squeeze' in the engine combustion chamber, and designing engines with reduced friction losses, we can travel from 30% to 40% farther on a gallon of gasoline."

To produce this extra mileage, the new engine will require 100 octane gasoline. Before the 12-to-one compression ratio engine can come into wide usage, this high octane gasoline must be available in a satisfactory commercial manner.

This is a problem for the oil industry. In all probability, according to Mr. Crawford,

the octane number of fuels will continue to rise gradually. As it rises, automobile engineers will be in a position to utilize such gains to the utmost. In other words, he added, we will build more octane numbers in engines.

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MEDICINE

Histamine Investigated As Cause of Leukemia

► IS histamine, the substance in the blood thought to be largely responsible for allergies, also the cause of leukemia?

Researchers at the Atomic Energy Project at the University of California at Los Angeles think it may be and are at work on this scientific "hunch".

Studies by Dr. William Valentine, Dr. Morten Pearce and Dr. John Lawrence of the U. C. L. A. Medical School staff show that blood histamine values are frequently elevated in certain forms of leukemia. The histamine is concentrated in the white blood cells, frequently present in increased numbers in leukemia.

In instances of a non-leukemia nature, however, where white blood cells are thrown into the blood stream in large quantities, the histamine content per cell is less than normal.

"Exactly what the relationship of histamine to leukemia is, we are not prepared to say just yet," Dr. Valentine emphasizes.

"Whether the increase in histamine contributes directly to leukemia or is merely the result of it has not yet been indicated by our experiments thus far."

The U. C. L. A. researchers are continuing their scientific detective work in the hope of establishing the relationship between histamine and leukemia.

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PHYSICS

One Million Degrees Is Sun's Temperature

► DIRECT confirmation of the sun's temperature as about 1,000,000 degrees Fahrenheit is reported in East Melbourne, Aust.

The definite proof of the sun's temperature was made through the study of solar radiation over a wide range of wavelengths. Previously, most observations of the sun's radiation have been either in the rather short or in the fairly long wavelength range.

The study was made by J. L. Pawsey and D. E. Yabsley of the Division of Radiophysics, Commonwealth Scientific and Industrial Research Organization. Against the steady background of radiation from the sun, they measured the variations that occur at all the wavelengths from one centimeter to four meters. This is in the range of Hertzian waves, between infrared and radio waves.

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