

MEDICINE

Arthritis and Weather

► **ARTHRITIS VICTIMS** who believe changes in the weather affect their condition may have a surprise coming.

Studies of 10 patients who spent a total of 242 patient-days in a controlled climate chamber disclosed no single weather factor that made their arthritis better or worse.

The three physicians in charge of the experiment told the American Rheumatism Association in New York they still believe climatic factors have some bearing on rheumatoid arthritis. But first findings from their proposed long-range study showed no consistent effect on arthritic symptoms.

Drs. Joseph Lee Hollander, Ronald A. Restifo and Hugo J. Fort placed their subjects in a \$125,000 "climatron" at the University of Pennsylvania Hospital in Philadelphia. Dials and switches can change the temperature, humidity, pressure, air movement and electrical charge inside the sealed chamber. The two patients inside also see natural weather conditions through heavy plate glass windows.

The patients were not told about the nature of the test or the artificially controlled climatic changes.

They have kept diaries noting body weight, body temperature, number of aspirin tablets taken, and time of any improvement or worsening of symptoms. They were also checked at least once daily by experienced rheumatologists for joint stiffness, tenderness, strength of hand grip and other relevant signs.

The patients have easily detected changes in the degree of their general comfort from marked weather variations, the team reported. Chilling made some of them note increased stiffness. But so far, neither the artificial weather inside nor the "real" weather outside has materially affected their arthritis.

Many arthritics claim they feel increasing joint pain in wet weather. A hot, dry climate supposedly improves their condition.

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New Drug Helpful

► **A NEW DRUG** named oxyphenbutazone, on the market only a few months, was reported to have had good effects on rheumatoid arthritis, fibrositis and bursitis patients.

The drug was also shown to produce fewer undesirable side effects than its fore-runner and close chemical relative, phenylbutazone, when given to arthritics.

Dr. Irving L. Sperling, Maplewood, N. J., reported to the American Rheumatism Association meeting in New York on his three-year study of the effects of oxyphenbutazone on 1,003 patients suffering from varied rheumatic disorders.

Response to the newer drug was good, he said, among 70% of rheumatoid arthritis patients, compared with the 44% of similar cases showing good response in an

earlier study of the effects of phenylbutazone. Harmful side effects such as skin rashes, gastrointestinal upsets and water retention occurred in 6.4% of arthritics treated with oxyphenbutazone, compared with 29.5% of those treated with phenylbutazone.

Dr. Sperling also described oxyphenbutazone as "a therapeutic agent of extreme value" for acute disorders other than rheumatoid arthritis, including fibrositis, tendonitis and bursitis.

Both drugs are produced by the pharmaceutical division of Geigy Chemical Corporation, Yonkers, N. Y.

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Aspirin Fouls Diagnosis

► **A LITTLE-KNOWN** side effect of aspirin can lead to a faulty diagnosis of gout in some patients with joint pains, physicians attending the annual American Rheumatism Association meeting in New York were told.

Three scientists from the National Institute of Arthritis and Metabolic Diseases, Bethesda, Md., described two cases of rheumatoid arthritis mistakenly diagnosed as gout because of high levels of uric acid in their blood, a characteristic of gout. The patients were referred to the Institute after failing to respond to colchicine, the standard gout remedy.

Dr. A. I. Grayzel, Dr. J. E. Seegmiller and Lois Liddle found that the uric acid (serum urate) levels had been caused by low doses of aspirin taken to relieve joint pain, rather than by gout.

Studies show that low doses of acetylsalicylic acid, or aspirin, probably act by blocking secretion of urate by the kidneys. The urate then accumulates in the blood in abnormally high levels. Large doses of aspirin have the opposite effect, increasing urate elimination and lowering the uric acid level.

The team said another compound, acetaminophen, similar to aspirin in its pain-reducing effects, should be taken by gout patients in preference to aspirin.

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Treatment Clue

► **PROMISING** results in treating rheumatic disorders of a small group of patients with epsilon amino caproic acid, or EACA, have been reported.

Dr. Jerome Rotstein of Montefiore Hospital in New York found this important research clue for the study of connective tissue diseases, of which rheumatoid arthritis is the most severe.

EACA was first synthesized by German chemists in 1907, and in 1953 Japanese scientists reported that it had potential use in control of acute bleeding conditions associated with high plasmin levels. It was this factor that led Dr. Rotstein and his

colleagues to undertake exploratory studies for its possible use in treating connective tissue diseases.

No conclusive results have been shown yet in the treatment of rheumatoid arthritis, but progressive systemic sclerosis, a severe connective tissue disease, has responded to the compound.

EACA acts on an enzyme system, which is the fibrinolytic system believed to be involved in the mechanism of inflammation. It blocks the activation of plasminogen into plasmin, which reduces fibrin, an insoluble gel form of fibrinogen that occurs during the clotting of blood.

When fibrin is split up (fibrinolysis), the remaining fibrin products are believed to be involved in the development of fibrinoid lesions present in arthritis and in other inflammatory lesions.

Lederle Laboratories at Pearl River, N.Y., has been doing development work on EACA, but there is no prospect of its commercial production at this time.

Dr. Rotstein, who reported the findings at the annual meeting of the American Rheumatism Association in New York, was assisted in his research by Drs. Irving Estrin and Charles Dennert, also of Montefiore Hospital.

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PSYCHOLOGY

Sleepers Motivated To Tell Sounds Apart

► **MONEY TALKS**, even in your sleep. With sufficient motivation—in this case, extra payment—a sleeping person can tell the difference between such similar sounds as the telephone and the doorbell, researchers at the University of Texas Medical Branch, Galveston, have found.

Dr. W. P. Wilson and William W. K. Zung reported in the Archives of General Psychiatry, June, 1961, published by the American Medical Association, that the sleepers' powers of discrimination were decreased, however, in the deepest stages of sleep.

The researchers subjected 25 normal male volunteers to a variety of familiar and unfamiliar sounds during the various stages of sleep to determine their ability to discriminate in this state. Familiar sounds included cars starting and stopping, door chimes, trains, clock striking, telephone ringing, airplanes flying, sirens, rain storms, door bells and motorcycles.

Unfamiliar sounds included Chinese gongs, artillery gunfire, lion roars, monkey howls, fox hunts and anti-aircraft guns. All of the sounds were produced at the same noise level.

The subjects responded to noise more frequently when they were in the lighter stages of sleep. They responded in the same manner to the familiar sounds as they did to the unusual sounds.

Some of the subjects were told that if they awakened completely each time they heard either a telephone ring or bagpipes playing, they would receive extra payment for the achievement.

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