

MEDICINE

Fluoride for Bone Disease

► SCIENTISTS are now studying sodium fluoride, the material used in city water supplies to reduce tooth decay, to see whether it can be used to "harden" bone.

The new idea stems from the fact that persons who accidentally get far too much fluoride ion over a period of years develop abnormally dense bones. In extreme cases, even their ligaments and tendons become calcified. No one knows why or how such changes take place, but it is believed that fluoride ion somehow depresses the body's normal tendency to absorb old bone as new bone is built.

Dr. Clayton Rich of the Veterans Administration Hospital in Seattle, Wash., and Dr. John Ensinn of the University of Washington School of Medicine, also in Seattle, hope to find a way of utilizing this action of fluoride ion in treating bone diseases "where skeletal mass is reduced, the rate of bone resorption accelerated or both."

In studies conducted at the Rockefeller Institute, they found that sodium fluoride pills can cut down drastically the wasting

of calcium. (In patients with osteoporosis, characterized by bone fragility, and Paget's disease, a disabling malady found most frequently in men after middle age, an abnormally large amount of calcium is eliminated, essentially wasted, via the urine.)

In one osteoporosis patient, the scientists report in *Nature*, 191:184, 1961, urinary calcium excretion fell from 204-240 milligrams per day to 24-68 milligrams. At the same time, fecal calcium increased about 80 milligrams per day.

During the 14-week treatment period, two of the seven patients developed bursitis, but there were no other ill effects from the 60-milligram daily dose of sodium fluoride.

"Although these results do not show whether or not fluoride will be useful in treatment of human subjects," the scientists concluded, "they do demonstrate profound effects of fluoride ion upon calcium metabolism of patients with several skeletal diseases."

• *Science News Letter*, 80:54 July 22, 1961

MEDICINE

Mental Patients Respond

► TREATING MENTAL PATIENTS in general hospitals gives good results, a ten-year follow-up reported in the *British Medical Journal*, July 8, 1961, shows.

Ninety-five patients suffering from schizophrenia, the most common mental disease, showed 75% recovery over the ten-year period, according to Drs. Peter Rohde and William Sargent of St. Thomas's Hospital in London.

"It was surprising to find that no fewer than 82 (86%) of the original 95 patients were out of hospital," the investigators report. "It was equally surprising to find that no fewer than 71 (75%) seemed to be free from evidence of active schizophrenia although 25 (26%) of these show evidence of residual symptoms."

Some of the patients had required further periods of in-patient treatments but

had become stable again. The physicians emphasized the good overall results obtained under general-hospital conditions "in a disease which has been generally regarded as of such poor long-term prognosis for so many patients."

Treatment after 1956 consisted mainly of large doses of chlorpromazine, a sedative, combined with electronic convulsive therapy (E.C.T.). The use of insulin coma was rarely required, being used only when other treatments proved unsuccessful.

The atmosphere of hope given to the patient who gets treatment in a general instead of a psychiatric hospital may have been partly responsible for the successful outcome of the test, the physicians said. Also, the group was made up of selected rather than random patients.

• *Science News Letter*, 80:54 July 22, 1961

NUTRITION

Vegetable Use Increases

► A MARKED INCREASE in the use of green and yellow vegetables, tomatoes and citrus fruits has occurred during the last 50 years in the United States.

There also has been an increase in the use of dairy products, especially over the past 20 years, the International Congress of Dietetics meeting in London was told by Dr. E. Neige Todhunter of the University of Alabama.

"Over the last 50 years there has been little change in the consumption of meat, fish and poultry," Dr. Todhunter said. There has been a steady decrease in the

use of grains and potatoes, a slight increase in fats and oils, and an increase in sugars and sirups.

Today's food patterns in the U.S. retain a dominance of the early foods of the new land, but these have been modified and blended with the patterns of scores of nationalities that immigrated to the U.S.

Early settlers 350 years ago nearly starved until they learned from the Indians how to grow and use maize, or Indian corn. At first wheat did not thrive in the low land, and corn became the mainstay as breadstuff.

The North American continent gave nu-

merous new foods to the world, among them: turkey and cranberries, white potatoes (from South America and brought back across the Atlantic many years later), sweet potatoes, squash, sweet peppers, tomatoes, green beans, berries of many kinds, cocoa and chocolate, vanilla (from Mexico, and re-introduced by Thomas Jefferson via Paris), peanuts, pineapple, pecans and black walnuts.

• *Science News Letter*, 80:54 July 22, 1961

MEDICINE

Achilles Tendon Heals Itself Spontaneously

► THE ACHILLES HEEL may be vulnerable, but it is virtually impossible to keep the Achilles tendon from healing, Mayo Clinic studies, Rochester, Minn., have shown. On the other hand, it is virtually impossible to get a flexor tendon to heal, once it is cut.

Drs. Paul R. Lipscomb and Khalil G. Wakim of the Mayo Clinic said much work needs to be done to explain the difference in healing powers of different tendons, the connections between bone and muscle.

The scientists said their studies with rats attempted to establish the factors accounting for the extreme differences in the healing of the two types of tendons—the extensors, which unbend joints, and flexors, which bend joints.

In young children, as well as in rats, the Achilles tendon, or *tendo achillis*, heals spontaneously after surgical cutting. Also, cutting of the tendons of the extensors of the toes is followed in many patients by spontaneous healing and reestablishment of the normal continuity of the tendon.

On the contrary, the physicians reported in the current Proceedings of the Staff Meetings of the Mayo Clinic, "no one to our knowledge has reported such reconstruction or even spontaneous normal repair after severance of a flexor tendon in the synovial sheath (sheath containing the viscid fluid of joint cavities and tendons)."

• *Science News Letter*, 80:54 July 22, 1961

NUTRITION

Tooth Decay Found Low in Ethiopia

► THE OCCURRENCE of tooth decay is very low in Ethiopia, a survey has shown. When dental caries is present, however, it usually progresses to the destruction of the involved tooth.

The over-all nutrition of the Ethiopian is somewhat lower than that required for their level of activity, Dr. Arnold E. Schaefer of the Interdepartmental Committee of Nutrition for National Defense, National Institutes of Health, Bethesda, Md., told the International Congress of Dietetics in London.

Cases of kwashiorkor (nutritional disease caused by a maize diet), along with marasmus (a wasting disease), edema (swelling caused by excess fluid in the body) and growth retardation were evidence for protein malnutrition.

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