

MEDICINE

Baby Deaths From Convulsions Reduced by Sun and Oil

Tetany, One Type of Convulsion, is Found to be Associated With Rickets and Due to Vitamin D Starvation

INFANT deaths in America due to convulsions would be reduced by half if all babies were given the doses of cod-liver oil and sunshine required for proper growth, Dr. Martha M. Eliot, director of the child hygiene division of the Children's Bureau, U. S. Department of Labor, is convinced from her research in the community control of rickets.

One kind of infantile convulsions, called tetany, is associated with severe cases of rickets, which is prevented by ultraviolet radiation of the sun and by cod-liver oil.

Practically no cases of rickets occur in Porto Rico, where there is an abundance of sun and the houses have no windows to keep the ultraviolet rays from shining on the babies, Dr. Eliot found. In northern sections of the United States where the sun does not shine brightly and children are kept indoors most of the time, rickets is frequent and serious, particularly among children whose forebears came from the sunny climes. Negroes and dark-skinned children of southern European descent suffer most severely from lack of sunlight.

Entire communities in this northern region can be almost entirely freed from rickets, however, if babies are given sun treatments and cod-liver oil, an experiment conducted by Dr. Eliot at New Haven proved. For centuries cod-liver oil has been recognized as a good medicine for children but only recently has it been known that it contains vitamin D, the same vitamin that is formed in the skin by the action of the sun's rays.

A mixed section of New Haven, including some negro and southern European families, was selected for the study because of the susceptibility of dark-skinned babies to rickets. Whenever a baby was born, a nurse from the clinic visited the home and explained the treatments. The mothers were shown how to make their infants swallow the cod-liver oil, which should be taken daily after the child is five days old.

When the babies were old enough for sun baths, the mothers were instructed how to give the child his dose of sunlight, outdoors, if the weather was fine, or by an open window during the winter.

Monthly examinations of the babies subject to this treatment over a period of three years indicated that only 27 out of the 480 babies born in the community during that time developed moderate or severe cases of rickets and in all 27 cases the mothers had failed to follow the nurse's instructions.

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METEOROLOGY

Spring May Come Early In Eastern Part of Country

SPRING will arrive early in the eastern United States, Prof. Charles F. Brooks of Clark University, Worcester, Mass., predicts on the basis of a recently discovered relationship between winter temperatures in Winnipeg, Canada, and spring temperatures in the eastern states.

Fred Groissmayr, a meteorologist of Passau, Germany, last year published in the *Monthly Weather Review*, official publication of the U. S. Weather Bureau, data showing that March and April temperature in the eastern United States is usually indicated by the January-February temperature at Winnipeg.

Prof. Brooks has compiled the daily maximum and minimum temperatures at Winnipeg from daily weather maps and finds that the temperature was 14.2 degrees Fahrenheit above normal in January and 19.0 degrees above normal in February, an average of 16.6 degrees above normal for these two months of 1931. In only one year in the period of record has Winnipeg had a warmer January and February combined.

Fifty years of weather records show that by multiplying this excess over normal temperature at Winnipeg by the factor 0.227, the expected departure

from normal temperatures in a group of eastern U. S. cities can be obtained. This computation carried out indicates that the March-April temperatures will be 3.8 degrees above normal. Dr. Brooks therefore expects a warm March and April and an early spring.

Mr. Groissmayr, the German meteorologist, explains this correspondence between winter Winnipeg temperatures and spring eastern U. S. temperatures as being due to the lack of chilling of air passing over the Lake states during a mild winter. Reports indicate that this winter has been the most open season on the Great Lakes ever recorded. Winds passing eastward are therefore likely to be warm as there is no great area of ice to chill them.

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ASTRONOMY

Spring Begins, Though Sun Has Not Yet Entered Aries

THE WINTER of 1930-31 will officially come to an end on Saturday, March 21, at 9.07 A. M., eastern standard time. At that moment, according to the U. S. Navy's Nautical Almanac Office in Washington, the sun, as it travels northward among the stars, will be directly over the earth's equator. This part of its path is called the "vernal equinox" and astronomers for ages past have taken it as marking the beginning of spring.

The path of the sun, or the ecliptic, is divided into twelve signs, the names of which date from remote antiquity, and indicate the constellations as they were arranged at that time. At the vernal equinox, the sun enters the sign of Aries, which is another way of expressing the astronomical event that marks the end of winter.

Actually, on the 21st, the sun, as for some two weeks previously, will be in the constellation of Pisces, the fishes. Not until about a month later will it actually be among the stars that mark the imaginary figure of the ram. This is due to an effect called precession.

The constellations through which the sun seems to move form the zodiac. Precessional motion causes them to slip around the ecliptic, taking 25,800 years for a complete revolution. In about 23,000 years constellations and signs will again be the same, but by that time the motion of the stars among themselves will have made the configurations quite different from what they are now.

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