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4-21-62

MEDICINE

Doctors Are Reading—

➤ **THE CHANCE** of a person's escaping death in a nuclear target area is increased 12 times if he is in an underground fallout shelter instead of a basement fallout shelter.

At least, this estimate would be true for a shelter four miles from a five-megaton ICBM target point, it is reported in the Journal of the American Medical Association, 180:25, 1962.

A medical doctor and an aerodynamics engineer used this example to emphasize the need for authoritative estimates in locating potential nuclear target areas to choose effectively family and community shelter designs. Although many families live within potential target areas, the Office of Civil Defense has made no specific recommendations for protective construction in these areas, Dr. Philip W. Russell, Wichita (Kans.) Clinic and the Midwest Medical Research Foundation, and Laddie G. Kimbrel of Boeing Company's Wichita division, state.

The fallout shelter used in the example was the widely distributed design calling for a basement construction with eight-inch, unreinforced concrete blocks. It was compared with an underground shelter with radiation shielding equivalent to 12 inches of concrete plus 30 inches of earth.

New Heart-Valve Operation

Physicians will also be reading about a new operation to replace diseased aortic and mitral valves. The first clinical use of a ball-valve inserted into the intact aortic root was reported by six surgeons at Western Pennsylvania Hospital, Pittsburgh. Combined aortic and mitral valvular disease is the severest form of acquired heart disease

that can be mechanically corrected, they said. Although several reports have been made of replacing either valve as a single procedure, there has been no successful bivalvular replacement up to this time.

Drs. Robert S. Cartwright, William E. Palich, William B. Ford, James W. Giacobine, Stephen A. Zubrisky and Ram S. Ratan report the study (p. 6).

Labor Accusations

Twenty accusations brought against the AMA by labor unions were answered, one by one. The accusations largely revolve about attitudes of the AMA on the Government's health care program for the aged.

One of the charges was that the AMA is no longer a professional organization of physicians, but has become a "high-powered, well-heeled lobbying group." Defending its lobbying activities, the AMA comments that it has a right and a duty to oppose legislation that it believes to be against the nation's interest. Its lobbying expense is less than one percent of its budget (p. 69).

Heart Attack Factor

Increased red blood cell production may be a contributing factor in heart attacks, two New Orleans physicians believe.

Drs. George E. Burch and Nicholas P. DePasquale of Tulane University School of Medicine, report they had found that 100 persons who suffered fatal heart attacks had a "significantly higher" level of red blood cells than 100 comparable persons with no heart disease (p. 63).

• Science News Letter, 81:254 April 21, 1962

PUBLIC HEALTH

Selenium Poisons Indians

➤ **A RARE ELEMENT** sometimes found in minute quantities in drinking water has poisoned an Indian family.

Hair loss and weakened nails, along with listlessness have been reported in a family of Ute Indians near Ignacio, Colo., as a result of drinking well water poisoned by selenium. The family dog also lost his hair.

The Division of Agricultural Biochemistry, University of Wyoming, Laramie, Wyo., examined the well water, which was sent by the Consolidated Ute Agency with several samples of weeds, soils, forages and water in an effort to locate the source of the suspected selenium. Examination of the water showed about nine parts per million selenium on preliminary test.

A spokesman for the University said this is probably the "first authentic case of selenium poisoning in humans induced exclusively from a naturally occurring underground source of water."

The well in question was drilled in the Wasatch geological formation and had been used for household purposes about three

months. The water came from a depth of about 140 feet. Livestock also showed some reaction to the poison-mineral pattern of the water, but the injury to animals reported by the Ute Agency came from other sources also. The effect of selenium-poisoned feeds and foodstuffs on livestock has been previously described by state and U.S. Government investigators.

The most likely concentration of selenium in water occurs in subsurface sources, the University spokesman said. Unfortunately, this field has been greatly neglected by investigators, due, in part, to the fact that a general routine chemical analysis does not include a selenium test. The presence of selenium is not hinted by color, odor or taste of water.

In Wyoming there are a number of areas where water from wells, springs and seeps carries toxic amounts of selenium. Usually such water has a high amount of salt, which makes it unacceptable for drinking by animals or humans.

• Science News Letter, 81:254 April 21, 1962