

MEDICINE

Transfusions Not Enough

► IDEAS ABOUT the use of whole blood transfusions to save victims of any future atomic bombings need to be revised as a result of experiments by Dr. J. Garrett Allen and associates of the University of Chicago School of Medicine.

If man responds as dogs do, transfusions alone will be of no benefit in preventing or controlling hemorrhage or in saving or lengthening life after the irradiation, their findings show. Dogs given transfusions died as soon as or sooner than dogs without transfusions when exposed to the same dose of X-rays.

For the treatment of shock from the early blast effects of an atomic burst or for correcting anemia, blood transfusions may be useful, the scientists point out. The dogs did not live long enough to develop profound anemia.

From studies with dogs exposed to X-rays and from experience with patients undergoing surgery, it appears that transfusion reactions, from minor or major incompatibility of the transfused blood, may increase

the tendency to abnormal bleeding. This can be controlled if the anti-heparin chemicals, protamine sulfate or toluidine blue, are given promptly. The Chicago group therefore advise against giving whole blood transfusions when there is a bleeding tendency without having one of these chemicals available.

Transfusions given with antibiotics, such as aureomycin, may, however, prove more helpful than blood transfusions alone.

"It could be disastrous," the Chicago scientists state, to depend on blood transfusion alone to control bleeding after atomic bombing, if humans respond as dogs do. And if blood transfusions offer as little for man as for dogs under such circumstances, blood could be used more intelligently and the limited supply channeled in directions where it would be most effective.

The studies with dogs were made by Dr. Allen and Drs. Clair E. Basinger, Jerome J. Landy, Margaret H. Sanderson and Daniel M. Enerson.

Science News Letter, June 7, 1952

AERONAUTICS

One Direction for Runways

► A SINGLE runway or a number of parallel runways, instead of the multitude of intersecting landing strips now provided, will feature American airports in the future if the recommendations of the President's Airport Commission are followed.

Such airports would require a long relatively narrow strip of land instead of the broad areas now needed. All approaching planes would come in at one end or the other, depending upon the direction of the wind. Building restrictions would be necessary only in the two approach areas.

The intersecting runways now provided at all major airports are to permit landings to be made directly against the wind prevailing at the time. With the lighter planes used as airliners in the past, cross winds

presented a severe hazard. With modern heavy planes now used, safe landings can be made in moderately high cross winds. Light planes, equipped with castered crosswind landing gears, can also land with safety in moderately high cross winds.

The elimination of intersecting runways will make it possible for airports to provide proper approach areas without structures of any kind or with low buildings only. This is an essential with modern heavy planes if disasters such as those at Newark airport are to be avoided.

The commission recommends that airports should have at each end cleared extensions at least a half mile long and 1,000 feet wide. Beyond that there should be fan-shaped approach zones within which construction should be kept by local zoning laws as low as possible.

With the heavy airliners now in use, longer runways are required than in the past. Transcontinental and international airports should have 8,400-foot runways, the commission states, with room to expand to 10,000 feet, necessary for the jet-propelled airliners of the near future.

The President's Airport Commission was headed by Lt. Gen. James H. Doolittle. The other members were Charles F. Horne, Civil Aeronautics Administrator, and Dr. Jerome C. Hunsaker, chairman, National Advisory Committee for Aeronautics.

Science News Letter, June 7, 1952

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"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. Marvin E. Fowler, assistant to the head of the division of forest pathology at the U. S. Department of Agriculture's Bureau of Plant Industry, Soils and Agricultural Engineering, Beltsville, Md., discusses "Menace to the Nation's Oaks."

HORTICULTURE

Strontium in Lime May Aid Crop and Fruit Production

► BENEFICIAL EFFECTS of liming of soils for crop and fruit production may be due to small amounts of strontium supplied along with the calcium and the correction of acidity.

Strontium sprays have corrected a whitening of peach tree leaves, called chlorosis, in experiments by Drs. Benjamin Wolf and S. J. Cesare of Bridgeton, N. J., reported in the journal, SCIENCE (May 30).

Large applications of lime or gypsum can supply considerable amounts of strontium, since a ton per acre of calcium material contains two pounds of strontium. Yet most crops remove only about 50 pounds of calcium an acre.

Science News Letter, June 7, 1952

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