

MEDICINE

Shorter Polio Recovery

Streamlined, overall care program for polio patients will shorten convalescence time. Physical therapy methods need reexamination.

➤ A "STREAMLINED" overall care program for the paralyzed polio patient will shorten his convalescence and save money as well as time, Dr. Charles L. Lowman of Los Angeles declares in a report to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (July 21).

The usual method of giving physical therapy for 12 to 16 months, in the hope of restoring muscle strength, before operations are undertaken should be reexamined, Dr. Lowman declares.

Recovery of muscle strength "starts toward a plateau at the sixth month and flattens out about the eighth month," Dr. Lowman observes from results of one large survey.

If an operation is needed for further recovery, it should not be delayed after this time, appears to be Dr. Lowman's opinion. It is not necessary to wait another year or so. In fact, deformity may be avoided and

recovery speeded if needed operations are performed early.

Important also in deciding about operations is the state of the trunk and shoulder girdle muscles. Improvement through muscle training in the muscles of a paralyzed arm will not help if the shoulder girdle remains weak. It may even lead to deformity unless muscle transplanting operations are done to strengthen the weak shoulder girdle. The same is true of leg and trunk muscles.

Almost half the patients who recover without significant weakness or paralysis could be discharged from hospital care much earlier than they now are if the isolation care period is reduced to one week, Dr. Lowman states.

Money and time can also be saved by training parents, public health personnel and volunteer workers to take over some home physical therapy treatment of polio patients.

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PETROLEUM ENGINEERING

Naphtha Aviation Gas

➤ LOW-GRADE virgin gasolines, naphthas rated at 55 octane, are converted into high-octane aviation gasoline by a new process developed by the M. W. Kellogg Company of New York.

The process employs what is called a fluid hydroformer. It replaces the so-called fixed-bed hydroforming. Products range from 98 to 175 in octane rating. With pilot plant tests completed, construction will start soon on the first commercial fluid hydroformer. It will be at the Destrehan, La., plant of the Pan-Am Southern Corporation. It will be a 2,000-barrel-per-day-unit.

A hydroformer is a refinery device used in the process of improving petroleum products in which hydrogen is used. In the fixed-bed type, the catalyst employed to aid in the conversion processes is in a stationary position. In the fluid hydroformer the same principle is used as is now widely employed in the fluid catalytic cracking process. It utilizes a finely powdered catalyst which is supported on vapors throughout the retort and acts as a turbulent fluid.

The new process has several advantages over the fixed-bed hydroformers built during World War II to provide great quantities of toluene and aviation gasoline. In

these earlier hydroformers, reaction beds had to be taken out to be regenerated. The new fluid catalyst system withdraws the catalyst in a continuous process, regenerates it and returns it in a continuing cycle to the retort.

It is expected that the new process will give yields up to five per cent higher than the old, due largely to the uniform temperature throughout the bed. The final gasoline product will also contain less butane. The process is of particular interest at the present time because of the greatly increased demands for fuels in aviation.

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PHYSICS

Jets Won't Catch Up With Bullets They Shoot

➤ SCIENTISTS ARE just beginning to worry about a problem peculiar to the jet age: With jet planes attaining such fast speeds, will they catch up with their own bullets and do themselves damage?

So far, the answer is: Possible, but highly improbable. This is the way Orin P. Gard, chief of the analysis and evaluation unit

at the Air Development Force, Wright-Patterson Air Force Base, puts it in the ARMY INFORMATION DIGEST (July):

"For all practical purposes, the likelihood of the airplane overtaking its own bullets and suffering damage from them can be neglected. In the case of an abused gun firing unstable bullets at lowered muzzle velocity, however, the likelihood might be increased."

Study of the possibility of a jet plane bringing itself down with its own guns comes under the heading of "aeroballistics" a word derived from aerodynamics and ballistics. In aeroballistics, the problems of shooting various kinds of projectiles—bombs, bullets, rockets and guided missiles—from planes are studied.

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NUTRITION

Ice Cream Meal for Persons on Reducing Diet

➤ SALAD LUNCHES or dinners, tempting to many in hot weather, are no treat to the person on a reducing diet who may eat salad for lunch the year around. He can vary the monotony, with perhaps extra pleasure these hot days, by making a meal of ice cream. Two dishes of plain ice cream make a satisfying reducing lunch for a physically active man, according to figures worked out by Dr. A. C. Dahlberg at the New York State (Cornell) Experiment Station at Ithaca, N. Y.

This ice cream lunch would supply from 200 to 400 calories. This would be a reducing meal for an active 154-pounder who needs about 3,000 calories to maintain his body weight. If you are on a reducing diet that calls for fewer than 3,000 calories, and most of them do, you can figure how many calories you have left for the other two meals and decide whether you want to use 200 or 400 of them for an ice cream lunch. Such a lunch might be especially convenient on a day when you have to get lunch in a hurry at a counter where sandwiches, cake and pie might otherwise tempt you.

The protein of the ice cream, Dr. Dahlberg pointed out in a report to the U. S. Department of Agriculture, is in good relation to its calories. The ice cream lunch would also provide important minerals and vitamins. Its sugar relieves hunger promptly. Its milk sugar and milk fat are digested more slowly, and thus furnish energy gradually for a few hours.

Ice cream is really a nutritious food rather than just a sweet ending for a meal. Besides offering top quality protein, it gives calcium and several essential vitamins. Recent studies show that one of these vitamins, riboflavin, in ice cream is more fully used by the body than riboflavin in some other foods. This is important because people who do not take much milk are likely to run short of this vitamin.

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