

SURGERY

New Stomachs for Patients

Seven cancer patients who had to have their own stomachs removed given new ones by surgical operation to serve as a food reservoir like normal stomachs.

➤ NEW STOMACHS have now been given to seven cancer patients who had to have their own stomachs removed to save them from cancer death.

Encouraging results in three patients are reported by Dr. C. Marshall Lee, Jr., of the University of Cincinnati College of Medicine, whose early experiments were announced last October, as reported by SCIENCE SERVICE.

The other four patients are mentioned by Dr. Lee, in a report to the American Cancer Society, as having been operated on by another surgeon following similar principles.

The first patient operated on by Dr. Lee was a 53-year-old man with a large cancer involving the outer curvature and back of the stomach. The patient was out of bed the second day after the operation. Two weeks later tests showed, as did X-ray pictures later, that his new stomach was functioning satisfactorily as a food reservoir and its emptying time was that of a normal stomach.

"The patient says he feels as well as he ever had in his life," Dr. Lee states. "His appetite is normal and he eats three normal meals a day."

The new stomach was made from part of the large intestine that runs up the right

side of the abdomen from the appendix region. It is called the right, or ascending, colon. By cutting this free and also a few inches of small intestine and rotating them counter-clockwise, they can be brought up into the stomach location. The piece of small intestine is the right size for sewing directly to the gullet down which food is swallowed into the stomach.

The colon-stomach cannot do much digesting of food, but it can absorb water, act as a reservoir for food and pass it along into the intestines. It is usually not involved even when a stomach cancer has grown to large size, so it is a healthy organ for use as a substitute stomach.

The reservoir function of the new stomach is important because it lets the patient eat normal meals without discomfort and so helps keep him nourished. Difficulty with this in the past has occurred in some of the many cases in which the entire stomach was removed.

Dr. Lee reports that early results "are encouraging" also in the other two patients given colon-stomachs. Long-term results cannot be judged yet. Dr. Lee states the operation should be reserved for patients in whom there is definite hope of cure.

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AERONAUTICAL ENGINEERING

New Tullahoma Center

➤ THE GOVERNMENT Arnold Engineering Development Center under construction at Tullahoma, Tennessee, gives promise of becoming one of the most important applied science and testing stations in the world.

While under the wing of the U. S. Air Force, other branches of the armed services will have a voice in its activities. It is for the development of equipment for all government agencies. It is to develop and test equipment designed for supersonic and hypersonic speeds, both aircraft and missiles, jet propulsion, jet engines and to evaluate all types of air vehicles during their engineering phases. Its work will not be confined wholly to aviation.

The site selected for this laboratory near the southern border of middle Tennessee, has many advantages. It is an inland area far enough from coastal regions to be relatively safe from enemy bombing. It has a plentiful water supply. More im-

portant is the abundant electrical energy available. This will come from the hydroelectric plants of the Tennessee Valley Authority. Electric power in large quantities is needed in a station which will operate large wind tunnels and other facilities for equipment testing.

Another advantage of the location is its nearness to the Atomic Energy laboratories at Oak Ridge. The two sites are only about 100 miles apart. As further progress is made in developing atomic power to airplane propulsion, this may prove important.

Many buildings are planned for this science center. The first laboratory will be an engine test facility. It will surpass similar facilities at the Wright-Patterson Air Force Base in Ohio by perhaps six times.

What may be the world's largest and most powerful wind tunnel is on the program. It will be a continuous-flow type, within which air forced by powerful blowers circles and recircles. Some 200,000 horse-

power may be required to operate it. The tunnel will have two test sections. One will be for supersonic speeds, the other for speeds in the transonic range.

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NUTRITION

Frozen Meat Drip Rich in B Vitamins

➤ SAVE THE "drip" from frozen meat in order to prevent waste of B vitamins. This advice to cooks and housewives comes from the Nutrition Foundation in New York.

More than 12% of the thiamine and 10.3% of the riboflavin, 14.5% of the niacin, 9.4% of pyridoxine, 33.3% of the pantothenic acid and 8.1% of folacin of a good grade of commercial frozen beef appeared in the "drip" when the meat was thawed for 14 to 15 hours, according to studies reviewed by the Foundation.

Since meats supply 30% to 50% of thiamine, niacin and riboflavin in the average American diet, cooking frozen meat before thawing and using the cooking juices in soups or gravies are advised for good nutrition.

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ICHTHYOLOGY

Blue-Fin Tuna Carry Hooks for Science

➤ THOSE WHO fish for blue-fin tuna this summer along the New England coast may catch \$2 more than the price the tuna would normally bring.

To learn something about the life history and the migrations of the blue-fin tuna, biologists of the Woods Hole Oceanographic Institution, Woods Hole, Mass., and of the Fish and Wildlife Service had serial numbers stamped on hooks, then distributed them to blue-fin tuna fishermen in the Bahamas. Many times these fish break off the hook after a strike, carrying the hook with them.

A record of the place and date of the loss of marked hooks is kept and \$2 will be paid for recovered hooks by the U. S. Fish and Wildlife Service.

Blue-fin tuna have become an important fishery resource along the eastern Atlantic shores from New Jersey to Nova Scotia, both as a commercial catch and in terms of general sport-fishing expenditures. The tagging program is only a part of the general biological studies to determine the age, rate of growth, spawning season, spawning areas and migration of the blue-fin tuna.

Present study will show whether the schools of blue-fins swimming past the Bahamas in the spring are the same tuna that are caught along the coast from New Jersey to Nova Scotia during the summer months.

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