

MEDICINE

Time With Patients Important for Interns

► PATIENTS show dissatisfaction and poor cooperation because interns spend so little time with them, a study in Grace-New Haven Hospital, New Haven, Conn., indicates.

The need for security may be a basic reason for interns spending so much time in conferences rather than with their patients, the pilot study suggested. But the finer techniques of doctor-patient relationship should be learned during the period of formal training, the researchers advised.

Other possible reasons for spending only five or six hours a day with their patients may be:

The need for approval, tolerance and reassurance, especially from the intern's peers.

The need for acquiring specific techniques and knowledge of medicine, which he divorces from patient care.

The need to learn how to relate to other professionals in his first year as a professional.

The need to compete and move ahead "on the basis of his diagnostic and pathophysiological acumen" rather than on the basis of his capacity to offer thorough patient care.

The study is reported in *The New England Journal of Medicine*, 264:439, 1961, by Drs. Henry E. Payson, instructor in psychiatry and medicine, Yale University School of Medicine; Eugene C. Gaenslen Jr., intern, Philadelphia General Hospital; and Fred L. Stargardt, intern, University of Virginia Hospital, Charlottesville.

• Science News Letter, 79:168 March 18, 1961

AGRICULTURE

Sugar Deadly as Poison As Nematode Killer

► ORDINARY SUGAR has been found one of the best worm killers ever known. Not particularly harmful to earthworms, the sugar is as deadly as poison to the tiny round worms, or nematodes, that parasitize and sicken food-producing plants and trees.

This is the first time a substance not generally classed as toxic has been shown to be a nematode killer. Unlike other pesticides, the sugar kills by dehydrating the worm. It literally shrivels him up into dust. So effective is the method that in some of the tests, scientists could not find a trace of the worms—even with a microscope—24 hours after they had been doused in sugar water.

How deadly sugar is to nematodes was discovered by plant pathologist W. A. Feder at the U.S. Department of Agriculture's Horticultural Field Laboratory at Orlando, Fla., almost by accident. He had added cane sugar, or sucrose, to soil to test its value as a nutrient for nematodes and nematode-capturing fungi. Twenty-four hours later, he found a large number of the nematodes gone.

Later tests showed that the nematodes

thrived on weaker sugar solutions but died when more concentrated ones were used.

A one percent sugar solution kills every nematode in 24 hours when soil moisture is one to two percent. Different soil moisture conditions require different sugar concentrations. Some of the plants, such as okra, thrived on the sugar, while citrus trees and corn were retarded.

However, the sugar can be flushed out of the soil when all the worms are dead and the plant or tree goes on to grow normally, Mr. Feder reported in *Agricultural Research*, 9:3, 1961.

• Science News Letter, 79:168 March 18, 1961

ANIMAL HUSBANDRY

Identical Twin Calves Sought by Veterinarians

► VETERINARY SCIENTISTS at the U.S. Department of Agriculture and at Kansas State University, Manhattan, are looking for identical twin bull calves for research purposes.

Identical twin calves are rare. They are developed from a single cell and essentially are one animal with two bodies. They are always the same sex, look very much alike, and react in much the same manner.

Such twins have been used to test antibiotics and different diets, to show that the tendency to bloat is inherited, and to learn how bacteria in a cow's paunch help digest feed.

USDA will buy either purebred, grade or crossbred beef-type bull calves less than five months old if they are within a 250-mile radius of Washington, D.C. KSU is searching for identical twin dairy animals, either bull calves or females up to three year old, within a 500-mile radius of Manhattan, Kans.

Anyone within the designated areas who finds suitable animals in his herds should contact Dr. Everett J. Warwick, chief, beef cattle research branch, Animal Husbandry Research Division, Beltsville, Md., or Dairy Department, Kansas State University, Manhattan, Kans.

• Science News Letter, 79:168 March 18, 1961

SURGERY

Boiling Water Method Relieves Nerve Ailment

► BOILING WATER has been used to destroy nerve cells for relief of a painful nerve ailment.

This technique, used also to induce lesions in the frontal lobes, destroys nerve cells in the gasserian ganglion and gives permanent relief to persons suffering from tic douloureux, a form of neuralgia of the facial nerve.

Dr. Rudolph Jaeger of Jefferson Medical College, Philadelphia, told the American College of Surgeons meeting in Philadelphia that 300 patients have been treated with the hot water method.

He said the results achieved from this method are far better than from operative and medical therapy.

• Science News Letter, 79:168 March 18, 1961

IN SCIENCE

MEDICINE

Organism Found in Chicken and Eggs

► RAW EGGS and undercooked chickens can be dangerous. Both the hen and the egg may be carrying the organism that causes brain-damaging encephalitis in children and a spotted fever-like disease in adults.

Three Indian scientists found and for the first time definitely identified, the protozoan, *Toxoplasma gondii*, in eggs. Although the laying hens showed no signs of illness, and had no relevant antibodies in their blood, the organism was found in their livers, brains, ovaries and diaphragm muscles.

Toxoplasma organisms from the tissues of the hen were much more powerful than those from eggs. Tissue strains killed mice in five days, and egg strains did not kill mice even when allowed to gain strength.

Since chicken usually is adequately cooked, most of the disease-producing *Toxoplasma* probably are killed.

But raw eggs are another matter. The scientists, Drs. P. G. Pande, R. R. Shukla and P. C. Sekariah of the Indian Veterinary Research Institute at Mukteswar-Kumaon (U. P.), India, report in *Science*, 133:648, 1961, the probability that raw eggs are sources of human infection "needs urgent and immediate attention."

• Science News Letter, 79:168 March 18, 1961

SURGERY

Clogged Bile Duct Results in Gallstones

► WHEN THE BILE DUCT, connecting the gallbladder with the small intestine, becomes clogged for four to six months, gallstones result.

So conclude Drs. Albert Behrend and David J. Lieberman of the Albert Einstein Medical Center as a result of their experiments with dogs.

They reported that even a partial closing of the common bile duct, when left up to six months, resulted in stones. On examination, the gallbladder was distended and its wall thickened. Both gallbladder and bile duct contained thick muddy bile with small stones present, they told the American College of Surgeons meeting in Philadelphia.

They said the number and size of the stones formed was directly proportional to how much the bile duct was closed together and for how long. During the experiments the animals kept their normal weight and no evidence of jaundice appeared.

They said these studies suggest that narrowing or inflammation of part of the bile duct may be important in the formation of gallstones in man.

• Science News Letter, 79:168 March 18, 1961

CE FIELDS

MEDICINE

British Surgeon Calls Smoking Drug Addiction

► DOCTORS should help people overcome the tobacco habit, a British surgeon said, charging that smoking is a severe form of drug addiction and related to cancer of the lung.

Dr. Ronald W. Raven, Royal Marsden Hospital and Institute of Cancer Research, London, said in the British Medical Journal, March 4, 1961, that the serious rise in the occurrence of lung cancer in Great Britain and other countries "is a tremendous challenge to preventive medicine."

He said that although lung cancer is "now the greatest menace of all varieties of cancer and the harbinger of death to increasing thousands of people who will die in their prime," the solution of this problem is well known.

Dr. Raven said the extensive evidence "associating tobacco smoking and lung cancer is clear for all to study," and added that the effects of nicotine on the tissues in relation to cancer should be investigated.

The effects of nicotine on the unborn child should be studied, the surgeon said, "since nicotine can pass through the placental circulation." He raised the possibility of cellular changes in the fetus that may show effects in later life.

Apart from lung cancer, however, Dr. Raven said the lethal force of cancer has diminished and the outlook for men and women is better.

"A much greater international effort is required," he concluded, noting that more effective use should be made of present knowledge and that new ideas and clues are urgently required.

• Science News Letter, 79:169 March 18, 1961

PUBLIC SAFETY

Infant Gas Protectors Tested for Defense

► CHILDREN UP TO four years old may be protected with special equipment being tested by the U. S. Army Chemical Corps in anticipation of possible chemical and biological warfare.

With the support of the Office of Civil and Defense Mobilization, the Army Chemical Corps also is working on a new gas mask for protection of adults.

Col. George D. Rich, deputy assistant director of chemical, biological and radiological defense, OCDM, Battle Creek, Mich., said that 25,000 civilian masks would be distributed to state and local OCDM offices for demonstration by the end of 1961.

"The General Tire and Rubber Company is working with the Army Chemical Corps in testing the masks," Col. Rich said, "but eventually they will be made by

manufacturers for retail sale at \$2.50 each. It will be up to individuals to buy them for their own protection."

Col. Rich said the infant protectors are being tested at Dugway, Utah, by the Army Chemical Corps.

"The protectors are pup-tent-like devices," he explained, "with a strong aluminum frame along with a vinyl plastic covering. There are two large filter pads similar to civilian mask equipment."

Children will be provided with clear plastic windows to see out, and an apron-like flap can be rolled up for putting toys, milk bottles, etc., inside, Col. Rich said.

A larger filter system for shelters is ready for installation at one of the eight regional OCDM headquarters at Denton, Tex., where a shelter is to be built. This also is the product of Army Chemical Corps testing.

• Science News Letter, 79:169 March 18, 1961

TECHNOLOGY

Reference Point Chosen On Temperature Scale

► A NEW POINT on the centigrade temperature scale has been chosen as a standard reference for precise scientific measurements.

The National Bureau of Standards, Washington, D. C., said that the temperature value of 0.01 degree centigrade has replaced the freezing point, which was defined as 0.00 degree centigrade, as one of the fixed points on the scale. Although no temperature values on the scale were changed, more accurate temperature measurements will be obtained because of the new fixed point.

The new value, which is actually very near the freezing point, was chosen because it can be obtained more easily and accurately in the National Bureau of Standards laboratories.

Fixed points are the standard temperatures from which all temperature instruments are calibrated. They serve as an accurate base for all temperature relationships in the centigrade scale.

The fixed points are part of the "International Practical Temperature Scale of 1948" that is used as a standard in many countries.

• Science News Letter, 79:169 March 18, 1961

GENERAL SCIENCE

Grants for Advanced Science Writing Program

► COLUMBIA UNIVERSITY has received grants of \$100,000 each from the Alfred P. Sloan Foundation and the Rockefeller Foundation for an advanced science writing program.

The program, one of the first aimed at improving public information in science, is designed to give science writers an opportunity to broaden their scientific knowledge and to improve their interpretation techniques in new scientific developments.

The program was established three years ago by grants from the same foundations.

• Science News Letter, 79:169 March 18, 1961

NATURAL RESOURCES

Proper Management Of Water Urged

► PROPER MANAGEMENT of water resources will help stem the mushrooming need for more water throughout the world.

Wasteful squandering of man's water supply is evident throughout history, V. C. Williams, a consulting engineer, told the Society of Mining Engineers meeting in St. Louis. Converting sea water to fresh water will solve only part of the water problem.

Mr. Williams strongly urged industry to use water consumed for industrial purposes over and over again to sharply reduce industrial demand.

More than half the water in the United States is used for power and industrial purposes. To produce one ton of aluminum requires 350,000 gallons of water.

By recirculating water, a steel company in California reduced its water consumption from 65,000 gallons to 1,200 gallons per ton, Mr. Williams reported.

With the cost of natural fresh water increasing and converted salt water decreasing, the oceans should be considered in management plans, he said. Such factors as the natural fresh-water supply, power sources, and distance from ocean will determine a town or city's extent of salt water use.

The Society of Mining Engineers met as part of the annual meeting of the American Institute of Mining, Metallurgical, and Petroleum Engineers.

• Science News Letter, 79:169 March 18, 1961

MEDICINE

Breast Cancer Victims Aided by Gland Removal

► IN CASES of inoperable cancer of the breast or recurrence of the cancer locally, removal of the pituitary or adrenal glands is of almost equal benefit.

An analysis of some 800 cases showed an average survival period of 20 months among patients who benefited from removal of the pituitary gland and an average of 22 months among those who benefited from removal of the adrenal glands.

An editorial in the Journal of the American Medical Association, 175:800, 1961, comments on the preliminary report of a joint committee of the American College of Physicians and the American College of Surgeons based on data pooled from 12 medical centers.

No other major form of human cancer "displays the vagaries, extremes and oddities of natural history encountered in cancer of the breast," the editorial states.

Results of the analysis indicate the two operations induce the same hormonal alterations that allow a regression of the disease in the responsive patient, the editorial concludes.

Removal of the two hormone-secreting glands is a part of hormonal treatment used in widespread breast cancer because of the influence of hormones on the breast.

• Science News Letter, 79:169 March 18, 1961