

## MEDICINE

**Temporary Infection  
Birth Control Method**

► YEASTS OR bacteria in the womb and its opening might be used as a physiologic method of birth control if they can safely be transferred from one patient to another.

This possibility is one of 20 leads to birth control by physiologic methods, instead of contraceptive devices, listed by Dr. Paul S. Henshaw of the Planned Parenthood Federation of America in New York.

These bacteria or yeasts sometimes exist unnoticed in a woman's uterus or vagina. Recent studies, however, have shown that they must be responsible for a woman's failure to have wanted children. After elimination of these organisms by antibiotic treatment, women who had harbored the yeasts or bacteria were able to become pregnant.

If they can safely be transmitted from one person to another, the problem would be merely one of eliminating them by antibiotic treatment during periods when the woman wanted conception.

A substance known as Wharton's jelly offers another possible means of physiologic birth control. This substance is the soft, pulpy connective tissue that constitutes the matrix of the umbilical cord which unites mother and child before the baby's birth. A crude extract of it used as an antigen has given positive results in controlling fertility.

Some of the leads have developed to the stage where pilot testing must be considered, he states in *Science* (May 29). These, Dr. Henshaw said, are the enzyme chemical, phosphorylated hesperidin; the female hormone, progesterone; an extract from the desert plant, *Lithospermum*, and the antifolic acid chemical, aminopterin.

Science News Letter, June 13, 1953

## SURGERY

**Bone Becomes "Brace"  
In Polio Operation**

► THIRTY OF 33 patients who had suffered polio could take off their leg braces after an operation described to the American Medical Association's Section on Orthopedic Surgery meeting in New York.

In effect, the operation substitutes a stiff ankle for the brace to get rid of a condition called "flail foot." This is an aftermath of poliomyelitis in which there is abnormal mobility of the feet as a result of paralysis.

Details of the procedure were explained by Dr. Walter S. Hunt, Jr., chief of the orthopedic service of three North Carolina hospitals, and Dr. Hugh A. Thompson, consulting orthopedist at the hospitals.

They explained that the operation is one that has been almost forgotten for more than 40 years. It involves removal of the ankle bone. Once out, the surgeons peel the bone of its cartilage, covering and other

material. Then other bone in contact with the ankle bone is also scraped, clean and roughened.

Once that is done, the ankle bone is put back in its bed, the incision is closed and a plaster cast is applied. This stays on until the ankle bone and the bone in which it ordinarily rests grow together.

The result is a stiff foot which can support the patient and allows him to walk even better than did his discarded braces.

The operation has been performed on 40 patients. Of 38 followed up, excellent and good results were observed in 31. Seven had fair results. None was a failure.

Thirty-five of these patients had paralytic feet. Thirty-three wore braces before the operation. Thirty discarded their braces after the operation.

Science News Letter, June 13, 1953

## SURGERY

**Plastic Put Into Head  
To Repair Skull**

► PLASTIC REPLACEMENTS for parts of the skull can be made faster by a method that is giving good results in early trials at the Mayo Clinic, Rochester, Minn.

Acrylic plastic called pentocryl, used for making dental plates, is mixed as a paste, poured into place and molded with the fingers to the size and shape needed to repair the skull defect.

When once it becomes hardened, it is very solid, hard to break and has a small element of flexibility. This prevents distortion from bending such as may occur in a steel or tantalum skull replacement. Changes in atmospheric temperature do not cause discomfort and the plates are radiolucent.

Seven patients have now had these new type, molded-in-place plastic plates put into their skulls. The defects the plastic replaced were from about an inch square to about four inches square. In one or two of the patients the holes in the skull were of such size and shape that they would have been very hard to repair with the ordinary methods of making plates before putting them in place.

This easier shaping and sizing of the new method, plus greater speed in making the skull replacement, are its chief advantages over earlier ways of using metal or plastic to replace parts of the skull removed for various reasons.

The method was devised by Dr. E. Woringer of Alsace-Lorraine. It has been used at the Mayo Clinic by Drs. Henry W. Dodge, Jr., and Winchell McK. Craig. The longest time patients have been followed with the new plates is about five months.

So far the new plates have been satisfactory. The doctors pointed out in their report to the Mayo Clinic staff meeting, however, that the small number of patients and the short time make it difficult to be sure of the end results.

Science News Letter, June 13, 1953

**IN SCIEN**

## ENDOCRINOLOGY

**Antihormone Stops  
Gland Over-Function**

► LITTLE GIRLS who turn into women too young and some women troubled by glandular over-functioning can be helped by treatment which induces antihormone formation in their bodies, it appears from studies reported at the meeting of The Endocrine Society.

The studies were made by Drs. William O. Maddock, Ichiro Tokuyama, Robert B. Leach and William R. Roy of Wayne University College of Medicine, Detroit.

A seven-year-old girl whose ovaries had started to function like a grown woman's was one of the patients helped by the treatment.

The treatment consisted in giving injections of a hog pituitary extract which contained mainly an ovary-stimulating hormone called FSH. Estrogen, or female hormone, excretion at first increased to as high as 50 times the pretreatment level in some patients. But by the second or in some cases the third month of treatment, antihormones formed. The amount of female hormone fell to below the level before treatment.

In the case of the precocious little girl, signs of ovarian function stopped and the female hormone level remained low for four months after treatment was stopped. Then symptoms appeared again. A second course of treatment with the hog FSH again reversed the situation. In 10 days antihormones formed and female hormone dropped to normal for her age.

Science News Letter, June 13, 1953

## MEDICINE

**Stomach Juices Do Not  
Digest Stomach Ulcers**

► STOMACH JUICES can digest a lot, but they do not digest stomach ulcers. The reason is that the inflammation of the ulcerated area protects against stomach juices.

Studies showing this were reported by Dr. Hans Selye of the University of Montreal, Canada, at the meeting of the International Academy of Proctology in New York.

The protection breaks down, however, under certain influences such as the hormones, ACTH, cortisone and hydrocortisone, and under intense stress of the whole system. That, according to Dr. Selye's theory, is why these hormones aggravate stomach ulcers and why intense worry or emotional strain causes a stomach ulcer to perforate.

Science News Letter, June 13, 1953

# CE FIELDS

## PHYSICS

### Cosmic Rays Constant For Last 35,000 Years

► THE HIGH energy bombardment by cosmic rays that the earth receives from outer space has not varied more than 10% to 20% over the last 35,000 years, Dr. J. Laurence Kulp and Herbert L. Volchok of Columbia University's Lamont Geological Laboratory, Palisades, N.Y., have concluded.

For the last 4,000 years, the radiocarbon dating by means of carbon 14 compares satisfactorily with historical dates. For older ages, the carbon 14 of layers of mud in deep sea cores checked satisfactorily with ages given by the method based on radioactivity of ionium.

Cosmic rays smashing into the upper atmosphere continuously change nitrogen atoms into radioactive carbon with an average life of approximately 8,000 years. This allows the use of the radioactive carbon as a geological clock.

The Columbia scientists report their research in the *Physical Review*, (May 15).

Science News Letter, June 13, 1953

## MEDICINE

### To Fight Poliomyelitis Use Gamma Globulin

► THIS SUMMER we have one more weapon for fighting poliomyelitis. This is gamma globulin, or GG for short. It is the part of human blood that contains disease-fighting antibodies. It has been used for many years to combat measles.

Last summer scientists reported it to be an effective but temporary preventive of crippling caused by polio. Unfortunately, GG is in extremely short supply. It takes just about one pint of blood to make an average GG polio-shot.

There will be only about one million doses of it available from now until September, and there are about 46 million children and adolescents in the age groups most likely to get polio.

The Office of Defense Mobilization, a government agency, is solely responsible for distribution of the nation's supply of GG. The supply comes either from blood donated to the Red Cross or from blood purchased by commercial companies. All this commercially produced GG is being purchased for the nation's stockpile by the National Foundation for Infantile Paralysis.

Parents cannot buy GG. The family doctor or the child's doctor can get it through the local health officer if it is possible for a child to get it. Whether or not a particular child gets it depends on the avail-

able supply and the method of allocation, which is chiefly to children in a family in which there is already one case of polio.

Meanwhile, there are certain rules and precautions to follow during the polio season. Health authorities and the National Foundation for Infantile Paralysis recommend the following: 1. Do not let children mix with new groups, 2. Or get overtired, 3. Or get chilled, 4. But DO keep them clean. And consult your doctor if these symptoms appear: headache, fever, sore throat, upset stomach, stiff neck or back.

Science News Letter, June 13, 1953

## MEDICINE

### Tropical Plant Yields Blood Depresser Chemical

► A DRUG with "marked" sedative and blood-pressure-reducing effect has been extracted from the root of the tropical plant, *Rauwolfia serpentina*.

It is believed to be the active compound of this plant which has long been used, in crude form, in India. Among its users for its nerve-quieting, sleep-inducing effect was Mahatma Gandhi.

The drug has been named Serpasil by its manufacturers, Ciba Pharmaceutical Products, Inc. Research leading to the drug's extraction was directed by Ciba scientist Dr. Emil Schlittler.

Tests so far show that it may be useful for prolonged treatment of high blood pressure. Early distribution of the drug to doctors and hospitals and a broad program of further trial on patients are planned, Dr. F. F. Yonkman, vice president of Ciba, reported.

Science News Letter, June 13, 1953

## ENDOCRINOLOGY

### Better Chemical Weapons Against Cancer of Thyroid

► BETTER CHEMICAL weapons against cancer of the thyroid gland in the neck may be forged in the future as a result of a discovery by Drs. Jacob Robbins, J. E. Rall and R. W. Rawson of Memorial Center for Cancer and Allied Diseases, New York.

Certain cancers of the thyroid, they discovered, form a "unique iodine compound." The compound is different from other iodine compounds formed in the thyroid gland and has never before been found in the blood.

Discovery of the substance was announced at the meeting of The Endocrine Society in New York.

It is considered significant and likely to lead to better future treatment of thyroid cancer, because each difference found between normal and cancer cells points a route through which cancer cells may be vulnerable to attack without harming normal cells.

Science News Letter, June 13, 1953

## CHEMISTRY

### Pine Gum Acid May Help Air Force in Cold North

► PINE TREES growing in southeastern United States soon may help the Air Force stay aloft in the Arctic's frigid winter climate.

The trees produce pine gum from which special lubricants can be made. The lubricants help jet engines start and run in temperatures that plunge to 75 degrees below zero Fahrenheit. The synthetics remain fluid at those low temperatures, and do not become gummy like ordinary petroleum lubricants.

Chemists of the Office of Naval Research, working with scientists of the Department of Agriculture, have made pinic acid out of one of turpentine's major constituents, alpha pinene. They have mixed high-boiling alcohols with the pinic acid to obtain the excellent qualities desired for the synthetic.

At present, pinic acid has been made only on a test tube basis, but one commercial method of manufacturing the fluid now is being explored by Armour Research Institute. The Georgia Institute of Technology is expected to try out another method soon. The Bureau of Agricultural and Industrial Chemistry's Southern Regional Research Laboratory in New Orleans also is searching for ways to turn out big batches of pinic acid economically.

Science News Letter, June 13, 1953

## NUTRITION

### Too Much Vitamin A May Cause Defective Babies

► A HINT that too much vitamin A in pregnancy may lead to stillbirth of the baby or a baby born defective appears in studies by Dr. Sidney Q. Cohlan of the pediatrics department of Beth Israel Hospital and New York University College of Medicine and the children's medical service, Bellevue Hospital, New York.

Dr. Cohlan's studies were made on rats. When he fed excessive amounts of vitamin A to 100 pregnant rats, only 10 carried their young to term. This "successful pregnancy rate" of 10% compares with one of 88% for a group of 50 pregnant rats that got the same diet except for the excessive vitamin A.

Of the 74 offspring in the 10 litters from the excessive vitamin A rats, 34 were born with gross deformity of the skull and brain, a deformity rate of 54%. None of the 410 offspring of the control rats had any deformities at birth, he reports in *Science* (May 15).

The deformed rats all were born with their brains protruding onto the outside of their heads. Some had, in addition, such deformities as enlarged, protruding tongue, hairlip, cleft palate and gross defects in eye development.

Science News Letter, June 13, 1953