

MEDICINE

## New Pregnancy Test

**Gives the answer in only two hours and with 97% accuracy. New test uses rats, of which no shortage is reported, instead of valuable rabbits.**

► A NEW TEST that foretells blessed events with 97% accuracy was demonstrated by four physicians of Mt. Sinai Hospital, New York City, at the meeting of the New York State Medical Society in Buffalo. The doctors presenting the test are Dr. Udall J. Salmon, Dr. Samuel H. Geist, Dr. Charles S. Poole, and Dr. A. Austin Salmon.

Speed and low cost are the chief advantages of this new pregnancy test. Its speed may help save the lives of some women.

The doctor making it can tell within two hours whether or not the woman is going to become a mother. Older pregnancy tests required from 48 to 96 hours to complete.

The new test is made with rats instead of rabbits. Widely used in other pregnancy tests, rabbits are now very

expensive, costing as much as \$3.50 apiece when they can be obtained. Increasing use of rabbits for meat has caused such a shortage that in the New York City area it was often impossible for days on end, Dr. Salmon said, to get any for pregnancy tests.

The rats cost from 40 to 60 cents apiece, and a doctor can keep two to four rats, which is all the supply he needs, in a box in his office, Dr. Salmon pointed out. Keeping rabbits for the older pregnancy test is a much more involved and space-consuming procedure. There is no shortage of rats, Dr. Salmon said, adding wryly that he doubts whether these animals will be diverted to food purposes.

The new pregnancy test is based on a new observation. If the kidney excretions of a pregnant woman are in-

jected into an infant rat, a marked engorgement of the blood vessels in the rat's ovaries will occur within two hours after the injection. The older pregnancy tests were based on the development, after injection of the same material, of graafin follicles in the test animal's ovaries. This required about 48 hours. Apparently, Dr. Salmon said, no one looked at the ovaries of the test animal immediately, so that the blood vessel engorgement was missed.

The new test has been used in 948 cases. If the patient is pregnant the chances of a correct diagnosis are 97 or 98%. If she is not pregnant, the test is 100% accurate. With tests using rabbits, on the other hand, there was a one-half or one percent chance of inaccuracy in the case of a non-pregnant woman.

The speed with which the new test gives the answer, as early as two hours, and always within six hours, is especially important in cases of ectopic pregnancy. In such cases, the baby is beginning to develop outside the womb and an operation must be performed to save the mother's life. The earlier the doctor knows that the condition is a pregnancy the earlier he can operate and the better the patient's chances. The test also gives positive results in cases of pregnancy accompanied by hydatid mole or by a certain kind of tumor.

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**DONE WITH MIRRORS**—With this optical sighting gage invented by General Electric engineers, the sights of a Garand rifle can be correctly adjusted in less than two minutes and without firing a shot. The job used to take up to 13 rounds of ammunition.

ENGINEERING

## New Gage Aligns Sights Of Garands Without Firing

► IT'S ALL done by mirrors, without firing a shot. A new precision gage operated by a girl will correctly adjust the sights of each Garand rifle in less than two minutes.

The job formerly took two men twice as long and used up as much as 13 rounds of ammunition on a rifle range. All the rifle now fires during a test is a light ray.

Reflected by mirrors onto a ground glass screen in the image of a cross, the ray permits the operator correctly to position the rifle. Magnified shadows of the front and rear sights are then brought into the same relative positions by adjustment of the rear sight.

The idea for this optical sighting gage was conceived by N. F. Barnes and K. R. Geiser of General Electric's general engineering laboratory. Their colleagues, C. B. Sitterson and William Fears, handled the mechanical engineering and design, respectively.

What the gage actually does is to transfer the sight setting from a master rifle, correctly sighted by actual firing, to rifles sighted in the laboratory equipment.

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#### PUBLIC HEALTH

### Death Rate Is Rising; Pneumonia Worrisome

► THE DEATH RATE is rising and the pneumonia situation is particularly worrisome, it appears from the Statistical Bulletin of the Metropolitan Life Insurance Company.

A 5.5% increase in mortality among the company's industrial policy holders was recorded for the first quarter of this year as compared with last year's figure. For the country as a whole, an even greater rise in mortality has probably occurred. In the 90 major cities of the United States there were 9.2% more deaths reported for the first 13 weeks of 1943 than for the corresponding weeks of 1942. In New York City the death rate so far this year is about 8.5% higher than for the same period last year.

The war cannot be blamed directly for the increase in mortality, it appears. Among the company's industrial policy holders, the rate for deaths from enemy action for the first quarter of 1943 was more than twice that for the first quarter of 1942, but this, it is said, "does not account for the unfavorable turn in mortality for 1943. Most of the rise in rate this year has resulted from other causes."

Pneumonia seems to be the chief factor. The death rate for the first quarter of 1943 is low compared with rates prior to 1941, but is 21% higher than last year's rate for the first quarter. Virus pneumonia, also called "atypical pneumonia of unknown etiology," has made up a large proportion of pneumonia cases during the past season, and this type of pneumonia is not affected by sulfa drug treatment.

Seeking to allay the fear that the rise in the pneumonia death rate pre-figures another world-wide flu-pneumonia epidemic, the Metropolitan Life Insurance Company health authorities point out that virus pneumonia is different from both influenza and the pneumonia which accompanied influenza in 1918.

"Nevertheless, the situation needs careful watching," they state.

"The war effort would be seriously hampered by an increase in pneumonia mortality or even by a continuation of the recent level."

Meningitis mortality also increased sharply in 1943. Disquieting also is the increase in deaths from cancer, diabetes, cerebral hemorrhage, diseases of the coronary arteries and angina pectoris and the chronic heart diseases. With the exception of diabetes, the 1943 death rates for all of these are the highest on record.

#### MEDICINE

## Unsafe Jobs for Youths

When boys and girls of 16 or 17 years go to work in a war factory, they should not be placed where lead is concentrated in atmosphere.

► WHEN boys and girls 16 or 17 years old go to work in a war factory, there are certain jobs that are safe for them and others which are too dangerous. Grown-ups, for example, can, unless they are unusually susceptible, work in an atmosphere in which there are 1.5 milligrams of lead in every 10 cubic meters of air. Such an atmosphere is not safe for boys and girls, in the opinion of the U. S. Children's Bureau.

Young workers at the age of 16 or 17 are considered in general more susceptible to lead poisoning than older workers. They are less likely to appreciate that special safeguards and personal cleanliness are necessary to protect themselves from the danger of lead and its compounds.

No workers under 18 years of age, the Children's Bureau advises, should be employed at the following types of work:

1. Work in connection with the production of white lead or other salts or oxides of lead.
2. Work in workrooms in which lead salts or oxides are used in such a state that they give rise to lead dust in the air.
3. Work in occupations in which metallic lead is regularly used in the molten state.
4. Work in connection with tetraethyl lead.

Types of work suitable for young workers, provided the work is done in rooms segregated from those in which lead compounds are used in the dry state

Fatal accidents in the home have increased, in spite of the fact that there is very little unemployment and less time is spent in the home now than before the war.

Only cheerful spots on the current health picture are the marked decline in maternal mortality, especially noteworthy in view of the increased birth-rate, and the continued decline in the tuberculosis death rate which was 6.8% less in the first quarter of 1943 than in the same period last year.

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and are essentially free from lead in the atmosphere, are:

1. Can filling and labeling in paint factories.
2. Marking and testing of storage battery cases.
3. Shipping-department work.
4. Machine-shop, woodworking, and other shopwork not covered by existing regulations.
5. Laboratory work.
6. Office work.

Further details about safe and unsafe work for young workers appear in a series of advisory standards being issued by the Children's Bureau, U. S. Department of Labor.

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#### MEDICINE

### New Sulfa Drug Is Two To Four Times as Potent

► A NEW sulfa drug has been developed which promises to be a more potent weapon against intestinal infections, such as dysentery, than its predecessors in the sulfa family. Phthalylsulfathiazole is its name. It is announced in a report by Dr. Edgar J. Poth and Dr. Charles A. Ross, of the University of Texas Medical School, to the Society for Pharmacology and Experimental Therapeutics.

It has two to four times the germ-checking power of succinylsulfathiazole. Doses by mouth at four-hour intervals have not caused any toxic symptoms in dog or man.

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