

MEDICINE

PKU Test Kit Price Hit

A simple blood test which indicates the presence of potential mental retardation can be administered to babies throughout the United States at low cost—By Faye Marley

➤ A SIMPLE BLOOD TEST to prevent a severe form of mental retardation called phenylketonuria, or PKU, is being administered to newborn babies in all states in the Union except Alaska, at the lowest possible cost.

The U.S. Public Health Service canceled a contract for test kits with the Ames Company, a subsidiary of Miles Laboratories, Elkhart, Ind., a year ago to insure that rights in a pending patent application would belong to the Government.

A charge of excessive price on Ames test kits was made in the Senate by Sen. Russell B. Long (D-La.) as chairman of the Senate Small Business Committee's Monopoly Subcommittee. He claimed the cost was \$262 for a 500-test kit worth \$6.00.

The blood test, named after its developer, Dr. Robert Guthrie of the State University of New York, Buffalo, was reported by SCIENCE SERVICE in 1961. In 1962 the U.S. Children's Bureau announced that the Guthrie test would be used in a mass screening program of some 400,000 newborns. Hospitals, health departments and specified laboratories agreed to cooperate.

Officials of the Bureau told SCIENCE SERVICE that in 14 states, between 90% and 100% of hospitals with maternity services are now using the test.

In seven states, from 50% to 89% are using the test, which means that more than half of the hospitals with maternity services in 21 states are screening babies a few days after they are born. They are mainly using their own materials at considerably less cost than those in commercial kits.

Many hospitals are still using a urine test, and the Ames Company originally produced test kits containing Phenistic, which tests fresh urine in a diaper.

George Orr Jr., president of the Ames Company, said in a telephone interview that the company had never charged \$262 for its blood test kits. He said the price is \$67.71 for 325 tests and that the cost of production is many times the \$6.00 mentioned by Sen. Long.

He said "The kit contains filter paper and a set of plastic trays for growing bacteria after blood samples are added."

PKU is an inherited condition estimated to affect some 400 babies a year in this country. These children cannot absorb an amino acid called phenylalanine, and therefore must be denied such high-protein foods as milk, meat and eggs. Unless they are promptly treated, large amounts of phenylalanine in the blood will prevent the brain from developing normally.

• Science News Letter, 87:357 June 5, 1965

SURGERY

Laser Light Beam Can Heal or Damage Eyes

➤ THE LASER BEAM used in delicate eye surgery can either heal or impair eyesight, two scientists warn.

As a surgical tool, laser radiation can heal a detached retina, the light-sensitive membrane at the back of the eye, so quickly that the patient feels no pain.

However, this same laser beam could accidentally produce the same effect on the retina of the doctor or researcher using the laser, possibly causing eye damage. Since the reaction is so quick, the researcher might not even be aware of the damage to his vision.

To protect laser researchers, C. Hermas Swope and Dr. Charles J. Koestler of the

American Optical Company's Research Laboratories, have found that special goggles can reduce accidental hazards from specific kinds of pulsed laser radiation.

These goggles, made from a "stack" of two absorbing glass filters with a clear plastic plate behind them, will absorb laser radiation without shattering.

In Applied Optics, May 1965, the scientists make five specific recommendations for safeguarding the eyes in a laser laboratory, including periodic eye examinations.

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PSYCHOLOGY

Echoes Indicate Object Size to Blind People

➤ WHEN A BLIND person listens to echoes bounce off metal targets that are nearly the same size, he can tell which target is larger or smaller.

The ability to distinguish between objects with slightly different sizes has led Charles E. Rice and Stephen H. Feinstein of the Stanford Research Institute, Menlo Park, Calif., to conclude that the human ear can make "relatively fine size discriminations" just from echoes.

In their study, four men who had been blind for at least five years were trained to produce echoes by sounding a variety of noises—from sharp tongue clicks to elongated "S" sounds.

From the test, conducted in a specially constructed relatively noise-free room with sound-absorbing walls, ceiling and floor, the researchers set up different sized targets at varying distances in front of the men.

They found that the men could distinguish between objects with a difference of only seven percent in size.

The distance of the man from the target made little difference in his ability to tell which target was larger or smaller, the researchers noted in Science 148:1107, 1965.

Although the way a blind person makes these fine discriminations is still unknown, Mr. Rice and Mr. Feinstein believe the intensity of the echo may be a clue.

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HORTICULTURE

Rose Award Winners Announced by AARS

➤ THREE NEW and vibrant roses were named as winners of the All America Rose Selections competition for 1966.

The winners are American Heritage, a hybrid tea rose, Matterhorn, a free-blooming hybrid white tea, and Apricot Nectar, a floribunda.

The roses survived two years of intensive trials in 23 official AARS test gardens strategically located to encompass all soils and climates in the United States. They were competing with many other hybrid offspring from rose breeders throughout the world. During this period they were numerically rated for every characteristic that is important in the quality of a rose, such as bud form, flower form, floriferousness, foliage, vigor, habit and disease resistance.

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All America Rose Selections

AWARD WINNERS—The winners of the 1966 All America Rose Selections competition are, from left to right, Apricot Nectar, Matterhorn and American Heritage.