

MEDICINE

Measles Vaccines Ready

The long-awaited measles vaccines are being placed on the market now that final standards have been released by the U.S. Public Health Service—By Faye Marley

► MEASLES can be wiped out in this country in two years if parents have their children vaccinated. This does not apply to German measles, or rubella, caused by another virus.

With the licensing of two types of vaccines approved by the Public Health Service, Dr. Luther L. Terry, Surgeon General, said the public should take advantage of their benefits.

The live, weakened vaccine (available immediately in limited quantity from Merck Sharpe & Dohme), accompanied by an injection of gamma globulin, is the method of choice recommended by the Surgeon General's advisory committee on measles control. But this vaccine should not be used in a number of cases ranging from egg sensitivity to pregnancy and leukemia.

The killed vaccine, which Chas. Pfizer & Company has been licensed to produce, must be given in three doses at monthly intervals, whereas one shot of the live vaccine has been shown effective for four years. Dr. Terry said there was no proof that the killed vaccine gives immunity beyond six months. Because of this, one or more booster shots appear to be necessary but when or with what frequency they will be required is not known.

Even with the addition of gamma globulin, some mild measles symptoms may be expected when the live vaccine is injected, but only about 15% have rectal fever higher than 103 degrees Fahrenheit. Fever, often

severe with the live vaccine alone, and the occurrence of rash are noticeably reduced.

Vaccine is recommended for children who have not had the disease, beginning at nine months and as soon after that as possible. Babies younger than nine months do not respond to immunization because of the presence of maternal antibody. Most adults are immune to measles, so vaccine is hardly ever needed by them.

Children who have had doses of gamma globulin in relation to other illnesses will be immune to measles vaccine about six weeks, Dr. Roderick Murray, chief of the PHS division of biologics standards, told SCIENCE SERVICE. After that, vaccination should be successful.

Dr. Murray said "plenty" of gamma globulin should be available for the needs of children in this country. Already nearly 50,000 children have taken part in preliminary tests in the U.S.

Although the needs of American children will be met first, it is expected that enough vaccine will soon be available for other parts of the world, where the death toll from measles is extremely high.

The Agency for International Development has set aside \$500,000 to purchase vaccines and equipment, and to train, under PHS supervision, teams of technicians in a dozen African nations.

More than four million cases of measles, with 400 deaths a year, occur in the U.S.

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collaborators, his friends say. Dr. Enders plans to continue his work in virology, trying to solve some of the problems of immunology. He has done some work on virus and cancer, but he told SCIENCE SERVICE he never has much to say until his work is finished.

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New Findings Reported On German Measles

► IF AN EXPECTANT mother has German measles in the first eight weeks of her pregnancy, there is a one-in-five chance that her baby will be abnormal.

Reminiscent of the baby tragedies caused by the drug, thalidomide, when taken in similar early pregnancy, New Zealand physicians report in the British Medical Journal, March 16, 1963, that multiple defects in hearing, eyes and heart occurred among children of women who had such rubella attacks.

Twelve out of 67 births to women who had German measles in the 1959 epidemic in Auckland showed multiple abnormalities.

Even when the rubella attacks happened later in pregnancy, there were some abnormalities.

One mother who contracted rubella when pregnant for 39 weeks gave birth to a baby without an outer ear. One case of mental retardation and two of single heart ailments were also reported by Drs. G. C. Liggins and L. I. Phillips of the National Women's Hospital, Auckland, New Zealand.

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Enders, Vaccine Pioneer

► THE MEASLES VACCINE pioneered by Dr. John F. Enders of Harvard University will save more lives than the polio vaccine he made possible through the tissue culture work that won him and his collaborators the 1954 Nobel Prize in Medicine and Physiology.

Although polio can be crippling, it never caused as many deaths, even before polio vaccine was available, as do measles and its complications, which are responsible for more than 50% of deaths from acute communicable diseases in the less developed countries.

It has taken nearly ten years for other scientists to build on the 1954 work of Dr. Enders, who that year isolated a strain of the measles virus with a collaborator at Harvard, Dr. Thomas Peebles. Dr. Enders proceeded with the development of the live weakened measles vaccine, and his work later was adapted in the development of the inactivated vaccine. Both types are expected to be on the market in a matter of weeks.

"The most modest scientist I have ever known" is the way an acquaintance at the National Institutes of Health, Bethesda, Md., described Dr. Enders.

The soft-spoken scientist barely missed being an English teacher. During his graduate work at Harvard, a classmate introduced him to the famous professor of biology and immunology, Dr. Hans Zinsser.

Dr. Enders, now 66 years old, still looks upon his professor, with whom he worked for nearly 15 years, as his master.

In accepting one of many awards, Dr. Enders said he would be especially pleased if he had succeeded in adding another example to an idea expressed by Dr. Zinsser. This idea was that scientific discovery is rarely made by inspiration from on high. The scientist follows his predecessors, showing his intelligence by choosing what important stepping stones will lead to new understanding.

Following in his "master's" footsteps, Dr. Enders himself has inspired students and



University of Washington

NEW HEARING TEST—A Seattle school nurse is shown checking the hearing of students with the tiny new testing instrument held in her hand. Developed at the University of Washington, the "single frequency audiometer" can test hearings in less than 20 seconds per student.