MEDICINE

Hope for Polio Victims

Sister Kenny Treatment To Help Rescue From Crippling Those Stricken With Infantile Paralysis this Summer

By EDWIN D. NEFF

WITH ANOTHER summer at hand every parent is anxious to learn what new hope in prevention and treatment medicine can offer against the danger of infantile paralysis.

Answers to questions most often asked about this disease will bring you up to date:

What Is the Most Important Recent Development?

Undoubtedly, the "Sister Kenny" treatment, named for its inventor, Miss Elizabeth Kenny, an Australian nurse ("Sister" is a title for nurses in the British Empire). The usual treatment for paralyzed limbs of infantile paralysis patients is immobilization with splints and braces. Miss Kenny substitutes carefully guided exercise, exactly the opposite. That her results are excellent is attested by reports on two series of infantile paralysis patients in a recent issue of the Journal of the American Medical Association. The National Foundation for Infantile Paralysis has approved her methods.

What Is the Kenny Treatment?

It is a three-stage technic which begins with hot, moist flannels applied to the painful, contracted muscles.

First and most dramatic effect is the relief from pain. When warmth has relaxed the muscle, skillful manipulation of the limb is begun by an operator who knows the human muscle system as a professional pianist knows the keyboard. Eventually, the patient himself is allowed to practice moving the limb until he can use it without help. Only early cases are given the Kenny treatment. When the treatment is begun in time, the typical crippling deformities of the infantile paralysis are avoided, and smooth coordinated movement of the limb is again possible.

The "swimming" treatment, or underwater exercise, is different from the Kenny method in that it is given to late cases. After the limb has been immobilized with splints or braces to give perfect rest, warm water is an excellent medium in which to increase joint motion without discomfort.

The "swimming" treatment at the Georgia Warm Springs Foundation is given as part of an extensive program. A recent report of experiences at Children's Hospital School, Baltimore, Md., states that "if a child has recovered sufficiently so that the weight-bearing muscles have above 70% of their normal power and are well balanced, walking in water furnishes an excellent means of beginning activity without danger of strain."

Miss Kenny began her methods in the Australian Bush, where doctors were many miles distant. She had her first success in 1910, and immediately attempted to get medical recognition. Because her methods differed so sharply from the standard methods, they were coolly received. As recently as 1938 an Australian Medical Commission condemned the method completely in every detail. In March of 1940 Miss Kenny came to America. Today her treatment is believed by many physicians to be the treatment of choice in early cases of infantile paralysis.

Is the Kenny Treatment Generally Available?

Not yet, but the National Foundation for Infantile Paralysis will undertake to send trained physicians and nurses to any community which suffers a serious outbreak. It is now training physicians, nurses and physiotherapists in various phases of the treatment. These three groups will train others in their home communities. Information about the treatment in your community can be had from your local health department, your chapter of the Foundation, or the local medical society. Do not try to give the treatment yourself without a doctor's advice.

The National Foundation is able to provide this training because it is backed by funds given by hundreds of American communities in donations and in subscription to President Roosevelt's Birthday Balls. Since its organization in January, 1938, $2,702,009.79 has been left with individual chapters throughout the

OLDER WAY

Exercising under water, as demonstrated in the pool at famous Georgia Warm Springs Foundation, is still good practice for late cases.

NEW TREATMENT

How the splintless treatment is applied to child is shown by Sister Kenny (nurse at right).

country. Research grants totaling $189,525.25 have been recommended for this year by the Foundation's medical advisory committee. To train more persons in methods of treatment, particularly the Kenny method, grants totaling $50,120 have been recommended. For research into improved methods for prevention and treatment of crippling after effects of infantile paralysis, grants totaling $41,290 were recommended, and another total of $98,115.25 for research into the nature of the infantile paralysis germ.

What Causes Infantile Paralysis?

A germ so tiny it will pass through fine-grained porcelain filters. After this germ, or virus, enters the body it attacks the central nervous system, possibly other nervous systems and even the muscles themselves. It sometimes causes paralysis, but not always. Some cases are so mild neither physician nor patient suspect anything. Little is known about the virus, and so far no cure for the disease it causes is known. The Kenny treatment is not a cure, but according to report it does reduce deformities if begun early.

Compared to a common childhood disease such as diphtheria (15,536 cases in 1940), infantile paralysis is relatively rare (9,826 cases, 1940). But the fatality rate among those who do have it, is just as high. It kills one patient for every ten patients reported, while diphtheria kills one patient in eleven reported. However, these figures probably overestimate the fatality rate of infantile paralysis and underestimate its occurrence, because there are many mild cases which are not recognized at all, or are mistakenly reported as other diseases. About 75 per cent of reported cases develop paralysis. When treatment is begun early, many of these patients recover with little or no disability.

How Is Infantile Paralysis Spread?

Two theories are getting the most attention. One holds that insects, flies and mosquitos spread the disease among humans. The virus has been found in the bodies of flies trapped during an epidemic. Other studies indicate that infantile paralysis is spread by human contact. The U. S. Public Health Service inclines toward the latter theory. An interesting sidelight is the tendency of the disease to strike severely after exhausting exercise on the part of the victim. The exercise does not cause the disease, but may result in its striking more severely. How the virus enters the body also is unknown at present; the gateway may be the nose or mouth, possibly both.

What Can a Parent Do to Protect a Child from Infection?

There is evidence that this may be a filth disease, hence good sanitatary practice should be observed. Severe chilling during swimming is unwise. Authorities advise that tonsil operations and tooth extractions should be postponed if possible when there is an epidemic of infantile paralysis in the community. Likewise, the child should be kept from crowds during outbreaks or epidemics. The advice of a competent physician should be sought if the child has headache, fever, nausea and stiffness of joints—typical first symptoms of infantile paralysis.

What About Preventive Vaccines?

According to Dr. Thomas M. Rivers, director, The Hospital of The Rockefeller Institute for Medical Research, there is, at present, "no safe, efficient vaccine for human use." Whether there ever will be, says Dr. Rivers, is problematic. Many attempts have been made to vaccinate humans and monkeys. None has been successful. "Vaccination" to create immunity to a disease may be attempted by the introduction of the disease germ in small doses or in killed or weakened form into the body so that natural defensive forces are set in motion. Unfortunately, the virus of infantile paralysis does not act in this manner with any clear success.

Are Respirators (Iron Lungs) Useful?

When nerves which control the muscles used in breathing are damaged so that these muscles do not function, the respirator, or iron-lung, is consistently useful. Only in these cases, however, is the respirator consistently useful. It is occasionally helpful when the nerve centers of the brain which presumably control

the rate, rhythm and depth of breathing, are disturbed. The respirator is rarely effective and sometimes harmful when the difficulty in breathing is caused by the collection of mucus or other material resulting from paralysis of the mechanism involved in swallowing, the mechanism which ordinarily keeps things from going down the "Sunday throat." Doctors stress that the iron lung is not a device of desperation. It is most useful in protecting the muscles of the many mild cases of paralysis.

The respirator is a motor-driven device which enables the lungs to take in and expel air with a minimum use of the muscles which normally perform this function.

A final word as to the seriousness of infantile paralysis is contained in the opinion of Dr. Josephine B. Neal, visiting neurologist of the Willard Parker Hospital, New York City, who points out that while infantile paralysis "is perhaps the disease most feared by parents, its seriousness is really over-estimated when one considers the following facts:" 1. The "undoubtedly" large number of light cases which cannot be accurately diagnosed, but which confer immunity (it may be that your child is so protected); 2. The large percentage of cases of the type where there is no paralysis; 3. Cases in which, though paralysis is present, if proper treatment is begun early enough, patients will recover with little or no disability.

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● RADIO

Saturday, June 20, 1:30 p.m., EWT

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Dr. George C. Vaillant, director of the University Museum, University of Pennsylvania, will speak about America's Anonymous Inventors, the Indians.

Tuesday, June 16, 7:30 p.m., EWT

Science Clubs of America programs over WRUL, Boston, on 6.04, 9.70 and 11.73 megacycles.

One in a series of regular periods over this short wave station to serve science clubs, particularly in the high schools, throughout the Americas. Have your science group listen in at this time.

GENERAL SCIENCE

Each College a West Point or Annapolis in Proposed Plan

System of Federal Scholarships Urged To Aid Officer Material Among Boys Financially Unable To Pay Tuition

TO MOBILIZE young men of college age most effectively for war service, a ystem of Federal military scholarships is being advocated by an educational group under the leadership of President James B. Conant of Harvard. Every major college would become a sort of West Point or Annapolis under this plan.

About 250,000 boys graduating from high schools each year would enter training at colleges and universities throughout the nation wih the aim of becoming officers in the immense army that the nation is organizing to win the war.

At present three plans are put forth by the Navy and the Army under which about 160,000 are expected to enter college to continue for a time their studies with some chance of becoming leaders in the military services. One of these is the Navy V-1 plan under which the boys are likely to stay in college for two years. The Army has two plans: the aviation cadet program now underway and the Army enlisted corps just announced.

Young men of 16 to 21 in college and about to go to college, President Conant finds, are "perplexed and bewildered" as to how they may best serve their country. They are told, on the one hand, that they may best serve by continuing their studies, while on the other hand, the Army and the Navy are undertaking active recruiting among them.

Pointing out that this is a problem of life or death with many of them, President Conant advocates that the young men and the colleges should be relieved of the responsibilities of making such decisions.

Neither should potential officer training by the colleges be limited to those whose parents have enough money to send them to college, it is argued. In many cases just as much ability exists among the 350,000 high school male graduates who do not go on to college as among the 250,000 who enter college.

The proposed plan would remedy the inequality of educational opportunity that now keeps many intellectually capable boys from going to college and, at present, taking the first step toward a military commission.

The proposed plan might apply to 100,000 young men each year and would cost about $100,000,000 a year to get started. Regional or state boards would be established to pick out the boys who would receive the scholarships and the training would take place at colleges near their homes.

In its present form the Federal scholarship plan would need Congressional authorization to be inaugurated and it would supplement the Army and Navy plans for those who enlist under the present training plans. Girls are not included in present plans.

President Conant announced the proposed plan at the Harvard War Institute for newspaper men.

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