

Plan for the Allocation of Gamma Globulin

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Packaging

Gamma globulin for the prophylaxis of measles and infectious hepatitis shall be packaged in 2 cc. vials.

Gamma globulin for the prophylaxis of poliomyelitis shall be packaged in 10 cc. vials.

Allocation for Measles and Infectious Hepatitis

The States and Territories shall be allocated prophylactic doses of gamma globulin not to exceed 1.5 times the number of cases represented by the 5-year (1947-1951) median for measles; *except* that the allocation to any State or Territory shall not be less than the mean annual distribution of Red Cross gamma globulin during the 5-year period, fiscal years 1948-52.

The reported incidence of measles in the States and Territories shall be reviewed at monthly intervals, and supplementary allocations may be made on the basis of unusual measles morbidity.

Allocation for Poliomyelitis

Approximately 57 percent of the total supply of gamma globulin estimated to be available for the prophylaxis of poliomyelitis shall be distributed to State and Territorial health departments in a predetermined fashion based on their past and current experience with poliomyelitis. A reserve of approximately 33 percent shall be retained by the national allocating authority for mass community prophylaxis. An additional contingency reserve of ten (10) percent shall be retained

by the national allocating authority for unusual or special situations for emergency distribution and for special investigations.

The State or Territorial health officer shall have full responsibility for the distribution of the gamma globulin allocated to him. He shall decide the modes of prophylaxis which are most appropriate for use within his jurisdiction.

Allocation of gamma globulin shall be made as follows:

Basic Allocation. Prior to May 1, 1953, each State and Territory shall receive an allocation which shall be computed as the product of 60 cc. and the average of the number of cases reported annually in the State or Territory for the 5-year period, 1947-1951.

Additional Allocation. After May 1, States and Territories shall receive, at appropriate intervals, additional allocations of 60 cc. for each reported case in excess of the mean cumulative annual incidence for the same seasonal period. (States have been requested to report current experience in terms of paralytic and nonparalytic cases. It may be necessary to make adjustments in these additional allocations to individual States, depending upon the proportion of paralytic cases reported.)

Supplementary Allocation. About July 1 and at biweekly intervals thereafter until October 1, supplementary allocations will be made to States or Territories; these allocations will be in proportion to the typical seasonal incidence of poliomyelitis in the

United States for the period following the allocation at a level designed to distribute the supply available for this purpose to the States by October 1. The allocations to the States and Territories will be proportional to the morbidity then being reported in each State.

Allocation for Mass Community Prophylaxis. Special allocations from the reserve retained by the national allocating authority for mass prophylaxis shall be available on application. Applications for such special allocation shall be made by the State or Territorial health officer to the national allocating authority.

Criteria for Use

The following methods are suggested for the use of gamma globulin in the prophylaxis of poliomyelitis. The choice of the method or combination of methods to be used will vary with the incidence of the disease and with other factors within the local area. The dose recommended, irrespective of the method used, is 0.14 cc. per pound of body weight which is believed to be the minimal effective dose.

Mass Community Prophylaxis. Expert opinion is in agreement that there is direct proof of the effectiveness of gamma globulin in the prophylaxis of poliomyelitis when used during epidemics on a community basis in child populations of an age group at unusually high risk. Mass community prophylaxis will be effective in direct proportion to the height of the attack rate that occurs in the first to fifth week following mass inoculation. Such rates are not easily predictable under many circumstances; they almost never occur in populations over 100,000 and rarely in populations over 50,000. In small populations under 15,000, the epidemic may be over before its existence is appreciated.

Household Contacts of Clinically Diagnosed Cases. There is also substantial scientific evidence that gamma globulin, when given within 1 week before the onset of disease, will modify the severity of the attack. It may be assumed that many of these individuals with

modified disease were infected prior to the injection of gamma globulin. These findings are interpreted as evidence that gamma globulin, if administered to the apparently normal household contacts of clinically diagnosed cases immediately following diagnosis, may afford effective prophylaxis or modification to many. Therefore, it is recommended that gamma globulin be made available for administration to household contacts of cases. In conjunction with such use, studies should be encouraged with the objective of obtaining more specific evidence of the effectiveness of gamma globulin used in this way.

When used for the prophylaxis of contacts of clinically diagnosed cases of poliomyelitis, the following criteria are recommended:

Household contacts 30 years of age or under.
Pregnant women of any age.

Other Intimate Contacts of Clinically Diagnosed Cases. The inoculation of other intimate contacts will require great care if it is to be an effective method of utilization. Its greatest value is visualized in rural communities and small discrete and well defined suburban communities where the total number of intimate extra-household contacts is limited. Areas where this method is to be used should be certified by local allocation authorities after careful consideration of the circumstances. The method automatically becomes closely similar to a small mass community prophylaxis program. The danger in the method is the risk that too large a demand for the gamma globulin will be built up so that the equitable supply to the area is exhausted. Special procedures for distributing the gamma globulin to the physician in the area will have to be set up. Health officers are cautioned in the use of this method, but it is recommended that they be permitted to use it in a carefully controlled fashion, in limited areas where local conditions adequately justify the procedure.

Household Contacts of Suspected Cases. It is recognized that certain areas with high epidemic potentialities will not be found satisfactory for the mass injection of all children. A compromise plan might then be substituted.

During a severe epidemic there is a possibility that suspect cases, rather than confirmed cases, would serve as guides to some of the children most likely to have been very recently exposed or currently undergoing exposure. Injection of these children may have a selected advantage since some of these suspect cases will represent true primary infections in families and the whole train of possible subsequent paralytic cases occurring after the span of one incubation period would be prevented. Based on cases prevented to thousands of injections given this method may have some advantage. On this basis, this method can in no way be considered less effective per dose given than injection of all children at one specific time.

Distribution Within the State or Territory

While it is recognized that the exact method of distribution will vary within the States and Territories, it is recommended that:

Private physician should request gamma globulin from the local health department or other health authority.

It is further recommended that in order to

obtain gamma globulin for prophylaxis, physicians should be required to furnish the name and date of onset of the case, as well as the names, ages, and weights of household contacts to be inoculated.

It is also recommended that the basic allocation of 60 cc. per case reported (p. 666, col. 2, l. 12-30) be interpreted to indicate the average amount needed for prophylaxis of household contacts of clinically diagnosed cases. The actual amount distributed to the physician for this purpose will vary depending on the number and ages of the household contacts involved.

Public Education

It is recommended that:

In a coordinated program of public education, the Office of Defense Mobilization make widely known such details of the allocation plan as it may see fit to adopt and implement.

If desired by the Office of Defense Mobilization, the Panel on Allocation of Gamma Globulin shall undertake further consideration of a plan for public education both lay and professional.

Current Readings on Gamma Globulin and Poliomyelitis

Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis. IV. Final Reports of Results Based on Clinical Diagnosis.

By William McD. Hammond, M.D., Dr. P. H.; Lewis L. Coriell, Ph.D., M.D.; Paul F. Wehrle, M.D.; and Joseph Stokes, Jr., M.D.

In *Journal of the American Medical Association*, volume 151, pp. 1272-1285, April 11, 1953.

Gamma Globulin—What Is It? What Does It Do?

By Sam T. Gibson, M.D.

In *The American Journal of Nursing*, volume 53, pp. 700-703, June 1953.

Four Phases of the Polio Problem:

1. Michael Reese Hospital's Over-all Plan.

By Morris H. Kreeger, M.D.

2. Medical Management of Bulbar Cases.

By James A. Downing, M.D.

3. The Nurse's First Job; Establish Confidence.

By Jacquelyn Cook.

4. Make Room for Physical Therapy.

By Lorette Sullivan.

In *The Modern Hospital*, volume 80, pp. 90-106, June 1953.

Hospital Service During a Poliomyelitis Epidemic.

By Genevieve M. Fahey, R.N.

In *Hospitals*, volume 27, pp. 60-61, May 1953.

Methods of Predicting Total Cases of Poliomyelitis During Epidemic Periods.

By F. M. Hemphill, Ph.D., F.A.P.H.A.

In *American Journal of Public Health and the Nation's Health*, volume 42, pp. 947-955, August 1952.