

5. Endeavour to maintain in your district such a succession of cases as will enable you uniformly to vaccinate with liquid lymph directly from arm to arm; and do not, under ordinary circumstances, adopt any other method of vaccinating. To provide against emergencies, always have in reserve some stored lymph;—either *dry*, as on thickly-charged ivory points, constantly well protected from damp; or *liquid*, according to the method of Dr. Husband, of Edinburgh, in fine, short, uniformly capillary (not bulbed) tubes, hermetically sealed at both extremities. Lymph, successfully preserved by either of these methods, may be used without definite restriction as to time; but with all stored lymph caution is necessary, lest in time it have become inert or otherwise unfit for use. If, in order to vaccinate with recent liquid lymph, you convey it from case to case otherwise than in hermetically-sealed capillary tubes, do not ever let more than eight hours intervene before it is used.

6. Consider yourself strictly responsible for the quality of whatever lymph you use or furnish for vaccination. Never either use or furnish lymph which has in it any, even the slightest, admixture of blood. In storing lymph, be careful to keep separate the charges obtained from different subjects, and to affix to each set of charges the name, or the number in your register, of the subject from whom the lymph was derived. Keep such note of all supplies of lymph which you use or furnish, as will always enable you, in any case of complaint, to identify the origin of the lymph.

7. Never take lymph from cases of re-vaccination. Take lymph only from subjects who are in good health, and, as far as you can ascertain, of healthy parentage; preferring children whose families are known to you, and who have elder brothers or sisters of undoubted healthiness. Always carefully examine the subject as to any existing skin-disease, and especially as to any signs of hereditary syphilis. Take lymph only from well-characterized, uninjured vesicles. Take it (as may be done in all regular cases on the day week after vaccination) at the stage when the vesicles are fully-formed and plump, but when there is no perceptible commencement of areola. Open the vesicles with scrupulous care to avoid drawing blood. Take no lymph which, as it issues from the vesicle, is not perfectly clear and transparent, or is at all thin and watery. From such a vesicle as vaccination by puncture commonly produces, do not, under ordinary circumstances, take more lymph than will suffice for the immediate vaccination of five subjects, or for the charging of seven ivory points, or for the filling of three capillary tubes; and from larger or smaller vesicles take only in like proportion to their size. Never squeeze or drain any vesicle. Be careful never to transfer blood from the subject you vaccinate to the subject from whom you take lymph.

8. Scrupulously observe in your inspections every sign which tests the efficiency and purity of your lymph. Note any case wherein the vaccine vesicle is unduly hastened or otherwise irregular in its development, or wherein any undue local irritation arises; and if similar results ensue in other cases vaccinated with the same lymph, desist at once from employing it. Consider that your lymph ought to be changed, if your cases, at the usual time of inspection on the day week after vaccination, have not, as a rule, their vesicles entirely free from areolæ.

9. Keep in good condition the lancets or other instruments which you use for vaccinating, and do not use them for other surgical operations. When you vaccinate, have water and a napkin at your side, with which invariably to cleanse your instrument after one operation before proceeding to another.

JOHN SIMON.

N.B.—Supplies of lymph are furnished to medical practitioners on personal application at 3, Parliament Street, London, S.W., between the hours of 12 and 2; or by letter (unstamped) addressed as follows:—

To the Medical Officer, Local Government Board,
3, Parliament Street, London, S.W.

National Vaccine Establishment.

Enclosure 2 in No. 28.

MEDICAL DEPARTMENT OF THE PRIVY COUNCIL OFFICE.

I.—Re-Vaccination.

By vaccination in infancy, if thoroughly well-performed and successful, most people are completely insured, for their whole lifetime, against an attack of small-pox; and in the proportionately few cases where the protection is less complete, small-pox, if it be caught, will, in consequence of the vaccination, generally be so mild a disease as not to threaten death or disfigurement. If, however, the vaccination in early life have been but imperfectly performed, or have from any other cause been but imperfectly successful, the protection against small-pox is much less satisfactory; neither lasting so long, nor while it lasts being nearly so complete, as the protection which first-rate vaccination gives. Hitherto, unfortunately, there has always been a very large quantity of imperfect vaccination; and in consequence the population always contains very many persons who, though nominally vaccinated and believing themselves to be protected against small-pox, are really liable to infection, and may in some cases contract as severe forms of small-pox as if they had never been vaccinated. Partly because of the existence of this large number of imperfectly vaccinated persons, and partly because also even the best infantine vaccination sometimes in process of time loses more or less of its effect, it is advisable that *all persons who have been vaccinated in infancy should, as they approach adult life, undergo RE-VACCINATION.* Generally speaking, the best time of life for re-vaccination is about the time when growth is completing itself, say from 15 to 18 years of age, and persons in that period of life ought not to delay their re-vaccination till times when there shall be special alarm of small-pox. In proportion, however, as there is prevalence of small-pox in any neighbourhood, or as individuals are from personal circumstances likely to meet chances of infection, the age of 15 needs not be waited for, especially not by young persons whose marks of previous vaccination are unsatisfactory. *In circumstances of special danger, every one past childhood, on whom re-vaccination has not before been successfully performed, ought without delay to be re-vaccinated.*