

National Vaccine Establishment of London //
[Description of the vaccine vesicle,
and instructions relating to vaccination,
issued by the National Vaccine Estab. of
London; reissued by H. S. Clark, City
Phys. CITY OF BOSTON. of Boston.]

CITY PHYSICIAN'S OFFICE, }
Court Square, Oct., 1859. }

DEAR SIR: —

I transmit to you herewith a supply of fresh Vaccine Lymph, derived from stock recently obtained from the "National Vaccine Establishment" at London, with the request that you would use it at your earliest occasion, in accordance with the directions of the Board hereby annexed.

I also respectfully urge upon you the importance, in consideration of the prevalence of variolous infection this season, of *Re-vaccinating* all those members of a family to which you may be called in attendance on a case of Variola or Varioloid, who have not been thus already completely protected; for it now seems to be quite proved that *all persons in whom Re-vaccination has been repeated until it ceases to "take," will forever after be perfectly secured against any attack of VARIOLOID, as well as of Variola.*

Lymph is dispensed at this office, without any expense, to medical practitioners belonging to any part of the city, from twelve to one o'clock, daily; Sunday excepted.

Very respectfully,

HENRY G. CLARK, *City Physician.*

NATIONAL
VACCINE ESTABLISHMENT,
NO. 8, RUSSELL PLACE,
FITZROY SQUARE, LONDON.

THE BOARD, appointed by Her Majesty's Government to regulate the affairs of this Establishment, is constituted of the PRESIDENT of the ROYAL COLLEGE OF PHYSICIANS; the PRESIDENT of the ROYAL COLLEGE of SURGEONS; the MEDICAL OFFICER of the GENERAL BOARD of HEALTH; and the SENIOR CENSOR of the ROYAL COLLEGE OF PHYSICIANS.

ORDERED, by the Board, that the following Description of the Vaccine Vesicle, and Instructions relating to Vaccination, be circulated for general information.

Description of the regular Vaccine Vesicle.

WHEN Vaccination has been successfully performed, a small red spot is formed, on the third day after the operation. If this spot be touched, an elevation is felt; and, if it be examined with a magnifying glass, the little tumour appears surrounded with a very slight efflorescence.

The Tumour gradually enlarges, and about the sixth day a circular Vesicle appears. The edge of the Vesicle is elevated, but its centre is depressed. It is at first of a light pink colour; sometimes of a bluish tint, and changes by degrees to a pearl color. The centre is somewhat darker than the surrounding parts.

The Vesicle is hard to the touch. In its internal structure it is cellular; the cells are filled with transparent Lymph.

It commonly increases in size till the tenth or eleventh day.

On the seventh or eighth day there is found round the base of the Vesicle an inflamed ring, which spreads rapidly, and about the tenth day forms an Areola of about an inch and a half in diameter.

This Areola has some degree of hardness and tumefaction.

The redness continues for a day or two, and then begins to fade, sometimes forming two or three concentric circles.

After the Areola is formed, the Vesicle begins to decline; the centre first turns brown, and the whole gradually changes into a hard, smooth crust, of a dark mahogany colour. This crust falls off about the end of the third week, leaving a permanent cicatrix.

The first appearance of the Vesicle is seldom earlier, but is often later, than has been described. In a few instances, it has not appeared till a fortnight, or even three weeks, after Vaccination; but when the subsequent stages have been regular, the Vaccination has proved efficacious.

*Description of irregular Appearances subsequent to
Vaccination.*

In the irregular Vesicle there is usually a premature itching, inflammation, and suppuration; the progress of the Vesicle is too rapid, its texture is soft, the edge not well defined, the centre elevated, the matter discoloured or purulent. Instead of a regular Areola, a premature efflorescence, of a dusky purple colour, takes place, and the crust is of a light brown, or amber colour.

The irregular Vesicle is more likely to be broken than the regular, both from its form and texture; and also from its being usually so irritable as to provoke scratching. When broken, this Vesicle is apt to ulcerate.

A Vesicle, apparently regular at first, sometimes does not increase to the proper size, but dies prematurely. Such a Vesicle usually leaves no cicatrix, or one which is hardly perceptible.

When these, or any other considerable deviations from the regular appearance of a Vesicle, take place, no dependence can be placed on the operation. In such cases, Vaccination should be repeated.

Probable Cause of the above Appearances.

If the Lymph for Vaccination be taken from an irregular Vesicle, or perhaps from a regular Vesicle at too late a period; or if the operation be performed with a rusty or unclean lancet; or if the Vesicle be injured in its early stage, and thereby too much inflammation be excited, an irregular Vesicle will probably be produced.

It is proper that the skin should be in a healthy state at the period of Vaccination; because it has been suspected that when it is affected with disease, a regular Vesicle is not produced, and Vaccination, in consequence, is apt to fail.

The Method of taking and preserving Vaccine Lymph.

Lymph for Vaccination should be taken by means of slight superficial punctures made into a Vaccine Vesicle, with the point of a lancet, time being allowed for it to exude in small pellucid drops.

This operation should be performed with the greatest degree of delicacy, that the Vesicle may sustain as little injury as possible.

Lymph for Vaccination is to be found most certainly efficacious, when taken between the period of its production and the eighth day inclusive. But in cases of necessity it may be used at more advanced periods; the dried crusts having frequently communicated the perfect disease, especially in hot climates.

When Lymph is to be used immediately, it may be taken on a lancet; but it cannot be thus preserved beyond a very short period, as it soon rusts the lancet, and may become, by decomposition, inefficacious or even injurious.

Lymph may be preserved on points of platina, silver, quill, or ivory, which should be charged a second or a third time, after the surface has become dry; or it may be enclosed between two small squares of glass. When the fluid has been received in sufficient quantity upon one of the squares, it should be covered with the other, and both should be wrapped up in paper, or gold-beater's skin. Glass capillary tubes preserve Vaccine Lymph for a long period in a liquid state. When a tube is to be filled, care should be taken that both extremities are open; and after puncturing a Vesicle, as soon as a globule of fluid has exuded, one of the ends of the tube is to be immersed in the Lymph, which will instantly be absorbed. By repeating this dexterously, a tube of three or four inches may often be filled. Both ends of the tube are to be hermetically sealed by the flame of a lighted taper.

Glass tubes with bulbs may also be employed for the same purpose. This species of tube is to be charged by applying a lighted taper to the bulb for a moment, and adjusting the extremity to a punctured Vesicle. When the taper is withdrawn, the Lymph ascends into the tube, which should be closed hermetically.

The time of Vaccinating.

Children should be Vaccinated at six weeks old; if, however, they are delicate, or suffering from disease, it may be prudent to defer the operation for a month or two. But, during the prevalence of Variolous Infection, all persons who are susceptible of contracting it (even infants a few days after birth), should be vaccinated.

The manner of Vaccinating.

In the operation of Vaccination, the skin being stretched, the point of a lancet charged with Lymph should be introduced, obliquely, through the cuticle, till it touches the cutis, and it should be retained there for a few seconds.

The operation may be performed on the arm, or on any other convenient part of the body; and as the prevention of Small Pox depends upon the constitution being completely infected with the Vaccine, it is recommended in every case to make two or more punctures in each arm.

When, however, two perfect Vesicles arise, and proceed regularly to their conclusion, the Vaccination is to be considered complete.

Lymph should be taken from those cases only in which three or four Vesicles have formed; *and one of the Vesicles, at least, should always be permitted to pass through its regular course, without being punctured, or otherwise disturbed.*

Recent and fluid Lymph should be preferred whenever it can be conveniently procured.

When dry Lymph on glass is used, the point of a lancet should be moistened with the least possible quantity of *tepid* water, which is to be rubbed on the Lymph until a solution takes place.

When platina, silver, quill, or ivory points, charged with dry Lymph, are used, a very slight puncture should first be made with a common lancet, into which the point should be inserted, and be retained in the puncture half a minute or more, that the Lymph may, by solution, remain in the wound. If the part of the instrument which is charged be afterwards wiped repeatedly upon the edges of the puncture, it will tend still more to ensure the success of the operation.

In order to extract the fluid Lymph from one of the capillary tubes, the two points should first be broken off: then, by means of a blowpipe or a fine hollow straw adjusted to one of the ends, the Lymph may be blown out, and received on a bit of glass.

When the Lymph has been preserved in a tube with a bulb, it may be expelled by applying the flame of a taper to the bulb, or even by simply placing the bulb in the mouth for a few seconds, the sealed end being broken off.

Crusts of perfect Vesicles, even after being preserved many months, are often found effective. The crust is to be reduced to a fine powder in a mortar, and then mixed with cold water to the consistence of a mucilage. Vaccination may be performed with this thick liquid in the usual manner.

Re-vaccinating in four places, as at first, should be had recourse to on the following occurrences:—

Whenever only one Vesicle has been excited; when, though more have been excited, all have been broken, disturbed, or opened; when Areolæ have been wanting; and when the Vesicles have suppurated or deviated in any other respect from the course of the regular vaccine appearances.

Lancets for Vaccination should be kept clean and bright, and they should be dipped in water, and wiped after each operation, even when several successive operations are to be performed.

Symptoms of Infection.

Symptoms of the constitution being affected from Vaccination sometimes occur at a very early period, but more commonly from the third, seventh, and to the eleventh day. The usual signs of febrile affection are, drowsiness, restlessness, a chilliness succeeded by heat, thirst, and headache. Sometimes sickness and vomiting occur, especially in infants; but the symptoms of constitutional disease are in general slight and transient. In a great proportion of cases there is no perceptible indisposition; nevertheless, the subject may be regarded as secure from the infection of Small Pox, when the progress of the Vaccine Vesicles has been regular and complete.

Treatment.

The Vesicle, when formed, should be carefully defended from irritation or injury.

Medicine, in general, is not required in this mild disease. If, however, the febrile symptoms should be higher than usual, the disorder should be treated as inflammatory fever.

No medicines are necessary before Vaccination, but the subject should be freed from obvious disease. Cathartics need rarely be given after the Vaccine disease, unless other causes require them.

Should the local inflammation exceed the usual bounds, which rarely happens, except from external violence, it may be soon checked by the application of compresses of linen dipped in the common saturnine solution, or cold water.

Where ulceration ensues, *Ceratum Plumbi Acetatis*, or bread poultice, may be applied; or such surgical treatment adopted as the case may require.

The irregular Vesicle is frequently followed by ulceration at an early period, which will require the same treatment as if it proceeded from the regular Vesicle.

When the patient has been previously exposed to the infection of Small Pox, this disease will be either superseded or not, according to the time which has elapsed before Vaccination.

Recent Vaccine Lymph being greatly preferable to dried, Surgeons are earnestly requested to use the former, if possible; and to keep up a supply, as far as is practicable, by successive Vaccinations.

The Board having ascertained that almost all the failures in Vaccination arise from a practice different from that which is here enjoined, earnestly request that all Vaccinators will carefully attend to the foregoing instructions.