

In view of the distribution by producers of lymph through the journals of this country, and through advertising circulars within the past three years, of statements regarding vaccination, which at times have been at variance with the authoritative teaching on the subject, it may not be ill-timed to refer briefly to the question of what constitutes a normal lymph and a normal vaccination. It must be remembered that we have for years looked upon a good vaccine as one which by its more rapid evolution will within eight days have developed so complete a vesicle that it will serve to protect a person inoculated up to the fourth day after an exposure to smallpox, the incubation period of which is from twelve to fourteen days. We learn, from report after report of the National Vaccine Establishments in England, Germany, and France, that the vesicle on the calf is mature within ninety-six to one hundred and twenty hours after inoculation. So fixed for many years was the period of maturation of the vesicle in man that the compulsory laws of England required all children to be brought on the eighth day for examination of the pock. According to Copeman, of the London National Establishment, glycerinated as well as crude lymph, if normal, will have produced by the seventh day a vesicle five or six mm. in breadth, with a glistening, translucent margin of a nacreous or pearly appearance, with the pale-red areola, the rest of the surface presenting a more opalescent, bluish-white appearance, while the patient suffers from malaise, with some inflammatory fever, and involvement of the axillary glands. From this pearly margin our old teachers took the lymph on the eighth day for arm-to-arm vaccination. With this picture so constant for a hundred years, it is astonishing that we should recently have had new teachers informing us that glycerinated lymph produced normal vaccination when a vesicle had matured on the twelfth day, without, as many of us know, presenting the pearly border and characteristic vesicle which we had been taught to look for. It is apparent that if we are to accept this new teaching, the protective inoculation after an exposure to smallpox would become impossible. Fortunately this new doctrine was short-lived; and, personally, I have been able to demonstrate even to the satisfaction of producers, that a normal lymph, even though it may have had to overcome some slight immunity, was able to produce in a patient so vaccinated an eighth day vesicle of a quite typical character. Such lymphs we have unfortunately had good reason to know, have not only not protected against another vaccine, but have not protected against the mild type of smallpox, which has so generally prevailed. It has, hence, become essential to the maintenance of the credit of vaccination that the public officials as well as the profession should