

4. With reference to the large number of cases in the Camden outbreak, it is to be remembered that epidemics of tetanus have occurred in the past.

*Technique.*—The technique of vaccination must aim at two results: the safety of the patient from infection during the operation, and his successful inoculation with cowpox virus.

*Antisepsis in Relation to Patient.*—A great deal has been said of late with regard to the use of antiseptic precautions in vaccinating, and whilst too much stress cannot be laid upon cleanliness, it is more than probable that many failures are due to over-zealous antisepsis. The germ of vaccinia is extremely sensitive, and even the feeblest antiseptics appear to be fatal to it. In the preparation of the field of operation, no germicide should be made use of the last trace of which cannot be removed with certainty before application of the lymph. Especially are mercurial salts to be avoided. The experience of many reliable observers is that soap and water, faithfully applied, answer every purpose. Some, cleansing first with soap and water, finish off with alcohol, which evaporates rapidly. If alcohol be used, it is worth noting that a dilute solution—50 to 75 per cent.—is more efficient as germicidal than the absolute. Let it be repeated, that a "take" must not be expected if antiseptics be left on the skin to come in contact with the lymph.

*Scarification.*—In making the scarification, two points are of special importance, namely, that the area scarified be small and that no blood be drawn. As perfect a pock results from inoculation through a small surface as a large, and the smaller the area denuded the less the chance of subsequent infection with pyogenic or septic organisms. It has been found in practice that very sore arms are much more common in the experience of certain physicians than others, and investigation seems to show clearly that this result is just as often due to a too extensive denudation of surface as to surgical uncleanness. Then as to the drawing of blood, it has to be said that even a very small effusion may, and often does, prevent success. It appears that the drying of the blood upon the surface hinders absorption, or that the contact of blood cells with the vaccine germ is detrimental to it. Perhaps both factors are at work. The instrument chosen for scarifying should be such that the epithelium can be removed, leaving a moist, shiny surface without escape of blood. An edged instrument, such as a scalpel or lancet, is better than any pointed one and can be handled with more delicacy and certainty.

A very common proceeding in baring the arm for vaccination, is to roll up the sleeve to the shoulder. Too often the result is practically the ligating of the arm more or less tightly