

above the site of scarification. This tells against absorption and may be sufficient to determine a "miss" instead of a "take."

*Application of Glycerinized Lymph.*—The potency of the lymph depends upon the presence in it of the pulp from the vesicle. It seems to be practically certain that the germ of vaccinia lies in the epithelial cells, and a large part of the pulp is made up of these cells. Inspection of tubes containing properly ripened glycerinized lymph will always show one end of the filled part to be relatively much more cloudy and opaque than the rest of it. If the contents be expelled so that this cloudy part—the pulp in other words—reach the scarification first, the number of successes in a given series will be appreciably greater. If, on the other hand, this precaution be not taken, the greater part of the pulp may go to line the tube wall.

*Absorption.*—The time required for a sufficient absorption of glycerinized lymph varies. Some samples, for unknown reasons, are taken up very rapidly, and in five minutes from the application the scarified surface may be dry. In others, glycerine is still seen half an hour or more after applying. Fifteen to twenty minutes is generally considered ample time. A gentle rubbing in of the lymph for a few minutes tends to promote rapid absorption. The scalpel blade or slip of wood supplied by some manufacturers may be employed for this purpose.

There is much difference of opinion as to the propriety of covering the vaccinated area with a shield. No harm can come from making use of one for a few hours immediately after the operation, and by so doing the chances of a "take" are increased, since the lymph cannot then be accidentally removed too soon.

In the last place, too much stress cannot be laid upon the fact that the physician should regard vaccination in the light of a surgical operation, a relatively trifling one, indeed, but still an operation. In the majority of cases of surgical wound infections, the infective material is conveyed to the wound by those handling it, or by implements and materials made use of. The most striking examples of blood poisoning are those in which the door of entrance is small, even microscopic. Theoretically, the operator ought to use as much care in regard to his own hands, his scalpel or needle, or whatever instruments he requires, as in any other surgical procedure, and practice should be governed by theory.

*Lymph.*—A lymph which, while potent as vaccine, would offer the smallest chance of systemic or serious local infection with anything else than the virus of vaccinia has always been a desideratum. We qualify local infection with "serious"