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## *Immunization Dialogue*

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### **Skin Preparation for BCG Inoculation**

Q. *According to Preventive and Social Medicine Department guidelines, the site of BCG vaccination should be wiped with sterile water only and no antiseptic solution should be used for cleaning. The objection for using antiseptic is that it may interfere with the immunization process. But if antiseptic is not used then infective organisms present on the skin, if any, are bound to be carried into the layers of dermis along with the bevel of the needle, thus interfering with immunization. I have been using spirit to clean the site for BCG vaccination but allow it to completely dry up before injecting the dose. With this technique, since many years I have come across 'Vaccination failures' in not more than five or six cases out of more than five hundred immunized subjects. I solicit the comments of IAP Immunization Committee on this point.*

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A. How should we cleanse the skin site before BCG inoculation? Dr. Tiwari has cited one instruction, apparently from a Medical College Department of Preventive and Social Medicine to use sterile water to wipe the skin; the use of any disinfectant, such as surgical spirit, is prohibited.

The basic principle here is, not to bring

together BCG vaccine and alcohol, since the latter is a disinfectant and the former is suspension of live bacteria. In order to ensure this prohibition, different instructions may be given by different experts. Park's Textbook of Preventive and Social Medicine states: "If alcohol is used to swab the skin, it must be allowed to evaporate before the vaccine is given"(1). This is precisely what Dr. Tiwari practices and he quotes his personal experience of over 500 inoculations with no more than one per cent failure rate.

What does wiping the skin with a swab containing spirit (70% alcohol) or sterile water, achieve? It removes mechanically any organisms that have settled on the skin; the important ones are spores of *Clostridium tetani*, *Staphylococcus aureus*, etc. Alcohol also kills, by protein denaturation, vegetative organisms such as *S. aureus*, or the normal skin flora such as *S. epidermidis*, *diphtheroids*, etc. Although alcohol does not sterilize the skin, it renders the skin safe enough to be pierced without fear of introducing any pathogens. If the site has to be sterilized, then iodine (in tincture form) is applied, allowed time to act, and then excess removed by alcohol to prevent skin damage. Here the cotton must be pre-sterilized, for obvious reasons. If blood is drawn for culture without sterilizing the skin site, then the normal skin-flora will contaminate the culture. So, we may ask: is it safe to inoculate through skin which is cleansed (only) with spirit? It is, since our concern is less with normal flora than with pathogens which might have settled on the skin. Even if a few normal flora are introduced under the skin, macrophages will clear them; they are usually non-pathogenic. This is why some people give skin tests (prick test, tu-

berculin test, *etc.*) Without any preparation of the site, and get away without trouble.

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REFERENCE

1. Park JE, Park K. Park's Textbook of Preventive and Social Medicine 13th edn. Jabalpur. Banarsidas Bhanot Publishers. 1991; p 137.