

rubber gloves or petrolatum. Sometimes it is cleaner to apply the gauze about the part and then to moisten it by pouring the solution on the gauze directly from the bottle. Ordinarily, scrubbing the hands in soap and water immediately after contact, with or without a preceding soak in alcohol or ammonia water, readily removes all but the faintest traces of yellow discoloration.

In fresh burns of the first and second degree, or superficial lacerated wounds, no preparation is necessary if the parts are tolerably clean. If the skin is dirty it should be gently washed clean with a gauze sponge dipped in soap and water, and then rinsed off with sterile water or a weak antiseptic solution. Any blebs which have formed may be opened aseptically at their most dependent point, and the contents expressed. One dressing usually suffices in these cases, unless the lesion is extensive. If a burn has received previous treatment with ointments, or a carron oil or other emergency application, this should be carefully wiped away, so as not to interfere with the action of the picric acid.

In burns of mixed degree the same principles are to be followed, except that wherever the subcutaneous tissue is exposed, more particular care should be exercised in rendering the lesion aseptic. If a small area of third-degree burn is well cleaned up at the start and is dressed aseptically, it will granulate without pus formation and dermatize rapidly. Third-degree burns covering an extensive area should not be treated by picric acid. Ordinarily one or two dressings will suffice to heal the first and second degree elements of a mixed burn, and after that the granulating areas can receive attention.

The treatment of granulating areas, whether fresh or chronic, by picric acid is successful only in proportion as the exudation of pus can be controlled. Areas of third-degree burn may be made to heal aseptically under picric acid with an even granulating surface without exuberance or purulent discharge, which dermatizes rapidly with a smooth and supple cicatrix and very slight scar contraction, and forms an ideal base for a Reverdin graft.

A chronic ulcer may, under proper circumstances, be cleaned up and freshened so as to respond similarly to picric acid treatment. If the lack of healing depends on interference with circulation, as in varicose ulcers, the patient should be kept in bed with the part elevated. The limb and ulcer should be scrubbed with soap and water and washed off with ether and 60 per cent. alcohol; exuberant granulations should be trimmed down, and the marginal epithelium, if callous, should be lightly curetted and an aseptic picric acid dressing applied. The dressing should be changed daily, with a repetition of the cleansing, until the purulent discharge has ceased. After this, the ulcer will dermatize rapidly under dressings every three to six days.

For superficial lacerated and incised wounds and abrasions the solution acts well. Such lesions, if not too extensive, after being cleaned up with some antiseptic, may be expected to heal under one or two dressings in four to six days. Septic blebs, such as frequently occur on the hands, in paronychia, from pin-pricks, following burns and scalds which have not been attended to, and on the feet from chafing and bruising, respond readily to picric acid. If the tops are trimmed off, the pus wiped away with a cresol-soap solution and dried, one application of picric acid will usually suffice to form a new and substantial horny layer over the

denuded epithelium—unless the basal layer has been destroyed and the subcutaneous tissue exposed.

The local action of picric acid solution has been the subject of considerable speculation. Its essential action may be referred to its power of coagulating albumin. Over any clean denuded surface it forms a protective, aseptic scab, by coagulation of the secreted serum, which seals up ruptured lymph-spaces, protects exposed nerve-endings, and splints the wound in such fashion that epithelial proliferation may proceed rapidly beneath, simulating Nature's method. This artificial scab protects against infection from external sources and promotes rapid and painless epidermatization.

In burns of the first and second degree, and other superficial lesions, the original dressing may be removed after three or four days and the wound will be found healed into a flat, pliant scar. If the gauze adheres to the scab it should be moistened with picric acid to avoid pulling away the scab, which may be softened with boric ointment and removed, or allowed to remain until it comes off—unless there is suspicion that pus is imprisoned beneath. If there still remain unhealed portions the dressing should be renewed.

It is essential that the wound be clean and aseptic at the time of the first application. Pus may become confined beneath a scab, or, in a lesion of considerable size, the gauze may become adherent at the edges by inspissation of the secretion and the pus collect under tension. In either case the lesion is likely to become converted into an ulcer. In third-degree burns, when doubt exists as to the sepsis or asepis of the lesion, it is wise to inspect the original dressing within forty-eight hours.

In comparison with other commonly used dressings for lesions of this nature, picric acid solution stands out in marked relief as the only agent actually encouraging epidermatization. Oils and greases usually employed in burns are ordinarily far from aseptic, and they tend to macerate the tissues with which they come in contact and prepare it as a suitable medium for the multiplication of the bacteria which they themselves supply. Other solutions employed for their antiseptic properties, such as phenol, corrosive sublimate and cresol-soap solution, oppose epithelial growth in proportion to their antiseptic power, by their chemical action. Picric acid, on the other hand, is distinctly keratoplastic—it is bland, unirritating, definitely antiseptic, if properly used is non-toxic, and at the same time it promotes so rapidly the formation of epidermis from the basal layers that it has been said "with it one can create epidermis at will."

Pain, which has been noted with the stronger alcoholic solutions, is rarely present when the watery solution is used. Sometimes over an area of a third-degree burn of considerable size, smarting is felt on the first application, but this is momentary and not severe, and is followed by a complete and permanent analgesia.

CONCLUSIONS

The saturated aqueous solution of picric acid is incontrovertably superior to any other antiseptic surgical dressing at our disposal for the treatment of superficial wounds and lesions in which the rete Malpighii of the skin is not completely destroyed—particularly in first and second degree burns. It is cheap and simple in application and induces rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level, non-secreting granu-