Case 30.—Pte. F. M.; admitted July 24th, 1917. Large shell wound of leg, with compound fracture of tibia and division of posterior tibial vessels and nerve; extensive laceration of muscles. Amputation. Wound clean for four days, then profuse purulent discharge. Carrel-Dakin treatment.

August 7th. Clean but huge open wound. Patient evacuated to base on August 12th.

Case 33.—Pte. S. W.; admitted July 25th, 1917. Shell wound of thigh, with compound fracture of femur and whole of back of thigh blown away. Extreme shock, contraindicating general anaesthetic other than nitrous oxide. No excision of wound; only pasting. The following day the wound was stinking, and the patient's condition prevented operative treatment.

July 29th. Death from shock and sepsis.

Case 43.—Pte. W. G.; admitted July 30th, 1917, with the following shell wounds: (1) Back, with fractured spine and paralysis of bladder; (2) head, penetrating brain. Primary suture of head.

August 7th. Wounds clean.

August 12th. Head wound healed; back wound clean. Pyuria.

August 16th. Death. Autopsy showed sepsis of whole urinary track. Wounds clean.

THE USE OF LIQUID PARAFFIN IN THE TREATMENT OF WAR WOUNDS.

BY

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DURING the past year much clinical observation has been carried out in several Casualty Clearing Stations in this Army on the effect of liquid paraffin upon wounds at different stages.

The results of these observations enable one to state:

1. That liquid paraffin has, almost without exception, a very beneficial action on the walls of a wound and on the tissues adjacent to the wound. It prevents development of the symptoms of inflammation in these parts and will cause such symptoms to disappear rapidly if they are already present. The skin remains or becomes normal in appearance; redness and swelling do not develop or, if present, disappear. Pain is assuaged. Performance of function becomes easier, although, of course, this is frequently restrained by therapeutic agencies and is therefore not evident. Changes of dressings are comparatively painless.

One does not care at this stage to discuss possible explanations of these effects of the paraffin, but it may be pointed out that the "electrical" conditions of wounds have usually hitherto been entirely disregarded, only chemical and mechanical conditions having been considered. Electrical conditions of wounds, as revealed by the galvanometer, are found to vary, in a very consistent way, with the age of the wound and the amount of inflammation present.

2. Liquid paraffin is not antiseptic in the ordinary sense of the term. If a wound be "packed" with gauze wrung loosely out of the paraffin, it is found that in two to four days the discharge in the wound swarms with organisms, although the surrounding parts are free from inflammation. The "wound" with the fluid part of its contents may be likened to a test tube containing nutritive medium in which organisms are thriving. In either case the addition of antiseptic will lessen or entirely inhibit the growth. If an antiseptic is dissolved or suspended in the liquid paraffin with which the gauze pack is saturated, it is found that the wound remains or becomes sterile. Various antiseptics or mixtures of antiseptics have been used, with good effects in all cases, although these effects vary, possibly owing to selective effect of the particular antiseptic against the particular organism or to tolerance acquired by the organisms for the antiseptic employed against them. Those chiefly used up to the present are flavine, brilliant green, boric acid, and iodoform. It is rather difficult to justify preference for any one. A combination seems desirable. Non-poisonous antiseptics with more or less prolonged action when in contact with body fluids are likely to be most successful. It seems that, although the effects of micro-organisms on the tissues adjacent to a wound are inhibited, absorption of chemical antiseptics from the wound may occur and cause symptoms of poisoning.

One would desire to draw attention to papers sent for publication by Captain W. H. Hey and others (p. 506),

which deal with clinical results obtained from the use of pastes made with liquid paraffin as a base. Captain Hey found that pastes made with other substances—for example, gums—are inferior in curative action to those made with paraffin. During his investigations Captain Hey did not regard the bases with which his various pastes were made up as being anything else than "neutral."

It has been stated that the paraffin in bipp paste delays healing. Delay in healing of recent wounds, as has been observed in "bipped" cases, has not occurred in paraffin pastes made up with antiseptics soluble in serum. It seems more likely that the excess of bismuth subnitrate and iodoform in bipp is responsible by preventing adhesion of apposed surfaces.

The only type of inflammation, in cases which are not already too far advanced to recover, which in my experience has not yielded to the free application of liquid paraffin is that exemplified in a wounded limb which becomes much swollen, brawny, grossly nodular, and brownish-red, the wound being covered with granulations which look like dirty pale pink frog's spawn.

In all cases it is essential for success to have thorough preliminary opening up and mechanical cleansing of the wound. A piece of half-dead muscle left behind, infected with gas bacilli, is not likely to become disinfected by antiseptics, especially when the patient's resisting powers are at a low ebb; the paraffin is likewise at a disadvantage because the affected tissues cannot react in the ordinary way. Gauze used for packing a wound smeared with a paraffin paste should be wrung out of liquid paraffin or iodoform-paraffin (1 per cent.), and the skin around the wound covered with similarly impregnated gauze. Captain Hey, Captain Short, Captain J. Anderson, and others have shown that wounds may be sutured with success at a very early stage after treatment by such methods.

REINFECTION IN SYPHILIS;

WITH OBSERVATIONS ON 28 CASES.

BY

CHARLES F. WHITE, MAJOR R.A.M.C.

PROBABLY, though it would be a question difficult to settle, there is no such thing as a natural immunity from syphilis. However this may be, it was held until recently that immunity from syphilis might be acquired. The older theory, now abandoned, was that one infection of syphilis produced immunity from further infection; in other words, that syphilis could be acquired once only in a lifetime. Careful investigation appears to establish—

1. That reinfection can take place.
2. That such reinfection cannot take place until the original infection has been completely cured.

With the older treatment of syphilis a complete cure was difficult, or very rare, and consequently cases of reinfection were so exceptional that a doubt of their existence was not unreasonable.

The collection and examination of instances of reinfection are therefore of great importance. First, as showing beyond doubt that reinfection is a fact, and, secondly, as amounting to almost complete proof of the cure of the first attack.

Since the introduction of the combined salvarsan and mercury treatment for syphilis the number of cases of genuine reinfections reported has increased—a sure sign of the curative efficacy of this treatment and a proof that one attack of syphilis does not produce immunity. Perhaps we should not be far wrong in saying that the only persons immune from syphilis are the syphilitics.

Formerly proof of reinfection was based on clinical evidence alone and was open to certain fallacies, namely:

(a) *In the Case of the First Attack.*—Absence of positive proof of syphilis in those cases in which treatment was started in the primary stage and in which secondary symptoms did not develop. As no microscopic examination was made, or in the failure to find spirochaetes in serum from the sore, it was always possible that the diagnosis was mistaken. In other words, there was no positive proof that the chancre was syphilitic and not a soft sore.

(b) *In the Case of the Second Attack.*—(1) A soft chancre, (2) a recurrent chancre, (3) a chancriform gumma, or