

## CLINICAL NOTES ON SOME COMMON AILMENTS.

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### WOUND INFECTION (*Continued*).

In the last Paper we discussed the main points in connection with the chain of events which take place when bacteria gain entrance to a wound, and either temporarily or permanently secure a victory over the opposing forces of the patient. We now have to see what we can do to help him in the fight.

We must first, however, point out that it is much better that wounds should not be infected at all, and nowadays, owing to the pitch to which the aseptic technique of surgical operations has been brought, it is the exception and not, as formerly, the rule for a wound to go wrong when it has been inflicted purposely by the surgeon. It is far otherwise when the skin is penetrated accidentally.

I do not propose now to describe the details of aseptic surgery, but it may be briefly stated that the aim is to keep germs away from the wound altogether. With this end in view everything that is to come in contact with the wound or area of the operation is either sterilised by heat, or when this is impossible, by chemical disinfectants. Thus, instruments, swabs, ligatures, &c., that are to touch the wound itself, or even be left inside it, are boiled or steamed so that no organism on or in them can possibly survive, and they are then kept sterile until they are just about to be used, while the skin of the patient and the hands of the surgeon are scrubbed with some substance such as alcohol, perchloride or biniodide of mercury, or carbolic acid, which is capable of killing any organisms that it can reach. This latter point, incidentally, is important, for nurses that are just commencing their training are sometimes apt to think that these chemicals possess a sort of magic virtue and act instantaneously on anything that they touch, so that just rinsing an instrument or hands in the solution makes them immediately (and for evermore) sterile. After the surgeon's hands have been disinfected they are usually encased in boiled rubber gloves, and he may also wear a mask over his mouth, so that organisms from his breath do not get into the wound.

After the operation has been concluded, the wound is protected from infection from without by being covered with layers of sterile gauze and wool, so that no germs can enter; the precautions that were adopted at the time of

the operation as regards hands, instruments, &c., are repeated whenever it is necessary to uncover the wound or dress it.

But we are now dealing chiefly with accidental wounds, and we may say that nearly all the ills that befall them arise from the omission of a very simple precaution, namely, the covering up of the wound, so that no fresh organisms can enter. Usually the excuse for this neglect is that the wound is so small or trivial that it did not seem necessary to do anything to it at all. This is obviously a fallacy, for, as we have seen, the multiplication and growth of the germs takes place inside the wound so that it is only necessary for one organism to obtain entrance in the first place, when, if the conditions are favourable to it, even a most virulent poisoning may quickly follow. As a rule, sterile dressings, which are in theory the best application, are not to be had when a wound is accidentally inflicted, and the next best course has to be pursued, namely, the use of a clean piece of material soaked in some reliable antiseptic solution. A very common practice amongst the laity is to cover a fresh wound with some greasy substance, such as lard, vaseline, or perhaps some form of antiseptic ointment—usually a patent medicine "cure all." This is wrong, inasmuch as the grease forms a barrier between the antiseptic, if there be any, in the ointment, and the germs, so that the chemical, even if it be present in sufficient quantity to kill germs at all—which it almost invariably is not—cannot get to them. If the oily substance does not contain any antiseptic, it is usually teeming with germs itself, and the wound becomes infected by the means adopted to "heal" it. I have even known a housewife scrape up some cobwebs from a very dirty floor, and cover the wound with them in order to assist in the healing process!

But it is also necessary to cleanse the skin in and around the wound, for it contains germs that do no harm under ordinary circumstances, but which may grow and multiply in dirt which may have got into the wound, or even in the blood clot which is always present there. For this purpose we scrub the skin with soap and water, and also with turpentine or ether to remove grease, and we can then apply our antiseptic solution. We do not, however, leave this in the wound, for all antiseptics are irritating to it and may delay healing. They have served their purpose when the skin has been disinfected by them, and we usually leave any germs that may be inside the wound to be dealt with by the patient's white blood cells.

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