Surgery.

THE DRY COTTON-WOOL PERMANENT DRESSING IN AMPUTATIONS.

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GENTLEMEN,—The four amputation wounds which I propose to make the subject of a few remarks to-day were, as most of you have seen, dressed according to the same method. But from questions which have been put to me here and elsewhere, I am led to think that the distinct principles which I have had in view as underlying this method have not been as clearly understood as is desirable. For this reason, and because you are likely to see the dressing used in other instances, I have thought that it might be well to place before you the *rationale* of the whole proceeding, and then endeavour to see how far it has been consistently met by our practice.

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Let us now examine the mode of employing the dry cotton-wool dressing, and see how far the requirements of absolute cleanliness, adequate drainage, and complete rest, are met by it in the case of amputation wounds. But first let us consider what is meant by these terms.

By absolute cleanliness we mean the exclusion from contact with our wounded surface at any time during its treatment, not only of all palpable organic and inorganic impurities, but also of certain almost invisible minute living organisms, which we know are present in the air, and which, it is believed by many, are capable when alive of producing decomposition in the secretions of wounds. To do this, however, it is necessary, in the first place, that they should reach the wound in a living, active condition, and further, find in the latter a fluid of a certain character and density in which they can propagate largely. It has been shown, for instance, by Professor Nägeli that one of the most, if not the most, dangerous of all these organisms is quite unable to exist long or to propagate in a moderately concentrated organic fluid, in which they will develop and swarm if it be a little diluted. Possibly it is for this reason, as has been pointed out, that where an open wound is only secreting enough lymph to glue its surfaces together, we never find fœtor and decomposition; whereas if the same kind of wound were effusing even serum which was retained about it, it would be fœtid and swarm with bacteria. Where the latter fell upon viscid organizable lymph, they had not moisture enough to support life; while this would be supplied by the serum. This is the explanation of a believer in the germ-theory of decomposition in wounds, and harmonizes with some of Mr. Lister's observations. On this reasoning, if we could obtain a perfectly dry dressing and a moderately dry wound, whose secretions should remain above a certain density throughout, the presence or absence of noxious germs would be a matter of indifference, for in such a case they would not be able to propagate. But such conditions could only be very exceptionally met with, and hardly ever in amputations, though they are known.

But the next best thing to this would be a dressing which should absorb all secretions from the wound, without contributing from its own meshes the supposed hurtful germs. This is aimed at in Mr. Lister's method; with what results we need not discuss here. We must remember, however, that it has been shown by his adherents that certain species of germs may be present in large numbers in wounds under his dressings, without producing any septic effect. We aim, however, at the exclusion of all germs, good, bad, or indifferent, whatever be their relation to sepsis. They come under the definition of dirt once given, and as such we ought to abhor them. Dirt, namely, has been defined as "nothing but misplaced matter;" and we suppose that the whole "coccus" family are misplaced in wounds, and shall not be in error if we endeavour to exclude them.

Next, what do we mean by adequate drainage? You should be aware that, roundly stated, there are three tolerably distinct species of fluid for which it may be necessary to provide a free escape in amputation wounds. Shortly after the operation, we may have blood from small vessels, or parenchymatous oozing. Later, when reaction sets in, there may be abundant serous oozing, and, later still, true pus. All this may be perfectly aseptic, and yet produce much fever, etc., by the tension which they