

trained Medical men? or the best trained lawyers? or the best trained clergymen? (2) How will the system be "detrimental to the advancement of the teaching of Nursing"? Has it been detrimental to the teaching of Medicine, Law or Divinity? and if not, why to Nursing? (3) How will the system be "disadvantageous to the public"? Has the Medical Register or the Law List wrought such harm? (4) How will the system be "injurious to the Medical practitioner"? These are straightforward questions; they deserve straightforward answers from honourable men. If answers are not forthcoming the reason can be, and doubtless will be, easily inferred.

LECTURES TO NURSES ON ANTISEPTICS IN SURGERY.*

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LECTURE III. (CONTINUED).

BUT it is not sufficient merely to know what materials you have to use: you should know in what way you have to use them, and, therefore, we will go over in detail some of the more frequent occasions in which you will find them necessary.

You are to *clean* the portion of the body before operation. What do you understand by that? Now operations are required under various circumstances; thus the operation may be the removal of a breast in a lady accustomed to perfect cleanliness, as the term is ordinarily understood, or it may be the removal of mangled fingers from a mill operative who is grimed with dirt and oil.

Cleanliness to us means the absence of bacteria. Now, as you know, if you have followed what I have been saying, all dirt harbours full-grown bacteria, micrococci, &c., and that in it spores, the eggs of bacteria, find a convenient resting-place; besides dirt and grime obscure the surface upon which we have to act, and prevent the Surgeon from seeing whether or not the parts fit accurately; but even if the skin appears clean, it is not always safe to regard it as surgically so.

The skin is not a plane surface. If you look at a magnified portion of it, you will find that it is crossed and recrossed by numberless lines, which are depressions between corresponding prominences. Besides this, you will see on the summit of most of the latter small openings, like the openings of so many craters. If, now, through

the skin a perpendicular section is made, it will become evident that these small crater-like mouths are the openings of small tubes, some straight, some coiled, which pass downwards, and hid at some distance from the level of the outer surface of the skin. All these little tubes being open, are of course liable to contain bacteria, and as some of them secrete a waxy material, to which they will adhere, are very likely to do so. Beside these tubes, there are small hairs, about the roots of which bacteria are often to be found. So that you see it is not a mere matter of washing a simple surface, like the top of a marble table, but of so cleansing an uneven and perforated surface, that when it is done it shall not contain any living organism.

To take the worst and dirtiest cases first. A lad is brought into Hospital who has been too near a pair of cogwheels; his hand or some portion of his arm has been drawn in and badly crushed. It may be that a part of this will have to be removed; it may be that by care and skill it may be preserved. This matters nothing to you; it will have to be decided by the Surgeon; but you may be very sure that the success of any attempt to preserve the limb, or the rapidity with which the stump, should amputation be performed, will heal, will very greatly depend upon you and the painstaking thoroughness with which you render that limb aseptic as soon as possible. How are you to proceed? The limb will be grimed, covered with oil and dirt, and the dirty skin will hang in rags over and about the torn surface. Ground into muscles and fat will be fragments of cloth or waste, particles of dust and dirt. An unpromising picture, truly! First of all, lay the arm and hand on a flat surface covered by some impervious material: a small mackintosh sheet is the best, but gutta percha tissue, oiled silk, or protective will do very well. Take a small piece of linen, soak it in liquor potassæ, and very gently, but very firmly and thoroughly rub it well over all unbroken skin; take each of the tags of skin and carefully do the same, taking care not to touch the raw surfaces, or allow any of the potash to run over into the wound. Liquor potassæ is a strong alkali, and will unite with the oil in the grime to form a soap, which, far more thoroughly than any other, will clean the skin. The potash is very penetrating; it will enter the openings of these little tubes of which I spoke just now, and uniting there with the waxy, oily contents, leave them each plugged with a minute bit of soap. At the same time, it is very painful if brought into contact with raw flesh, and therefore, because it would be both useless there and very painful, you carefully prevent its contact. Now you have your skin thoroughly soaped, and another piece of

* As these Lectures will in all probability be reprinted in book form, revised by the author, the diagrams, being printed in colours, are omitted.

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