

Elementary Anatomy,

AS APPLIED TO NURSING.

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LECTURE IV.

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WHERE nerve disease is the source of the ulceration—as, for example, in some conditions of the spinal cord—there is but little hope of preventing or curing the resulting ulcers, because the degeneration of the nervous tissue is usually, in such cases, irreparable. When the ulceration is due to defective circulation, medicinal or surgical means are necessary, as a rule, either to improve the condition of the blood, or to remove the congestive condition. This explains why many cases of varicose ulcer require strapping to be carefully applied to the affected limb before they can be healed. Ulcers, finally, are caused by certain conditions, either local, or affecting the general system; such, for example, as cancer, syphilis or scrofula. In these forms of ulceration, of course, special medicinal remedies are needed to improve the patient's health as far as possible, or to neutralize the specific poison from which he is suffering.

We now come to consider the varieties of Wounds. A wound is defined in surgical language as a solution of continuity of substance. It may, of course, be either surgical, that is to say, caused in the performance of some operation, or accidental, as caused by the occurrence of some injury. The former is distinguished by being perfectly clean and *incised*; the latter may be either incised, as for example from the cut of a knife, *lacerated* as from the cut of a piece of glass, *punctured* as from the stab of a needle or other pointed instrument, or *contused* as from a bluntish weapon inflicting a wound on the skin over a bone, for example, on the scalp, or such injuries as bullet wounds, which are always contused. These four varieties are more easily remembered if they are termed cut, torn, and bruised, wounds, punctures falling into the first category. The symptoms vary very much, so far as pain is concerned, in these various forms. All wounds cause a certain amount of throbbing or aching, but the cleaner the cut, and the less the bruising around a wound, the less will be, as a general rule, the amount of the pain produced. One peculiarity of a bullet wound is that at first the pain may be very slight indeed, and consist of only a slight numbness, however severe the real or apparent injury may be. Further peculiarities are that these wounds have a great tendency to subsequent, or what is called *secondary*, hæmorrhage, and

almost invariably result in prolonged suppuration, or the formation and discharge of pus along the track made by the bullet.

It will be well that you should understand exactly the various methods by which wounds heal. They may do so, firstly, by *immediate union*, which in olden days, used to be called by surgeons "*healing by the first intention*." Secondly, by *scabbing*, or the formation of a crust of dried lymph or pus over the wound, thus closing the broken surface from the outer air and permitting healing to go on beneath. Thirdly, by *adhesive inflammation*, the opposed surfaces of the wound exuding lymph which, coagulating, glues them together. Fourthly, by *granulating from the bottom*; the wound being deep and gaping, granulations—that is to say, small, rounded, closely-set points of new flesh which exude pus, and which are only formed in wounds which are exposed to the air—grow up and extend until they close the wound. Fifthly, by the *growing together of two granulating surfaces*; this is a very common method of healing in large lacerated wounds, the sides of the wound being drawn together, and the opposed surfaces growing together by means of the adhesion together of the granulations on either side.

All wounds unite by one or other of these methods, and you will readily understand that in order to obtain union at all, it is essential, above all things, that the wound shall be kept absolutely clean, and, so far as possible, also quiet. It is easy to understand that if, for example, some foreign body, such as a piece of glass, remained in a wound, its edges could not unite. But within recent times we have learnt that there are microscopic foreign bodies in the shape of *bacteria*, popularly known as germs, which multiply with exceeding rapidity on the surfaces of an open wound, and by the irritation which they thus set up, prevent healing quite as effectually as though they were visible and patent obstructions to union.

The object of the surgeon now-a-days is, therefore, to secure the most perfect cleanliness, the most absolute freedom from bacteria which is possible—to secure, in fact, the condition which is technically described as "*asepsis*." Upon the fact, that the presence of germs prevents the proper healing of wounds, was based the Antiseptic Treatment, which, introduced some twenty years ago, practically revolutionised surgical practice. At first, every effort was directed towards killing the germs; strong solutions of carbolic acid were sprayed upon the wound during an operation, bandages and lint impregnated with the same material were applied with the greatest precaution immediately afterwards, and every dressing thereafter, until the wound was healed, was made while a spray of the same acid was kept playing on the wound. We have, however, now learnt the real

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