PRACTICAL LESSONS IN ELECTRO-THERAPEUTICS.

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Of the methods of application of static electricity it is unnecessary to say much. Great attention must be paid to the insulation of the patient, as if this be not good the electricity, owing to its high potential, will leak away to earth, and so be wasted.

Applications of static electricity are generally made with the patient fully clothed, and seated upon an insulated and insulating chair or platform. One knob or conductor of the machine is connected to the patient, and the operator holds, by an insulating handle, a metal electrode, which is connected to the other knob or conductor, near to the part of the patient's body it is desired to treat. This causes the passage of sparks between the electrode and the patient's body. In another method a large brush-like electrode is used. Here the passage of electricity takes the form of a breeze rather than a spark; the many points of the brush having the effect of spreading the discharge over a considerable area of the patient's body, so that it becomes far less concentrated. Sometimes the machine is connected to earth, and so a milder form of application is obtained.

The above-named forms of application are given as typical instances of convenient and suitable methods. It will be readily understood that they may be advantageously modified or altered in a variety of ways in accordance with the necessities of each particular case. Rule of thumb applications should not be indulged in. The operator must first get a clear idea of the wishes of the prescribing Medical man regarding the part or parts to be treated, the dose to be administered, and, if possible, the direct object of the treatment; then his or her own intelligence must decide upon the exact method to be employed and devise whatever modification may be needed to meet the circumstances of the case.

Surgical.

Our description of the methods of application of the bare or Surgical electrodes can in the present lessons, for obvious reasons, extend only to those typical instruments figured in a previous chapter (pp. 279-281), viz.—

(1) The straight needle electrode (Fig. 37);
(2) The nævipunct (Fig. 38);
(3) The bougie electrode (Fig. 39).

The action of each of these is dependent upon the electrolytic function of the *continuous* current, which is used in most of the Surgical applications of electricity, to the exclusion of the interrupted primary and alternating currents.

(1) The Straight Needle Electrode.

In order that this most useful modification of the bare electrode may be advantageously employed, it is necessary that one pole of the battery shall by means of a large pad or other electrode be kept in contact with some portion of the skin surface as near as conveniently may be to the site of the projected operation. This done, the other pole of the battery is by the aid of a flexible rheophore fixed by the terminal screw of the handle or holder, and the metal stem (*st*) with its needle (*b*) being *in situ*, our apparatus is ready.

Suppose we wish to remove a series of hairs from the face, and that we select the chin as our starting point. It will be advisable, for various reasons, that the pad shall be connected with the positive and the needle with the negative pole. Arranging the former on the chest, or back, or using an electrode which can be grasped in the hand, the skin surrounding the particular hair selected is grasped between the thumb and forefinger of the operator's left hand. The needle is now inserted into the follicle beside the hair in such a way that its axis may be as nearly as possible that of the hair. The current is switched on to a strength of from two to five milliampères, and with the gentlest imaginable pressure the needle passes down the follicle beside and parallel with the hair until it reaches a point at which resistance is felt. Here further progress inwards must be suspended, for the point of the needle has reached the fundus of the follicle, and further insertion is not only needless, but harmful. Retaining the point in this position for a few seconds (fifteen to thirty will generally suffice), a fine effervescence will be noted at the point of entry. The needle may now be withdrawn, and grasping the hair with a fine forceps, it will be found to be perfectly loose and should come away *without perceptible traction*. If force be needed to withdraw the hair, the operation has not been properly done and will need to be repeated.

Care must be taken that the needle is passed *only along the follicle, and not forced through the skin;* also that careful note is made of the Cs employed, and the time occupied. Disregard of these points will lead only to failure, and may cause scarring—a matter of importance when the face is the part operated on.

Other methods—for instance, grasping the *hair* with a forceps before passing the needles and using it as a *point d'appui*—are recommended in

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