

observed as to draw-sheets, bed and body linen, *external* antiseptic bathing of the genitals, and the utmost precautions with respect to *manual* disinfection must be *persisted* in. The vaginal douching will depend upon medical direction; for my part I think we may have too much of it, and *spread* rather than *stay* septic risk, but this is a matter we need not discuss; all a Nurse has to do practically is to follow out her medical instructions.

In the *second* week after delivery the most rapid diminution of weight is taking place in the uterus, and marks those remarkable interstitial changes that are taking place in the muscular tissue of the uterus, and upon which the great phenomenon of its involution depends, and this last again marks the beginning of *recovery* from parturition. It is the most critical, the most anxious, the most fateful period of convalescence, for if evil is to befall, it generally befalls us here, viz., from the third to the fifteenth day from delivery. The uterus is descending towards the pelvis, and leaving its temporary resting, or shall I say rather *unresting*, place in the abdomen. The changes that take place in the uterus when it returns to the pelvis do not as a rule call for any special Nursing duties; but *lesions* to any of the pelvic organs other than the uterus, that may have taken place during parturition, are often very anxious in a Nursing point of view, and they will be entered upon in a future chapter. Speaking generally, it is the second week after delivery that the bad results of neglect, mismanagement, or misfortune come to light, which of course gives a special anxiety to the Accoucheur and the Nurse.

In my next paper I shall enter into some of the forms of post-partum inflammation, and the Nursing duties they require.

(To be continued.)

PRACTICAL LESSONS IN ELECTROTHERAPEUTICS.

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AND

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(Continued from page 293.)

LESSON IX.

SKIN RESISTANCE.

IN dealing with the applications of electricity to the human body, a factor which demands our most careful consideration is *skin resistance*.

By many electricians this living protective

insulation, in its ever varying degree in one direction or the other, is unfortunately too often ignored, or nearly so, for even in books purporting to be authoritative we read directions given as to the use of five, ten or more cells for the attainment of a certain object.

Now independently of the difference in E.M.F. of different cells, and of the changes in potential that occur when the battery-charge runs down—which have been alluded to in earlier lessons—the resistance of the skin itself may vary from 40,000 ohms or more when dry, to 1,000 ohms or less when moist with perspiration, a continuous current being used. The differences with dry or moist skin when alternating currents are employed are not quite so great, but they are sufficiently so to make the condition of the skin a matter of much importance when we are using a current for curative purposes.

In a paper read before the Institution of Electrical Engineers on March 27,* we have gone pretty fully into these questions, in so far as they concern battery-generated, continuous, and ordinary coil alternating currents.

It is therefore unnecessary in these lessons that we should do more than impress upon the student, with a view to guarding against the dangers of shock or excessive electrolytic or other painful or even damaging action, the care that is needed to insure, by the use of measuring instruments, that a current strength shall be no stronger than necessary, and, on the other hand, that it shall possess sufficient E.M.F. to overcome skin resistance and actually pass through the body from one electrode to the other. It is conceivable that a current generated by a battery, say, of ten or fifteen cells, shall, when the skin is moist, pass through the body to the extent of eight to twelve milliampères, while the same battery, when the same patient's skin is dry, may on another occasion scarcely send a perceptible current through the body at all. Between these extremes there are the intermediate conditions, in which, with a given E.M.F., a current of intermediate strength may be passed.

The natural condition of least resistance, viz., that which accompanies a state of free perspiration, may be, and is, commonly stimulated by the use of salt and water solution.

In this case the period of soakage is important, for soakage extending over thirty to sixty minutes may diminish resistance to a tenth part of its original value.

As an illustration of the varying values of body resistance mainly due to the skin, we append

* Transactions Institution Electrical Engineers, vol. 86, 1890, "Alternating v. Continuous Currents in Relation to the Human Body," by H. Newman Lawrence and Arthur Harries.

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