

PRACTICAL LESSONS IN ELECTRO-THERAPEUTICS.

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LESSON XI.

GENERAL HINTS ABOUT ELECTRICAL APPLICATIONS.

(1) ALWAYS test your battery and connections, so that you may be sure that they are in working order, before touching the patient. A convenient method of doing this for the continuous current is to place both electrodes in the same vessel of water, or to touch them together, and thus completing the circuit for a second or two (not more), note the deflection of the galvanometer needle. If the needle deflects freely proceed to the patient; if it does not, examination of the connections, and, perhaps, of the battery, will be necessary. If there is no galvanometer in circuit apply some metal portion of the electrodes or rheophores to the tip of your tongue, and when the switch is turned on a peculiar semi-acid semi-metallic taste will be at once noticed if the battery is working. This latter is only a very rough and ready test, but it is better than none at all. Coil currents, both interrupted primary and secondary, are best tested by bringing the electrodes in contact with some convenient part of your body, such as the hands, or one hand and some part of the arm.

(2) Make sure that the patient is conveniently placed with regard to the apparatus, so that after movement may be avoided as much as possible.

(3) See that the patient is as comfortable as circumstances will permit.

(4) Take your own position so that the switch board is well under your control, being particularly careful that you can see and easily read the galvanometer.

(5) Take care that the salt and water for moistening the skin and damping the electrodes is neither too hot nor too cold (about blood-heat is the best), and that the solution is not too strong; about half-an-ounce of common salt to a quart of water will do very well.

(6) When padded electrodes are used, wipe off superfluous water with a cloth before applying to the body, and do not let water run, drop, or splash upon the patient's clothes, especially upon underlinen.

(7) When any electrode or electrodes have to be fixed to the body, be careful to have them well

tied, strapped or bandaged on, so that the contact may be firm and otherwise good.

(8) When using sponge or other handle electrodes use gentle but firm pressure. Too light a touch will cause irregular and uneven contact, which is very unpleasant and irritating to the patient.

(9) Never turn on all the current strength of the prescribed dose immediately, but starting with the smallest possible current, gradually increase it till the proper strength is reached.

(10) When the time of the prescribed dose is up, turn the current off gradually in the same way, and be sure that all the switches are turned off before you leave them.

(11) Remember that the sudden breaking of contact anywhere in the circuit means a shock to the patient, and is therefore to be most carefully avoided.

(12) Clean, wipe, and where necessary disinfect the electrodes immediately after use, and put straight in the room any disorder which the operation may have occasioned.

GENERAL HINTS ABOUT THE MANAGEMENT OF ELECTRICAL APPARATUS.

(1) Batteries should be kept in a dry, moderately cool place.

(2) Batteries of the Leclanchè type, which are kept ready charged, should be used regularly. They are far more likely to fail through faults developed by standing idle than to suffer by too much use. *Batteries of this kind should be used once a week at the very least.*

(3) Batteries, switch boards, connections, rheophores, and electrodes should be kept *scrupulously clean*, and all bright metal parts should be frequently polished. Strict attention to cleanliness will often save much outlay for repairs.

(4) In all batteries using acid as an excitant, it is advisable, and in *most of them necessary*, that the zinc be not allowed to remain in the solution when the battery is at rest.

(5) If a battery refuses to work, look first for the fault in the connections. Test them; clean and tighten them all and try again. If the fault still persists look to the fluid of the battery, which may be weak or exhausted; then to the zincs, which may require re-amalgamating, or may be eaten up and useless; and lastly to the carbon or other element.

(6) A saline solution is generally good to use as long as it exists at all, but an acid solution requires frequent renewal. Bichromate solution, which is the most common form of acid solution, always turns dark and green in colour when it is spent and useless.

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