

the iron rim of the machine be thoroughly protected to prevent burning from the heated metal. The canvas hood is now made tight about the limb. For experimental purposes the pulse, respiration, and temperature were taken before and after applying the heat, and in all joint conditions the circumference of the same was taken before and after. The average treatment should last from forty-five minutes to one hour, and the temperature should be slowly increased until the full limit of the patient, so far as his sensations are concerned, is reached.

The guide in the matter is the sensation of the patient, who at first usually experiences pain in the toes and fingers, but this is not excessive; and when the temperature becomes intolerable to these parts, as noticed by the very sharp, stinging pain, the temperature is quickly reduced 10° or 15° by opening the valves at the top of the machine or opening the machine door, or a procedure which we are commonly in the habit of adopting, of opening the door of the apparatus and quickly throwing an ordinary towel into the cylinder. This will absorb a certain amount of heat, thus relieving the distressing pain. After this the temperature is gradually allowed to rise again, until the limit of tolerance is reached, and then lowered. Some surgeons have recommended covering the limb with a piece of lint, or with absorbent cotton, and a bandage. This substance is entirely too thin, and does not absorb the perspiration quickly enough, or may be quickly saturated with moisture; hence in quite a few cases very severe scalds have resulted. When the blanket is used, however, no such injury is possible, if the ordinary amount of care be exercised. Another point in favor of the use of a blanket to encase the limb, rather than lint or gauze, is that the limb is thoroughly protected from the canvas covering of the magnesium; for, although the heat cannot go through the magnesium, it is forced directly through the flues of the apparatus in such a manner that the canvas becomes as hot as the surrounding metal and asbestos, and hence might readily scald.

The thermometer should be pushed down as far as the limit of the metal guard, as this is continuous with the iron of the apparatus; the instrument will register proportionally higher than the true interior temperature actually is. With a temperature of 380° as registered by the thermometer the temperature in the exact center of the cylinder will register but 350° to 360° , while beneath the first fold of the blanket about 335° to 340° , and directly next the skin but 230° to 250° ; so we can therefore notice that quite a difference exists between the temperature as registered by the thermometer of the apparatus and the actual heat in direct contact with the skin.