## MASSAGE.

Massage, or, in plain English, shampooing, has long been a recognized procedure in medical treatment, though until lately it has seldom been employed in a careful or systematic manner. The quacks, "bone-setters," "rubbers," and the like, have enjoyed nearly a monopoly of the practice until recently, when the subject has been brought once more to the notice of the profession in a series of able articles in various foreign journals.

It is the aim of the present communication to give, in a succinct form, some account of the various methods of employing massage, the diseases in which it has been found most efficacious, and the different modifications of the procedure most applicable to each class of affections. The writer is indebted for most of the facts embodied in this article to an admirable résumé of the recent literature of the subject by W. Berger.*

The various manipulations included under the term "massage (from μασσω, to knead) comprise stroking or friction (streichen effleurage) : rubbing (reiben, massage à friction) ; kneading (kneten, pétrisage) ; precussion (schlagen, klopfen, tapotement) Any of these may be employed separately, or several in conjunction.

The first, stroking, is performed by passing the hand gently and slowly over the surface desired to be acted upon, the flattened palm pressing against the skin, and the motion being in a direction from periphery to centre,—that is, in the direction of the venous and lymphatic currents.

Rubbing is a form of massage more frequently employed than stroking; it is similar in every respect, excepting that the movements are more vigorous and are not confined to a single direction. Previous to rubbing, all hairs should be removed from the part to be operated upon, lest irritation and the formation of acute pustules should result, which, of course, would put an end to massage for the time being. Fat or oil is sometimes used with advantage in rubbing, and the fingers should be made to follow all the inequalities of the surface, being employed with an amount of force considerably greater than that used in stroking. Rubbing should be practised with both hands simultaneously; one may be moved in a horizontal or circular direction, while the other is impelled vertically. Perfect quiescence of the part operated upon is not necessary, nor even desirable.

Kneading is performed by seizing the part in the hand, raising it from subjacent tissues, rubbing, rolling, or kneading it between the palms, or moving it to and fro on the parts beneath. These movements are to be alternated at times with brisk friction of the surface.

Under favorable circumstances massage should be practised twice daily, with an interval of three to four hours between the manipulations. More frequent use of the method is sometimes advisable, but is prevented by want of time. The length of time occupied by each "sitting" may vary from six to ten minutes on an average.

Massage, when used for the first time in a case, may give rise to more or less pain, which, however, ceases with the completion of the sitting. The feeling ordinarily experienced is that of general warmth, pliability, and invigoration of the part operated upon occasionally: while the skin is reddened, its temperature increased, and occasionally blue, green, or yellow discoloration is noticed. This discoloration does not in any way affect the progress of the case, and, in fact, disappears after repeated manipulations.

Among the advantages claimed for massage are these: it promotes absorption of effused material, accelerates the circulation, assuages pain, and reduces temperature.

The *rationale* of its effect in these directions may be explained, at least in part as follows: Stroking and rubbing from the periphery towards the centre lead to a direct pressure upon the interstitial lymph-canals, and thus aid in carrying away the products of effusion. In addition, an increase in the rapidity of the vascular current is gained, and the rubbing excites the nerves (at least at first) in such a way as to cause contraction of the blood-vessels themselves. When the inflammatory process has gone a step farther, and stasis exists to a certain degree in the arteries, the stroking movement first arrests the flow for a moment and sends the arterial current backward, while accelerating that in the veins. Then, when this momentary pressure is removed, the vessels are filled again, the blood moved by *vis a tergo* overcomes the stasis, and the circulation becomes more active. Towards the end of the sitting a certain amount of hyperæmia of the vessels in the manipulated parts of course occurs. This, however, never amounts to actual stasis, since exit is made easy through the thoroughly emptied capillaries and veins, the muscular movements usually made by the patient after the manipulation aiding directly in promoting absorption. A more active circulation being now established in the whole vascular region, the capacity of the capillaries is increased, and absorption is also aided by diffusion. Massage also brings about absorption by its direct influence upon the lymphatics and capillaries: the swelling in the affected part goes down, the sensory nerves are freed from the tension and pressure to which they had been subjected, their irritability is abated by further manipulation, and the temperature of the locality operated upon is lowered.

In chronic inflammations, particularly in and about the joints, vigorous circular rubbing comes into play in addition to that from periphery to centre. This crushes the newly-formed blood-vessels in the hyperplastic tissues. The fluid portions of the extravasation being drained away by the pressed-out veins and lymphatics, the more solid portions deprived of nourishment proceed to retrograde metamorphosis, and are also gradually absorbed. The characteristic fungous granulations of chronic joint-inflammation are removed in a similar manner. Thus the active circulation kept up not only by frequently-

* Schmidt's Jahrbucher, Bd. clxvi, 1875, p. 168.