

repeated manipulation but also by active muscular movements aids directly in causing absorption of effused material.

The various manipulations of massage act directly upon the nerves, causing at first increased sensibility, later diminishing this so that it may act in allaying morbidly increased irritability of the nerves.

The various manipulations connected with the procedure under consideration act directly upon the muscles. For the excitation of contractions in paretic or paralyzed muscles stroking and percussion are important means, and kneading has been proved to act powerfully in increasing the vitality of paralyzed and atrophied muscles.

The indications for massage are found principally in those conditions of disease in which hyperæmia, extravasations, exudations, hyperplasia, condensation and thickening of the tissues, or adhesions between sinews and their sheaths, exist. Especially is massage indicated when the products of inflammation are such as may enter the circulation without prejudice.

In diseases of the joints, it is particularly useful in the acute and chronic forms of synovitis, inflammations and extravasations in the neighborhood of joints and contractions, so long as these do not depend upon bony ankylosis. Among diseases of the muscles, it is particularly indicated in inflammations and rheumatic affections.

Among nervous affections, it is particularly indicated in neuralgias and paralyses of peripheral origin; in these massage has been proved most useful.

Massage has been used in dyspepsia to give tone to the muscular walls of the stomach, and to increase its secretion. It has also been employed with success in skin-diseases, accompanied by exudation and thickening of the corium, and finally in the formation of abscesses and mastitis.

Massage offers no prospect of success when the pathologico-anatomical nature of the morbid change itself places an invincible hindrance to the attainment of a favorable result. Thus, in diseases of the joints involving the bones or cartilages, primarily or secondarily; in otitis, osteomyelitis, or arthritis deformans; in the later stages of ankylosis with enlargement of the bones or organized connective-tissue growth; in disease of the joints with fractures, either extending into the articular cavity itself or in its immediate neighborhood, and in affections of the joints attended with suppuration, it is naturally contra-indicated. Further, in advanced muscular atrophy of central origin, in neuralgias of central origin or dependent upon constitutional causes, nothing can be done by local treatment.

The general condition also may contra-indicate massage under certain circumstances; in many complicated acute and chronic diseases an improvement of the general condition must first be awaited before massage can be employed.

The indications for the use of the several manipulations are different according to the method of action of the latter.

Stroking aids in the removal of lymph and inflam-

matory products by the vascular system. It is, therefore, useful in acute cases; for instance, in acute synovitis with recent inflammation of the soft parts, especially if these are red, swollen, hot, sensitive. Occasionally in using stroking it may be necessary to continue the manipulation one-half to one hour, though a shorter time suffices in most cases. Under the influence of the operation the pain usually diminishes, and the swelling and heat subside. In chronic cases demanding the more violent use of other manipulations stroking may be employed towards the end of the sitting to guard against the swelling so apt to follow a severe rubbing.

By means of rubbing, newly-formed vessels are crushed and the tissues placed in a position to react actively, the circulation aroused, and absorption aided. It is principally indicated in chronic synovitis and perisynovitis, effusion into the sheaths of the tendons, chronic infiltration of the muscles, and similar affections.

Kneading is to be employed in inflammatory swelling of the muscles, in chronic muscular rheumatism, in "ischias," where the muscles of the neighborhood of the nerve are often affected; also in fatigue of the muscles, in order to avoid the occurrence of myositis.

Percussion is used at times for the purpose of exciting nervous action, at other times with a view to allaying it. In neuralgias this form of massage may be employed with the aid of a percussion-hammer of rubber or ivory.

It is easily understood that the particular kind of massage to be used in one case or in one class of cases may be quite different from that which would be appropriate under other circumstances. Thus, in articular affections the lighter methods are to be used when the trouble is a superficial one, the more forcible methods when, as in hip-joint inflammation, the disease is deeply seated.

The soft tissues about the diseased joint in articular affections must also come in for their share in manipulation, for by this means the neighboring vessels will be influenced, partly in a direct manner as heretofore described, partly in an indirect manner through the vaso-motor nerves.

In the treatment of articular affections massage is superior as an instrument of resorption to the bandage, for the latter compresses the subcutaneous veins, causing stasis and even œdema, while massage does not allow of stasis. It was formerly believed that massage could only be used in chronic articular affections; but it is now known that the milder methods may be used to advantage even in acute cases.

Massage has been found useful in acute and chronic synovitis serosa, and in perisynovitis. In the hyperplastic forms of synovitis it is to be used in a more forcible manner, particularly when the perisynovial parts are much thickened.

In these cases the rationale is, according to Kiör as follows. The newly formed connective tissue changes into cicatricial tissue; by the contraction of the latter the lumina of the newly-formed blood-vessels are closed, their walls become atrophied, the more remote vessels are more or less emptied of