

that the manipulations cause a dilatation of the smaller vessels, and hence a lessening of the peripheral resistance. The local effect of massage is to produce an active hyperæmia of the part, due to dilatation of the vessels and the increased flow of blood through them. The activity of the vessel walls is increased and the blood is returned more vigorously to the heart. The mechanical pressure, acting chiefly on the veins and lymphatics, also aid in the return flow of blood.

Local massage, by causing hyperæmia of the part, withdraws for a time, a certain quantity of blood from the general circulation. Thus, massage of the extremities is employed to relieve portal and pulmonary congestion.

Abdominal massage is especially useful in thus sidetracking the blood ; the extractive vessels dilate widely and a considerable quantity of blood is withdrawn from the general circulation. This is a valuable means of relieving cerebral congestion. Another effect obtained is the slowing of the pulse, partly from the decrease in the quantity of the circulating blood, causing a slower filling of the heart, and partly from reflex stimulation of the inhibitory cardiac centres.

The action on the lymph vessels is also important, as by increasing the flow of lymph, resorption of effusions, and the subsidence of swellings are greatly favored.

*The uses of Massage in Surgery :—*

The chief interest of massage in surgery centres about the treatment of fractures, sprains and dislocations, and much has been said and written for and against its use, instead of the method of perfect immobilization.

Geo. Woolsey, writing in the *Phila. Med. Journal*, 1900, on the treatment of fractures, says : —

“The treatment of fractures, especially near joints, by immobilization is not entirely satisfactory. It imperfectly restores the form of the part, does not favor the repair of the bone, or the restoration of function, but often causes the formation of a scanty callus, delayed or non-union, stiffness of joints, atrophy of muscles and disturbances in circulation.”

He advocates in cases of fracture, especially those near or in the joint, that massage be employed daily from the first, each séance lasting about twenty minutes. The fractured limb is put in splints during the interval between massage, to give the patient a sense of security and to prevent displacement of the fragments. The slight amount of movement between the ends of the bone does no harm, but rather favors the formation of a good callus. By this method Bennett claims that he gets firm bony union in from one-third to one-half the time required in the ordinary method of immobilization.