

Sports Massage: An Overview

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MASSAGE HAS BEEN around for centuries, with the first mention of it appearing in Chinese medical books dating from 2598 bc.¹ Since then, massage has been used in civilizations such as Babylon, Assyria, India, and ancient Greece and Rome. The period of modern massage began in the 1800s when scientific research began studying the efficacy of massage and new techniques were developed.^{1,2} Since then, massage has become an integral part of manual therapy in many different settings. The purpose of this column is to discuss the types of sports massage and the strokes and techniques used and briefly address clinical relevance surrounding sports massage.

Location of Massage

Massage should be performed in a quiet, warm area away from bright lights or excessive noise. This not only will allow the athlete to be more relaxed but the therapist can also better focus on technique. Massage lubricants can be used to enable the hands to slide easily over the body, reducing friction. For athletes who prefer not to use lubricants before competition, a towel can be used as a medium between the athlete and the therapist. Towels are used to drape bodily areas that are not being massaged at the present time and to wipe off excess lubricant after the massage is complete. Before touching the athlete, the therapist's hands and the lubricant are warmed up by rubbing the hands together, making it more comfortable for the athlete.

Researchers report that an active warm-up and stretching are more effective in increasing flexibility than massage,² so it is important to remember that preevent massage should be used as an adjunct to physical warm-up, not as a substitute. The goals of a preevent massage are to create a state of readiness

for the athlete, both physiologically and psychologically. Physiologically, massage is believed to stimulate circulation and to generate an increase in oxygenated blood to the area, creating a state of hyperemia. Psychologically, the athlete is better able to relax and focus attention on visualization and concentration techniques for the upcoming competition.^{3,4} Preevent massage is light and short (no more than 20 min), with an upbeat tempo and rhythmic movement. Emphasis is placed on the specific muscles about to be used, and the massage is performed 30–45 min before the event. Deep massage, such as cross-friction massage, should be avoided before competition.⁴

Postevent massage is done after the athlete has cooled down actively and water has been made available for rehydration. The goals of postevent massage are to rejuvenate the body, enhance the healing process, relax tightened muscle groups, and help reduce potential soreness.^{2,4} In a postevent massage, the ends of the strokes are longer, slower, and possibly deeper. Areas with tension or cramping can be addressed, but deep-tissue work is avoided. The goal is to relax the athlete, so long and rhythmical strokes are used. The therapist should be aware of hyperthermia (excessive body temperature) and its symptoms, in case it occurs.^{3,4}

Massage does not always have to be done on the day of competition. Depending on the amount of time the massage therapist has, maintenance massage can be performed weekly to maintain peak operating conditions. Maintenance massage is generally longer than pre- or postevent massages, and deeper strokes can be used to work out tension. Trigger points can also be focused on to decrease stress within the muscle. Maintenance massage is performed at least once a week for optimal effectiveness, because its major impact is obtained by the regular, ongoing, and cumulative changes in the tissue.^{3,4}

Types of Massage

Not only is the type of massage important, but also the techniques and strokes applied can determine massage effectiveness. There are eight different techniques used in sport massage: effleurage, petrissage, compression, friction, tapotement, vibration, rocking, and shaking. Sport massage also employs range-of-motion and stretching techniques.

Most massages begin with effleurage, which involves a slow, rhythmic stroking with the heel or palm of the hand.^{1,3-6} Effleurage can also be used as a transitional stroke or to end a massage session and is ideal to use over larger areas. The main goals of effleurage are to increase superficial circulation, passively stretch muscles, and ease muscle spasm. There are several different stroke techniques in effleurage. Effleurage can be performed hand over hand or in a cross-body direction, in which the hands are going away from each other and then coming back together, or if no oil is used, the strokes can be from distal to proximal in the extremities and parallel to the long axis of the tissue.¹

Petrissage is a deeper stroke that is more specific to a certain area, especially on muscle bellies. This stroke involves lifting, squeezing, or rolling the muscle or skin tissue between the thumb and fingers or the



entire hand.^{1,3,5,6} This action is believed to relax muscle fibers through body friction, affect deeper circulation, and pump blood into and out of the muscle. It is also useful for releasing adhesions and squeezing congestive material into the blood circulation.^{1,6} This stroke is ideal for larger muscles such as the trapezius and hamstrings.

Compression, or kneading, is a type of petrissage that can be done with the palm, a loose fist, forearm, or even the foot.³ It involves a slow circular compression of the soft tissue against the underlying bone.^{1,7} This stroke provides a pumping motion in and out of the tissue and promotes the flow of tissue fluid. Compression, which is used on large areas and muscle bellies, can also help in assessing muscle tightness and stretch tissues shortened by injury.^{1,3}

A more painful type of massage is friction massage, which is performed through the fingertips, thumb, or elbow. It can be done in a circular, longitudinal, or transverse motion and is used to increase blood flow by creating a mild tissue-inflammatory reaction. In addition, it is very useful in breaking loose adhesions and relaxing contracted connective tissue and may promote a relaxation reflex in the area of trigger points.^{1,3,5-7}

Tapotement is the name given to a variety of percussion massage techniques. The purpose of this stroke is to vibrate tissues, trigger cutaneous reflexes, and cause vasodilation, which is believed to accelerate the healing process.¹ This series of alternating brisk blows includes cupping, hacking, pounding, beating, and pinching. Cupping is performed by cupping the hands and striking the patient with the concave palmar surface. Hacking involves striking the patient with the ulnar border of the hand and is only used on larger muscle areas. Pounding involves tightly closed fists, and striking the skin with loosely flexed fingers is referred to as beating. Pinching requires alternating the hands while lifting small amounts of tissue between the first finger and thumb in a quick but gentle pinching movement.^{1,5,6}

Vibration, rocking, and shaking are referred to as energy moves and are used to loosen and stretch connective tissue, increase circulation, and relax tense muscles. They can prepare the tissue for deeper work and are applied at a relatively brisk pace, in order to stimulate and energize. Vibration involves a fine trembling movement by the hands or fingers placed firmly against the body part.^{1,5,6} Two strokes specific to just sport massage are rocking and shaking. Rocking