

C14 M 7.2 Techniques of Massage

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Objectives	After covering this module the reader will be able to <ol style="list-style-type: none">1. understand the vocabulary of massage2. appreciate the basis of classification of classical massage technique3. describe the similarity and difference between the techniques in terms of execution, effects and uses4. understand the basics of new approaches of soft tissue manipulation
Keywords	Massage, Type of massage, Classical massage, Techniques of massage, Myofascial release, mechanical massage device, Kneading and petrissage .

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Summary

In this module we have discussed technical the aspects of massage. Superficial stroking, effleurage, kneading, petrissage, tapotment, vibration and shaking are the main techniques of classical massage. These techniques approach different layers of soft tissues and impart different amount of pressure and sensation. The effects of light massage techniques are confined to superficial layers of the body and these techniques produce grater sensory stimulation. The deep massage techniques target the deeper tissue such as muscle and fascia and attempt to restore the mobility of different constituent fibres. Mechanical massage devices and underwater massage has been invented to produce the manual massage like effects while conserving the time and energy of therapists. Myofascial release and connective tissue massage are new approaches of massage which, even though they utilize the basic principles of classical massage, are essentially different in terms of effects. The efficacy of massage not only depends on the proper execution of the technique but also on the environment of the treatment area and on the manner and attitude and behaviour of the operator. While performing massage the operator should always uphold the ethical practice and protect the privacy and dignity of the client.

Introduction

Massage is skillful manipulation of soft tissues of the body. Soft tissues can be manipulated in various manners and each way of manipulation can impart a different sensory experience and effect. The nomenclature of techniques of classical massage -also named as Swedish massage after the name of the country of its proponent - has remained unchanged. Swedish massage techniques can broadly be grouped under four broad categories - stroking, kneading, petrissage, tapotment and percussion. During 19th century several new techniques and approaches of soft tissue manipulations evolved. These approaches though utilize the basic principles of classical massage are somewhat different. Connective tissue massage, tread massage, periosteal massage, underwater massage, massage by mechanical devices, digital ischemic pressure, acupressure massage, myofascial release are some of these new approaches gaining popularity in the recent years. Besides improving the mobility of the soft tissue, which remains the main goal of all massage therapy interventions, these approaches claim to elicit viscerocutaneous reflex effects. They are utilized for the treatment of some disorders of internal organs where classical massage is not used. This module provides a description on the techniques of classical massage. A brief introduction of the new approaches is also presented.

1. Classification of Massage Techniques

Character of a technique is the basic way of classifying the techniques of massage. Character and effects of a massage technique depends on magnitude, direction and duration of applied pressure. The different techniques apply different types of pressure to reach various layers of a tissue and a massage technique can be compared with the other in terms of magnitude and direction of applied force, duration of force application and means of application of force. According to nature the techniques of classical massage are classified in following four groups with each group having one or more subgroups:

1. Stroking manipulations – consist of superficial stroking and deep stroking or effleurage
2. Pressure manipulations - consist of kneading, petrissage and friction
3. Percussion manipulations – consists of several techniques of clapping, hacking, tapping, beating, pounding, etc.
4. Vibratory manipulation – consists of vibration and shaking.

Depth of tissue approached during massage maneuvers, parts of body approached during massage and means of applying the mechanical energy are the other bases of describing massage techniques. On the basis of depth of tissue approach massage can be deep or light. Light massage techniques apply relatively less pressure and the effects are confined to superficial tissues. Stroking, taping, effleurage are considered as light massage techniques. Deep

massage techniques apply heavy to moderate pressure and are directed towards the deeper tissue friction. Kneading and petrissage are the deeper massage techniques.

On the basis of the body part massaged the massage application can be termed as general massage or local massage. The term general massage often refers to the application of massage to the whole body (whole body massage). It also means application of massage to a large segment of body such as upper limb massage, lower limb massage, back massage or face massage. The term local massage refers to the application of massage to a localized area of the body such as massage of leg for reduction of oedema, or massage for treatment of tennis elbow. Local massage is used for therapeutic purposes.

On the basis of means of imparting mechanical energy, massage can be classified as manual massage and mechanical massage. Massage administered by operator using his / her hand is called manual massage whereas the use of a mechanical device to deliver mechanical energy to the body is known as mechanical massage. Under water massage, vibrator, precursor etc. are the example of mechanical massage.

2. Description of Techniques of Classical Massage

2.1 Stroking

Superficial stroking and effleurage are the two techniques of this group. In both the techniques, one uninterrupted movement of either hand or fingers sweeps along one aspect of the entire segment of the body. This uninterrupted movement is called stroke. Even pressure, constant touch and equal rhythm are the characteristics of these techniques. Superficial stroking is performed with lightest amount of pressure. Strokes are applied either proximal to distal or vice – versa in rhythmic manner. The speed of strokes can be either slow or fast. Palm and pulp of fingers are used to apply the strokes. The aim of superficial stroking is to obtain sensory stimulation. This technique is given in the early part of the massage session in order to relax the subject and accustom him to touch. The main effect of superficial stroking is sensory modulation and the speed of stroke is varied to produce either relaxing or stimulating effects.

Effleurage or deep stroking is performed with palmar aspect of the hand. It applies moderate pressure in the direction of venous and lymphatic drainage i.e. from distal to proximal. The relaxed hand of the operator accommodates to the varying contour of the segment without making any attempt to move the deep muscles. Each stroke begins from the distal end of the segment – feet for lower limb and hand for upper limb - moves upward and ends at the site of the regional lymph nodes. Depending on the size of the body part effleurage can be performed with either one hand or with both the hands. The main effect of effleurage is on the venous and lymphatic drainage. It squeezes the vessels and forces the fluid towards the heart in order to reduce the stagnation of venous

blood and lymph in the areas. It also stimulates the axon reflex and improves the arterial circulation besides improving the elasticity and pliability of skin. The technique of effleurage imparts a soothing effect which serves to lessen anxiety and tension. Effleurage manoeuvres allow the operator to detect the abnormal areas of tissue tension which could then be addressed by other techniques of massage.

2.2 Pressure Manipulation

Pressure manipulations consist of three techniques of kneading, petrissage and friction are directed towards deeper muscle tissues. In all these techniques deep localized pressure is applied to the body in order to achieve maximal mechanical movement between the different fibres. The nature of applied pressure and direction of pressure application vary in all three techniques.

In kneading group of techniques tissues are pressed down on to the underlying structure and the pressure is applied in a circular manner with pressure increasing on one half and decreasing on the other. Kneading can be performed with pulps of fingers (digital kneading), palm of hand (palmar kneading), pulp of thumb (thumb kneading) or by utilizing both hands one over the other with upper hand reinforcing the pressure of lower hand (reinforced kneading or ironing).

Petrissage group of techniques squeeze the tissue and lift them up and away from the underlying structure. Picking up, skin rolling and wringing are the three main techniques of this group. Picking up involved lifting the tissue, squeezing them and release. The technique of skin rolling involves lifting and stretching skin between thumb and fingers and moving the lifted layer of the skin over the subcutaneous tissue. The technique of wringing resembles the squeezing of a wet towel. In this technique a portion of limb is grasped by both hands and then squeezed and twisted. Both the hands are placed on the opposite aspects of the limb and moved in opposite direction while maintaining a firm grip over the body part.

The effects of Kneading and petrissage techniques are same. Both produce a local increase of blood flow, simulate pumping action of muscle contraction, facilitate release of vasodilator chemicals and stimulate cutaneous reflexes. These techniques stretch tight fascia and muscle tissue and help in the restoration of the mobility of the subcutaneous tissue. These techniques are used to prevent consolidation of oedema fluid and to break the adhesions, improve mobility and reduce fluid accumulation along with stimulation of the deep sensory fibres that may contribute to relieve pain.

The technique of friction consists of small range oscillatory movement applied to deeper structure with the thumb, fingers or elbow. The technique of transverse friction was advocated and popularized by Dr. James Cyriax who used it successfully in the treatment of chronic soft tissue lesions. Knowledge of the anatomical orientation of the constituent fibres of the tissue is of utmost

importance in application of this technique as it attempts to move the fibers transversely along the long axis of the structure. Positioning of patient during application of this technique is equally important. Friction to non-contractile structures- such as ligament and tendon are given in the taught position of these structures; whereas to muscles should receive friction in the most relaxed position. Friction moves the individual collagen fibres over the underlying structure, breaks the intrafibrillary adhesion and attempts to forcefully broaden out the structure. This is a painful technique that is used mostly in the treatment of subacute and chronic lesion of muscles, ligaments, capsules, nodules and adhesions. Inadvertent use of this technique may give rise to blister formation and aggregation of the condition. Friction massage initiates a small localized inflammatory response with the intention of breaking down the adherent scar tissue, separating adhered tissue, increasing local circulation and reducing trigger point activity.

2.3 Percussion Manipulations

Percussion or tapotment means striking of two objects against each other. Unlike other techniques of massage, where the contact is maintained throughout the execution of the technique. In percussion group of techniques part to be massaged receives repetitive light striking blows from the different parts of the hand. Its various techniques are named according to the part of the hand being used to strike the area to be massaged. In the technique of cupping or clapping slightly cupped hand strikes the part, whereas in hacking the ulnar border of the three middle fingers strike the skin. In the technique of beating and pounding the loosely closed fist is used to strike the part. In beating the anterior aspect of fist makes the strike whereas in pounding the lateral aspect of fist is used. The controlled and coordinated movement of the wrist and the forearm brings about the rhythm of strike. The technique of cupping is used exclusively in the treatment of chest disorder. The sound energy produced by the contact of the cupped palm with the chest is utilized to dislodge viscid secretion from the lung. The techniques of hacking, beating, tapping and pounding are known as stimulating percussion techniques as they do not have any effects on the respiratory system. Rather they produce soothing effects largely due to sensory stimulation. The percussion techniques are much utilized in sports setups for rejuvenating an exhausted athlete. Placebo effects of these techniques are utilized to manage the psychological problems of athletes.

2.4 Vibration Manipulation

Vibratory group of techniques use the oscillation produced in the distal part of the hand to transmit mechanical energy to the body. Vibration and shaking are the two techniques of this group. In the vibration technique fine vibrations are produced at the rate of about 20-25 per second. Shaking produces coarse vibration. Both the techniques are directed towards the chest and attempt to

dislodge the viscid secretion. Muscle shaking is performed in relaxed state; a muscle is held and made to move side to side.

3. Practical Aspects of Massage Therapy

Success of a massage therapy session depends on several factors. Skills of the operator, careful selection and correct application of technique, position of the client, support to non-massage parts, environmental situation of the treatment areas, appearance and attitude of the operator - all play important roles in determining the success and failure of a session. Positioning of the client and environment of the treatment areas significantly influence the amount of muscular relaxation and the depth of tissue approached during the session. A congenial environment exerts strong placebo effect.

Massage therapy requires an intimate contact between the client and the operator, which often becomes the cause of embarrassment. Utmost care should be taken on the part of the operator to remain professional and to honour the modesty and privacy of the client. The part to be massaged should be exposed so that contraindications can be ruled out and techniques are applied properly. But at no point of time any undesired exposure of body parts should be permitted. The parts not to be approached during the application of the technique should be draped properly using bed sheets and towels. The draping should not be done in clumsy manner rather it should impart an aesthetic pleasure which helps to create a congenial atmosphere. The operator should be completely relaxed, confident and decent. Manner and behaviour of the operator should be pleasant and courteous. Long nails should be avoided as they may scratch the body and create discomfort. Hairs should be properly tied so that they do not dangle over the client's body. Hands should be washed and dried properly before and after every massage session in order to prevent cross infection. Massage is a continuous process and the operator should maintain a constant contact with the client's skin. The pressure should be modified according to the condition of the part, and massage techniques should not produce discomfort or pain. Aimless wandering of the hand over the client's body part must be avoided. It is unethical, and can seriously endanger the reputation of the operator. Lubricating materials such as oils, powder are often used to reduce skin friction and to make skin soft and supple.

4. New approaches of Massage Therapy

4.1 Connective Tissue Massage

Connective tissue massage was developed by a German physiotherapist Elizabeth Dicke during 1930s. Enhancement of blood circulation to the targeted area of the body by mobilizing the deep layer of the dermis is the main objective of this technique which claims to stimulate vicerocutaneous reflex. This technique consists of specialized deep penetrating strokes executed mainly with

the tip pads of middle and ring fingers, which attempt to mobilize superficial skin and subcutaneous tissue over deep fascia. Proponents of this technique believe that by providing strong sensory stimulus to the surface of the body and by mobilizing the deep connective tissue, the autonomic nervous system gets activated and that in turn corrects the dysfunction of internal organs.

4.2 Mechanical Massage Devices

Nowadays several mechanical massage devices are in use. These devices can be broadly grouped in two categories- vibration devices and compression devices. Vibration devices provide the oscillation of various frequencies and amplitudes to the body. The effects produced by these devices can be compared with that of vibration and percussion techniques of the classical massage. Compression devices provide rhythmic compression to the body segment and the effect produced thereon can be compared with that of effleurage.

These electronic massage devices are either electric or battery driven. A vibratory device consists of a small electric motor, an applicator and control knob. Motor provides vibration, frequencies of which can be regulated by a control knob. There may be several interchangeable applicators or interfaces of different sizes and shapes which are selected according to the contour of the body parts. Some of these devices also incorporate a heating element which provides a low degree of heat along with massage.

Compression devices consist of a double walled sleeve attached to a pneumatic pump that regulates the inflow and outflow of air into the sleeve. The sleeve is encircled around the limb. During inflow the sleeve inflates and compresses the segment whereas outflow of air from the sleeve deflates the sleeve and reduces the compression. The duration of inflow and outflow decides the rate of compression and release. The devices has several control knobs that regulate the time ratio of inflation and deflation, amount of pressure, sequence of compression and total duration of treatment. Originally designed for treatment of lymphoedema, compression massage devices are now used in treatment of all those disorders where intermittent pressure helps alleviate the symptoms.

4.3 Underwater Massage

In this method of massage the mode of application of pressure is a pressurized water jet. Underwater massage utilizes the compression and relaxing effects of warm water along with mechanical compression of a highly pressurized water jet. The equipment for this massage consists of a large tub, a pressure pump, a hose and nozzles of different diameters. The tub is large enough to allow a subject to lie down comfortably and is filled with water. Pump sucks the water from the tub and returns under high pressure through a movable hose. The nozzles of different diameters adjust the amount of pressure of the water jet. For high pressure narrow nozzles are used. For administration of massage the subject is made to sit or lie in the tub. The movable hose is brought near to the body parts

and the pressurized water jet is directed to the part to be treated. Adjusting the angle of the water stream can alter the applied pressure. All the techniques of classical massage can be produced during underwater massage. For example, in order to facilitate venous and lymphatic drainage the stream is directed from distal to proximal area. Underwater massage finds its main use in the recovery of athletes after exhaustive workouts.

4.4 Myofascial Release

Myofascial release is now gaining popularity as a method of treatment in number of soft tissue lesion affecting sports persons. The main objective of this technique is to stretch the fascia. Fascia is a tough connective tissue situated below the dermis that provides structural support to every organ including muscles, nerves and blood vessels. It provides support, stability and cushioning. In response to trauma, the fascia gets tightens owing to consolidation of inflammatory exudates. Postural habits and activities resulting in avoidance of full range of movements also produce adhesions between layers of fascia along with adoptive shortening of muscles. Tightening of structural support covering produces alteration in the biomechanics of muscles and structural alignment. These alterations make a person vulnerable to chronic pain and poor functional abilities. The techniques of myofascial release apply controlled and focused force in a specific direction to stretch the muscular and fascial (myofascial) structures to make them more pliable. Restoring the extensibility of a tight fascia and freeing the muscles from fascial adhesion is referred as release – release from tightness and restriction. Practitioners of myofascial release identify the areas of abnormal tension in muscles and fascia and apply deep stroking manoeuvres for a brief period. It is claimed that restoration of fascial pliability relieves pressure from the nerve fibers and blood vessels that in turn correct the biomechanical alteration in the muscle function and improves the blood supply and fluid exchange of the part to bring about pain relief, greater flexibility, ease of movement, better posture and improvement of athletic performance.