

C14 M 7.1 Introduction to Massage Therapy

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Objectives	After covering this module the reader shall be able to <ol style="list-style-type: none">1. Define massage2. Appreciate the basis of classification of massage technique3. Differentiate between types of massage4. Understand the historical perspective of massage5. Discuss the use and misuse of massage
Keywords	Massage, Definition, Classification, Sports Massage History of Massage , Misuse of Massage

1. Introduction

Our first reaction to any injury is to touch and rub the injured part. Pain and discomfort of a child is often resolved when mother gently puts her hand on the child's head. Even we can often see animals licking their wounds. All these instances highlight the powerful impact of touch. In fact touch or massage is natural instinct -a spontaneous response – to discomfort and pain. Therefore it would not be incorrect to say that Massage is one of the oldest health practices known to human civilization. It has been used as a therapeutic modality since ancient times. In the field of sports, massage is recognized as an important preventive, restorative and therapeutic modality. The athlete, coaches and those concerned with sports through out the world acknowledge that massage is an effective modality that can enhance the rate of recovery and reduce soreness and discomfort following intense physical activity. Despite its popularity and uses the massage also remains one of the controversial modality. Besides the misuses and abuses of this modality as a mode of luxurious comfort, serious questions are also raised on its effects and uses. In this module we shall learn about the meaning and definition of massage and will gain an insight into the historical aspects of this modality.

2. Definition of Massage

Massage is one those terms that are easily understood then expressed. People find it difficult define massage though they are confident of its meaning. Massage is not a single technique. It is not even a single set of techniques. Rather, it is a broad heading for a range of approaches that share some common characteristics. The massage techniques taught in physiotherapy schools are described as techniques of classical massage or Swedish massage. During 19th century several new techniques and approaches of soft tissue manipulations have evolved. These approached though utilized the basic principles of classical massage are somewhat different. Connective tissue massage, tread massage, periosteal massage, underwater massage, massage using mechanical devices, digital ischemic pressure, acupressure massage, myofascial release etc are

some of these new approaches that are gaining popularity in the recent years. The most common element that allows these approaches to be grouped together is the use of interpersonal touch.

In technical literature no uniform definition of the term massage exists and several authorities have defined massage in different manner. Some of these definitions are presented below:

Massage is a term applied to certain manipulation of the soft tissue which are most efficiently performed with the palmar surface of the hand and administered for the purpose of producing effects on the nervous system, muscular system as well as the local and general circulation of the blood and lymph.”- Beard

Massage signifies a group of procedures which are usually done with hands on the external surface of body in a variety of ways either with curative, palliative and hygienic point of in view - Graham

Massage is a healing art.

Massage is the scientific mode of curing certain form of disease by systematic manipulation - Murrel

Massage refers to all mechanical procedures that can cure illness – Hoffa

Massage is the mechanical stimulation of soft tissue by rhythmically applied pressure and stretching - Wood and Becker

Massage is manual soft tissue manipulation that includes holding, causing movement, and/or applying pressure to the body- The American Massage Therapy Association

Most of these definitions are inadequate as they do not include complete dimension of massage or offer any specific criteria on the basis of which a technique can be recognized as massage. Some definitions restricts the use of massage to sick person alone though since time immemorial massage is used extensively by healthy people for rejuvenate and restorative purposes. Few definitions put emphasis that massage should be performed with hand. In the

present era this approach is not practical as there are many mechanical devices which are based on the same technical specification of the manual massage technique and produce similar physiological effects.

If one would look a bit deeply into the practice of massage then it would be clear that mere rubbing and handling of skin does not produce effect. Rather it is the variable amount of mechanical energy imparted to the body tissue by during execution of massage maneuvers that accounts for the effects of massage. This mechanical energy can be generated by the hand (manual massage) or by some mechanical devices (mechanical massage) such as precursor, vibrator, hydraulic massage, pneumatic massage etc. In manual massage the energy can be imparted in various ways. The effects associated with each technique closely related to the magnitude, direction, duration and means of application of the mechanical force. One of the essential features of massage is application of varying amount of mechanical force to the soft tissue of the body.

However transmission of mechanical energy and use of hand is also involved in various joint mobilization and manipulation techniques of physiotherapy and it is important to distinguish these two categories of manual therapy. Without going into detail description of the techniques it would be sufficient to say at this point that the basic difference lies with respect to movement of joint. While the mobilization and manipulation procedures are designed to produce passive movement of the joint, the massage maneuvers do not produce any movement of the joint and are mainly directed at the soft tissue of the body. considering all these aspects Sinha (2001) proposed a comprehensive definition of massage which states that “Any technique be it manual or mechanical which imparts mechanical energy to the soft tissue of the body through skin without producing any change in the position of joint in order to elicit certain physiological or psychological effects which can be used for utilized for therapeutic, restorative or preventive purposes either on sick or a healthy individual can be defined as massage”

3. Classification of Massage

There are several ways of classifying massage. Characters of techniques, method of doing massage, pressure applied during massage maneuvers, and the area of body approached during massage, objectives of massage application are some the basis of classifying massage.

Massage applied to whole body is termed as general massage. The massage administered to large segment of body such as back, leg etc can be also included in the category of general massage. General massage is usually administered for the purpose of general relaxation and well being. The massage techniques administered to a particular area of body segment is termed as local massage. Local massage applications are done for treatment of specific lesion. Friction of lateral ligament of sprain following sprain, Friction and kneading for tennis elbow can be considered as local massage. The term manual massage refers to massage being performed by hand whereas manipulation of soft tissue using any mechanical device is known as mechanical massage. massage techniques used for treatment of disorders or ailments are known as therapeutic massage whereas massage used to alleviate problems of sports persons with the aim of prolonging their quality length of sports career can be termed as sports massage .

According to character of techniques classical massage techniques are classified in the following categories with each having more than one subcategories

1. Stroking techniques - superficial stroking and effleurage or deep stroking
2. Kneading techniques – palmer kneading, thumb kneading, finger kneading and ironing
3. Petrissage – skin rolling, picking up, wringing
4. Friction – circular friction and transverse friction
5. Tapotment – cupping, hacking, tapping, tenting, beating, pounding
6. Vibration – vibration and shaking

A brief introduction of these techniques is presented below. The detailed discussion on these techniques shall be incorporated in module 4.

Superficial stroking: uninterrupted stroke covering one aspect of entire segment of body with lightest pressure. This technique produce greatest sensory stimulation

Effleurage: uninterrupted stoke covering one aspect of entire segment usually in the direction of venous and lymphatic flow with moderate pressure. The purpose of this technique is to improve venous and lymphatic flow and introduce patient to the touch of massage of massage operator

Kneading: rhythmic pressing down of the soft tissue on to underlying structure in circular manner. It is a deep massage technique that aims to produce movement of soft tissue and used to improve soft tissue mobility

Petrissage: rhythmic grasping, squeezing and lifting the soft tissue away from the long axis of bone. The purpose of application of this deep massage technique is same but the direction of tissue approached during technique is different from kneading. In some books kneading and petrissage is reoffered as one technique.

Friction: small range of to and fro motion performed with constant deep pressure. Main aim of this technique is to mobilize the adhesions present between soft tissues.

Vibration: application of mechanical energy using vibrations of hand. The technique is used primarily in the chest disorders but can also be used in sports set up to produce relaxation.

Tapotment: application of a succession of soft blows to the body by various parts of hand. Some techniques of this group are used in management of chest disorders. In sports set up it is used a part of stimulating massage session.

4. Sports Massage

Depending on the time frame and purpose of application the various categories of sports massage has been identified as Pre event massage, Preparatory massage ,Intermediate massage ,Post event massage, Training massage and the Medical massage which refers to the use of massage for treating the chronic injuries. All these categories employ the various techniques of classical massage in specific sequence and duration to elicit the desired effects in relation to the training and competition. During different phase of training and competition, the physiological and psychological requirements of athletes vary. In recognition of these varying requirements the practice of sports massage can be classified under the following categories

1. Pre-event massage
2. Preparatory massage
3. Post events massage
4. regular training massage

Pre-event massage are administered 8-12 hours before completion with the aim to maintain optimal arousal, dispel pre-competitive anxiety and to keep the muscle prepared for executing the task by identifying and correcting the areas of abnormal tension. Light massage techniques such as a superficial stroking, effleurage, gentle kneading, skin rolling, and tapotment are employed during the session. Deep techniques should be avoided. Massage session should be pain free, pleasant and stimulating to the psyche of the athlete. Normally the muscles that are going to withstand greater stress are targeted. For example in weight lifting spine and arms are the focus of massage whereas in lower limb and spine are targeted.

Preparatory massage is used 30-45 before competition prior to warm up and stretching exercises. The purpose is to achieve optimal arousal level. Superficial stroking, effleurage, kneading, shaking and tapotment techniques are used over the muscles to be used maximally during sporting events. The duration of

massage must not exceed 5- 10 minute. Same techniques can also be used during half times or between the rounds.

Massage application after the event (post event massage) is directed towards speedy recovery. It is suggested that to enhance recovery post event massage should be administered 1-3 hours after termination of strenuous exercise. It is postulated that residue of metabolic waste does not get fixed in the tissue in early hours and therefore it is easier to remove them. The aim of post events massage is to facilitate drainage of metabolic waste by increasing circulation, enhance the feeling of well being and to promote deep muscle relaxation. The techniques of effleurage, kneading, picking up, wringing and shaking are used. The use of painful techniques should be avoided. Pain during massage maneuvers is a sign of injury which should be respected and ice should be applied to the painful area. Post event massage also offers an opportunity to thoroughly examine the body and detect the area of acute inflammation and injury. If swelling, tenderness are detected then the area should be carefully examined and attention should be given to the treatment of the injury.

Regular training massage sessions are offered during training session as a part of total conditioning programme. Also known as fine tuning massage, in these massage sessions, areas of abnormal biomechanical stress are searched for. Training after a period of relative inactivity produces several changes in the soft tissue that reduce their ability to withstand the training load. Some of these changes like formation of tight bands, activation of silent trigger points stressing of previously injured part can seriously affect the training schedule. The aim of massage during training is to support and prepare the body for considerable training. These massage session should be incorporate on weekly or on fortnightly basis in the overall training programme of athlete.

In the case of injured athlete, massage techniques should be used only as an adjunct to total therapy plan and always by physiotherapists. Acute injuries are absolute contraindication of massage and in the management of injury massage

techniques have a role only in sub-acute and chronic phase to prevent and break the soft tissue adhesions.

5. History of massage

Massage appears to be more as a part of culture than as treatment. Massage along with sunlight, heat, exercise and water was used even during prehistoric time. However the History of massage is dominated by the love hate relationship between medical establishment and the other groups who practiced these techniques. Throughout the history the practice of practice of massage has gone through several cycles of advocacy and denigration. The modern name massage is said to have originated from to Arabic word -*mass* means to touch and Greek word -*massein* (to knead). The French colonist in India first used the term massage during 1761-1773. The word according to oxford dictionary entered in the English literature in 1876.

The use of massage for therapeutic purposes has been mentioned in all the recorded ancient civilizations. Ancient medical records of china, Greek, Roman, Egypt and India contain numerous description of this modality. In modern time its development is traced to Sweden and Netherlands. Now a days massage is used as a therapeutic modality in the disciplines of physiotherapy, naturopathy, ayurveda along with other therapeutic agents. Massage is also used as part of health promotion and stress reduction programmes in various spas and wellness centers.. The historical development of massage can be studied under 3 heading: Ancient time, medieval time and Modern time.

5.1 Ancient Era

In India massage has been used in day to day life as a part of health and hygiene. Rubbing with various oils prior to bathing is a common practice in India. It is also commonly used by layman during the care of sick people. Use of massage is well described in Indian literature long before its modern name came into being. Mention of massage as *chmapan* or *mardhan* and *abhyang* is found in ayurveda – the medical part of *atharvaveda* – supposed to have been written around 2nd millennium BC. Megasthenese and Alexander description of India and

the Buddhist literature and sculptures also depicts its widely used status in India. Its use with various medicinal oils in the treatment of various disorders is still the main stay in the practice of ayurveda, naturopathy and other traditional form of folk medicine.

The mention of massage is found in the medical record of Chinese's -Nei – Ching- written around 1000 BC which depicts the use of massage in treatment of paralysis and in cessation of circulation. During 619 – 907 BC in Tang dynasty massage was recognized as a part of medical practice. During those days the massage was taught in medical schools and degree was awarded after a stiff examination. Professionals qualified by such training treated the cases of fracture, injury, wound and gave lectures on physical exercises. Modern discipline of acupressure appears to be a progression of Chinese massages practices. Massage therapy continued to receive royal patronage till Sung dynasty. Thereafter its practice declined and went to the hands of Barbers and other layman and gradually its status reduced to such an extent that it was associated with beggary.

Massage was popular among the Greeks and Romans due to their interest in physical beauty and physical education. It was used to anoint wrestlers and gladiators before and after exercise. Massage was very popular and desired by all classes. The frequent use of massage by Roman king Cicero and the general Julius Caesar is described in literature. Several important medical practitioners and philosophers used massage in treatment of disorders and wrote extensively about its merits. Aristotle recommended massage with oil and water as a treatment of tiredness. Greek physician Herodicus made massage and exercises as a part of medicine around 500 BC. Hippocrates- the father of modern medicine - believed to be the first person who discussed the qualities and contraindications of massage. He recognized massage as therapeutic agent and used it for the treatment of indigestion and cold. Another famous Greek physician Galen wrote several books related to exercise and massage where he described qualities of this technique and by combining the different qualities he arrived at 9 forms of massage each with its own indications. Ancient literature of Greek and

Roman mentions the use of massage in conditions paralysis, cold extremities, muscle sprains, dislocation etc which still are valid even today. However they also used it for conditions like intestinal obstruction etc where its use is now found inappropriate. Greek and Romans left behind a lot of literature in which the use of massage was mentioned in the conditions like paralysis, cold extremity, muscle sprain etc.

5.2 Medieval Era

After the fall of Roman Empire massage went back to the level of folk medicine. There is no mention of massage in medical literature till fourteenth century. From 15th century onwards the people again started writing about massage. Antonius, Gazius, Heronymus, Ambroise Pare collected the teaching of Hippocrates and Galen and started using massage in various conditions. Ambroise Pare – a great surgeon – started massage for recovery of his surgical patients. Gilson, one of the founders of royal society mentioned the use of massage and exercise in the treatment of rickets.

5.3 Modern Era

The person who contributed most in this field was Per Henerik Ling (1776-1839). Ling was teacher of physical education. He started the Central Institute of Gymnastics, Stockholm in 1813 where he developed massage as a part of medical gymnastics and due to his efforts massage gained the attention of physicians. Ling is credited to have systematized the practice of massages. He collected the techniques of massage prevalent at his time and classified them according to their effects and rationalized its uses in treatment of disorders. His teaching was spread by his pupils to other European countries. His immediate pupil Augustus George published ling's system in French under the name kinesitherapy. This in part explains the widespread use of French words in terminology of massage such tapotment, percussion, effleurage etc. During this time massage was subjected to scientific scrutiny and some important scientific literature were published. Estraderf and Mezger wrote doctoral dissertations on massage and discussed in detailed the use of massage in the disorders of

locomotor system. Mezger was a Dutch physician and he is credited to have influenced the formation of oldest association of masseurs in Holland during 1889. The oldest periodical of this subject was published in 1891. The effect of massage on lymphatic flow, circulatory system, and healing were studied in great detail and formed the basis for delineating the physiological effects of this therapeutic modality. Towards the end of nineteenth century massage was prescribed in combination with heat, exercises and electricity which later evolved as the profession of physiotherapy.

Massage was used widely during this time but it was not the part of main medical practice. In early 20th century polio epidemic and world wars compelled the practitioners of modern medicine to use the non-conventional treatments methods for the rehabilitation of polio and war victims. Massage along with exercise and heat were employed in these conditions and yielded quite favorable results. It is during those times the methods of massage were subjected to modern scientific research. A number of scientific papers appeared in literature where effects of massage established by subjective and observational methods were subjected to scientific scrutiny. During early 20th century massage was taught in the schools of physiotherapy, medical gymnastics and the schools of massage.

Among the experts who contributed a lot for this modality Roesenthal, Mennel and Cyriax stand prominently. Mennel distinguished massage from exercise. Rosenthal gave scientific background to massage and is credited for reintroduction of massage in the main medical practice. Cyriax advocated the use of deep friction massage in the treatment of soft tissue lesions.

The advancement of technology made it possible to study the physiological parameters associated with effects of massage more objectively. Modern techniques of plethysmography, radioactive isotope clearance rate, Doppler ultrasound etc were used to study the effect of massage on blood flow. Electromyography has been used to analyze the neuromuscular effects of

massage. The biochemical methods were used to study the effects of massage on metabolism.

During this time the history of massage is also dominated by the new techniques and approaches. Connective tissue massage, reflex massage, myofascial release etc are developed as new techniques of soft tissue manipulation.

The advancement of pain gate theory by Melzak and Wall during 1965 gave scientific rationale to the use of massage in pain management. In late 20th century several mechanical devices were also developed to save the time and energy of therapists. Named as vibrator or precursor these devices are not only being used for relaxation purposes but also in ICU for facilitation of chest clearance.

In the latter part of 20th century technological advancement in electronic instrumentation and fast development of pharmaceutical industry led to the decline of the use of massage as therapeutic modalities. Massage is now rarely used as the first line treatment of pain or stress. However the limitation and side effects of drugs have again drawn the attention of people towards the drugless approach of treatment. The incidences of psychosomatic disease are fast increasing. In this changing scenario the value of human touch in combating the dehumanization of modernity is fast receiving attention. The physiological and psychological effects of massage offer a solution to majority of these problems.

6. Misuse of Massage

Massage is also used as a mode of luxurious comfort. The intimate contact established between masseurs and the client has potential to give rise to suspicion of immoral acts. Several publications appeared in during 19th century in Germany, France, Italy, Denmark, England reporting abuses connected with massage which ranges from quackery to prostitutions. In the grab of fitness centers and massage parlours and spas the elicits flesh tread flourished and it gave such a bad name to this therapeutic modality that during 1960s and 1970s the physiotherapists stopped using this term and introduced the word soft tissue manipulation in lie of the term massage.

Summary

Massage is the oldest form of treatment method known to man kind. Massage therapy consists of several techniques and approaches each having different philosophy. The techniques of classic massage also known as Swedish massage comprised of stroking, effleurage, kneading, petrissage, friction, tapotment and vibration. Each of these techniques applies different types of mechanical energy to body. When these techniques are used in sports set up these are called sports massage. According to time frame of application the practice of sports massage can be categorized as prevent massage, preparatory massage, recovery massage and training or fine tuning massage. When the massage techniques are used over sick person it is known as therapeutic massage. The use of these techniques in health person for restorative and rejuvenative effects may be referred as sports massage. The mention of massage is found in the literature of all the ancient civilization. In modern time P H Ling is credited to have standardized the techniques of massage. In the respect of him the techniques of classical massage are named as Swedish massage. Modern era has seen the development of new approaches of massage therapy and also reintroduction of old form of eastern massage practices. Massage remain one of those health practices which despite having numerous health benefits carry the risk of being misused and abused and therefore have been subjected to alternate period of advocacy and denigration through out history.

Bibliography

- 1 Sinha A G (2010). Principles and Practice of Therapeutic Massage, 2nd Ed. Jaypee Brothers Medical Publishers Pvt Ltd New Delhi
2. Basmajian JV, Hyberg R (1993). Rational Manual Therapies. Williams and Wilkins, Baltimore
3. Wood EC, Becker PD (1983). Beards Massage. WB Saunders Philadelphia,
4. Hollis M (1987) Massage for Therapists. Blackwell Scientific Publication, Oxford.
5. Ernst E. (2003) Safety of Massage Therapy. Rheumatology (Oxford) 42(9):1101 available at rheumatology.oxfordjournals.org/content/42/9/1101.full.pdf (accessed on 8-8-2015)
6. Callaghan M J(1993) The role of massage in the management of the athlete: a review Br J Sp Med; 27(1). available at bj sportmed.com/content/27/1/28.full.pd (accessed on 8-8-2015)

