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BMJ 1999;319:1254-1257

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ABC of complementary medicine

Massage therapies

Andrew Vickers, Catherine Zollman

Therapeutic massage is the manipulation of the soft tissue of whole body areas to bring about generalised improvements in health, such as relaxation or improved sleep, or specific physical benefits, such as relief of muscular aches and pains.

Background

Almost all cultures have developed systems of therapeutic massage. Massage techniques play an important part in traditional Chinese and Indian medical care. European massage was systematised in the early 18th century by Per Hendrik Ling, who developed what is now known as Swedish massage.

Ling believed that vigorous massage could bring about healing by improving the circulation of the blood and lymph. In the past 20-30 years complementary therapists have adapted Swedish massage so as to place greater emphasis on the psychological and spiritual aspects of treatment. Benefits of massage are now described more in terms such as "calmness" or "wholeness" than in terms of loosening stiff joints or improving blood flow. In contrast to the vigorous and standardised treatment recommended by Ling, current massage techniques are more gentle, calming, flowing, and intuitive.

Several techniques derive from traditions separate from European massage. In reflexology, areas of the foot are believed to correspond to the organs or structures of the body. Damage or disease in an organ is reflected in the corresponding region, or "reflex zone," of the foot. When this is palpated the patient is said to experience pain or pricking, no matter how gently pressure is applied. Reflexology treatment consists of massage of the disordered reflex zones.

In aromatherapy, oils derived from plants ("essential oils") are added to a base massage oil, which acts as a lubricant during treatment. Although often used purely for their smell, the oils are claimed to have a wide range of medicinal properties, including effects on wound healing, infection, blood circulation, and digestion. They are said to act both pharmacologically, by absorption into the blood through the skin, and by olfactory stimulation. Many massage practitioners use essential oils without claiming to be practising aromatherapy.

Various other complementary disciplines are primarily touch based or have a substantial touch component (see box).

What happens during a treatment?

Massage treatment takes a variety of forms and may last anywhere between 15 and 90 minutes. Treatment follows a case history, which is usually relatively short compared with other complementary therapies but which varies in length depending on the patient's condition and the indications for massage. While giving a standard massage, practitioners will also gather palpatory information, which helps tailor treatment to individual needs. For example, a practitioner will devote extra time to massage an area of increased muscle tension.

The patient is ideally treated unclothed, on a specially designed massage couch. This normally incorporates soft but firm padding and a hole for the face. The treatment room is kept warm and quiet. Soft music may sometimes be played.



A typical massage treatment session

Examples of other predominantly touch based therapies

<i>Rolfing</i>	Treatments which use deep pressure massage to improve function of muscular system
<i>Structural integration</i>	
<i>Hellerwork</i>	
<i>Alexander technique</i>	Educational systems incorporating exercises and hands-on therapy designed to improve posture, movement, and function
<i>Feldenkrais</i>	
<i>Bioenergetics</i>	Massage to aid the psychotherapeutic process
<i>"Bodywork"</i>	Any combination of the above



UK massage practitioners usually use an oil, such as sweet almond oil, as a lubricant. Elsewhere in Europe, soap or talcum powder are sometimes used instead

Practitioners generally treat the whole body, using oil to help their hands move over the patient's body. A variety of strokes are used, including effleurage, petrissage, kneading, and friction (see box). Massage practitioners who treat sports injuries and musculoskeletal disorders may incorporate techniques derived from physiotherapy, osteopathy, and chiropractic. These include deep massage, passive and active stretching, and muscle energy techniques (in which the patient moves against resistance from the practitioner).

Massage can be adapted to the constraints of conventional health settings by limiting work to the head, hands, feet, or back or even by giving a neck and shoulder rub through clothes with the patient sitting in a chair.

Patients usually find massage to be a deeply relaxing and pleasurable experience. Some techniques include strong pressure, which can cause painful sensations, but these are usually short lived.

Therapeutic scope

Massage is mainly used to promote relaxation, treat painful muscular conditions, and reduce anxiety (often described in terms of "relief from stress"). Practitioners also claim to bring about short term improvements in sleep disorders and pain, conditions known to be exacerbated by anxiety, and massage is widely used for these indications.

Massage is also claimed to have more global effects on health. Practitioners and patients report that massage improves self image in conditions such as physical disabilities and terminal illnesses. This may result in part from the feelings of general wellbeing that are commonly reported after massage. Touch itself is likely to be therapeutic, particularly in those with limited opportunities for physical contact, such as patients without intimate friends or family or with painful physical conditions.

Massage has also been said to help patients feel cared for. Patients may be more ready to discuss and deal with difficult psychological issues once they are less anxious, feel better about themselves, and have come to trust their care providers. Practitioners say that this is one of the reasons why massage can be an important stepping stone to effective counselling, for example, in managing mental health problems or addiction.

Massage has been used to foster communication and relationships in several other settings. In work with children with profound disabilities, where touch may be a primary means of communication, massage techniques have been incorporated into the everyday activities of care workers. Similarly, some midwives run "baby massage" groups where new mothers are taught massage as a means of improving their relationship with their children.

Practitioners of reflexology claim that, in addition to the relaxation and non-specific effects of massage, they can bring about more specific changes in health. One classic reflexology text, for example, includes case histories of ataxia, osteoarthritis, and epilepsy. Similarly, some aromatherapists report benefits in conditions as diverse as infertility, acne, diabetes, and hay fever.

Research evidence

To date, most of the clinical trials of massage have focused on psychological outcomes of treatment. Good evidence from randomised trials indicates that massage reduces anxiety scores in the short term in settings as varied as intensive care, psychiatric institutions, hospices, and occupational health. There is more limited evidence that these anxiety reductions are cumulative over time. Practitioners claim that giving patients a concrete experience of relaxation through massage can

Techniques used in massage

Effleurage—Gentle stroking along the length of a muscle

Petrissage—Pressure applied across the width of a muscle

Friction—Deep massage applied by circular motions of the thumbs or fingertips

Kneading—Squeezing across the width of a muscle

Hacking—Light slaps or karate chops

Reports of psychological benefits of massage

Patient in primary care—"I was very surprised after the first massage that I had been able to bring into the open all these fears and feelings. I most certainly would have been far less forthcoming and far less frank in a situation of psychotherapy—i.e. sitting, fully dressed, face to face with a counsellor"

Patient with AIDS—"It was wonderful to be touched by someone who wasn't wearing gloves"

Patient with physical disability—"When I was being massaged it felt like a stroke up my back was traversing three countries. Massage made me aware of the splits and divisions in me. I certainly gain self acceptance through touch"

Patient with mental ill health—"Massage showed me that I can let go and nothing terrible will happen"



Baby massage is one way of encouraging physical interaction and stimulating the developing relationship between parent and child

Key studies of efficacy

Systematic review

- Vickers A, Ohlsson A, Lacy JB, Horsley A. Massage therapy for premature and/or low birth-weight infants to improve weight gain and/or to decrease hospital length of stay. In: Cochrane Collaboration. *The Cochrane Library*. Issue 3. Oxford: Update Software, 1998

Randomised controlled trials

- Field T, Morrow C, Valdeon C, Larson S, Kuhn C, Schanberg S. Massage reduces anxiety in child and adolescent psychiatric patients. *J Am Acad Child Adolesc Psychiatry* 1992;31:125-31
- Stevensen C. The psychophysiological effects of aromatherapy massage following cardiac surgery. *Complement Ther Med* 1994; 2:27-35
- Wilkinson S. Aromatherapy and massage in palliative care. *Int J Palliative Nurs* 1995;1:21-30

facilitate their use of self help relaxation techniques. This has yet to be evaluated. The evidence that massage can lead to improved sleep and reduce pain remains anecdotal.

Some evidence supports the more "traditional" effects of massage such as improved circulation and decreased muscle tension. However, no reliable data link these changes to clinically worthwhile benefits such as relief of musculoskeletal pain, increased mobility, or improved athletic performance.

Randomised trials have provided some evidence that massage in premature infants is associated with objective outcomes such as more rapid weight gain and development. Many other anecdotal benefits of massage are more subtle and have not been subjected to randomised controlled trials.

There are very few clinical trials showing that any massage technique can have specific effects on conditions such as osteoarthritis, epilepsy, infertility, or diabetes. Very few trials have evaluated the relative advantages of different massage techniques.



Massage on a hospital ward: foot massage has been shown to reduce anxiety even in highly stressful settings

Safety of massage techniques

Most massage techniques have a low risk of adverse effects. Cases reported in the literature are extremely rare and have usually involved techniques that are unusual in the United Kingdom, such as extremely vigorous massage.

Contraindications to massage are based largely on common sense (for example, avoiding friction on burns or massage in a limb with deep vein thrombosis) rather than empirical data. Massage after myocardial infarction is controversial, although studies have shown that gentle massage is only a moderate physiological stimulus that does not cause undue strain on the heart. There is no evidence that massage in patients with cancer increases metastatic spread, although direct firm pressure over sites of active tumour should generally be avoided.

Considerable concern has been raised about the safety of the oils used in aromatherapy. Although essential oils are pharmacologically active, and in some cases potentially carcinogenic in high concentrations, adverse events directly attributable to them are extremely rare. This may be because in practice the oils are used externally and in low doses (concentrations of 1-3%). However, the lack of a formal reporting scheme for adverse events in aromatherapy means that the safety of essential oils has not been conclusively established.

Massage obviously involves close physical contact. To minimise the risks of unprofessional behaviour in this situation, patients should ensure that practitioners are registered with an appropriate regulatory body.

Practice

Like many complementary therapies, massage is usually practised in private in the community. It is also found in conventional health settings, in particular in hospices and in units for learning disability and mental disorders. Massage in these settings is often practised by nurses or by unpaid practitioner volunteers, and much practice is informal, such as a head and neck rub for a distressed patient. However, an increasing number of professional massage practitioners are now employed in NHS hospitals and general practices.

Regulation

Practitioners of massage therapies are currently registered by many different organisations, a situation that is confusing for those trying to find a reputable practitioner. There are umbrella



More research is needed on both the therapeutic benefits and the safety implications of using essential oils in massage. However, the doses used are low, and problems seem to be extremely rare



If necessary, massage can be adapted to the constraints of conventional healthcare settings by limiting work to the hands, head, or neck and shoulders

organisations that attempt to unite the different registering bodies in massage and aromatherapy but not in reflexology. It is probably wise to choose a practitioner from an organisation that is a member association of the British Complementary Medicine Association (BCMA) as these associations are regularly reviewed by the BCMA panel (see earlier article on complementary medicine in practice for contact details of BCMA).

Conventional healthcare professionals, who may have undertaken massage training but not have formal qualifications, are regulated by their own professional body.

Training

The variety of training courses is enormous, with many specifically aimed at conventional healthcare workers such as nurses. A central examinations agency, the International Therapy Examinations Council (ITEC), holds examinations in massage and related therapies that are accepted by many organisations. Other courses range from weekend courses in basic massage to university degree courses in therapeutic massage.

The ABC of complementary medicine is edited and written by Catherine Zollman and Andrew Vickers. Catherine Zollman is a general practitioner in Bristol, and Andrew Vickers will shortly take up a post at Memorial Sloan-Kettering Cancer Center, New York. At the time of writing, both worked for the Research Council for Complementary Medicine, London. The series will be published as a book in Spring 2000.

BMJ 1999;319:1254-7

Umbrella organisations involved in registering massage based therapies

British Massage Therapy Council

17 Rymers Lane, Oxford OX4 3JU. Tel: 01865 774123 (for lists of registered practitioners 0181 992 2554). URL: www.bmtc.co.uk

Aromatherapy Organisations Council

PO Box 19834 London SE25 6WF. Tel: 0181 251 7912. Fax: 0181 251 7942. URL: www.aromatherapy-uk.org

Further reading

- Vickers A. *Massage and aromatherapy: a guide for health professionals*. Cheltenham: Stanley Thornes, 1998

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An hour that might have made history

Before transfusion became established procedure

Between 11 00 am and 12 00 noon on 20 May 1910, Thomas Addis transfused "about 300cc of freshly drawn human phosphated blood" to a patient with haemophilia whose plasma clotting time was thereby shortened from 245 to 24 minutes (normal, 13 minutes). It was 30 minutes two days later, 32 at four days, 55 at eight days, and 200 at 25 days.

Throughout 1910 Addis was Carnegie research fellow at the laboratories of the Royal College of Physicians of Edinburgh, close to the Royal Infirmary at No 2 Forrest Road. The transfusion was his only recorded foray in vivo; he was otherwise investigating the haemophilic abnormality in vitro. His methods with oxalated venous blood plasma were advanced, antedating Quick's "prothrombin time" (1935) and Brinkhous's "one stage partial thromboplastin time" (1950). He showed haemophilic blood to lack inhibitors, to have normal fibrinogen and thrombin, and its blood cells to have normal thromboplastic activity. Addis concluded controversially—but correctly—that the haemophilic defect lay in the plasma, but wrongly that haemophilic prothrombin abnormally resisted conversion to thrombin; however, "prothrombin" was still a hypothetical concept in 1910.

In 1890 chemicals binding calcium in blood were found to prevent coagulation, which could be restored by adding back calcium chloride. This helped clotting investigators greatly and by 1909 several were using potassium oxalate, although its use for blood transfusion was prevented by fears about toxicity and the resulting insoluble calcium oxalate. Phosphate also binds calcium—relatively weakly. In Edinburgh in the 1890s Brakenridge had transfused phosphated blood to people with pernicious anaemia. Addis presumably knew of this as he used the identical (rather concentrated) formula of one part 5% sodium phosphate to three parts blood. Phosphated transfusions had also been conducted by Braxton Hicks in the 1860s. Although Addis's procedure was experimental rather than therapeutic, the blood probably contained an effective dose of factor VIII.

Addis published this work only in 1916, after Ottenberg reported a similar experience with citrated blood. In 1910 even citrate was considered too toxic, although Todd and White had transfused citrated blood between cattle. In 1915 several reports led to citrate being rapidly adopted for human transfusions. Both Addis and Ottenberg were puzzled by other findings—Addis by an apparent efficacy of transfused serum, Ottenberg by a similar efficacy of sodium citrate by itself. Residual "thromboplastins" and "pyrogens" probably explain these effects.

Addis was not the first to transfuse a patient with haemophilia. Lane (1840) successfully transfused George Firmin, aged 11, after six days' postoperative bleeding, with "5½ ounces" of blood; and Crile (1909) referred to three other episodes. Addis's donor—probably himself—and patient were presumably compatible serologically but no pretransfusion testing was recorded. Such precautions were still rare although Landsteiner had described the ABO groups in 1901. However, ABO frequency distribution among the Scots would have favoured Addis.

Addis had hoped to complete his work before publication, but transfusion practice was not quite ready for wider application. Routine blood grouping and safe anticoagulant and preservative regimens came only with the tragic battlefields of the first world war. In 1911, aged 30, Addis emigrated to the new medical faculty at Stanford, California, where he specialised in renal medicine (describing the "Addis count" in urine) and gained a reputation for good teaching and scientific thoroughness. By 1916 he was disinclined to resume his Scottish work. He died on 4 June 1949. He would have been intrigued by the future of the college's laboratories; they are now occupied by the research division of the Scottish National Blood Transfusion Service.

Frank Boulton *consultant in transfusion medicine, Southampton*