ABC of complementary medicine

The manipulative therapies: osteopathy and chiropractic

Andrew Vickers, Catherine Zollman

Osteopathy and chiropractic share a common origin. Their roots can be found in folk traditions of "bone setting," and both were systematised in the late 19th century in the United States: Daniel D Palmer, the founder of chiropractic, is said to have met with Andrew Taylor Still, the founder of osteopathy, before setting up his own school. The therapies remain relatively similar, and many textbooks and journals are relevant to both. The term "manipulative therapy" refers to both osteopathy and chiropractic.

Background

Osteopathy and chiropractic are therapies of the musculoskeletal system: practitioners work with bones, muscles, and connective tissue, using their hands to diagnose and treat abnormalities of structure and function.

The best known technique is the "high velocity thrust," a short, sharp motion usually applied to the spine. This manoeuvre is designed to release structures with a restricted range of movement. High velocity thrusts often produce the sound of joint "cracking," which is associated with manipulative therapy. There are various methods of delivering a high velocity thrust. Chiropractors are more likely to push on vertebrae with their hands, whereas osteopaths tend use the limbs to make levered thrusts. That said, osteopathic and chiropractic techniques are converging, and much of their therapeutic repertoire is shared.

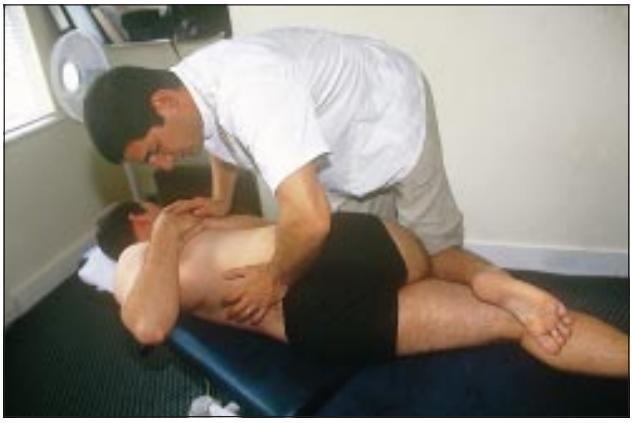
Practitioners also use a range of soft tissue techniques that do not involve high velocity thrusts. For example, the "muscle energy techniques" (known as "proprioceptive neuromuscular facilitation" by physiotherapists) make use of post-isometric relaxation to increase restricted ranges of movement.

Osteopaths and chiropractors may also use what are termed "functional techniques," such as treating hip pain by applying a gentle, prolonged pull to the leg while slowly rotating it in the hip joint. If a restriction is detected, however slight, the leg is held at the point of restriction until a release of muscle tension occurs. Techniques like these are based on an understanding of subtle neuromuscular behaviour, which conforms to mainstream theory. In practice, they also rely on finely developed palpatory skills.

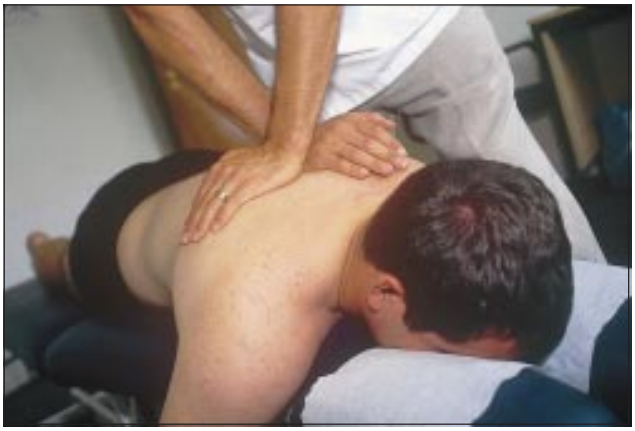
Some osteopaths also practise a technique known as cranial osteopathy or craniosacral therapy. Practitioners place their hands on the cranium and sacrum and gently handle the bones of the skull. They say that, by feeling for and working with subtle rhythmic pulsations of the cerebrospinal fluid, they can correct disturbances in the neuromuscular system. There are some therapists, usually known as craniosacral therapists, who use similar techniques but who do not have an osteopathic background.

A relatively recent branch of chiropractic, the McTimoney school, has developed some of its own manipulative techniques that do not place as great an emphasis on high velocity thrusts as do osteopathy and mainstream chiropractic.

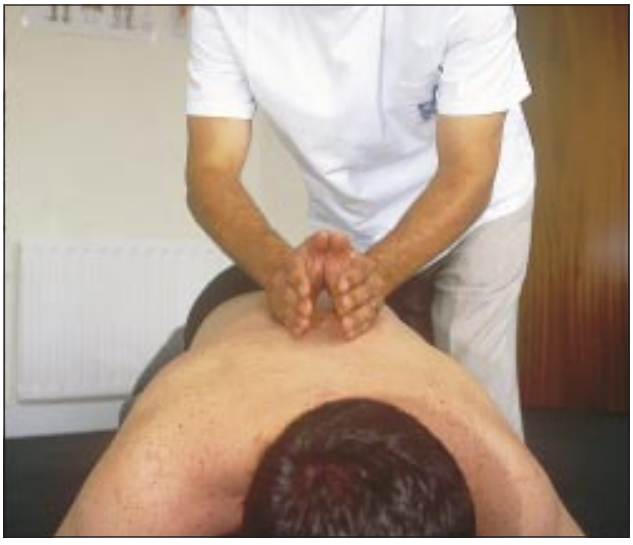
With the exception of cranial osteopathy, many of the treatment methods used by osteopaths and chiropractors are similar to techniques used by those physiotherapists with additional training in manipulative therapy. From a general



High velocity thrust delivered by a levered thrust, the technique usually used by osteopaths



High velocity thrust given as a direct thrust on the spine, as favoured by chiropractors



Chiropractors and osteopaths may use soft tissue techniques to increase a joint's range of movement or relieve muscular spasm

practitioner's perspective, there are few important practical differences between the three types of practitioner.

What happens during a treatment?

Manipulative therapists take a history, palpate for significant changes in muscle tension and skin circulation, and look for any restricted movements in order to diagnose musculoskeletal abnormalities and "neuromuscular dysfunction" (such as "trigger points" or signs of "pain-spasm cycles"). Chiropractors may use *x* rays to assist diagnosis, whereas osteopaths do so largely only for the purposes of excluding serious pathology.

A typical treatment session lasts 15-30 minutes, although first consultations may take longer. A variety of the techniques described above will be used. Not more than four high velocity thrusts are usually given in a single treatment session. A course of chiropractic treatment for back pain might consist of six sessions, initially frequent and then at weekly intervals. Osteopaths are more likely than chiropractors to treat on an "as needed" basis.

Therapeutic scope

Both osteopathy and chiropractic were originally regarded as complete systems of medicine. For example, Andrew Taylor Still treated infectious diseases and blindness among a range of conditions. Interestingly, the treatment of back problems features only rarely in his writings. Similarly, early chiropractors believed that most diseases could be attributed to misalignments of the spine and were therefore amenable to treatment with chiropractic.

Contemporary practitioners have moved away from this position and concentrate primarily on musculoskeletal disorders. Low back pain is the most common presenting complaint. Guidelines from the Royal College of General Practitioners recommend physical therapy (any of the manipulative techniques) within six weeks of the start of persisting uncomplicated back pain.

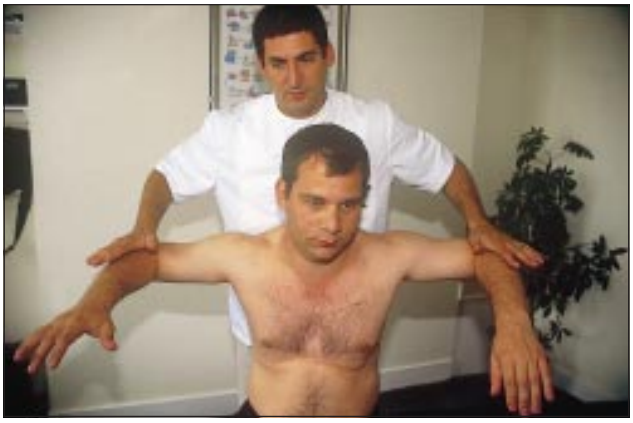
Other conditions often seen include neck and shoulder pain, sports injuries, repetitive strain disorders, and headache. Practitioners also treat various conditions such as arthritis; although they cannot affect disease pathology or progression, they claim to be able to treat secondary symptoms such as pain from associated muscle spasm. Cranial osteopathy has a particular reputation for treating children with conditions such as infantile colic, constant crying, and behavioural problems.

Research evidence

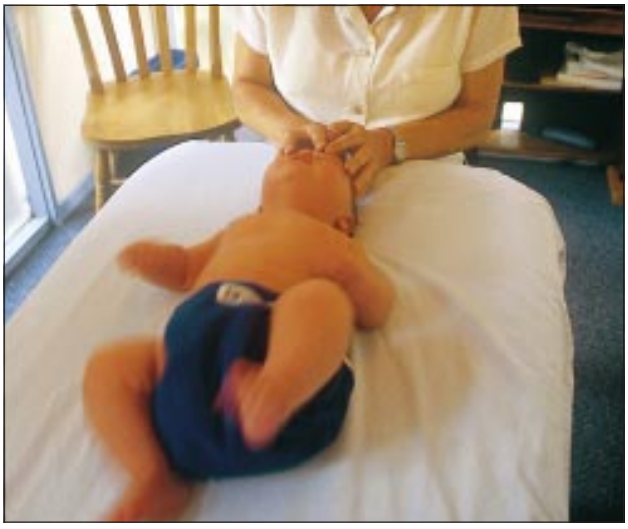
There is considerable evidence from randomised controlled trials of the effectiveness of spinal manipulation for back and neck pain. Although this evidence is largely positive, it has been criticised for failing to exclude non-specific effects of treatment.

In the best known UK trial 741 patients with low back pain were randomised to chiropractic or hospital outpatient care. In both groups the treating practitioners were free to treat patients as they saw fit. The authors concluded that "chiropractic almost certainly confers worthwhile, long term benefit." However, a recent systematic review of this and similar trials highlights methodological weaknesses, such as the fact that commonly used outcome measures such as pain and disability scores are assessed by patients and therefore unblinded.

In one trial that did involve blinded assessment of outcome, patients with back or neck pain were randomised to routine general practitioner care, placebo (deactivated heat treatment), physiotherapy, or manipulation. Physiotherapy and



Palpatory assessment of areas of muscle spasm and tenderness, restricted joint movements, local differences in skin temperature, and sweat gland activity are all important in making a diagnosis and planning treatment



Cranial osteopathy is often used in children under 6 months old. The self limiting nature of many infantile problems (such as colic and irregular sleep patterns) means that evaluation by randomised controlled trials is essential

Key studies of efficacy

Systematic reviews

- Koes BW, Assendelft WJ, van der Heijen GJMG, Bouter LM, Knipschild PG. Spinal manipulation and mobilisation for back and neck pain: a blinded review. *BMJ* 1991;303:1298-303
- Koes BW, Assendelft WJ, van der Heijen GJMG, Bouter LM. Spinal manipulation for low back pain. An updated systematic review of randomised clinical trials. *Spine* 1996;21:2860-71

Randomised controlled trials

- Balon J, Aker PD, Crowther ER, Danielson C, Cox PG, O'Shaughnessy D, et al. A comparison of active and simulated chiropractic manipulation as adjunctive treatment for childhood asthma. *N Engl J Med* 1998;339:1013-20
- Meade TW, Dyer S, Browne W, Frank AO. Randomised comparison of chiropractic and hospital outpatient management for low back pain: results from extended follow up. *BMJ* 1995;311:349-51
- Meade TW, Dyer S, Browne W, Townsend J, Frank AO. Low back pain of mechanical origin: randomised comparison of chiropractic and hospital outpatient treatment. *BMJ* 1990;300:1431-7
- Koes BW, Bouter LM, van Mameren H, Essers AH, Verstegen GM, Hofhuizen DM, et al. Randomised clinical trial of manipulative therapy and physiotherapy for persistent back and neck complaints: results of one year follow up. *BMJ* 1992;304:601-5

manipulation were superior to placebo and general practitioner care after six weeks, and manipulation was superior to physiotherapy at one year follow up.

In addition to effects on back and neck pain, randomised trials have also indicated that manipulative treatment is beneficial for headache, including migraine. However, the number of studies is small, so further work to confirm these results is needed. There is little or no reliable evidence of beneficial effects for many of the other musculoskeletal conditions that are commonly treated.

Apart from dysmenorrhoea, for which a small number of trials have shown a positive effect, current evidence suggests that manipulative therapy is not of benefit for problems related to smooth muscles or viscera, such as asthma and hypertension.

There has been little research on cranial osteopathy or McTimoney chiropractic.

Safety of osteopathy and chiropractic

The most important potential adverse effects of osteopathy and chiropractic are stroke and spinal cord injury after cervical manipulation. Estimates of such severe adverse events vary widely, ranging from 1 in 20 000 patients undergoing cervical manipulation to 1 per million procedures. In recent years the osteopathic and chiropractic professions have shown greater appreciation of the risks of cervical manipulation, and it is possible that improved practice is leading to a reduction in the rate of severe complications.

More common adverse effects (25-50% of all patients) are mild pain or discomfort at the site of manipulation, slight headache, and fatigue; 75% or more of such complaints resolve within 24 hours. Contraindications to various manipulative techniques have been developed by the appropriate professional bodies, and practitioners are trained to screen patients and assess individual risk factors. Even when some techniques, such as high velocity thrusts, are contraindicated, other manipulative treatments may be safe.

Practitioners

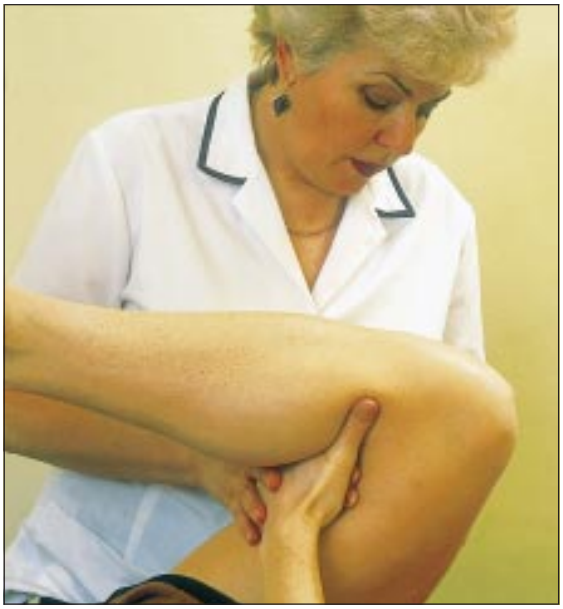
Osteopathy and chiropractic are almost exclusively based in the community and in the private sector. Many practitioners work alone, often from converted rooms in their own homes. Others work in group clinics, in multidisciplinary practices, or in general practices. Some independent manipulative practitioners have established contracts with health authorities, fundholding practices, or primary care groups. Most private health insurance schemes now offer some cover for manipulative treatment.

Regulation

Osteopathy and chiropractic are the only two complementary therapies that are regulated by statute. Two acts of parliament passed in the mid-1990s established a General Osteopathic Council and a General Chiropractic Council with the aim of regulating the professions by the millennium. These organisations operate in a similar way to the General Medical Council and have the authority to remove practitioners from the register in disciplinary hearings.

Training

Most osteopaths take a four year, full time course leading to a BSc degree (BOst). Chiropractors undertake a four to five year, full time training, which includes a BSc in human sciences and chiropractic and a year of postgraduate training in an approved practice, leading to a diploma in chiropractic (DC). McTimoney



Many physiotherapists use manipulative techniques similar to those of chiropractors and osteopaths

Contraindications to high velocity thrusts

Absolute	Relative	No contraindication
Acute inflammatory arthropathies	Spondylolisthesis with ongoing slippage	Subacute inflammatory arthropathies
Acute fracture or dislocation	Articular hypermobility	Osteoarthritis
Ligament rupture and instability	Post-surgical joints with clinical signs of acute inflammation or instability	Spondylolisthesis with no change in slippage
Unstable odontoid peg	Demineralisation	Post-surgical joints with no signs of instability
Infection	Benign bone tumours	Acute injuries of soft and bony tissues
Vertebrobasilar arterial insufficiency	Anticoagulants	Scoliosis
Aneurysm		
Acute myelopathy		
Acute cauda equina syndrome		

Based on the Mercy guidelines from the proceedings of the Mercy Center Consensus Conference, Burlingham CA, USA, 1992

Regulatory bodies and sources of further information

General Osteopathic Council
Osteopathy House, 176 Tower Bridge Road, London SE1 3LU.
Tel: 0171 357 6655. Fax: 0171 357 0011.
Email: info@osteopathy.org.uk. URL: www.osteopathy.org.uk

General Chiropractic Council
Register opened 15 June 1999
3rd Floor North, 344-354 Gray's Inn Road, London WC1X 8BP.
Tel: 0171 713 5155 (for queries about regulation 0845 601 1796).
Fax: 0171 713 5844. Email: enquiries@gcc-uk.freeserve.co.uk

Manipulative Association of Chartered Physiotherapists
c/o Professional Affairs, Chartered Society of Physiotherapists,
14 Bedford Row, London WC1R 4ED. Tel: 0171 242 1941.
Fax: 0171 306 6611

and McTimoney Corley practitioners complete a four year, part time course. Biological and clinical sciences form a substantial component of all these training courses. Sometimes chiropractors are referred to as "doctors of chiropractic." This is purely a courtesy title and has been used since chiropractic began.

Several organisations run training courses in manipulative techniques specifically for conventional healthcare practitioners. The Manipulative Association of Chartered Physiotherapists runs and accredits postgraduate training in manipulation for physiotherapists. The British Institute of Musculoskeletal Medicine runs courses for medically qualified practitioners but is not a regulatory body. The London College of Osteopathic Medicine organises a one year, full time osteopathic training course for registered medical practitioners.

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.

The pictures of manipulative techniques and of cranial osteopathy are reproduced with permission of BMJ/Ulrike Preuss. The picture of a physiotherapist is reproduced with permission of Science Photo Library.

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Educational organisations for doctors

British Institute of Musculoskeletal Medicine
27 Green Lane, Northwood, Middlesex HA6 2PX. Tel/Fax: 01923 220999. Email: BIMM@compuserve.com

Society of Orthopaedic Medicine
c/o Amanda Sherwood, administrator. Tel: 01454 610255
URL: www.soc-ortho-med.org

London College of Osteopathic Medicine
8-10 Boston Place, London NW1 6QH. Tel: 0171 262 5250. Fax: 0171 723 7492

Further reading

- Burn L. *A manual of medical manipulation*. Newbury: Petroc Press, 1998
- DiGiovanna EL, Schiowitz S, Dowling D. *An osteopathic approach to diagnosis and treatment*. Plymouth: Lippincott Raven, 1996
- Kaptchuk TJ, Eisenberg DM. Chiropractic: origins, controversies and contributions. *Arch Intern Med* 1998;158:2215-24

Overcoming the problem

Take a lodger

Dear Amelia, I did enjoy Joe's retirement party and I was honoured that, as your godmother, you have written for advice on your pension position.

You should not have got upset with Joe when he told you that you would be punished if he died first and you decided to take a boyfriend. He was only quoting the official line which states that he must tell his wife that the pensions of doctors' widows are forfeit if the widow remarries or cohabits. A senior pension expert told me that these rules were produced in 1948 when there were few women members of parliament and when in financial and legal matters a wife was regarded as part of the goods and chattels of the husband.

Of course, you are puzzled by the contrary advice we had from Professor Roy Goode, who mentioned in his 1993 report on pension law reform that, "It is no part of a pension provider to spy on the lifestyles of its members." The government at the time announced that it accepted all the main items of the report, but that was before the Treasury found out that pension funds get an extra £1.5bn from the present position—including taking widows' pensions off them—so quite a lot of widows are involved.

What can you do? You are allowed as many boyfriends as you wish as long as Joe is alive—the punishment is only meted out if he is dead.

The official government view is that we should all take maximum precautions to provide for our old age and with this in mind I do think we should first warn your daughters to choose husbands who have pensions in the private sector—a banker would be ideal, or someone in a university or in local government where the pension schemes all accept the Goode report's recommendations. They should certainly avoid a medical husband.

On a more personal level you will need to look after Joe and keep him alive as long as possible. Get him off to the golf course to give him exercise and keep him out of the house from under your feet.

If the worst happens and you are widowed there are still things you can do. The cohabitation rules apply at present only to male partners, so you are safe if women friends visit. The sex discrimination laws do not apply to pensions at present. I mention "at present" because there is a move afoot in Brussels to extend these rules, and I have a letter from the Pensions Office that mentions that it is bearing in mind that cohabitation might need to be widened to include partners of either sex.

Finally, I have found one foolproof way that a widow can keep her pension intact. I have an official letter from the Superannuation Division which states that a widow will not forfeit her pension if she takes a lodger. As your godmother I know you may be shocked at such a suggestion but we must all move with the times. After all, 90% of Joe's women patients had lodgers because they knew it was the only way to keep security of their council tenement flat. You will remember, too, the problems this gave with the computers at the practice when each child was given the surname of the current partner in the hope that he might contribute to its upkeep.

So don't worry if you should be widowed and a handsome man appears in due course. If he offers you marriage just offer him a rent book.

With love from your godmother, Aunt Aggie.

Evelyn O Parbrook, *retired general practitioner, Glasgow*

We welcome articles of up to 600 words on topics such as *A memorable patient, A paper that changed my practice, My most unfortunate mistake*, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to. We also welcome contributions for "Endpieces," consisting of quotations of up to 80 words (but most are considerably shorter) from any source, ancient or modern, which have appealed to the reader.