Osteopathic treatment considerations for rheumatic diseases

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Patients who receive medical care for musculoskeletal pain of rheumatic diseases often benefit from additional osteopathic manipulative treatment. This article offers a brief description of commonly used treatment modalities. It also includes discussion of indications as well as contraindications of operator-director versus operator-monitored techniques.

(Key words: musculoskeletal pain, arthritis, osteopathic manipulative treatment)

Patients with rheumatic diseases most often initially see their primary care physicians with complaints of musculoskeletal pain. After these patients give a thorough history, undergo comprehensive physical examination, and have a variety of laboratory and imaging tests, they are given diagnoses of some type of arthritis in a progressive stage. The Arthritis Foundation's *Primer*[1] offers updated information regarding current scientific knowledge and diagnosis and management of rheumatic conditions since 1928. Treatment options consist of experimental molecular biology, pharmacologic agents, exercise, physical therapy, stress reduction, alternative modes of therapy, surgical procedures, and osteopathic manipulative treatment (OMT). No single modality has proven to be most successful; however, treatment of the somatic component in an arthritis process by administration of manipulative treatment has been helpful in relieving pain and distress of a chronic condition.

Osteopathic manipulative treatment offers an opportunity to treat patients with arthritis without the use of invasive techniques or negative sequelae. The pharmaceutical industry continues to research and develop new medications, some of which may cause serious side effects and cross-reactions in patients who require polypharmacy for other concomitant ailments.[2-4] Pharmacologic intervention should enhance "normal" physiology. Gene therapy is not widely available as most rheumatic conditions are polygenic.[5,6] Manual forms of treatment have been proposed since the time of Hippocrates and Galen.[7] Osteopathic physicians have been educated about palpatory diagnosis and treatment of somatic dysfunction that may be related to rheumatic disease. They are also aware that exercise programs to address optimal biomechanical function enhance physiology. Young physicians may become impatient about slow response to treatment or overlook the clinical clues that back pain may be an early and only symptom of a visceral pathologic process related to a rheumatic entity. Seasoned practitioners have been caring for patients for longer periods and noting the steady improvement of patients undergoing consistent osteopathic medical care.

A discussion of manual treatment approaches for patients with arthritis follows to impart to patients and the medical community information about the application of osteopathic principles in treating the somatic component of rheumatic diseases. Some of the more commonly used treatment approaches used to relieve pain and improve joint motion are described.

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Soft tissue treatment

Soft tissue treatment addresses neurovascular components within muscular and fascial structures of the joint. The physician may knead, stretch, or apply inhibitory pressure to a group of muscles to relax hypertonic muscles, alter passive fascial structures, improve local circulation or lymphatic drainage, and provide a general state of relaxation. These techniques may also be used to relax tissues for application of additional treatment techniques. Contraindications include fractures, excessive pain, and undiagnosed localized infection or inflammation (*Figure*).

Thrust treatment

Thrust treatment (high-velocity/low-amplitude technique) is used for specific joint mobilization for the following purposes:

- ☐ reduction of pain,
- ☐ increased range of joint motion,
- ☐ improved biomechanical function, and
- ☐ reduction of somatovisceral reflexes.

To effectively perform thrust treatment, a physician identifies a specific restriction of joint motion or somatic dysfunction by palpation. The practitioner addresses appropriate anatomicophysiologic barriers in all planes of permitted motion before applying a manual force. After applying the minimal but well-directed force, the physician reexamines the joint to note an alteration or resolution of the joint restriction. Manual treatment is precisely applied with exertion of minimal force. Articulatory techniques are not indicated for treating fractures, osteoporotic joints, "frozen" joints, unstable joints, or joints that have effusions.

Springing treatment

Springing treatment (low-volume/moderate-amplitude technique) has been used to gently alter physiologic barriers of muscles and fascia by inducing a series of precise movements against palpated articular restrictions. These movements may be gentle rocking or manual pulses that are controlled, repetitive, slow, and passive. The physician continues these motions until the barrier is reduced or physiologic motion of the joint has improved. The patient may experience reduced anxiety or muscle tension as joint tissues may be prepared for other types of treatment techniques, such as muscle energy. Contraindications to use of springing treatment are

- ☐ advanced bone-wasting disease,
- ☐ fractures,

☐ acute localized infection, or
☐ inflammation (*Figure*).

Muscle energy treatment

Frederic L. Mitchell, Sr, DO, developed the concept of muscle energy treatment in the osteopathic medical literature. Frederic L. Mitchell, Jr, DO, has also written extensively about this treatment approach, which utilizes the patient's own muscle contractions to alter restriction of motion.[8]

The objectives of these techniques are
☐ to mobilize joints in which movement is restricted by muscle imbalance or tension,
☐ to stretch tight muscles and related fascia,
☐ to improve local circulation, and
☐ to balance neuromuscular relationships that alter muscle tone.

To execute this type of treatment, the physician evaluates the musculoskeletal system for asymmetric muscular weakness or hypertonicity. Next, The physician positions the patient's restricted joint to lengthen muscle fibers across the restricted (usually contracted) joint. The patient is then instructed to "push against" the physician's local manual contact for 3 to 5 seconds. The physician again repositions the joint and instructs the patient to gently resist manual contact (for three more times) so that either flexors or extensors may be lengthened. Neither joint repositioning nor patient resistance should be painful in the execution of this treatment modality. In addition to stretching or rebalancing muscles, the physician enhances lymphatic drainage and circulation to the joint. Some contraindications may include
☐ muscle strain,
☐ patient's inability to follow instructions, or
☐ muscles that are too painful to be stretched at time of examination (*Figure*).

Counterstrain

Counterstrain was devised by Lawrence Jones, DO, and has been expounded on by Herbert A. Yates, DO, and John C. Glover, DO.[9] In doing a musculoskeletal examination, the physician identifies a "tender point" in a region of muscle or fascial strain. The patient is placed into a position of comfort as the physician continues to contact the point, without altering palpatory pressure. The patient's position and physician's contact of the point are maintained for approximately 90 seconds. The patient is then slowly returned from position of comfort to "neutral". On reevaluation of the "tender point," the physician notes that pain has resolved. Also, a change of tissue texture is palpable. The "tender point" is treated only once, not repeatedly until pain is addressed. If pain is not relieved, the physician should reexamine the region to consider somatovisceral components to the patient's complaint of pain.

This system of treatment should not be considered if patients cannot maintain a position of comfort or if they are not able to appreciate change of pain sensation with joint repositioning.

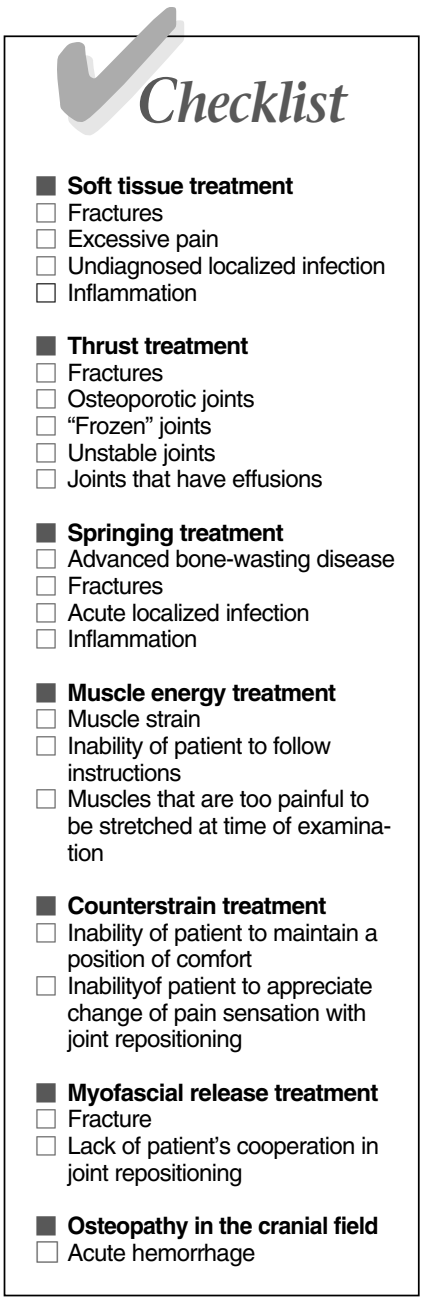

Figure. *Summary of contraindications to osteopathic manipulative techniques used in treatment of patients with osteoarthritis.*

Myofascial release treatment

Robert C. Ward, DO,[10] has developed techniques that address fascial and muscular tensions or imbalances in a joint. The physician palpates distortions of connective tissue, assesses for range of motion, and identifies anatomicophysiologic barriers of joint motion. Restricted tissues are gently positioned away from the barrier, into regions of "ease," and maintained until the patient perceives decreased pain or the physician appreciates alteration of tissue texture or relaxation. Joint traction or compression may be added to further relax the connective tissues. If necessary, the joint may be evaluated for changes in range of motion and then placed into new positions of ease until pain is resolved or the joint is stabilized. Treatment of connective tissue may also stabilize posture and gait. Contraindications may include fracture or lack of patient's cooperation in joint repositioning (*Figure*).

Osteopathy in the cranial field

William G. Sutherland, DO, developed an approach to treatment of the musculoskeletal system whereby the physician detects stresses and strains of connective tissue, central nervous system, or bony skeleton through light, but focused, palpation.[11] Strains are brought into balanced tension until the stressed structures are perceived to be relieved by palpatory reevaluation. A minimal amount of joint or structural motion is initiated. The patient does not need to actively participate in the treatment process by repositioning joints or resisting motion. Except for acute hemorrhage, almost no contraindications to this type of treatment exist (*Figure*).

Treatment approaches

Selection of the treatment approach depends on location of restriction, that is, bone, muscle, fascia; severity of pain; permitted range of motion; acuteness of condition; and the patient's anxiety. Postural balance and gait may be stabilized by treating groups of muscles that influence joints to withstand gravitational strain. Muscle energy and myofascial treatment techniques would be appropriate. Both the patient and the physician would note improvement in strength and range of motion. Soft tissue and springing tech-

niques may relax the patient as well as soften tissues by stimulating circulation to the region or encouraging lymphatic drainage from a limb. Any of the already mentioned treatment techniques may be applied locally to increase joint motion also. Strain-counterstrain techniques are beneficially applied to bedridden or wheelchair-bound patients. Indirect treatment, such as osteopathy in the cranial field, are useful for patients with osteoporosis or acute inflammation. Severely restricted regions of the musculoskeletal system in anxious patients respond well to gentle treatment, which not only mobilizes joints, but also balances muscle tension and reduces edema. The physician also does not have to exert lots of physical energy to execute treatment. Thrust treatment should be precisely applied to a focal joint restriction, focusing on dynamics of motion, not static positional change. The physician is not "putting back" a joint that is "out of place." Hence, the application of the treatment procedure is specific and accomplished with minimal effort, while one monitors accumulation of forces across the joint. The joint may be spinal or of an extremity. At the conclusion of OMT, the physician should recheck the structures treated and the local and distal effects of musculoskeletal changes.

Comment

Patients with arthritis have a menu of care options. Pharmacotherapy, exercise, physical therapy either alone or in combination has demonstrated positive benefits for a chronic condition. Osteopathic manipulative treatment offers the opportunity to relieve pain and loss of joint motion by stabilizing musculoskeletal structure before other biomechanical modalities are integrated to increase flexibility and strength. Thorough palpatory diagnosis and knowledge of a spectrum of treatment principles and techniques are complementary clinical tools that can address the pain of arthritis which may result from either edema, muscle spasm, or reduced mobility.

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