Facilitated positional release

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The facilitated positional release techniques described here introduce motion into the direction of freedom of movement. Achievement of neutral position is made easier by modifying sagittal posture, and a facilitating force is then applied. The treatment is directed at normalizing tissue texture changes but can be modified to influence the deep muscles involved in joint mobility. This modality is easily applied, nontraumatic, and efficient.

The mnemonic A-R-T is often used to describe the criteria for the diagnosis of spinal somatic dysfunction. The letters stand for Asymmetry of vertebral position, Restriction of motion of functional spinal units, and Tissue texture changes. The latter include changes in texture of fascia, muscles, subcutaneous tissues and skin.¹

One of the goals of manipulation is to reverse these asymmetries, restrictions, and tissue changes. Stoddard² stated that no matter what presenting symptoms the patient has, the physician should examine the entire spine for specific areas of reduced mobility and apply osteopathic manipulative treatment at these sites.

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Direct techniques are used to create motion directly through restrictive barriers. Indirect techniques,³ such as functional⁴ or counter-strain⁵ methods, use positional placement away from the restrictive barriers (that is, into the direction of freedom of motion with the development of reflex release patterns).

The procedures described here use the following: (1) indirect technique; (2) a modification of the sagittal posture to try to approach neutral position as defined by Fryette,⁶ wherein a spinal area is balanced between flexion and extension; and (3) an added force that facilitates an *immediate* release of tissue tension or restriction of joint motion, or both. When the procedure is properly performed, the patient will report immediate relief of point tenderness with restoration of function.

If the applied technique fails to achieve complete normalization, it can be repeated or other methods of treatment can be immediately applied.

A possible neurophysiologic explanation of how and why this type of therapy is effective was first suggested by Korr,⁷ when he wrote that the behavior of the "lesioned" segment suggests turned up "gain," or gamma motoneuron activity, of that segment. Bailey⁸ subsequently proposed that an inappropriate high gainset of the muscle spindle results in changes characteristic of somatic dysfunction.

The techniques described, by placing the region into its "neutral" position, release the facets and allow for rapidity and ease of response to applied motion and force. Application of the facilitating force has an immediate effect on the muscle spindle-gamma loop. This allows the extrafusal muscle fibers to lengthen to

their normal relaxed state. Carew,⁹ in discussing the feedback mechanism of the muscle spindle stretch reflex, stated that shortening of the muscle more than intended causes a decrease in spindle output, lowering Ia excitatory input to the motoneuron and less firing. As a result, muscle tension will be reduced. By placing the tissue or articulation into its specific position of freedom of movement, the physician is "fine tuning" this muscle spindle-gamma loop response, making it specific for the muscle fibers involved in the somatic dysfunction being treated.

The response to this treatment is in the muscle tissue. The joint motion will normalize if its mobility was impaired by muscle hypertonicity. If joint motion asymmetry is caused by other factors such as meniscoid or synovial impingement or degenerative arthritis, then mobility will remain restricted.

The treatment procedures described in this article are divided into two kinds. One is directed at the normalization of palpable tissue texture, whereas the other is modified to influence deep muscle involved in joint mobility.

It is sometimes difficult for the physician to make a clear diagnostic distinction as to which is the primary somatic dysfunction, changes in tissue texture or motion restriction. If in doubt, it is recommended that the palpable tissue changes be treated first. If motion restriction persists, then a technique designed to normalize the deep muscles involved in the specific joint motion restriction is applied.

The methods used by the physician in making a diagnosis may consist of "skin rolling" as described by Mennell,¹⁰ testing for thoracic/lumbar "rotoscoliosis" in the method of Mitchell, Moran, and Pruzzo,¹¹ palpatory motion testing as described by Johnston,¹² or any of the other direct or indirect tissue or motion testing procedures described in the literature, depending on the physician's expertise. It is the ultimate diagnosis, and not how it was made, that dictates the therapeutic approach.

A general description of the application of these techniques follows: The first step taken in these techniques should be the modification of the sagittal posture to create a flattening

of the anteroposterior spinal curve in the region to be treated. Thus, a mild reduction of the normal cervical and lumbar lordosis or the thoracic kyphosis is established. The facilitating forces that are added consist of compression, torsion, or a combination of the two. It is important that the dysfunctional tissue or articulation to be treated is placed into positions that move freely or are pain free, or both.¹³

Tissue texture changes

The physician places the patient in a relaxed position. Next, the physician flattens the anteroposterior spinal curve of the area to be treated. The tissue is placed into its position of ease of motion (that is, muscle shortened and softened). The facilitating force compression, torsion, or a combination of the two is applied. The position is held for 3 to 4 seconds, then released and the condition is reevaluated. The placement of tissue into its position of ease and application of the facilitating force may be done in reverse order.

Intervertebral motion restrictions

The procedures are the same as the tissue changes, except that the physician places the vertebra into its planes of freedom of motion. For example, a somatic dysfunction diagnosed as the third cervical vertebra moving freely on the fourth cervical vertebra into the motions of extension, sidebending to the right, and rotation to the right is treated by placing the third cervical vertebra into a position of extension, right lateral flexion, and right rotation with respect to the fourth cervical vertebra.

Methods for cervical region

An area of change in tissue texture found posterior to the right articular facet of the third cervical vertebra can be treated as follows: The patient should be in the supine position with the physician sitting at the head of the table. A pillow is placed on the physician's lap. The patient is requested to move up the table toward the physician until the patient's head and neck are off the table, resting, relaxed and comfortable, on a pillow.

(continued on page 151)

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The physician then places the pad of his or her right index finger on the area of tissue texture change to be treated (Fig 1). The patient's head is firmly supported by the physician's left hand, which is placed palm up, with the occiput resting in it. The physician's left hand will be used to accomplish all the subsequent maneuvers.

The physician first gently forward bends the patient's head and neck to flatten the cervical lordosis. Next, the physician gently applies axial compression on the patient's occiput toward the patient's feet, creating a vector of force through the patient's head aimed at the feet. Less than a pound of force is sufficient; it needs to be only enough to be felt at the physician's right index finger.

Maintaining this compression, the physician backward bends the patient's neck and then sidebends it up to the physician's right index finger. This should cause shortening and relaxation of the tissue being treated. This position is held for 3 seconds and then released, and the area of dysfunction is reevaluated.

In general, tissues along the posterior aspect of the spine that show texture abnormalities are shortened with backward bending and sidebending to the same side. If tissue changes are found anteriorly, then forward bending is usually required. Some muscles have a contralateral sidebending function or a rotary component, or both. Those muscles must be placed in their individual shortened positions. Careful localization of the component motions of compression, forward/backward bending, and sidebending/rotation to the area of tissue texture change will allow faster and more accurate results.

If a somatic dysfunction in the same region has been diagnosed (for example, C3 extended, sidebent right, rotated right), the treatment procedure is the same as that described for the tissue texture changes with one exception. In this situation, the specific vertebra being treated is placed into all three planes of freedom of motion.

The patient and physician positions are the same as for treating change in tissue texture. The physician's right index finger is placed at the right articular facet of the third cervical

Figure 1. Treatment of tissue texture changes, posterior to the right articular facet of C3: Patient/physician position with compression and right sidebending added. B: Lateral view showing backward bending (extension) of patient's neck.

vertebra, and the physician's left hand is used to apply axial compression and accomplish extension, right lateral flexion, and right rotation of the third cervical vertebra on the fourth cervical vertebra. The physician's right index finger monitors these motions. If the technique is applied correctly, the physician's monitoring finger will feel articular facet release as the third cervical vertebra is placed into its final position. This position is held for 3 seconds, released, replaced into neutral position, and reevaluated.

When applying this procedure to dysfunctions of the suboccipital area, or to the atlanto-occipital articulation, the physician must remember that flexion-extension is a slight nodding motion. Also, the atlanto-occipital joint lateral flexes and rotates in opposite directions.

Treatment for thoracic region

An area of tissue tension at the sixth thoracic transverse process on the right can be treated as follows: The patient is seated. The physician stands behind and to the right of the patient. The physician places the index finger of the left hand on the site of tissue tension.

This will be the monitoring finger. The physician's right arm is placed in front of, and across, the patient's shoulders. The physician's right hand is on the patient's left shoulder and the axilla is resting on the patient's right shoulder. The patient is told to sit up straight, to reduce the thoracic kyphosis.

The first motion to be introduced is backward bending. This is achieved by asking the patient to lift his or her sternum toward the ceiling. This motion must be controlled and localized to the area being treated as monitored by the physician's left index finger. The physician presses down with the right axilla. This compressive motion should be applied as close to the patient's neck as possible, and directed downward toward the patient's left hip. The physician monitors this motion, which creates compression and sidebending in the desired area. This position is held for 3 seconds, released, replaced into neutral position, and reevaluated.

If a somatic dysfunction is diagnosed as the sixth thoracic vertebra moving freely on the seventh thoracic vertebra into the motions of extension, sidebending to the right, and rotation to the right, the treatment procedure is modified as follows: The starting positions are as previously described with the physician's monitoring finger at the sixth articular facet on the right. The compressive force is applied straight downward toward the monitoring finger. Then right lateral flexion and rotation are introduced up to and including the sixth thoracic vertebra, so that a torsional effect is created (Fig 2). Release of the articular facet should be felt. The position is held for 3 seconds, released, replaced into neutral position, and the dysfunction is reevaluated.

To apply this technique to an area that requires flexion motion, when the diagnosis is that the sixth thoracic vertebra moves freely on the seventh thoracic vertebra, into the motions of flexion, sidebending to the right, and rotation to the right, the technique would be modified as follows. The patient's position begins as before with the "sit up tall" request to reduce the thoracic kyphosis. The physician's position is as described heretofore. The compressive force is applied toward the moni-

Figure 2. Physician applying a compressive force straight down, and introducing right sidebending, right rotation (torsional) motion up to the monitoring finger, for treatment of T6 moving freely on T7 into extension, sidebending to right, and rotation to right.

toring finger first. Maintaining this compression, the physician places the patient's thoracic spine into flexion, up to and including the sixth thoracic vertebra. Then, right lateral flexion and right rotation are introduced, while the facet is monitored. The position is held for 3 seconds, released, and replaced into neutral position, and the patient's condition is reevaluated.

Method for lumbar region

An area of tissue tension at the fourth lumbar transverse process on the right can be treated as follows: The patient is in the prone position with a pillow under the abdomen. The pillow should be large enough to create flattening of the lumbar lordosis. The physician stands at the right side of the table. The physician's right index finger is placed at the site of tissue tension. The physician's right knee is placed on the table lateral to the patient's right ilium.

With the left hand, the physician slides both of the patient's legs toward the right side of the table (Fig 3). This movement creates sidebending of the patient's lower extremities over the right knee. This procedure is continued until tissue motion is felt by the right, monitoring, index finger.

Figure 3. Treatment of tissue texture change at posterior right fourth lumbar transverse process. A: Patient position and position of physician's knee for sidebending of patient's lower extremities to right. B: Physician introduces torsional, extension/rotation motion of the left hip up to the monitoring finger.

Then the physician releases the patient's legs and places the left hand under the patient's left thigh. (This is performed with the left palm facing upward, fingers pointed toward the patient's right thigh, and the wrist in volar flexion.) The physician grasps the medial aspect of the patient's left thigh, and extends and externally rotates the thigh until motion is felt by the right monitoring finger in the area of tissue tension. A torsional motion is created up to the monitoring finger. This position is held for 3 seconds, released, and the area is reevaluated.

If the diagnosis of somatic dysfunction is that the fourth lumbar vertebra moves freely on the fifth lumbar vertebra into the motions of extension, sidebending to the right, and rotation to the right, the treatment procedure would be as follows: The patient is in the prone position with a pillow under the abdomen, and

the physician stands on the right side of the table. The physician monitors the right transverse process of the lumbar vertebra with the right index finger. The physician grasps the patient's right lower leg or ankle with the left hand. The patient's right leg is brought into abduction until motion is felt at the monitoring finger, then internal rotation up to the monitoring finger is added (Fig 4A).

The patient's right leg is then pushed toward the floor until motion is felt by the physician's monitoring finger. A small pillow pad is inserted between the patient's thigh and the table to avoid creating a painful pressure area (Fig 4B). This pillow also assists in the creation of the desired fulcrum effect. The position is held until the physician feels a sudden release of joint restriction, which usually occurs in about 3 to 4 seconds. The position is released, returned to the neutral position, and the patient's condition is reevaluated.

If the somatic dysfunction is that the fourth lumbar vertebra moves freely on the fifth lumbar vertebra into the motion of flexion, sidebending to the right, and rotation to the right, the treatment would be as follow: The patient is in the prone position, with a pillow placed under the abdomen. The physician sits on a stool at the right side of the table facing the patient's head. This places the side of the physician's left thigh and knee alongside the table. The physician monitors the transverse process of L4 on the right side with one finger of the left hand.

The physician drops the patient's flexed right knee and thigh off the table over the physician's left thigh. Then the physician grasps the patient's knee with the right hand, and flexes the patient's hip until motion is felt at the monitored transverse process (Fig 5). Subsequently, the physician pushes the patient's right knee toward the table, using his or her own left knee and thigh as a fulcrum, until motion is felt at the monitored transverse process (hip adduction). Finally, with the right hand, the physician turns the patient's knee in a circular direction creating internal rotation of the hip. This position is held for 3 to 4 seconds until release of the joint restriction is felt. The position is then released, replaced

Figure 4. Treatment of L4 moving freely on L5 into extension, sidebending right, and rotation right. A: Abduction with internal rotation of right hip. B: Patient/physician positions, maintaining abduction/internal rotation, physician introduces downward pressure on patient's foot until motion is felt at the monitoring finger.

Figure 5. Introduction of flexion up to monitoring finger, and then adduction/internal rotation of that hip until motion is felt at the monitoring finger, for treatment of L4 moving freely on L5 into flexion, sidebending right and rotation right.

into neutral position, and the patient's condition is reevaluated.

Comment

A limited number of facilitated indirect pro-

cedures have been described in detail. The basic approach is applicable to other specific diagnoses. When properly used, these procedures bring about tangible, rapid resolution of somatic dysfunction. The ease with which these

techniques can be applied and their efficaciousness should contribute to their use in daily practice by osteopathic physicians.

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