# COMMENTARY

# INTEGRATIVE FASCIAL RELEASE AND FUNCTIONAL TESTING

Warren Hammer D.C., M.S.*

**Abstract:** Soft tissue techniques, including Integrative Myofascial Release (IFR) can be more effective if the area of treatment can be determined by functional testing. The patient's source of pain may not necessarily be located at the area of complaint and functional testing helps in pinpointing the source. Post-treatment functional testing will provide feedback to both the patient and the doctor as to whether the technique was effective. This paper will describe some typical functional tests and treatment using IFR of the posterior cervical/thoracolumbar fascia.

## INTRODUCTION

Integrative Fascial Release (1)(IFR) is a soft-tissue method of releasing fascial restrictions. A variety of fascial techniques are integrated by:

(a) Applying pressure in the direction of a fascial barrier without concern for the plane of the muscle fibres.
(b) Adding a passive or active stretch in the direction of the fascial barrier.
(c) Using a prolonged deep or superficial pressure for the collagenous barrier and a deep immediate active pressure for the elastic barrier.

Authors such as Barnes (2), Lewit (3), Bednar et al (4), Leahy (5), Cailliet (6), Greenman (7) and Barker PJ et al (8), are just a few of the many clinicians and researchers that recognize the importance of the fascial system in the treatment of musculoskeletal pain syndromes. Fascia is a connective tissue that connects and separates almost every structure in the human body. Tension exerted on spinal fascia is transmitted to the whole spine, and both the upper and lower extremities. Fascia allows for effective load transfer between the spine, pelvis, legs and arms. Restriction of fascia is responsible for loss of shock absorption, peripheral vascular and nerve entrapments and loss of motion and pain throughout the body.

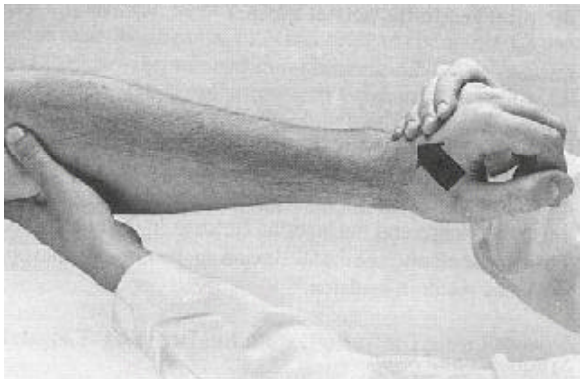
According to Richardson et al (9) "thoracolumbar fascia may limit the motion of the vertebrae in all directions". A recent study by Barker and Briggs (8) proved that the posterior fascia extending from the sacrum and lower extremities extends to the upper extremities and human skull. This fascia is continuous, has pain fibres and is "capable of transmitting tension". The authors' note that the slump test used to determine involvement of the neuromeningeal tract may be actually testing the posterior fascia.

Soft-tissue methods are more reliable when the area of involvement can be stressed and therefore identified by functional testing. Functional tests for soft-tissues include active and passive stretch and muscle testing. Postural evaluation also leads to visualization of abnormal stress areas, as does the evaluation of gait. Finally, palpation for fascial barriers based on the above functional evaluation is necessary to determine the site and direction of treatment. Although it is not always possible, manual soft-tissue methods should be administered to a site primarily based first on functional testing and then localized by palpation. In IFR, a muscle test is considered a fascial test since it is the fascia that restricts the passive stretch of the muscle (1).

### Functional Tests For Common Conditions

Lateral epicondylopathy is typically tested with the patient's elbow extended since the extensor carpi radialis brevis and longus are inserted into the humerus (Fig. 1). Any flexion of the elbow during testing would diminish the force on the extensor fascia. The elbow should also be extended for medial epicondylopathy (Fig. 2). Passive stretching of these tissues would also elicit pain if the condition were acute. Palpation of the extensor or flexor fascia would follow to determine the areas of pain location

Figure 1: *Resisted wrist extension (with extended elbow).*



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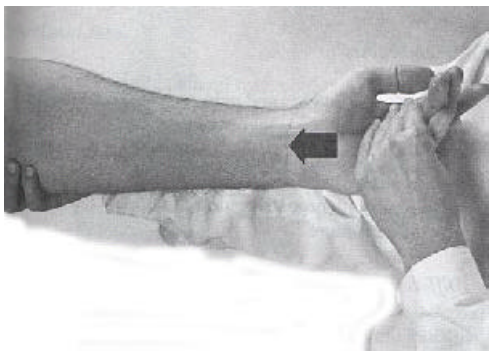
* C/o
The Chiropractic and Osteopathic College of Australasia
PO Box 1010, RINGWOOD, VIC. 3134
AUSTRALIA

Figure 2: *Resisted wrist flexion (with extended elbow).*



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and direction of fascial barriers. While pain and fascial restriction may predominate at the insertion areas of the epicondyles it is necessary to evaluate the tissue throughout the extensor or flexor mechanism that may require fascial release. Localized friction massage is very beneficial at the insertion sites such as the epicondyle while fascial release is effective at the belly areas.

An important functional test for the thigh and hip is Ober's test (Fig. 3). Ober's test is performed by having the patient lie on the uninvolved side with the lower hip and knee flexed to help reduce the lumbar lordosis:

"The examiner lifts the involved flexed or extended leg at the ankle while stabilizing the pelvis with the other hand, and then abducts and extends the hip in line with the body, allowing the iliotibial band to move posteriorly over the greater trochanter. The examiner then slowly lowers the upper leg; if the leg drops to the table, the test is negative; if it remains abducted, the test is positive" (10).

It is very important to hold down the patient's hip at a right angle to the table during the test. From a fascial point of view the tissue around the glutei, tensor fasciae latae, vastas lateralis, biceps femoris, and iliotibial band

Figure 3: *Positive Ober's test.*

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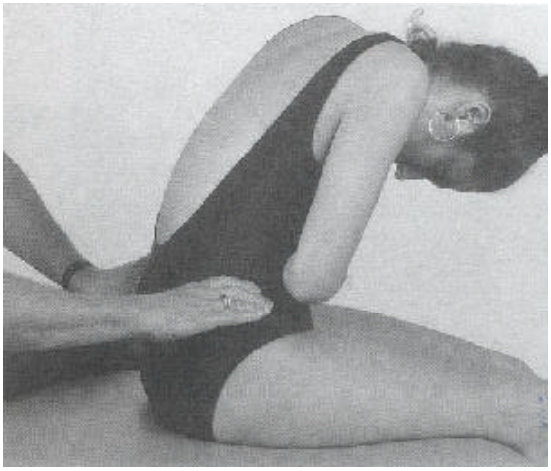
may be involved even down to the lateral retinaculum of the knee. The anterior fascia of the iliacus and psoas may also be involved. Shortening of these tissues are directly related to hip and thigh pain, trochanteric bursitis, lower back pain and peripheral nerve entrapment sites around the pelvis i.e., lateral femoral cutaneous nerve. Use of the IFR method may restore normal motion of the surrounding hip tissue and result in a negative Ober test.

**Posterior Cervical/Thoracolumbar Fascia**

Passive stretching of the cervical, thoracic and lumbar spine in all directions is an excellent functional test for determining spinal and paraspinal fascial restrictions. An effective test for the lumbar area is a screening test in which the patient sits at the end of a table with the knees at the edge to relax the hamstrings. The examiner palpates the lateral crests of the ilium and the posterior iliac spine. The patient is told to flex the neck and curl the body forward, starting with the head progressing forward and followed by flexion of the thoracic and lumbar spine. As soon as pelvic movement is felt (Fig. 4), the patient is told to stop bending. If the distance between the patient's knees and forehead is less than 8 inches (20cm) then the posterior fascia is considered short (9). Figure 5 depicts

Figure 4: *Screening for a tight erector spinar.*



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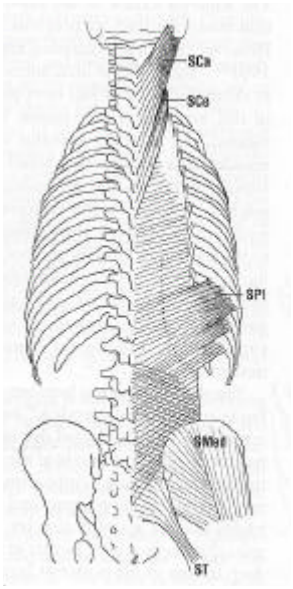
the deep layer of the posterior fascia. From T12 down to the iliac crest and sacrum, the superficial and deep fasciae are fused and the cross hatching expresses why a barrier can be found in any direction. There is increased thickening along the paraspinal areas.

After the functional forward bending screening test the same test can be performed for determining which areas of the cervical/ thoracic /lumbar fascia are involved. The practitioner passively stretches the sitting or standing patient at the cervical spine to the end-range and asks the patient where they feel pain, restriction or abnormal tension. The patient may complain of these symptoms anywhere down to the lumbosacral area and lower

Figure 5: *Deep lamina incorporating findings of Vleeming at al38 inferiorly and the current study superiorly. SCa = splenius capitis, SCe = Splenius cervicis, SPI = serratus posterior inferior, GMed = gluteus medius, ST = sacrotuberous ligament.*

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extremity. Continue to passively flex the patient from the thoracic to the lumbar area until maximal flexion is achieved. Mark down the areas of complaint and finally palpate these areas for the direction of the fascial restriction. A common location of facial restriction is the sacrum and paraspinal areas. Areas extending to the latissimus dorsi, serratus posterior inferior and obliques are also often found. Treatment of these fascial restrictions may eventually eliminate the lumbar pain, or at least allow for easier adjustment of the spine. The patient can be flexed obliquely, laterally and literally in any direction to exert tension on the fascia.

The cervical fascia can be easily tested by passively stretching the cervical spine in all directions to elicit pain and decreased range of motion. Palpation will often reveal thick bands of fascia especially along the paraspinal areas and the anterior or posterior sternocleidomastoideus muscle (SCM) area.

It is important to palpate the fascia while the patient is in the loaded position, i.e., sitting or standing. Treatment can be administered in the loaded position (usually sitting). Supine and prone positions can also be used for treatment of restrictions found in the loaded position. Evaluation in an unloaded position (prone) may reveal fascial restrictions but may not demonstrate restrictions that a loaded position would reveal.

**Treatment**

Figure 6 shows a contact (superficial or deep) based on palpation and passive motion testing posterior to the SCM against an inferior to superior barrier. For an elastic barrier, pressure is immediately exerted into the barrier while the neck is actively stretched in the barrier direction. For the collagenous barrier, after the deep or superficial contact is made the practitioner waits (10 seconds to 2-3

Figure 6: *Contacting a barrier in an inferior to superior direction*

Figure 7: *Follow the release in the direction of barrier while the neck is passively or actively stretched.*

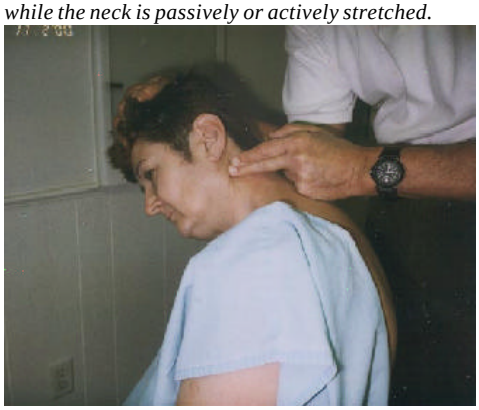

Figure 8: *Thoracolumbar fascia is contacted in an inferior barrier direction.*

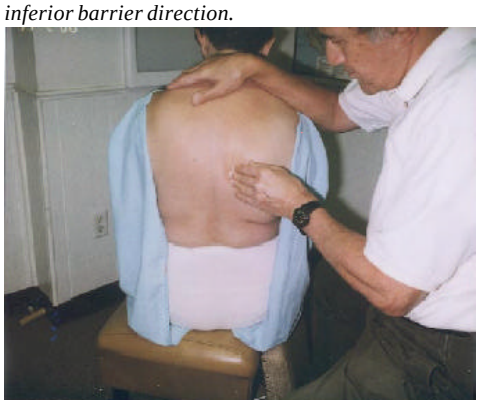

Figure 9: *Follow the release inferiorly (direction of barrier) while spine is actively or passively stretched.*

minutes) until the tissue releases at which time the practitioner follows the release while stretching the neck in the direction of the barrier (Fig. 7). This technique can be applied to almost all fascial areas of the body. Figure 8 depicts a contact in an inferior direction where a barrier has been localized. Figure 9 depicts the same contact into the barrier as the patient actively or is passively stretched.

## CONCLUSIONS

Fascia transmits tension and may be responsible for decreased ranges of motion and pain. Fascia envelops muscles and restricted fascia can prevent normal muscular contraction and stretch. Chronic spinal pain, persistent chiropractic subluxations, vascular and neurological entrapments, and tendonopathies can be related to restricted fascia. Performing a functional test to determine the area of involvement followed by palpation and treatment of restricted fascial barriers may greatly improve our results. Patient compliance will be encouraged when they realise that the functional test that elicited their pain will test painless with an increased range of motion.

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