Balanced Ligamentous Technique for the Pelvis:  
Approaches for the Male Patient

UAAO/NUFA Workshop  
Saturday March 20, 2010

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**Description:**
Dr. William Garner Sutherland described all joints as balanced ligamentous articular mechanisms of the body. When there is somatic dysfunction the ligaments are primarily affected altering the proprioception of the joint and the muscle response for positioning of the joint. This workshop will focus on Dr. Sutherland’s techniques for balancing the ligamentous network of the pelvis.

**Objectives:**
The participants will learn the principles of Balanced Ligamentous Technique and apply them to the diagnosis and treatment of the innominates, sacrum, lumbar spine, and hip capsule.

**BLT - Principles of treatment**
The first and most important step in treatment is establishing balanced ligamentous tension in the articular mechanism so that the body's inherent forces can resolve the strain. The point of balanced ligamentous tension is *the point in the range of motion of an articulation where the ligaments and membranes are poised between the normal tension present throughout the free range of motion and the increased tension preceding the strain...which occurs as a joint is carried beyond it's normal physiology* (Magoun).

**Diagnosis**  
**The Flexion Tests**

a. **Standing Flexion Test** (Iliosacral motion)  
The patient stands erect with knees extended and feet acetabular distance apart. The physician kneels behind the patient with the eyes at the level of the patient's anterior superior iliac spines (ASIS). The physician's thumbs are placed on the posterior superior iliac spines (PSIS). The patient is asked to bend forward slowly without flexing the knees (as if to touch the toes with fingertips). During this forward bending motion the physician observes the anterosuperior excursion of the thumbs on the patient's PSIS and notes if one side moves more anterosuperiorly than the other. The side with the greater anterosuperior movement is the side of the positive test, indicating ipsilateral restriction of iliosacral motion (see Figure 1).
NOTE: If the PSIS are not level prior to performing the standing flexion test, the results may be skewed. Placement of a shim under the heel to level the PSIS should improve the accuracy of the findings.

b. **Seated Flexion Test**  
(sacroiliac motion)

The patient sits on a low stool with the knees flexed to 90 degrees and feet flat on the floor. The physician kneels behind the patient with the eyes at the level of the pelvis and the thumbs on the PSIS. The patient is asked to bend forward slowly. During the forward bending motion, the physician observes the anterosuperior excursion of the thumbs on the patient's PSIS. The side of greater anterosuperior movement is the side of the positive test, indicating ipsilateral restriction of sacroiliac motion (or a bilateral restriction along the contralateral oblique axis) (see Figure 2).

c. **Interpretation of Flexion Tests**

A primary goal of the standing and seated flexion tests is to determine *laterality* of sacroiliac joint motion restriction. The standing flexion test is more attuned to the motion of the ilia on the sacrum (iliosacral motion). Thus, a positive standing flexion test would be indicative of primary dysfunction of the innominate, the pubic symphysis, or the lower extremity. In the seated flexion test the innominate are stabilized by weight bearing through the ischial tuberosities. This test is more attuned to the motion of the sacrum between the ilia (sacroiliac motion). Thus, a positive seated flexion test is indicative of primary sacral somatic dysfunction.
When restriction of sacroiliac joint motion is present, some overlap of standing and seated flexion test results can be expected. False positive tests may also occur. For example, hypertonicity of the right hamstring muscles may restrict the movement of the right innominate during the standing flexion test and cause an apparent positive test on the left side. Therefore, the standing and seated flexion tests should always be done together and the results correlated. Remember, our primary purpose in performing these tests is to determine \textit{laterality} of sacroiliac joint motion restriction. A leg length difference may also falsify the findings, unless corrected for when the patient stands.

1. INNOMINATES

This technique may be used on all innominate lesions, upslips, downslips, and anterior and posterior rotations.

Diagnosis & Treatment: Standing flexion test may be used to determine which side will be treated. Most people will treat both sides, as compensatory changes will occur in the "non-lesioned" side. The exact innominate diagnosis is made during the treatment. The patient is asked to stand sideways with the side to be treated facing the physician. The physician grasps the innominate bone at the ASIS and under the ischial tuberosity (see figure 3). The patient then unloads the SI joint by crossing the leg on the affected side over the contralateral leg. Once the SI joint is unloaded, the physician attempts to establish balanced ligamentous tension at the SI joint. The physician then asks the patient to bend the contralateral leg slowly lowering her pelvis towards the floor. During this maneuver the physician supports and fine-tunes the point of balance as follows:

a. If the physician feels the ASIS lowering into her hand first, then the patient has an anterior rotation and the physician will resist the movement of the ASIS as the patient continues bending his knee until the innominate engages. Then the patient is instructed to slowly straighten the knee while the physician stabilizes the innominate.
1. Innominates, cont.
b. If the physician feels the ischial tuberosity lower into her hand first, then the patient has a posterior rotation and the physician will resist this movement as the patient continues bending his knee until she feels the innominate engage. Then the patient is instructed to slowly straighten the knee while the physician stabilizes the innominate.

c. If, upon beginning to bend the knee, the physician immediately feels both ASIS and ischial tuberosity lower into her hand, then the patient has a down slipped innominate. The ASIS and ischial tuberosity are resisted as the patient continues bending his knee until the innominate engages. Then the patient is instructed to slowly straighten the knee while the physician stabilizes the innominate.

d. If the physician does not feel an immediate pressure in her hands as the patient lowers his pelvis, then the patient has an upslipped innominate. The physician has the patient bend the knee until the pelvis has dropped a few inches, then the physician asks the patient to slowly straighten the knee while the physician resists the upward movement of the innominate.

In all cases, once the patient has straightened his knee, the physician continues to stabilize the innominate until full weight bearing is re-established.

2. PELVIS - THE DIFFERENTIAL TECHNIQUE

The goal of treatment is to normalize movement within the pelvic mechanism, including the SI joints and hips. This approach addresses the iliosacral and sacroiliac components.

It provides a general approach to the area.

Diagnosis: The physician will evaluate and treat the pelvis by using the patient's legs as long levers. The patient sits squarely on his ischial tuberosities facing the physician. The physician grasps the patient's ankles under the calcaneus and lifts the lower leg until the entire leg is almost straight being careful not to shift the patient's center of gravity (see Figures 5 and 6). Using the leg as a long lever, the physician motion tests the SI joint by compressing one leg and distracting the other in an attempt to turn or pivot the innominate on the ischial tuberosity. The tissue resistance is noted. Then the procedure is repeated with the other leg. The side of greater ease is noted (see Figure 6).
Treatment: The legs are used as levers to bring the pelvis to a point of balance (i.e., the position of ease as determined by the previous test). Leg lengths are noted. (Typically, the long leg will be on the same side as the increased resistance.) The physician then asks the patient to turn away from the long leg while she maintains the position of the pelvis through the legs. The patient turns until the tension in the involved ligamentous structures feels balanced. This usually occurs in the range of 45° of rotation). Then the physician holds that position of the pelvis by using the leverage of the legs, as the patient turns back to neutral. The physician may then retest using the same procedure.

3. THE SACRAL ALA TECHNIQUE

This technique addresses the prevertebral and presacral fascia, the obturator fascia, sacral nutation, and restricted SI joints. The patient sits on a table facing the physician who is positioned slightly lower. The physician's knees are placed outside the patient's, thereby internally rotating and adducting the patient's legs. This maneuver acts to spring open the innominates posteriorly, which decompresses the SI joint. The patient then places his hands on the physician's shoulders. The physician places his thumbs along the iliac crest at the junction between the rectus abdominus and abdominal oblique muscles.

The patient is asked to breath slowly and deeply, with each exhalation the physician moves his thumbs posteriorly along the iliac crest and deeper into the pelvic basin toward the anterior aspect of the sacral ala. The patient may slump forward to further reduce the tension in the anterior tissues (see Figure 7). This procedure is continued until the physician's thumbs are deep enough into the tissues that they can act as fulcrums for establishing balanced ligamentous tension in the involved tissues. At that point the patient is instructed to sit up slowly starting at the sacrum and curling up through the lumbar and thoracic spines to the cervical area inhaling as he does.
4. THE SACROILIAC JOINT

This will influence the pelvic diaphragm by allowing the sacrum to move more freely between the ilia. The sacroiliac joint is a ligamentous mechanism that can be assessed and treated using the same principles that are used in the spine.

a. To assess mechanics at the sacroiliac joint, the physician sits at the side of the supine patient. One hand is placed under the pelvis so that the pads of the fingers lie along the medial aspect of the sacroiliac joint. (It is easiest to use the left hand to assess the right sacroiliac joint.) The other hand is placed on the innominate over the ASIS (see Figure 1). While monitoring the SI joint posteriorly, the innominate is gently rotated anteriorly and posteriorly by applying pressure to the ASIS. The tension in the articular mechanism of the SI joint is assessed.

b. Then the joint is placed in a position of balanced ligamentous tension using the innominate position to establish the neutral. Decompression of the joint is sometimes needed to facilitate the neutral position. This is accomplished by applying an anterior pressure on the sacrum with the posterior hand.

c. Once the point of balanced ligamentous tension is found, it is held until the patient's inherent forces correct the strain. Respiration may also be used to augment the neutral position.
5. URACHUS RELEASE
Fibers from the remnants of the urachus, the median umbilical ligament, connects the apex of the bladder to the umbilicus. Releasing the tension in this midline structure allows for better drainage of the lymphatics around the prostate in the male.

With the patient supine and their legs bent place one hand along the midline of the abdomen between the pubic bone and the umbilicus (see Figure 10). Raise the patient’s legs, supporting them under the knees, or you may have one of your knees bent with your foot on the table to allow the patient’s legs to rest on your leg. Gently sidebend the patient’s hip to focus your traction to a particular area. Hold tension until a release is felt. Often times this will be with traction superiorly.

References:

Thanks to the faculty of the University of New England for their contributions to this handout.

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