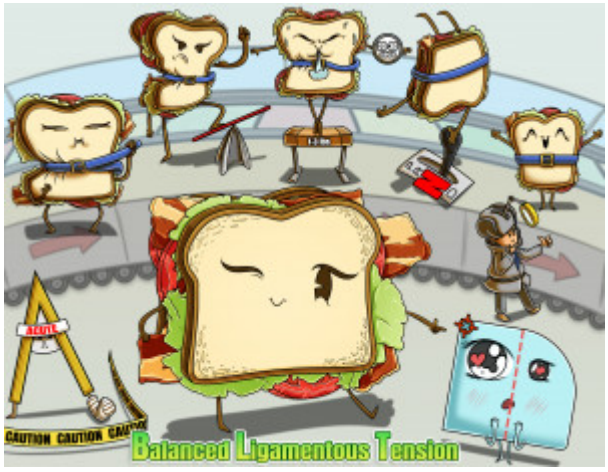
Balanced Ligamentous Tension

Balanced ligamentous tension, or BLT, is an indirect technique where joint positioning is manipulated in order to balance the surrounding ligaments and membranous structures. Remember that joint motion is dependent on ligamentous positioning, forces of opposing muscles, and the joint surfaces. During physiological movement, there is a distribution of tension between the ligaments and it is used to center the bones within the articulation. When a joint is injured, the inherent tension is disrupted and may induce somatic dysfunctions or asymmetries that can change the shape of the joint. This results in ligamentous dysfunctions, with the more lax ligament being the ligament of concern. With the use of Balanced Ligamentous Tension, a physician applies a gentle force in efforts to disengage the ligaments with compressive or decompressive forces until they are able to move the injured area. Then, they will exaggerate the injured area to its original position by manipulating it in all planes of motion to establish a balance point. They may even incorporate the patient's respiratory cycle and its inherent effects on the movement of the spine. Once the balance point is found, the physician will hold the balance point with 1-3 pounds of force until they palpate a release within the surrounding tissues. After the release is palpated and the dysfunction is corrected, the joint and surrounding structures should shift back to a physiologic neutral positioning with an equal tension across the joint space. Lastly, it is always important to reassess the joint, surrounding ligaments, and tissue to gauge the success of the treatment and allow the healing process to begin. Although BLT is an excellent and safe technique to use, the only absolute contraindications that physicians should be aware of are acute injury, recent fractures, ligamentous rupture/tear, trauma to the overlying skin, or positioning that elicits other symptoms to appear.



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Sequence

Locating a Restriction or Asymmetry

Restrictive-belt with Asymmetry

In a normal joint, ligaments guide and modulate movement. Usually, the combined constant tension throughout the physiological range of motion of the surrounding ligaments is at a balance and used to center the surrounding bones and structures. If an injury occurs, a bone may disrupt the physiological positioning of the joint space, resulting in ligamentous strains. When performing BLT, a physician must first test the patient’s range of motion and palpate the area to find any asymmetries or restrictions. Of the opposing ligaments palpated, the more lax ligament typically is the strained ligament, with the taut ligament being more normal.

Finding the Balance Point

Finding Balance-beam on Point

The balance point is often palpated when additional manipulation of the joint causes increased tension on the ligaments and membranous structures. First, the physician disengages the joint space by compressing or decompressing and moving it into a position of ease. This method is considered the indirect component of the treatment. Once they feel a change in palpation quality, they may then exaggerate the joint by flexing, extending, rotating, or side-bending it in all planes of motion until they slowly bring it back into the diagnosed dysfunction and establish a balance point. This method is the direct component of the treatment. This balance point can also be found by utilizing the patient's respiratory cycle and its inherent effects on the movement of the spine.

Holding the Balance Point

Holding Balance-beam on Point

Once the balance point is achieved, the dysfunction is held in position with about 1-3 pounds of force until the physician palpates a release of the surrounding tissues. If the physician manipulates the joints in the balance point, it will usually take 20-30 seconds to palpate the release. If the balance point is achieved using the respiratory cycles, then the balance point will typically lead to a release after several respiratory cycles.

Shifting to Neutral

Shifting to Neutral

After the tissue release is palpated and the dysfunction is corrected, the joint and surrounding structures should shift back to a physiologic neutral positioning with equal tension across the joint space.

Reassess

Assess-man

After this technique is completed, it is important to reassess the condition of the affected area to gauge the success of the treatment.

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Indications

Asymmetry

Asymmetrical-shape

The indications for balanced ligamentous tension include restriction of range of motion or asymmetry of motion in any plane.

Contraindications

Acute Injury

Acute-angle Injury

Although balanced ligamentous tension is generally a safe technique, the only absolute contraindications include recent fractures, ligamentous tears/ruptures, recent suturing, burns, infections, or other acute injuries in the local area, or positioning that may elicit other symptoms to appear.

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