Ligaments Fiber Therapy

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LIGAMENTS:
A TENSILE FORCE GUIDANCE SYSTEM

TREATMENT WITH LIGAMENT FIBER THERAPY

- The body has a system of ligaments which responds with tension/force that is partially due to
  - the energies within the intra-articular space.
- These energies present 3-dimensional forces that affect the tension of the ligaments and these ligaments react to this tension with a force that is
  - longitudinal
  - horizontal.

- Ligaments are connective tissue that have
  - elastin,
  - collagen,
  - ground substance,

  as well as cells and other crystallized entities.
- The elastin and collagen respond in manners similar to the

  binding/supporting functions of fascial tissues such as the iliotibial band.

  The crystallized cells
- are apparently similar to the cells found in bone which have an electrophysiologic and electromagnetic component which can respond for guidance.

- The function of the longitudinal force of ligaments is **direction.**
- The function of the horizontal force of ligaments is **coordination** which affects balance.
- There are lines of tension within the body from ligament to ligament.
- Essentially all ligaments in the body have lines of tension with other ligaments.
- These lines of tension are the energy waves which direct body parts during action, and which coordinate body parts during activity and movement.

- These lines of tension can be accessed by stretching ligaments.
- Each ligament is pulled in a longitudinal manner like a string; this string is between the two ligaments that are being pulled in that longitudinal manner.
- Direct longitudinal stretch with 2 ligaments at the same time will access this line of tension.
- In conditions of dysfunction, the line of tension may be compromised.

- A longitudinal stretch on both ligaments will access the lines of tension, and will alleviate the compromise of the line of tension between these two ligaments.

- The result will be improved direction of motion from the body part guided by this line of tension,

- The horizontal force of the ligament is more difficult to address.
- Within the ligaments are horizontal forces that are the coordinating forces of that body part during action and movement.
- The horizontal force of the ligament coordinates the neighboring body parts that the ligament is attached to, so that the body parts which are attached will move in better relationship, one with the other.

- In order to access this horizontal force within the ligament for improved coordination, there is a technique that can induce wave-like formation of the force.
- If the hand is placed on the ligament while the joint is moving, the hand can respond to this horizontal force with intention to align this wave-like force in a horizontal manner.

- This technique can be performed during
  - sagittal plane movements (flexion and extension),
  - coronal plane movements (abduction and adduction, right and left side bending),
  - transverse plane movements (external and internal rotation).
- The hand rests on the ligament aligned in a horizontal manner in order to address the horizontal force within the ligament.

- If there is a ***biomechanical problem*** within the joint affecting the 3-planar presentation of the energy within that joint in the intra-articular space, it may be premature to work on the ligament, especially in a horizontal alignment of forces.
- The longitudinal traction of the ligaments to address the line of tension to improve direction of that body part can often be addressed while addressing biomechanical dysfunction of the intra-articular space with
- Muscle Energy and 'Beyond' Technique.

- The horizontal force is less able to be corrected until there is a correction of biomechanical problems.
- The movement for correction of the horizontal force can be in a weight bearing or non-weight bearing manner.
- The longitudinal traction on the ligament to access the line of tension and correct direction of the body part is best performed in a non-weight bearing manner.

WHEN TO USE LIGAMENT FIBER THERAPY

- The horizontal fibers of the ligaments are treated with a direct approach after therapy is performed, to treat local fascial restrictions.
- Usually, there is a need to perform a Soft Tissue Myofascial Release technique, the 3-planar fascial fulcrum technique, at the joint.
- This technique is followed by an Articular Fascial Release technique, the 3-planar fascial fulcrum technique, to the joint (See example:
- Articular Fascial Release of Knee Joint,

- This protocol of Myofascial Release is often sufficient for mild and moderate joint pain and disability.
- When there are further problems with the joint, Ligament Fiber Therapy can be implemented.
- Use Ligament Fiber Therapy after Strain and Counterstrain Technique is performed to the muscles surrounding the treated joint
- • Then perform a 3-planar Soft Tissue Myofascial Release technique at the joint .
- • Then perform a 3-planar Articular Fascial Release technique at the joint .
- • Then perform Ligament Fiber Therapy.

LIGAMENT FIBER THERAPY (LFT)

- Ligament Fiber Therapy was developed by
- Weiselfish-Giammatteo to restore proliferation of ligament activity.
- There are two phases to Ligament Fiber Therapy:
- Phase One:

  Horizontal Fiber Therapy (HFT)
- Phase Two:

  Longitudinal Fiber Therapy (LFT)
- Horizontal Fiber Therapy is usually performed before Longitudinal Fiber Therapy, in order to restore coordination of the joint, i.e.,
- the co-joined activity of the two articular surfaces of the joint so that each joint surface is working correctly relative to the neighboring joint surface.

HORIZONTAL FIBER THERAPY

- Place the thenar or hypothenar eminence over the ligament.
- Place direct pressure in a perpendicular direction onto the ligament.
- Rotate the fibers of the ligament in a clockwise and a counterclockwise direction.

  Determine which direction,
- clockwise or counterclockwise, is more restricted.
- Maintaining the direct perpendicular pressure, rotate the ligament fibers in the restricted direction, to the end of amplitude without overpressure.

  Then torque the ligament in asagittal plane, i.e., flexion and extension of the fibers. Stack this component, i.e., flex or extend (torque) the ligament in the sagittal plane direction which is more restricted.

- When these forces of direct pressure plus rotation plus torque are applied together, stretch the ligament fibers to achieve separation of the horizontal fibers.
- **Introducing Synchronizers**

  Synchronizers are reflex points. Use these reflex points to attain improved results.
- Do a technique, for example Ligament Fiber Therapy".
- Try to perform the technique with one hand, contact the reflex point with the second hand.
- Synchronizers" were discovered by Lowen and Weiselfish-Giammatteo, presented in courses of Biologic Analogs, presented by Therapeutic Horizons, which is a continuing education institute for advanced studies in manual therapy.

SYNCHRONIZER FOR HORIZONTAL FIBER THERAPY

- The synchronizer (a reflex point) for the horizontal
- fiber normalization is situated 1 inch lateral
- to the umbilicus, then 2 inches caudal.

HOW TO USE THE SYNCHRONIZER FOR HORIZONTAL FIBER THERAPY

- Step 1
- Place one hand on the ligament, stacking all components for HFT".
- Step 2
- Direct pressure onto the ligament.
- Step 3
- Rotation clockwise or counterclockwise, in the direction of resistance.
- Step 4
- Torque the ligament, i.e., flex or extend the ligament fibers in a sagittal plane, in the direction of resistance.
- Step 5
- Place the second hand on the Synchronizer" for Horizontal Fiber Release": one inch lateral to the umbilicus and two inches caudal.
- There will be a "Release" of the tissues, a change in tissue tension. Maintain the pressure and contact of both hands until the end of the "Release" when changes are no longer occurring in tissue tension.

LONGITUDINAL FIBER THERAPY(LFT)

- Longitudinal Fiber Therapy" is different from Horizontal Fiber Therapy".
- This is apparently because the longitudinal fibers of the ligaments are a "System" of ligamentous fibers, which contract and relax together, which respond to all changes in pressure and motion anywhere in the body as a "Functional Unit.“
- The longitudinal fibers require a total body approach to therapy. These fibers are significant for many reasons.

SIGNIFICANCE OF LONGITUDINAL LIGAMENT FIBERS

- The Ligament System appears to be a "Guidance System" of the person. This means several important items:
- • The longitudinal ligaments perform the "awareness function" for the distal bone of attachment:

Is the distal bone moving in the correct direction according to **brain function**?

- • The longitudinal ligaments perform the
- "awareness function" of the distal bone of attachment: Is the distal bone moving in the correct direction, according to the **proximal bone of attachment**?

- Is the person moving his/her body in accordance with higher consciousness?
- Is he/she "moving“ on his/her Path?
- This question of "ligament awareness" does appear to be significant whenever there is joint dysfunction affecting multiple joints:

- Longitudinal Fiber Therapy
- Treatment of longitudinal fibers of ligaments is a two phase therapy.

Phase One requires assessment and treatment of the individual ligament involved.

Phase Two requires a total body approach

- longitudinal Fiber Therapy, Phase One

  Step 1
- Place a hand over the ligament.

  Step 2
- Assess: Place longitudinal traction on the ligament in a superior and an inferior direction (i.e., longitudinal stretch). Assess the resistance of:
- (1) inferior traction, and (2) superior traction.

  Step 3
- Place longitudinal traction on the ligament in the direction of greater resistance: (1) inferior, or (2) superior.

  Step 4
- Then place longitudinal traction (distraction) on the distal bone of ligament attachment close to the articular surface.

Step 5

- Then, move the articular surface of the ligament attachment which is now distracted in a longitudinal manner (the distal bone of attachment), in a 3-planar articular fascial release.

Step 6

- • Maintain the longitudinal traction on the ligament (inferior or superior).
- • Plus maintain the longitudinal distraction on the distal bone of attachment.
- Plus maintain the 3-planar Articular Fascial Release of the distal bony articular surface.

Step 7

- Maintain Step Six until a complete "Release" is attained.

PHASE TWO: LONGITUDINAL FIBER THERAPY FOR THE "GUIDANCE SYSTEM"

- longitudinal Fiber Therapy, Phase Two

  Step 1
- Local Listen from the ligament in dysfunction.

  Step 2
- Local Listening is performed from the ligament of the dysfunctional joint to other ligaments in the body.
- Often it is sufficient to scan the extremity, if the ligament in dysfunction is in an extremity joint.

- If the ligament in dysfunction is in the spine, often it is sufficient to scan the spine. If the thorax and rib cage is the seat of the ligament in dysfunction, it may often be sufficient to scan the total thorax and rib cage.
- Step 3
- when multiple ligaments are involved, it is necessary to scan the total body with Local Listening.

- Step 4
- One hand contacts the ligament in dysfunction.
- The second hand contacts the ligament/ligaments of positive Local Listening, one ligament at a time.
- Step 5

Simply maintain contact with both hands on the two ligaments, until all tissue tension changes during the "Release" subsides.

SYNCHRONIZER FOR LONGITUDINAL FIBER THERAPY FOR THE GUIDANCE SYSTEM

- The Synchronizer for Longitudinal Fiber Therapy
- for the Guidance System is located at the following place: three inches caudal to the foramen magnum, from that point, one inch lateral.
- How to use the Synchronizero for Longitudinal Fiber Therapy for the guidance system:
- It is difficult to maintain all of the steps above for Longitudinal Fiber Therapy for the Guidance system and at the same time to maintain hand contact on the Synchronizer. The client's hand can be used for contact, or the hand of another(for example, an aide).