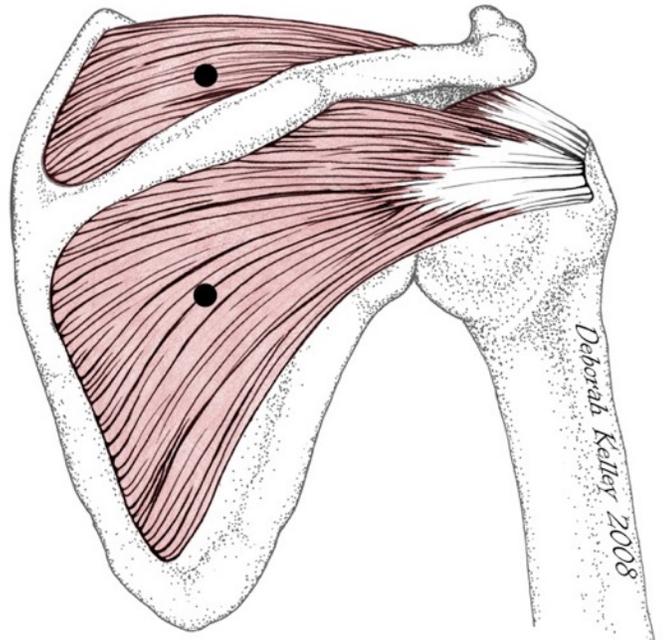


The Acupuncture Sports Medicine

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Acupuncture Sports Medicine

The Four Steps Approach

STEP ONE: INITIAL TREATMENT

Technique #1: The Tendino-Muscle Meridians

Technique #2: Opposite Side (contra-lateral)

Technique #3: Opposite Extremity (upper/lower)

Technique #4: Empirical Points

STEP TWO: MERIDIANS & MICROSYSTEMS

Technique #5: The Shu-Stream Point Combination

Technique #6: Traditional Point Categories

Technique #7: The Extraordinary Meridians

Technique #8: Microsystems

STEP THREE: INTERNAL ORGAN IMBALANCES

Technique #9: Qi, Blood, and the Zang-fu Organs

STEP FOUR: THE SITE OF INJURY

Technique #10: Local and Adjacent Points

The Supraspinatous Muscle

Pain in scapular region of the shoulder, with a referral pattern to the area of the deltoid. Possible sudden, sharp pain is due to shoulder impingement syndrome.

An acute or chronic injury characterized by inflammation of the tendon and possible strain or muscle tears at the attachment to the humerus.

- Pain from supraspinatous lesions often radiates to the deltoid region of the shoulder, and distally down the arm
- Paroxysms of sharp pain are diagnosed as shoulder impingement syndrome
- Tenderness with palpation in the supraspinatous muscle, in the region of SI 12
- Pain and/or weakness with resisted abduction and a positive “arch of pain”
- Patient may have history of repeated or strenuous overhead motions, or of prior accident involving the shoulder
- Acute cases may involve strain to the tendon
- Chronic cases may be due to repetitive stress causing inflammation of tendon
- Dull or diffuse pain in the deltoid region of the shoulder
- Sudden sharp pain when lifting arm to the side (abduction) or other overhead movements
- Pain is commonly experienced when putting arm into the sleeve of a coat or reaching to the back seat of a car

Small Intestine 12

- From the midpoint of the spine of the scapula
- Just superior, in the suprascapular fossa (supraspinatous fossa)
- Located in the belly of the supraspinatous muscle
- Directly superior to SI 11

Anatomical significance

- In the muscle belly of the supraspinatous
- One of the common sites for trigger points
- The motor point of the supraspinatous

Other Points

- Small Intestine 13
- Large Intestine 16
- Large Intestine 15

The Infraspinatous Muscle

Pain in scapular region of the shoulder, with a referral pattern to the area of the deltoid and the shoulder joint.

An acute or chronic injury characterized by inflammation of the tendon and possible strain or muscle tears at the attachment to the humerus.

- Pain from infraspinatous lesions often radiates to the deltoid region of the shoulder, and distally down the arm
- Tenderness with palpation in the infraspinatous muscle, in the region of SI 11, or at the muscle-tendon junction at SI 10
- Pain and/or weakness with resisted external rotation
- Patient may have history of repeated or strenuous arm motions, or of accident/trauma
- The infraspinatous often accompanies other rotator cuff injuries
- Acute cases may involve strain to the tendon
- Chronic cases may be due to repetitive stress causing inflammation of tendon

- Pain in scapular region of the shoulder
- Referral pattern of pain to the area of the deltoid, and distally down the arm. Sometimes radiation pattern is specific to the anterior aspect of the shoulder
- Patient may report the feeling of pain “in the shoulder joint”

Small Intestine 11

- On the posterior shoulder
- In a depression in the center of the infraspinous (infrascapular) fossa
- Approximately at the level of the 4th thoracic vertebra
- Half way from the midpoint of the scapular spine to the inferior angle of the scapula.

Anatomical significance

- The infraspinatous muscle belly
- The motor points of the infraspinatous
- The trigger points of the infraspinatous

Small Intestine 9.75

- On the posterior aspect of the shoulder
- In the taut muscular band
- At the muscle-tendon junction of the infraspinatous
- Inferior to SI 10
- And located three-fourths the distance from SI 9 to SI 10

Anatomical significance

- The muscle-tendon junction of the infraspinatous

The Acromial-Clavicular Joint

Pain and inflammation on the top of the shoulder at the acromial-clavicular (AC) joint, often called shoulder separation.

An injury due to separation of the AC joint and/or sprain to the acromial-clavicular ligament, characterized by pain, inflammation, and swelling. Joint laxity is possible in moderate to severe injuries.

- Called a shoulder separation, injury is almost always the result of a sudden, traumatic event
- Tenderness with palpation at the AC joint between LI 16 and LI 15
- AC joint injury usually produces pain with lateral abduction of the arm that may continue past 120 degrees
- The more significant the injury, the greater the joint laxity
- AC separation needs to be differentiated from a shoulder dislocation
- Some patients may report chronic arthritic pain in the AC joint
- Pain on the superior shoulder at the AC joint
- Pain may be more widespread, and accompanied by swelling and bruising
- Arm movements may be painful and not tolerated

Large Intestine 15.5

- On the superior aspect (top) of the shoulder
- Halfway between LI 16 and LI 15
- Between the acromion of the spine of the scapula and the lateral end of the clavicle
- Along the elongated depression of the acromial-clavicular joint
- On the Large Intestine meridian

Anatomical significance

- The acromial-clavicular joint
- The acromial-clavicular ligament

Other Points

- Large Intestine 16
- Large Intestine 15

Shoulder: The Rotator Cuff Attachments

The Rotator Cuff Attachment and Common Tendon

From anterior to posterior:

"Anterior: Large Intestine 15	The subscapularis
Large Intestine 15	The supraspinatous
San Jiao 14	The infraspinatous
"Posterior" San Jiao 14	The teres minor

The Supraspinatous Tendon

The Sub-Acromial Space

The Sub-Acromial Bursae

The zone from Large Intestine 16 on the medial side to Large Intestine 15 on the lateral side of the sub-acromial space.

Anatomical significance

- Large Intestine 16 is superficial to the region of the muscle-tendon junction of the supraspinatous muscle
- Needling lateral to Large Intestine 16, under the acromion, "threads" the supraspinatous tendon
- Large Intestine 15 is at the tendon to bone junction of the supraspinatous
- Large Intestine 15 is in the region of the subacromial bursae

The Levator Scapulae Muscle

Pain in the neck and the scapular region of the shoulder.

Acutely is seen as torticollis (“stiff neck”), but may be a source of chronic or lingering neck and shoulder pain. The levator is involved as a secondary lesion in many cases of neck pain from other causes.

- Pain upon palpation at the attachment just above the superior angle of the scapula at SI 14 and SI 15
- Taut fascial bands at SI 14 and SI 15
- Elevated scapula on the side of pain
- Neck may be slightly flexed laterally to the side of pain
- Discomfort when laterally flexing or rotating to the side of pain
- Acute stiff neck, known also as torticollis
- Pain is often one-sided

Small Intestine 14

- At the posterior neck and shoulder
- Superior and medial to the superior angle of the scapula
- At the attachment of the levator scapulae muscle
- 3 cun lateral to the lower border of the spinous process of T1
- In the dense tissue of the muscle-tendon junction

Anatomical significance

- Superficial, the thin layer of trapezius muscle
- Deeper, the more dense levator scapulae muscle
- The tendon-to-bone attachment at the superior angle of the scapulae
- The tendinous zone and the muscle-tendon junction of the levator
- The belly of the muscle is more superior to SI 14
- The zone of SI 14 to SI 15 contains numerous trigger points

This muscle responds to stress and many postural imbalances, making SI 14 a very common point to needle in the neck and shoulder region. It is especially useful for chronic pain and tension in the upper trapezius in the region of GB 21.

Other Points

- Small Intestine 13
- Small Intestine 15

The Rhomboid Major and Minor

The Rhomboid Major

The Rhomboid minor attaches to the medial border of the scapula inferior to the region where the spine of the scapula intersects. It is just inferior to the rhomboid major. Medially, it attaches to the spinous process of T2 to T5. It retracts the scapula.

The Rhomboid Minor

The Rhomboid minor attaches to the medial border of the scapula, in the region where the spine of the scapula intersects. It is just inferior to the levator scapulae muscle, and attaches superiorly to C7. This is a muscle of shoulder protraction/retraction.

Origin: The spinous process of C7, T1

Insertion: The medial border of the scapula, in the region where the spine of the scapula intersects.

Actions: Retracts the scapula

Commentary

The rhomboid minor is the important muscle to treat of the entire rhomboid major/minor group.

The Region of Bladder 41

- Medial to the medial border of the scapula
- At or superior to the intersection of the spine of the scapula
- In the taut band of attachment of the rhomboid minor
- In the *Taiyang* zone

Anatomical significance

- Trigger point zone of the rhomboid minor
- The motor point is 2 cun lateral to the posterior centerline, 1 cun medial to Bladder 41. It is found level with SI 13 and T2, in the lateral third of the taut band of the rhomboid minor.

Other Points

- Bladder 42
- Bladder 11 and Bladder 12
- *Ding quan*

The Pectoralis Major and Minor

The Pectoralis Major

Has a sternal and a clavicular origin, and it fans out laterally to attach on the humerus. It covers the pectoralis minor. The muscle releases well with superficial needles in the taut bands of muscle, usually between the attachments, along the Stomach meridian. These are the motor points of the muscle as well as the trigger points.

The Pectoralis Minor

The region of Lung 1 at the coracoid process is the superior attachment of the pectoralis minor. The muscle lies deep to the pectoralis major. It inserts on the third, fourth, and fifth ribs, and therefore danger of pneumo-thorax is great needling this point. The pectoralis minor responds well to treatment of the pectoralis major, as well as massage and deep tissue work directly on the muscle, from its origin to its insertion.

Origin: The sternal ends of the 3rd, 4th, and 5th ribs

Insertion: The coracoid process

Actions: Draws the scapula forward (protraction) and downward (inferior)

Note the insertion is superior, thus the pectoralis minor “draws down”.

Anatomical significance

- The motor points at the attachments to the ribs are difficult to needle
 - Taut band at the muscle tendon junction, just inferior to the superior attachment (near Lung 1)
- Both of these points above are difficult to treat with needles

Commentary

The pectoralis minor, when tight and contracted, entraps the neuro-vascular bundle inferior to the clavicle. It is a form of peripheral entrapment, and a type of thoracic outlet syndrome (often overlooked and missed in diagnosis).

Neuro-vascular entrapment by the pectoralis minor

- Pain on palpation of the general region of the muscle-tendon junction (Lung 1)
- Pain, tingling, numbness on the affected upper extremity
- The neurologic symptoms often are reported to originate in the pectoralis region, or axilla, and are commonly reported to be in the ulnar distribution area.
- Positive Wright's test, positive modified Wright's test

The Gluteus Medius

The Gluteus Medius Muscle

O: External surface of the iliac fossa, along the anterior three-fourths of the iliac crest, ...

I: Lateral surface of the greater trochanter

A: Main abductor of the hip and primary stabilizer of the hip and pelvis. Stabilizes the pelvis during single leg weight bearing.

Innervation: L4, L5, S1

Assisted by Tensor fasciae latae and Gluteus minimus

Antagonists: Adductor group (Adductor longus, brevis, magnus, and Gracilis)

Location to other muscles

Lies deep to the Gluteus maximus and superficial to Gluteus minimus. According to Travell and Simons, may fuse with the Piriformis and/or Gluteus minimus muscles.

Orthopedic tests

1. Trendelenburg sign

Positive if patient is unable to maintain a level pelvis during unilateral standing. Non weight-bearing side drops, giving a positive test to the Gluteus medius on the weight bearing side.

2. Manual muscle testing— Resisted abduction

Side lying (Lateral recumbent)

Supine position, on edge of table

Commentary

The gluteus minimus lies deep to the gluteus medius. Our opinion is that the gluteus medius plays a primary role with function, pelvic stability, and limbo-sacral alignment. The gluteus minimus is responsible for many of the referred pain patterns from the pelvis down the entire thigh and leg, hence its name— the “pseudo sciatica” muscle— from Janet Travel, MD.

The Gluteus Medius (Con't)

***Jiankua* N-LE-55**

- On the lateral hip
- Half way between the tip of the greater trochanter and the crest of the ilium on the mid-axillary line
- Posterior to the taught band of the tensor fascia lata (TFL)
- In a depression along an elongated zone of from 1 to 3 centimeters
- In the belly of the gluteus medius muscle
- 2 to 4 cun posterior to Gall Bladder 29.

Anatomical significance

- The muscle belly of the gluteus medius
- May also include the muscle-tendon junction of the gluteus medius
- The gluteus minimus, which lies deep to the gluteus medius
- Trigger points of the gluteus medius and gluteus minimus in some location variations of *Jiankua*
- Motor points of the gluteus medius and gluteus minimus in some location variations of *Jiankua*
- The gluteus medius, the important hip, pelvis, and lumbar spine stabilizer, makes *Jiankua* indicated in treatment protocols for hip, pelvic, gluteal, and lumbo-sacral conditions

Treatment

- Hip pain due to gluteus medius and gluteus minimus involvement
- Gluteal tendinitis, trochanteric bursitis
- Ilio-tibial band syndrome
- Lumbo-sacral pain
- Stabilization of the pelvis by targeting the gluteus medius is often a primary objective in physical therapy for treatment and rehabilitation of the lumbar spine, and thus *Jiankua* is indicated.

***"Posterior" Jiankua* N-LE-55**

- On the lateral hip
- In a depression 1 to 3 centimeters posterior to *Jiankua*
- In the belly of the gluteus medius muscle
- Found by "ahshi" palpation

Gluteus Medius Tendon Zone

- From the attachment at the boney greater trochanter
- On a line from the greater trochanter to the PSIS
- Following the palpable tendinous zone of the gluteus medius
- From 2 to 4 cun proximal (superior) to the greater trochanter
- In the gluteus medius tendon zone

Ilio-tibial Band Syndrome

Pain in the lateral knee and thigh.

A repetitive stress injury characterized by inflammation and irritation of the ilio-tibial (IT) band just proximal to the lateral knee.

- Often called “runner’s knee”
- Pain from recurrent friction is usually 2 to 4 centimeters proximal to the lateral joint space of the knee
- Excessive foot pronation and other biomechanical imbalances may be precipitating factors

- Pain in the lateral knee, ranging from dull to sharp ache
- Pain and stiffness may radiate up ilio-tibial band to the greater trochanter
- Symptoms aggravated during exercise
- Symptoms relieved with rest, but pain returns again during or after exercise
- May have “popping” or “snapping” during activities involving knee flexion and extension

Gall Bladder 33

- On the lateral aspect of the lower extremity
- Just superior to the lateral joint space of the knee
- In the depression just posterior to the ilio-tibial band
- And anterior to the lateral hamstring (the tendon of the biceps femoris)

Anatomical significance

- The sub-tendinous portion of the IT band
- Superficial to the lateral surfaces of the bony epicondyle of the femur
- Superior to the bursae of the IT band
- Deep needles may penetrate the vastus lateralis

Treatment

- Swelling and pain of the lateral knee (IT band syndrome)
- Secondarily, dysfunction of patellar tracking in the patello-femoral joint
- Patellar subluxation, dislocation
- Chondromalacia

“Anterior” GB 33

- On the lateral aspect of the thigh and knee
- Superior to the lateral joint space of the knee
- In a depression anterior to the IT band
- And lateral to the tendon of the quadriceps

Jiankua N-LE-55

See commentary elsewhere in this handout

The Quadratus Lumborum Muscle

Acute or chronic low back pain and spasm due to the quadratus lumborum (QL), which may radiate to the gluteal region. Pain is often one-sided.

Acutely seen in acute sprain/strain of the low back; may be a source of chronic or lingering lumbosacral pain. The QL is involved as a secondary lesion in cases of back pain from other causes.

- Pain upon palpation at the superior attachment of the quadratus lumborum in the region of the extraordinary point Pi gen (about 3.5 cun lateral to the first lumbar vertebrae).
- Elevated pelvis on the side of pain
- Lumbar region may be slightly flexed laterally to the side of pain
- Acute injury often accompanied by lifting and twisting movements
- The quadratus lumborum is involved in many cases of acute and chronic back sprain and strain, degenerative spine disorders, and disc disease
- Pain may radiate towards the gluteal region
- Additional symptoms may be reported when other etiologies of back pain also contribute.

Pigen M-BW-16

- On the low back
- Below the 12th rib
- On the lateral aspect of the para-spinal muscles
- 3.5 cun lateral to the lower border of the spinous process of L1
- On the taut band of muscle that is the lateral “edge” of the quadratus lumborum

Anatomical significance

- Taut bands of muscle below the 12th rib
- The region of the superior trigger point of the QL
- The region of the motor point of the QL

Yaoyan M-BW-24

- On the posterior aspect of the low back
- 3.5 cun lateral to the lower border of the spinous process of the L4
- On the edge of the taut muscle of the quadratus lumborum
- Just superior to its attachment to the crest of the ilium

Anatomical significance

- Taut bands of the quadratus lumborum
- The region of the inferior trigger point of the QL
- The latissimus dorsi
- The sacrospinalis muscle

The Sacral Iliac Joint

The region of Bladder 27 & 28

- On the posterior sacrum and pelvis
- Lateral to the sacral foramen S1 and S2
- Medial and inferior to the posterior superior iliac spine (PSIS)
- In a depression along an elongated zone of from 1 to 4 centimeters
- Over the sacral iliac joint on the *Taiyang* line
- Slightly lateral to the points Bl 27 and Bl 28

Commentary

The modifications to Bladder 27 and Bladder 28, at the sacral-iliac joint, are best palpated with a slightly lateral vector. Thus, the needles, to penetrate the opening of the joint, and the joint itself, should be angled approximately 45 degrees oblique, in a lateral direction.

The pain of sacral-iliac dysfunction is usually fixed, deep to the bone, in a region that the patient will usually not be able to specifically point to. However, palpation over the joint opening is a reliable test to determine SI joint dysfunction.

Anatomical significance

- The sacral-iliac joint
- The opening of the sacral-iliac joint
- The posterior sacral ligaments

Treatment

Stiffness and pain of the sacrum and coccyx

Stiffness and pain of the lower spine and buttock

Pain usually aggravated by sitting

SI joint dysfunction may radiate anteriorly toward the inguinal area, and must be differentiated from arthritis of the hip. It may also radiate inferiorly, usually down the IT band and lateral thigh, but usually not past the knee.

Patello-femoral Joint Dysfunction

The Injury

Pain in the anterior knee in the region of the patella and the patello-femoral groove.

A repetitive stress injury characterized by inflammation and irritation of the undersurface of the patella. This may progress to chondromalacia or anterior compartment arthritis.

- Patello-femoral joint syndrome is pain caused by dysfunctional tracking of the patella.
- Chondromalacia is a softening of the cartilage on the posterior aspect of the patella. It is often used as a catch all term for anterior knee pain. However, it is estimated to occur in less than 20 percent of patients with anterior knee pain.
- Repetitive stress causes inflammation and irritation of the undersurface of the patella.
- Overuse injury is usually from running or cycling where there is knee flexion and extension.
- Excessive pronation and other lower-extremity biomechanical imbalances may be precipitating factors.
- Anterior knee pain, reported in the region of the patella and patellar tendon
- Pain aggravated with exercise, going up and down stairs, and various positions like squatting
- Pain may radiate to the posterior knee in the region of the popliteal fossa
- Creaking (crepitus) under the knee cap

The Sub-Patellar Region of the Patello-Femoral Joint

The Anterior Compartment of the Knee

Xiyan ("Eyes of the Knee") MN-LE 16

- Two paired points
- On the anterior aspect of the knee
- In the depression formed when the knee is slightly flexed
- Immediately below the inferior border of the patella
- Both medial and lateral to the patellar ligament (tendon).

Commentary

Needle technique determines the pathology that is being treated. Oblique to transverse insertion, directed under the patella, is used for sub-patellar pathologies. These are seen in patello-femoral joint syndrome. Perpendicular insertion may be used for conditions of the medial and lateral compartments.

Anatomical significance

- The sub-patellar region of the knee
- The patello-femoral joint
- The patellar ligament (tendon)
- The patellar retinaculum
- Bursae of the patella

Shin Splints (Anterior Tibial Stress Syndrome)

The Injury

Pain and tenderness along the anterior lateral aspect of the leg just lateral to the tibia.

A repetitive stress injury characterized by strain or inflammation of the anterior tibialis or other anterior compartment muscles of the leg. The site of injury may be the muscle, the tendon, or at the attachment to the periosteum and bone.

- Repetitive stress causes inflammation of the anterior tibialis or one of the other anterior group muscles, tendons, or their attachments to the periosteum
- Overuse injury is usually from increased intensity of walking or running
- Sudden increases in speed and hill running are associated with onset
- May have pain with resisted dorsiflexion of the ankle
- Pain upon palpation along the lateral border of the tibia, and possibly along the anterior compartment muscle group
- May be caused by excessive pronation and other lower-extremity biomechanical imbalances
- Pain and tenderness along the anterior lateral aspect of the leg
- Pain may radiate toward the ankle
- Patient reports pain is aggravated during exercise, and relieved with rest

The Tibialis Anterior Muscle

Stomach 36

Lanweixue M-LE-13

Stomach 36 is located in the muscle belly of the tibialis anterior, at or near the muscle-tendon junction. Point *Lanweixue*, approximately 2 cun distal to Stomach 36, is the motor point. See texts for locations

Clinical comments

The anterior compartment consists of the tibialis anterior, the extensor hallucis longus, and the extensor digitorum longus.

The Zone of Tibialis Anterior Muscle

Ahshi Points Adjacent to the Muscle Attachments to the Tibia

- *Ahshi* points based upon palpation
- Lateral to the anterior crest of the tibia
- Medial to the tibialis anterior muscle and medial to the Stomach meridian
- In painful depressions

Plantar Fasciitis

The Injury

Pain and stiffness in the heel and the plantar aspect of the foot.

A repetitive stress injury characterized by inflammation and irritation of the plantar fascia.

- Pain usually starts after change in activity level, such as runners increasing mileage, hills, or speed
- Foot biomechanics, such as excessive pronation, leg length discrepancy, or high or low arches may increase chances of developing plantar fasciitis
- Pain reproduced with pressure over the medial tubercle of the calcaneus or near the center of the plantar surface of the heel
- Heel pain may extend down the arch towards the base of the toes (Kid 1)
- May be accompanied by stiffness in the plantar aspect of the foot
- Symptoms often experienced upon taking first steps in the morning or after sitting / rest
- Symptoms alleviated as the heel “warms up” with moderate activity, but pain returns again during or after exercise

Commentary

Consider the diagnosis of fasciosis, with neurovascular compromise due to the abductor hallucis muscle entrapping the small artery or nerve.

Shimian M-LE-5

The Plantar Fascia

- On the plantar surface of the foot
- In the center of the plantar aspect of the heel
- Over the attachment of the plantar fascia to the calcaneus

Variations

“Medial” Shimian

Access the point by needle insertion from the medial side of the heel, with the needle directed towards Shimian and the center of the posterior aspect of the calcaneus

“Lateral” Shimian

Access the point by needle insertion from the lateral side of the heel, with the needle directed towards Shimian and the center of the posterior aspect of the calcaneus.

Anatomical significance

- At the attachment of the plantar fascia to the calcaneus
- The bony calcaneus
- The periosteum of the calcaneus

Achilles Tendonitis

The Injury

Pain in the heel localized at the achilles tendon.

A repetitive stress injury characterized by pain, inflammation, and swelling of the achilles tendon and its sheath. The entire calf muscle group may be affected.

- Most common site is from 2 to 6 centimeters proximal to the attachment at the calcaneus
- Pain usually starts after a change in activity level, such as increased mileage, hills, or speed
- Crepitus may be felt on ankle movements
- Biomechanical imbalances such as excessive pronation, leg length discrepancy, or high or low arches may increase chances of developing achilles tendonitis.

- Stiffness may accompany the complaint of pain
- Symptoms often experienced upon taking first steps in the morning or after sitting/rest
- Symptoms relieved as the heel “warms up” with moderate activity, but pain returns again during or after exercise

The Achilles Tendon zone

Threading the Achilles Tendon

- At the achilles tendon in the posterior calf
- Anywhere from the muscle-tendon junction in the region of Bladder 57 to its attachment at the calcaneus in the region of Bladder 60 and Bladder 61.

Commentary

Access points for needling located along the medial and lateral aspects of the tendon. This is adjacent to the Bladder meridian laterally (the region of Bladder 59) and the Kidney meridian medially (the region of Kidney 7). This zone is in a depression on the anterior aspects of the achilles tendon and its sheath.

Research indicates significant areas of blood stagnation on the anterior aspect of the tendon in cases of achilles tendinitis. Thus, threading the tendon with some attention to this anterior region would be beneficial for the practitioner. “Threading the tendon” involves directing the needle to this anterior portion of the tendon and its sheath.

Anatomical Significance

- The achilles tendon
- The tendon sheath
- The tendinous attachment to the calcaneus
- The achilles bursae