The Healthcare Medicine Institute presents

Elbow Pain

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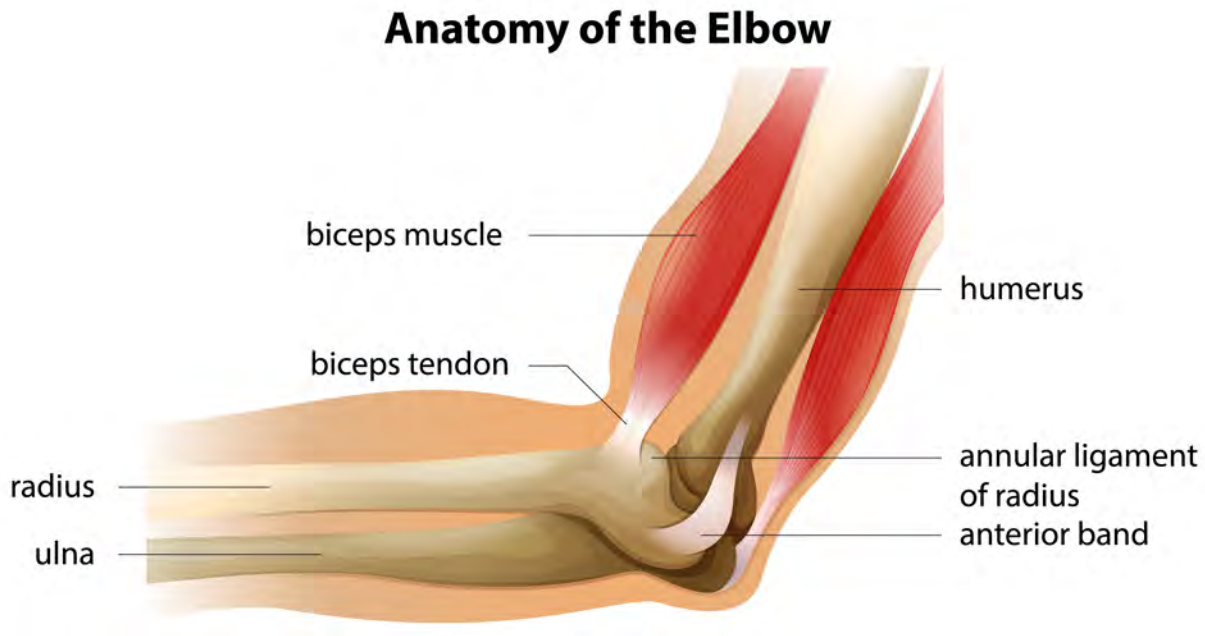
Treatment of Elbow Pain

(Lateral and Medial Epicondylitis)

Introduction

Patients are often annoyed by the limitations elbow pain imposes on their daily activities as much as the pain itself. Tennis/golfer's elbow or lateral/ medial epicondylitis are common tendinopathies you will encounter at some point in practice, if not frequently. As a practitioner addressing pain, you will want to differentiate lateral and medial epicondylitis from other conditions causing your patient elbow pain. The objective of this course is to cover the symptoms, mechanisms, and treatments of lateral and medial epicondylitis via Western and Tradition Chinese Medicine (TCM) and to provide the tools to conduct a thorough differential diagnosis of your patient's elbow pain. By the end of this course, you will be able to differentiate epicondylitis from other conditions such as a fracture, bursitis, ulnar neuropathy, or cervical radiculopathy (pinched nerve). Also, the TCM skill-set to treat the patient's pain effectively is presented. Let's get started.



Section 1 - Western Biomedicine

Mechanism:

Epicondylitis is a pain condition primarily involving the wrist extensors and flexors. The pronators and supinators may also be affected. The condition results from overuse or chronic, repetitive use of these muscles causing the tendons to become strained. Over time, microtrauma occurs where the tendon attaches to the bone. However, acute injury can also occur if the tendon is exposed to an excessive load. Epicondylitis technically means inflammation of the epicondyle, but the condition is not caused by inflammation of a bony prominence. Instead, the condition involves trauma to **the joint's tendons**. What we call epicondylitis is really a tendinosis or a tendinopathy of the elbow tendons caused by trauma. Lateral epicondylitis is commonly referred to as tennis elbow, while medial epicondylitis is commonly referred to as golfer's elbow.

To review the anatomy and physiology of the elbow, recall these features of the structure:

Elbow bone structure and articulation

- The elbow joint is a synovial joint.
- The elbow is a monaxial, hinge joint that moves in an angular motion in one direction. It allows for flexion and extension of the forearm.
- The elbow joint is formed by three bones: head of the radius bone, the trochlea notch of the ulna bone, and the trochlea of the humerus bone.
- The ulna has a prominence called the olecranon, which has an olecranon bursa covering it. When we hit the prominent olecranon against something, it hurts because we actually hyperstimulate a nerve. We commonly say we've hurt our "funny bone" when that occurs.
- The elbow joint is composed of:
    - An articular capsule covering the joint.
    - A thick ulnar collateral ligament that extends from the medial epicondyle of the humerus to the olecranon of the ulna.

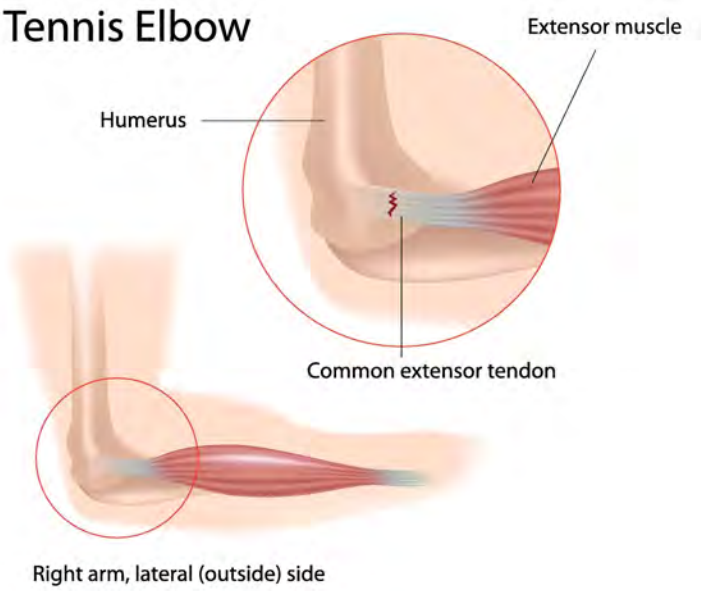
- A strong radial collateral ligament that extends from the lateral epicondyle of the humerus to the radial notch of the ulna.

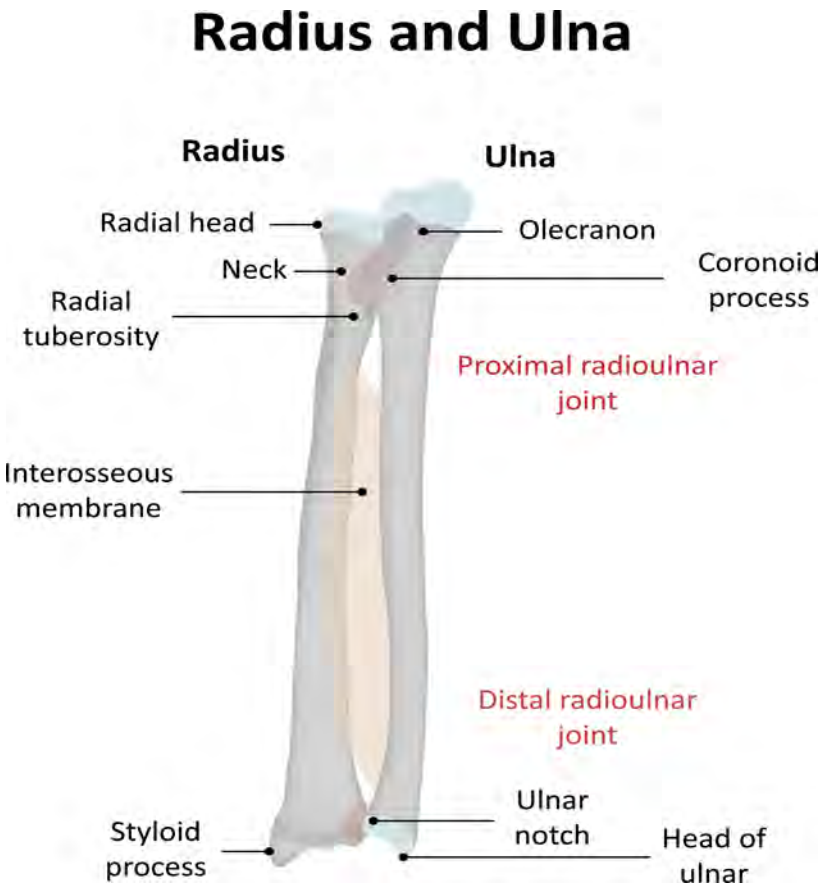
Elbow innervation

- The elbow joint is traversed by several nerves arising from the brachial plexus: the median nerve, the ulnar nerve, and the two branches of the radial nerve.

Elbow muscles and tendons

- The elbow joint is affected by arm muscles that move the radius and ulna. **The muscles moving the ulna and radius have tendons either inserting or originating near the elbow joint and cause flexion or extension.** The elbow joint also has a number of ligaments which may be affected, such the collateral and annular ligaments.
- Flexor muscles include: biceps brachii, brachialis, and brachioradialis. Extensor muscles include: triceps brachii and anconeus. The radius and ulna may also pronate and supinate the forearm. The muscles causing pronation or supination include: pronator teres, pronator quadratus, and supinator.
- The brachialis, which is located deeper than the biceps brachii, is the most powerful flexor of the joint. It originates on the distal, anterior surface of the humerus and inserts on the ulnar tuberosity and coronoid process of the ulna. The brachioradialis is used for quick movements or for slowly lifting heavy loads. It originates at the lateral, distal surface of the humerus and inserts superior to the styloid process of the radius. Trauma from both acute and chronic use of these muscles can cause tendinopathy.





Incidence:

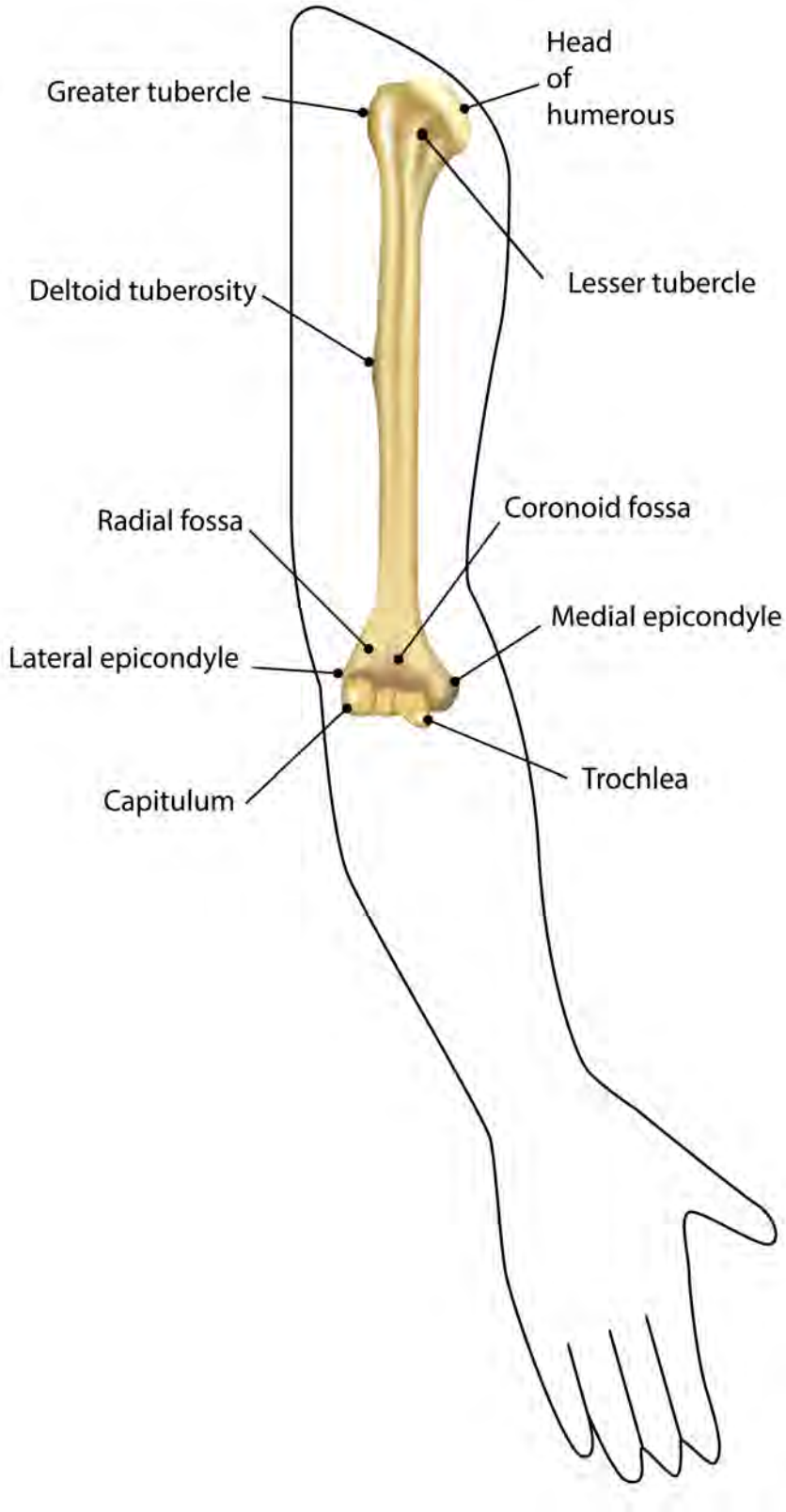
Epicondylitis is common in modern day adults. Lateral epicondylitis (or tennis elbow) affects about 1 – 3% of the adult population. Medial epicondylitis is significantly less common than lateral epicondylitis. Some factors associated with either condition include smoking, physical load and repetitive use factors, as well as obesity. Epicondylitis occurs at the same rates in both males and females.

Diagnosis:

Lateral and medial epicondylitis is not difficult to diagnose. Common symptoms include pain, swelling, inflammation, and/or limited movement of the elbow. The pain may be on either side of the elbow. However, lateral epicondylitis is more common — possibly because it's the location of a major forearm flexor.

To determine if a patient has epicondylitis, the clinician will likely perform a physical examination of the elbow joint, conduct a range of motion study, palpate the area for tenderness, and then perform the Cozen or Reverse Cozen Test. Imaging is not usually performed for initial diagnosis of epicondylitis imaging. Magnetic Resonance Imaging (MRI) or ultrasound are usually reserved for patients who do not respond to treatment after several months or patients who are significantly disabled by their pain. When a patient presents in your clinic, it is helpful to differentiate the diagnosis and especially to do so if the patient has not been previously diagnosed by another healthcare practitioner.

Note the medial and lateral epicondyle locations in the following image.



Differential Diagnosis of Elbow Pain

Comparative Disease	Diagnostics
Lateral epicondylitis (Tennis elbow)	• **Cozen's Test**: As you palpate the lateral epicondyle, have the patient try to flex his wrist against your resistance. • The test is positive **+** if it produces acute and lancinating pain from the lateral epicondyle region. Lancinating pain involves piercing or stabbing sensations. • *May need to obtain additional diagnostic tests in some cases.*
Medial epicondylitis (Golfer's elbow)	• **Reverse Cozen's Test**: As you palpate the medial epicondyle, have the patient try to flex his wrist against your resistance. • The test is positive **+** if it produces acute and lancinating pain from the medial epicondyle region. • *May need to obtain additional diagnostic tests in some cases.*
Lateral collateral strain or sprain	• **Varus Stress Test**: The patient flexes the elbow 20 – 30 degrees. Then, the clinician stabilizes the patient's medial elbow with his or her proximal hand and the patient's lateral wrist with the distal hand while applying a varus force by gently moving the forearm medially. • The test is positive **+** if it produces lateral elbow pain or there is excessive mobility. • *Further diagnostic tests may also be required.*

Medial collateral strain or sprain	• **Valgus Stress Test**: The patient flexes the elbow 20 – 30 degrees. Then, the clinician stabilizes the patient's lateral elbow with his or her proximal hand and the patient's medial wrist with the distal hand while applying a valgus force by gently moving the forearm laterally. • The test is positive **+** if it produces medial elbow pain or there is excessive mobility. • *Further diagnostic tests may also be required.*
Radial/ulnar joint dysfunction	• **Pronation/supination stress tests**: While holding the forearm have try to turn the patients palm up or down excessively. Follow with the tuning fork test. Note if the tests elicit pain. • If the stress tests is positive**,** *but* the tuning fork test is negative; then likely a radial/ulnar joint dysfunction. • *The patient should obtain additional diagnostic tests.*
Radial head fracture	• **Pronation/supination stress tests**: While holding the forearm have try to turn the patient palm up or down excessively. Follow with the tuning fork test. Note if the tests elicit pain. • If both of the above tests are positive **+**, *then the patient should obtain and x-ray as soon as possible*. • F*urther diagnostic tests may also be required.*

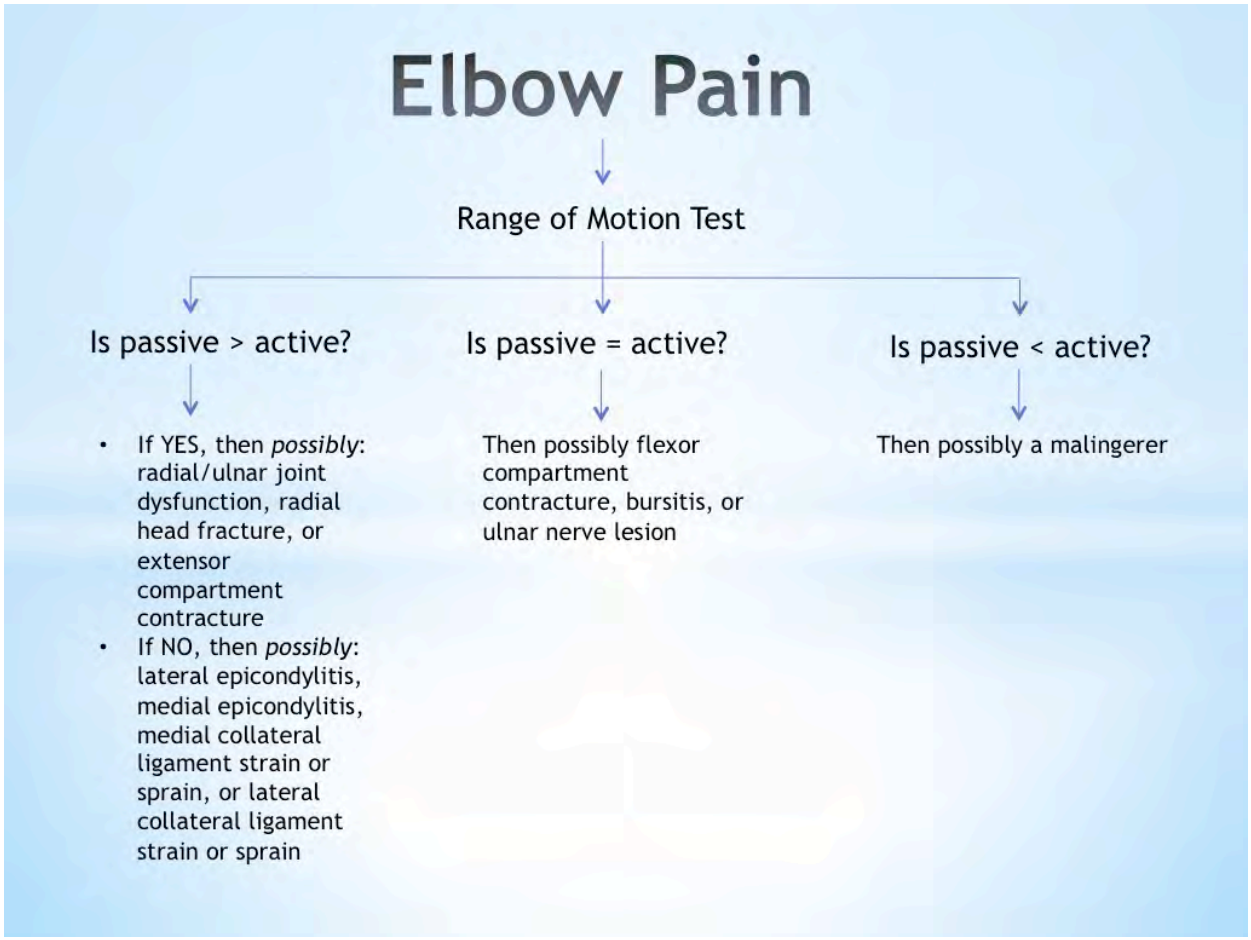
Extensor compartment contractures	• **Hyperflexion stress tests**: Grasp the patient's wrist and try to gently force the elbow into full flexion. Note any limitations or restrictions. • The test is positive **+** if the test elicits pain and decreased motion with pain. • *Further diagnostic tests may also be required.*
Flexor compartment contractures	• **Extension stress tests**: Grasp the patient's wrist and try to gently force the elbow into extension. Note any limitations or restrictions and absence of swelling. • The test is positive **+** if the test elicits pain and decreased motion with pain and there is no swelling. • *Further diagnostic tests may also be required.*
Bursitis	• **Extension stress tests**: Grasp the patient's wrist and try to gently force the elbow into extension. Note any limitations or restrictions as well as swelling or tenderness of the olecranon. • The test is positive **+ for bursitis** if the test elicits pain decreased motion with pain and there is local swelling and tenderness. • *The patient should obtain an x-ray as soon as possible and obtain further diagnostic testing.*

Ulnar nerve lesion	• **Tinel's test**: Following an elbow extension test, next have the patient sit with the elbow slightly flexed. Grab the patient's lateral wrist and with the wrist stabilized, tap on the ulnar nerve near the olecranon. • Tingling along the distribution of the nerve is a positive + result, then *the patient should see a neurologist for additional diagnostic tests as soon as possible.*
Cervical radiculopathy	• If the patient has radiating pain and/or numbness from the neck or shoulder region, he or she may have cervical radiculopathy, 'pinched nerve.' • *Have the patient see a neurologist for additional diagnostic tests as soon as possible.*

Treatment:

Common treatment for lateral and medial epicondylitis includes resting, ice compresses, and pharmacological approaches. Initially, the patient may receive non-steroidal anti-inflammatory drugs. Corticosteroid and Botox injections are given to some patients. These therapeutic methods are usually effective in relieving symptoms temporarily but for many patients the pain recurs.

Chronic epicondylitis patients may receive physical therapy, non-pharmacological therapy, and exercises. Counterforce elbow braces may provide symptomatic relief in some cases. Extracorporeal shock wave therapy is a non-pharmacological treatment also currently used for epicondylitis as well as for other musculoskeletal conditions. The *Current Medical Diagnosis and Treatment* handbook recommends that after six months of "conservative treatment," patients should receive referral for surgical debridement or tendon repair. Lastly, acupuncture and massage are also some effective non-conventional treatments for epicondylitis.



Section 2 - TCM Diagnosis and Treatment

Mechanism:

From the TCM standpoint, both lateral and medial epicondylitis may arise from invasion of pathogenic factors, injury, or overuse of the joint. The joint can easily be invaded by wind, cold and/or damp pathogens leading to bi (painful obstruction) syndrome. Trauma can lead to both qi and blood stagnation resulting in limited movement as well as pain. Chronic overuse can lead to Qi, Blood, and Yin Deficiency resulting in an empty channel condition.

Diagnosis and Patterns:

The patterns include, but are not limited to, the following:

- ***Wind-cold-damp bi or wind-cold bi*** — Signs and symptoms include: acute onset, spasms, aversion to cold, swelling or feeling of heaviness around the elbow, tenderness around the elbow, may have recently had a common cold or exposure to damp conditions, may have a slight fever
  T – Normal body with thin, white coating or white, greasy coat
  P – Floating, tight or soft

- ***Qi and Blood Stagnation*** — Signs and symptoms include: history of trauma, possible bruises, pain around the joint, dull pain or severe and fixed pain, may have swelling, acute onset, pain may be worse at the during of the day if there is Qi stagnation
  T – Normal or purplish body, may have spots with thin, white coating
  P – Choppy

- ***Qi, Blood, and Yin Deficiency with Empty Channel*** — According to textual references, we can observe either full or empty patterns with channel problems. *Elbow joint problems* can be a sign of emptiness in the San Jiao connecting channel, while *spasms of the elbow* can be a sign of fullness in the San Jiao channel. With deficiency problems, the channels can become empty of qi, in which case you

may see the muscles have weak or flaccid muscles. When Yin or Blood are deficient, the patient may present with cracking sounds in the joint. With Qi and Blood deficiency with empty channels, the condition does not appear overnight, so the onset will be gradual and due to chronic overuse.

Other signs and symptoms would include: local weakness, forearm numbness, dull pain that comes and goes, pain that's worse after use and alleviated by rest

T – Normal or pale, thin white coat or dry if yin deficient
P – Thin, weak

Acupuncture Treatment with Point Analysis:

With elbow pain, there are many approaches you can take. You may decide to treat the pain ipsilaterally (same side) or contralaterally (opposite side). You may treat according to reverse body image such as treating the knee region for elbow pain. You may use Connecting Point strategies or treat according to basic local body points. As stated above, three patterns can arise, including trauma, pathogen invasion, or overuse leading to deficiency of Qi, Blood, and Yin. Based on the presentation, you should select the plan most appropriate for the patient.

Connecting Points — Connecting (Luo) points can be used to treat empty and full channel conditions. This approach is useful for patients presenting with chronic patterns of Qi, Blood, and Yin deficiency with Empty Channels. The Connecting Point pathways are described in the classic text, the *Spiritual Axis*. You may use Connecting Points in two ways:

1. **With the Source (Yuan) point of the sick channel's interiorly-exteriorly related channel**
2. **Based on the *full* or *empty* symptoms the Connecting channel itself presents.**

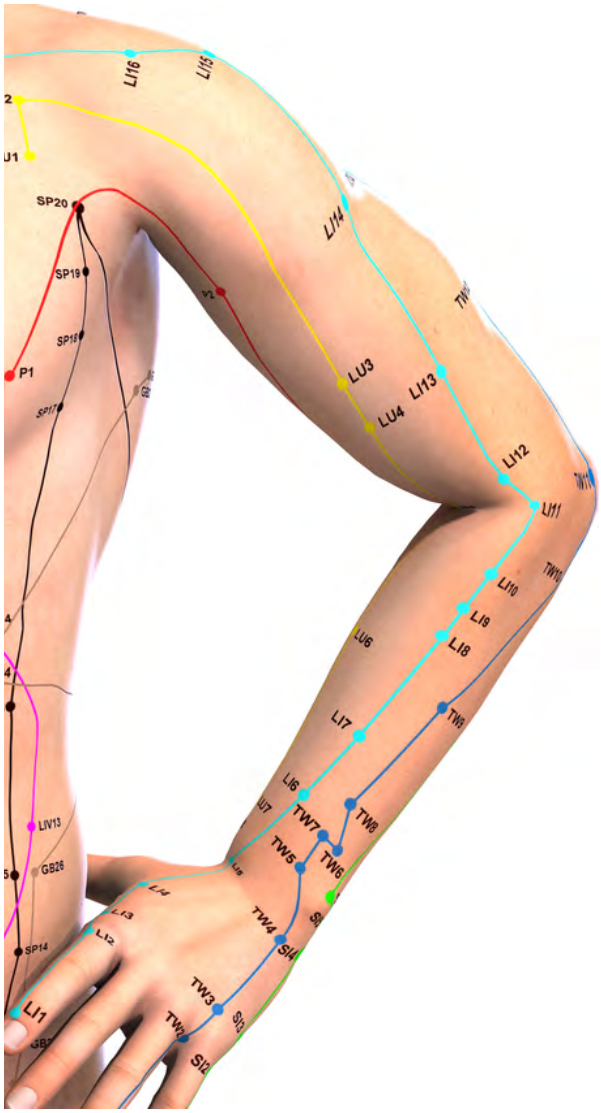
When using this principle based on full or empty symptoms of the

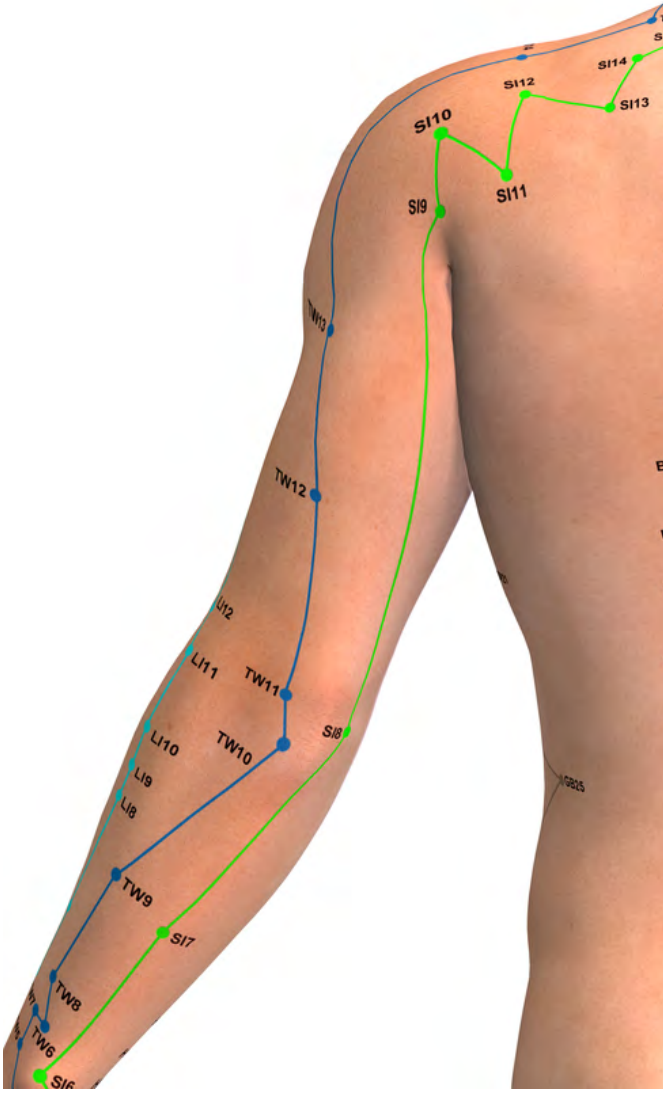
Connecting channel, the Connecting Points are selected on the opposite side and on the interiorly-exteriorly related channel. For example, in a case such as elbow pain due to emptiness in the Large Intestine (LI) Channel, needle the opposite side Connecting (Luo) point for the LI interiorly-exteriorly related channel. So, for left lateral (LI channel-related) elbow pain, needle some local Large Intestine points on the left, such as LI 11 or LI 12, ***with*** LU 7 (Luo point) on the right side.

Basic Points — For elbow pain, you can also needle according local and ashi points using some basic points. The basic points include points located on the three Yang channels of arm as well as GB 34. These basic Yang channel arm points are also located on the medial and lateral side of the arm, so they can be used for both medial and lateral epicondylitis. GB 34 is the Influential point for treating any condition affecting the sinews:

- LI 10 – Unblocks the channel and relieves arm pain
- LI 11 – Expels exterior wind-heat, cools blood, clears internal heat, resolves dampness, benefits the sinews (ligaments) and joints, local lateral epicondyle point
- LI 12 – Unblocks the channel, relieves pain, major point for elbow pain (particularly, tennis elbow)
- SI 3 – Eliminates exterior wind-heat or wind-cold, benefits the sinews and tendons, clears the mind (also opens the Du channel)
- SI 6 – Benefits the sinews and unblocks the SI channel
- SI 8 – Unblocks the channel, clears painful obstruction of the elbow
- SJ 5 – Releases the exterior, expels wind-heat, unblocks the channel, Master point of the Yang Wei (promotes Qi circulation to the hand)
- SJ 8 – ‘Three Yang Junction’ point, treats arm pain affecting all three arm Yang meridians, ***excellent point for any disorder of the arm***
- SJ 10 – Relaxes the tendons, resolves phlegm and dampness, regulates the Ying (Nutritive) and Wei (Defensive) Qi
- GB 34 – The Influential point for the sinews, relaxes the sinews, promotes smooth circulation of Qi, major point for musculoskeletal problems

- **NOTE**: LU 5 is also a good point for elbow pain as well as the auricular elbow point.





Patterns

The treatment plan and point analysis according to the three patterns are indicated below:

1. ***Wind-cold-damp bi or wind-cold bi*** — Expel wind and cold, resolve dampness; use topical herbal patches; needle local basic points with

moxa PLUS

- LI 4 – Releases exterior, expels wind-heat, unblocks the channel, tonifies Qi and consolidates the exterior (good for chronic wind attacks), treats bi pain in the arm or shoulder
- LU 7 – Luo point, releases the exterior, expels both wind-heat and wind-cold
- GB 20 – Expels wind, calms mind
- UB 12 – Treats early stages of exterior wind-cold or wind-heat, for symptoms such as chills and aversion to cold
- UB 13 – Treats exterior and interior Lung patterns related such as cough and common cold symptoms

2. ***Qi and Blood Stagnation*** — Promote circulation of Qi and Blood, eliminate blood stagnation; use topical herbal patches; may use 7-star needle for bloodletting, needle local basic points PLUS

    - SJ 5 – Releases exterior, expels wind-heat, unblocks the channel (good point for bi syndrome of the arm)
    - UB 17 – Eliminates blood stagnation anywhere in the body, tonifies the qi and blood
    - SP 10 – Eliminates blood stagnation, cools blood

3. ***Qi, Blood, and Yin Deficiency with Empty Channel*** — Tonify Qi, Blood and Yin, nourish the channels; do NOT use topical herbal patches; needle local basic points PLUS

    - UB 11 – Nourishes the blood (good point for blood not nourishing the muscles), nourishes the bones, releases exterior
    - ST 36 – Tonifies Qi and Blood, tonifies defensive Qi
    - Ren 6 – ‘Sea of Qi’ point; tonifies Qi, Yang, and Yuan Qi; regulates Qi

- KD 6 – Nourishes Yin, calms mind

Additional Notes:

Topical Applications and the Empty Channel Condition — Topical applications are effective for joint pain. However, they are not recommended for empty channel conditions since the external patches are not generally effective. Instead of using topical patches for empty channel channels, try alternating cold/heat therapy to the area. For an empty channel condition, look to specific herbal formulas or modifications that will tonify the Qi, Blood, or Yin as well as nourish the tendons. Also, try to supplement the patient's diet with foods that will nourish the necessary substances: Qi, Blood, or Yin.

Healthcare Medicine Institute courses on TCM dietetics feature relevant recipes including the following:

Benefit Muscles and Tendons Stew

Beef shank nourishes and strengthens the muscles, tendons and sinew. Combined with kudzu and the other ingredients, this stew helps prevent bodily injury, treats muscular and tendon aching and weakness, and relieves tendinitis and muscle cramps. This stew is recommended for qi and blood deficient patients with muscle aches and cramps. As a preventative, athletes benefit from the muscle and tendon strengthening therapeutic actions of this stew.

Ingredients
beef shank
beef tendon
kudzu root (Ge Gen)
carrots
goji berries (Gou Qi Zi)
celery

Note: Chinese celery has a stronger medicinal value and flavor than American celery.

Elbow pain usually responds well to acupuncture. Most patients experience relief in 6 - 8 treatments. Some patients will even experience relief in 2 or 3 treatments. The Empty Channel condition is not as common as trauma or pathogenic invasion. The practitioner should be aware of the patient's history with regards to the advent of the elbow pain. Patients should also be educated in ways to prevent future injuries or invasion by wind, cold, or damp pathogen. The table below lists some self-care tips.

Home Measures of Self-Care

Self-care for Elbow Pain
1. Avoid repetitive motion without taking breaks. 2. Use proper form when playing sports. 3. Avoid lifting with the arms extended. 4. Wear a brace, if needed, at work and play. 5. Hydrate throughout the day. 6. Eat fruits like lemon, grapes, and watermelon, especially in the summer, to nourish the fluids. 7. Get proper rest.

Formula Analysis

Elbow Pain Formulas — Several TCM formulas are effective for treating tendonitis or elbow pain. Those formulas include, but are not limited to:

- Shen Tong Zhu Yu Wan
- Juan Bi Tang
- Die Da Wan

Shen Tong Zhu Yu Wan is traditionally used to remove blood stagnation. In particular, it's used to treat bi pain in the joints with Qi and Blood stagnation. This formula is very often used for elbow pain. Juan Bi Tang is a formula that addresses wind, cold, and damp painful obstruction. Juan Bi Tang penetrates channels in the upper body, so it is also useful for joint pain in the shoulders and arms. Die Da Wan is a formula used for treating trauma.

CAUTION: These three formulas should NOT be used during pregnancy as they all contain powerful blood moving substances.

Die Da Wan (Trauma Pill)

Die Da Wan was first described in the *Collection of Chinese Herbal Prepared Medicines*. Die Da Wan is a powerful formula, which functions to:

- Invigorate the blood
- Transform blood stagnation
- Harmonize the Nutritive Qi
- Reduce swelling
- Relieve pain

Traditionally, Die Da Wan contains mineral and animal ingredients, which the acupuncturist should be aware of — although commonly modern day formulas are modified to exclude these ingredients. Some manufacturer versions may incorporate herb ingredients other than those listed below. Also, some manufacturer versions may omit Xue Jie, Ma Huang, and Tu Bie Chong, which are considered controversial herbs in some cases.

Die Da Wan is usually given in pill form for traumatic injury resulting in sprains, swelling, bruising, fractures, and pain in a fixed location. Depending on the manufacturer, this formula can be obtained in various modifications based on the stage of the trauma. For example, one preparation may be used for injury with bleeding, while another version may be for sustained injury without bleeding.

The ***traditional*** ingredients for Die Da Wan based on the classic text are:

- ***Dang Gui****, Radix Angelicae Sinensis*, 30 g: Dang Gui promotes blood circulation and eliminates blood stagnation along with Chuan Xiong, Mo yao, Ru Xiang, Xue Jie, and Tu Bie Chong.
- ***Chuan Xiong****, Radix Ligustici Chuanxiong*, 30 g: Chuan Xiong promotes circulation and dispels stasis.
- ***Ru Xiang****, Gummi Olibanum*, 60 g: Ru Xiang promotes circulation and dispels stasis.
- ***Mo Yao****, Myrrha*, 30 g: Mo Yao promotes circulation and dispels stasis.
- ***Xue Jie****, Sanguis Draconis*, 30 g: Xue Jie promotes circulation and dispels stasis.
- ***Tu Bie Chong****, Eupolyphaga seu Opisthoplatia*, 30 g: Tu Bie Chong promotes circulation and dispels stasis.
- ***Ma Huang****, Herba Ephedrae*, 60 g: Ma Huang acts as an envoy to guide the blood invigorating herbs into the muscles and exterior of the body. It opens the tissue between the skin and muscles and helps to regulate the pores in its action of guiding the other herbs.
- ***Zi Ran Tong****, Pyritum*, 30 g: Zi Ran Tong helps fractured bones to heal.

Elbow Pain Research

At the Healthcare Medicine Institute, we publish news and research for acupuncturists. The service is free and provides information about the most recent advances in acupuncture and herbal medicine. The following is from a news article and the title of the article is *Acupuncture Proven To Heal Tennis Elbow*:

Acupuncture combined with massage is effective for the treatment of tennis elbow, lateral epicondylitis. Recent research was conducted on ninety athletes at the Science and Experiment Center of Guangzhou Physical Education Institute. The athletes were randomly divided into three groups. Group 1 received acupuncture only. Group 2 received massage only and group 3 received acupuncture combined with Traditional Chinese Medicine (TCM) massage.

All three groups showed significant positive clinical outcomes. The acupuncture combined with massage group showed greater improvement than the other groups suggesting a synergistic effect. No adverse events occurred. The data was compiled after 20 days of treatment. The researchers concluded that acupuncture and TCM massage are safe and effective for the treatment of lateral epicondylitis.

Tennis elbow (lateral epicondylitis) is a form of tendinitis. Symptoms are usually elbow and arm pain. Repetitive motions often lead to lateral epicondylitis such as movement during tennis, weight lifting, painting, typing, knitting and woodwork. The pain typically worsens when lifting, gripping, twisting and straightening the wrist. Conventional medical approaches for treating lateral epicondylitis include physical therapy, non-steroidal antiinflammatory medications (NSAIDs), icing, bracing, local steroid injections and surgery. Acupuncture and TCM tuina massage have a historical record for the successful treatment of lateral epicondylitis that is over 1,000 years. This new scientific experiment using a carefully controlled investigation for examining the efficacy of these ancient modalities confirms the historical record.

The acupuncture group received acupuncture in either the sitting or supine

posture. The acupuncturist used 40 mm disposable acupuncture needles. Needle retention time was 30 minutes after the arrival of the deqi sensation at each acupuncture point. The acupoints used in the study were primarily local points based on the clinical presentation of each patient. Acupuncture points included LI12, LI11, LI10, LI4, SJ5, and ashi points.

The massage group received TCM massage in a sitting posture with the elbows bent and relaxed. Techniques included kneading, grasping, one finger meditation manipulation and plucking ashi points. Massage was applied to acupuncture points including: Quchi (LI11), Chize (LU5), Hegu (LI4), Neiguan (PC6), Waiguan (SJ5), Yangxi (LI5), Shousanli (LI10). Each massage lasted for 15 to 20 minutes. Following the massage, the patient was told to relax with the forearms at rest.

The combination group received acupuncture treatment after being massaged on the same day. Each treatment modality was applied once daily for all groups. One course of either massage and/or acupuncture consisted of 10 days. There was a two-day pause following the first course. The entire treatment was 2 courses for a total of 20 treatments.

The group that received both acupuncture and TCM massage showed the greatest clinical improvements. A total of 20 patients in the combination group were completely cured after the 20 treatments. Another 5 patients made excellent improvement and an additional 5 patients made moderate improvement. One patient in the combination group made no improvement. Occasionally, patients felt uncomfortable after the acupuncture needling for approximately one day, however, the soreness disappeared after one day's rest. Based on the results, the researchers conclude that acupuncture and massage are effective in treating lateral epicondylitis for athletes and that combining the therapies increases positive patient outcomes.

News Article Reference:
Qiu, Yanchun. "Comparative Study on the Treatment of Acupuncture and Massage of External Humeral Epicondylitis for Athletes." Journal of Guangzhou Physical Education Institute 34.1 (2014): 100-102.

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