

The Shocking Truth About Tennis Elbow

TENEX



The Shocking Truth About Tennis Elbow

If you're reading this, you either have tennis elbow or you know someone who has it. Once you have it, your daily life can be adversely affected. You've probably searched the Web for answers and products that promise to help. Unfortunately, there's a lot of misinformation out there that not only won't lead to recovery, but it can also make the condition worse.

Only about 10% of tennis elbow cases are sports-related – 90% are from everyday repetitive motion activities like hammering or commercial painting that involve a constant pronation or supination of the hand gripping the handle of a weighted object where the action delivers a shock.

Table of Contents

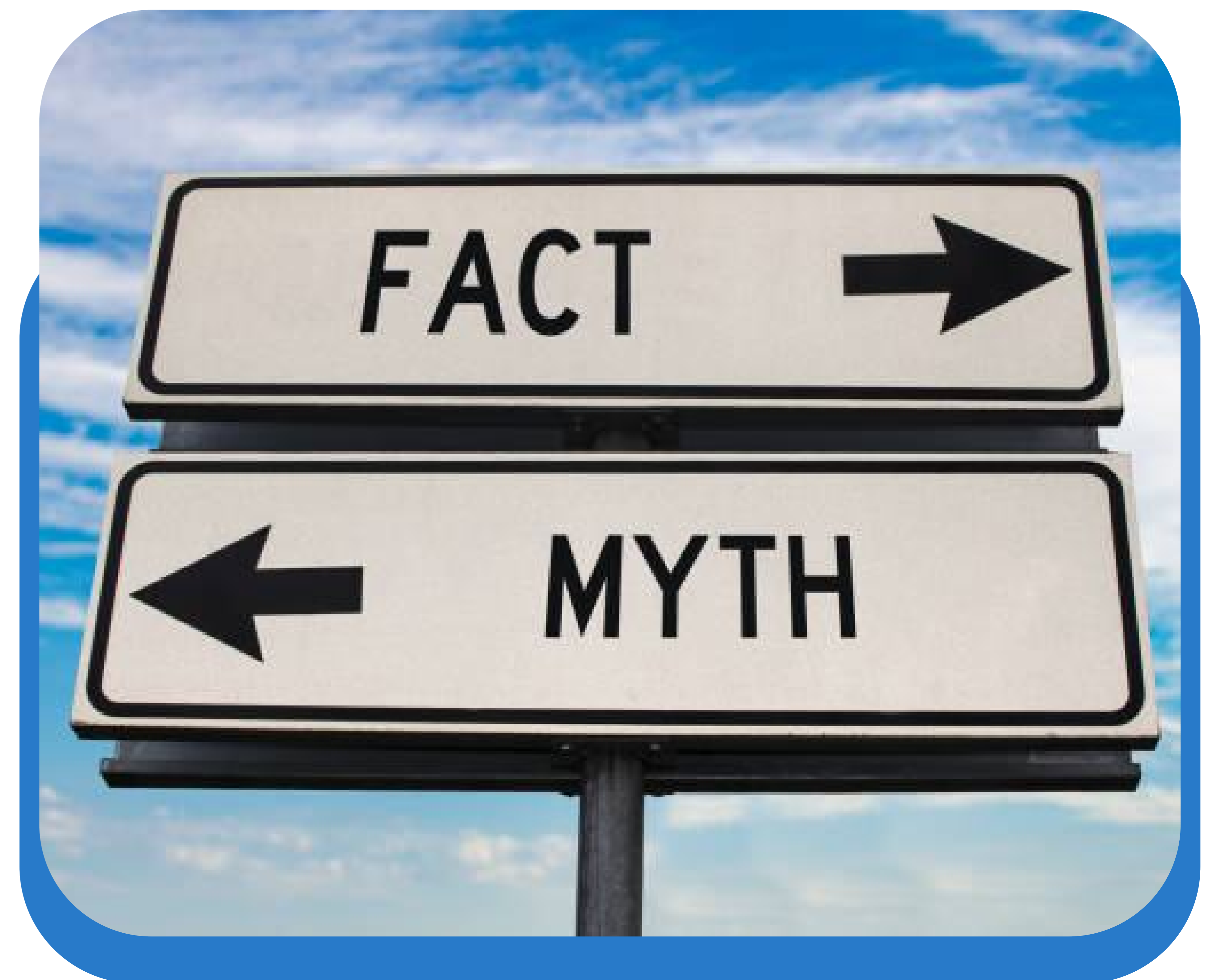
Epicondylitis is a Myth	2
Just Because It Feels Inflamed Doesn't Mean It Is	3
Let's Look at the Anatomy	4
Increasing Blood Supply to Expedite Healing is also a Myth	5
The Anatomy of Tendinosis	6
The Four Stages of Tendinosis	7
Pronation is a Silent Assassin	8
Don't Let Tennis Elbow Beat You	9
The Shocking Truth?	10
Path to Recovery	11
60 Day Plan for Recovery	12

Epicondylitis is a Myth

For starters, “epicondylitis” is a myth. “Itis” implies that inflammation is a cause or result of the condition and there is no medical or biological basis for that conclusion. Elbow tendon damage from overuse or misuse has a non-inflammatory pathology.

“Most currently practicing general practitioners were taught, and many still believe, that patients who present with overuse tendinitis have a largely inflammatory condition and will benefit from anti-inflammatory medication. Unfortunately, this dogma is deeply entrenched. Ten of 11 readily available sports medicine reviews specifically recommend non-steroidal anti-inflammatory drugs for treating painful conditions like Achilles and elbow tendinitis despite the lack of a biological rationale or clinical evidence for this approach.” Prof KM Kahn, Natl Institutes of Health

Inflammation is the body’s natural response to healing. Attempting to reduce inflammation compromises this function and, for tennis elbow, it has no effect on mending a stretched or torn extensor tendon. Extended use of anti-inflammatories can delay healing and increase the likelihood of further damage.



Just Because It FEELS Inflamed Doesn't Mean It Is

Yes, we understand your Tennis Elbow may feel like it's inflamed! Those burning sensations, that achy feeling, and the occasional jolt of searing pain would lead any sensible person to think that there must be inflammation in there somewhere! It's just that medical research doesn't support this contention. (But it sure sells a lot of anti-inflammatories). The symptoms in this case are extremely misleading and rest assured there's nothing sensible or straightforward about Tennis Elbow.

What researchers started discovering decades ago is that inflammation is actually missing in action with Tennis Elbow and there's a sneaky, insidious **degeneration process** going on in the tendon, which is a lot worse than a little inflammation.

Tennis or Pickleball Elbow is in fact "tendinosis" (degeneration) not tendonitis (inflammation), suggesting a completely different path to recovery.

tendinosis

noun

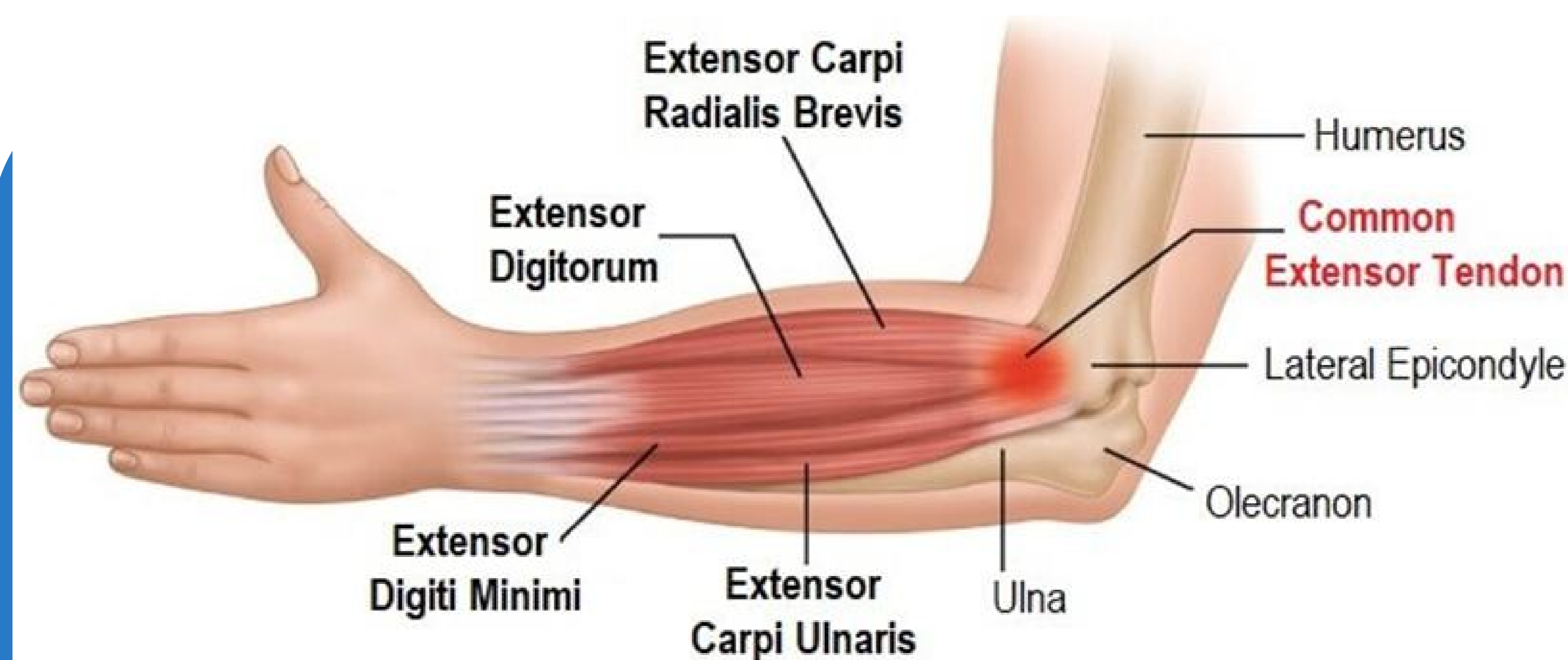
ˌten-də-ˈnō-səs

: progressive degeneration of a tendon (as from chronic overuse) that usually involves fraying or tearing of fibrous tissue and is typically accompanied by pain and stiffness but little inflammation.

Merriam-Webster®

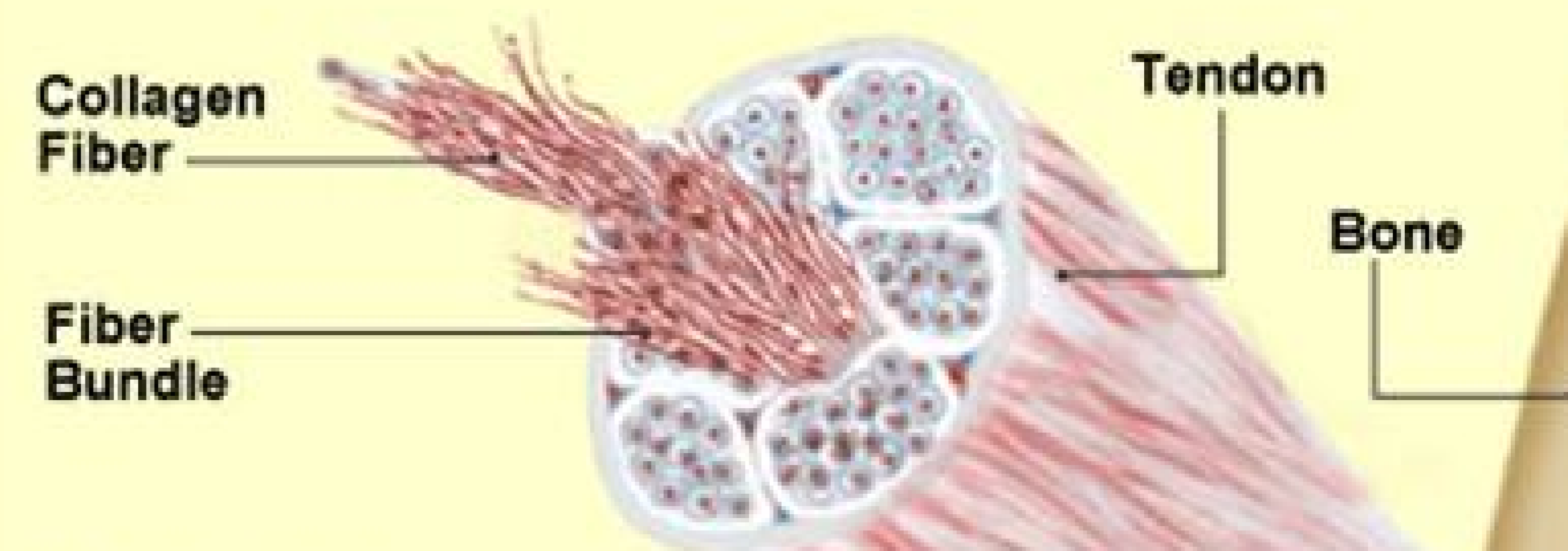
Let's Look at the Anatomy

The extensor muscles are in the back of the forearm and have long tendons connecting them to bones in the hand where they exert their action. Further up the arm, the common extensor tendon attaches the extensor muscles to the lateral epicondyle of the humerus bone at the elbow.



Tendons are made up of more than 90% collagen, a fibrous connective tissue that contributes to their strength and structure. **The ends of tendons are the most solid parts and can be up to 99% collagen.**

Tendinosis



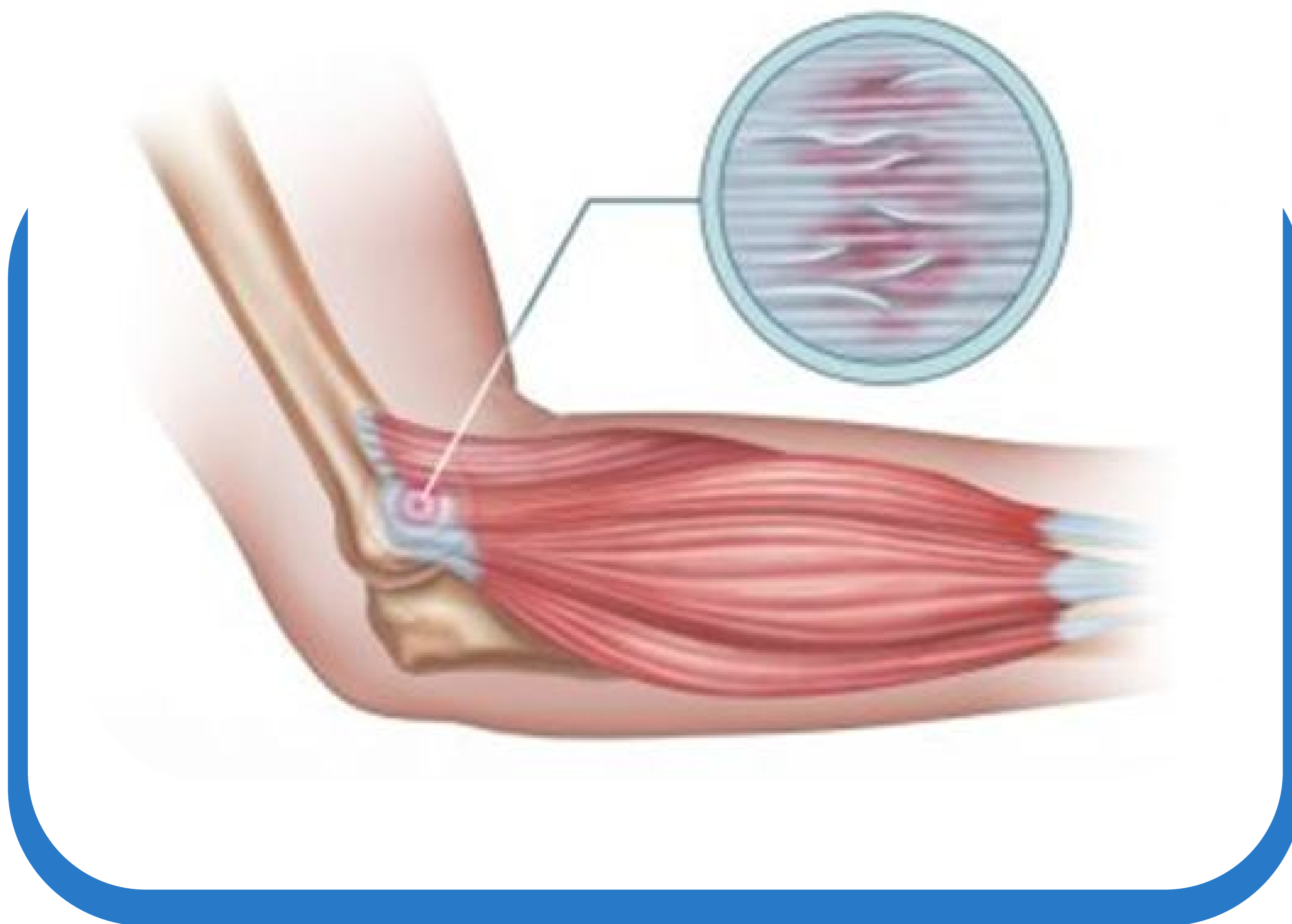
Tendinosis is a chronic injury caused by an accumulation of small tears in the tendon that have failed to heal properly over time.

© 2012 MendMeShop®

The collagen fibers in tendons run parallel to each other and are grouped into fascicles. Each fascicle is bound by a loose connective tissue that contains thin collagen fibrils and elastic fibers.

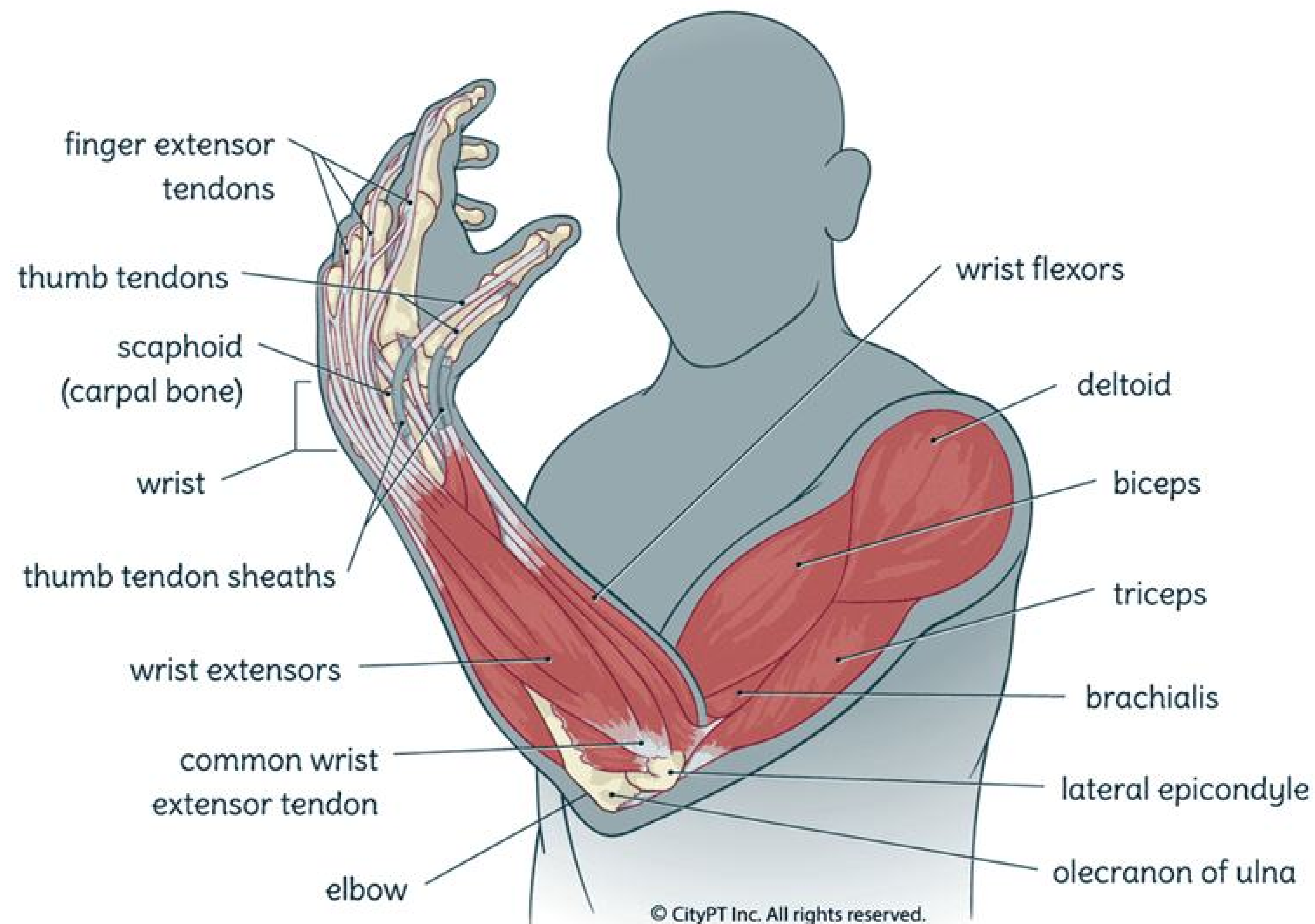
Increasing Blood Supply to Expedite Healing is also a Myth

The thing is, tendon tissue is mainly collagen and tendons have very little blood supply, so despite the entrenched dogma, increasing blood flow lacks the biological rationale and clinical evidence to be functional factors in a recovery program. Medical grade compression sleeves (not over-the-counter sleeves) and other gadgets can affect blood flow, but these products don't expedite recovery from elbow tendinosis.



The Anatomy of Tendinosis

The extensor muscle is connected to the fingers and elbow by tendons. Finger tendons connect to the elbow at the lateral and medial epicondyles, which are bony bumps on the outside and inside of the humerus bone, just above the elbow. Together, the assembly allows the fingers to move and grasp and the wrist to bend.



The Four Stages of Tendinosis

Stage 1:

Pain after sports activity, or pain at the beginning of activity that disappears with warm-up but returns with fatigue

Stage 2:

Pain during and after activity

Stage 3:

Prolonged pain during and after activity

Stage 4:

Constant pain independent of activity

Repetitive forearm pronation pulls on the extensor tendon at the bone and can lead to microtears in the collagen. This degeneration is what is called Tendinosis.

Pronation is a Silent Assassin

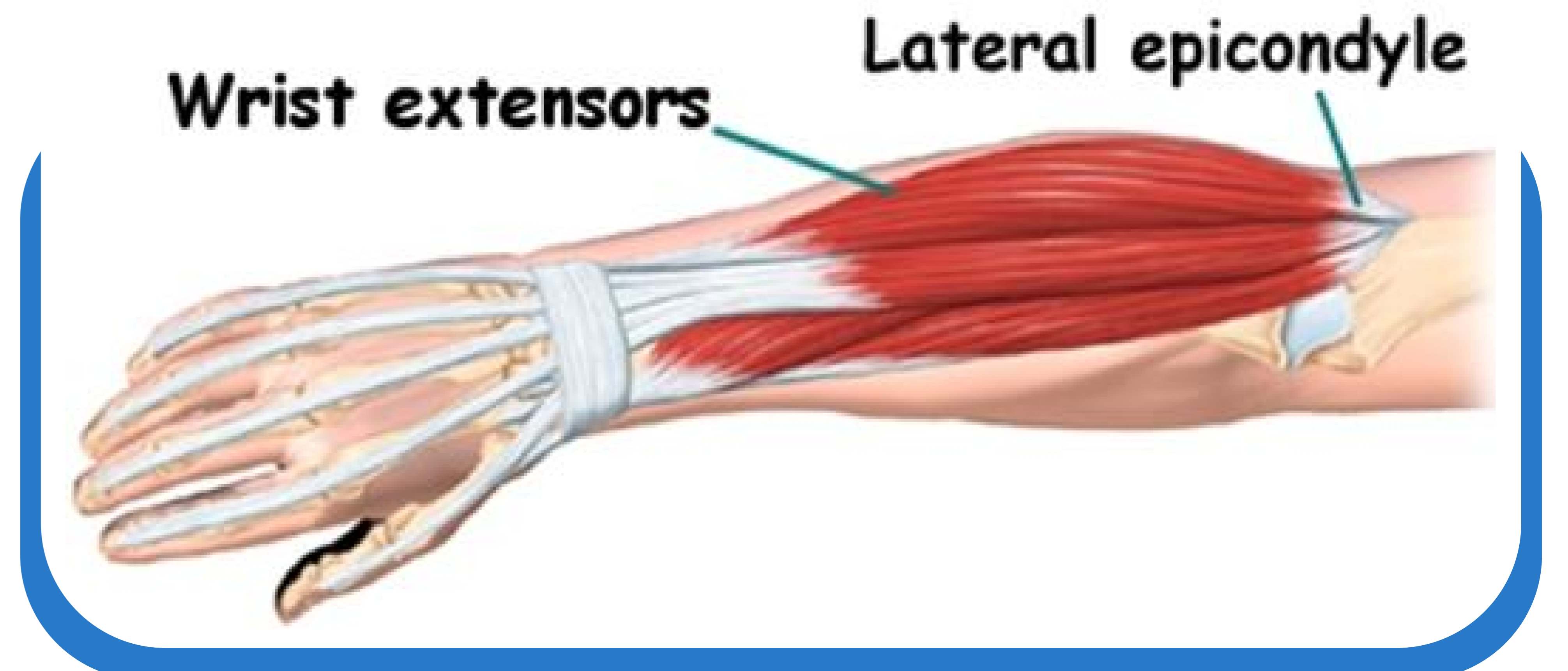
Whether they're wielding a hammer or playing pickleball, most people don't realize that the form of their action is causing their tendinitis. They don't consider that striking a nail with a 16-ounce hammer is almost always a pronation...at different angles...with a hard stop. Without pronation when hammering, there's just tapping. Tapping is like "pushing" in tennis. Most players aren't pushers. They see the pro players hitting those cool topspin shots and big serves, so they over-pronate with that long 11-ounce frame pulling on their elbow. Pickleball can be the worst of all because the balls don't bounce...they stay low, requiring an upward stroke...the courts are small, and the pace is fast...there are no volleys from the elbow or shoulder like tennis but rather quick topspin ping-pong-like "speed-ups" with an 8-ounce paddle at the kitchen line – a pronation – not to mention many other awkward flails on shots because there's no time to get set.

What do these activities that cause tendinitis have in common? Gripping the tool or racquet handle with force. Fingers are lightning rods for shock. The impact of every strike is transmitted through those finger tendons to the forearm muscles then to the elbow. And because the muscles, tendons, and nerves travel through the arm, the pain, while usually worse over the elbow, can travel to the upper arm, lower arm, and to the wrist and hand. ***Most people never consider that their strike form and grip intensity are causing their tendinitis.***

Don't Let Tennis Elbow Beat You

When it comes to pickleball, tennis, hammering... any Repetitive Motion Activity that delivers a hand-arm vibration impact, people just don't see the need to "warm-up" their hand/wrist/forearm. They just go out and play...or hammer. You wouldn't run a marathon without training, would you? So, keeping a 2lb hand weight in your bag for pre- and post-activity stretches just makes sense. It also makes sense to refrain from the aggravating activity for at least 10 days if Stage 1 or 2 pain is present and then start a preventative regimen. If the pain is Stage 3 or 4, a visit to your PT is a must.

It doesn't make sense to take a bunch of ibuprofens, slap on some pain cream or an armband and continue playing! Over time, this will only make the condition worse.



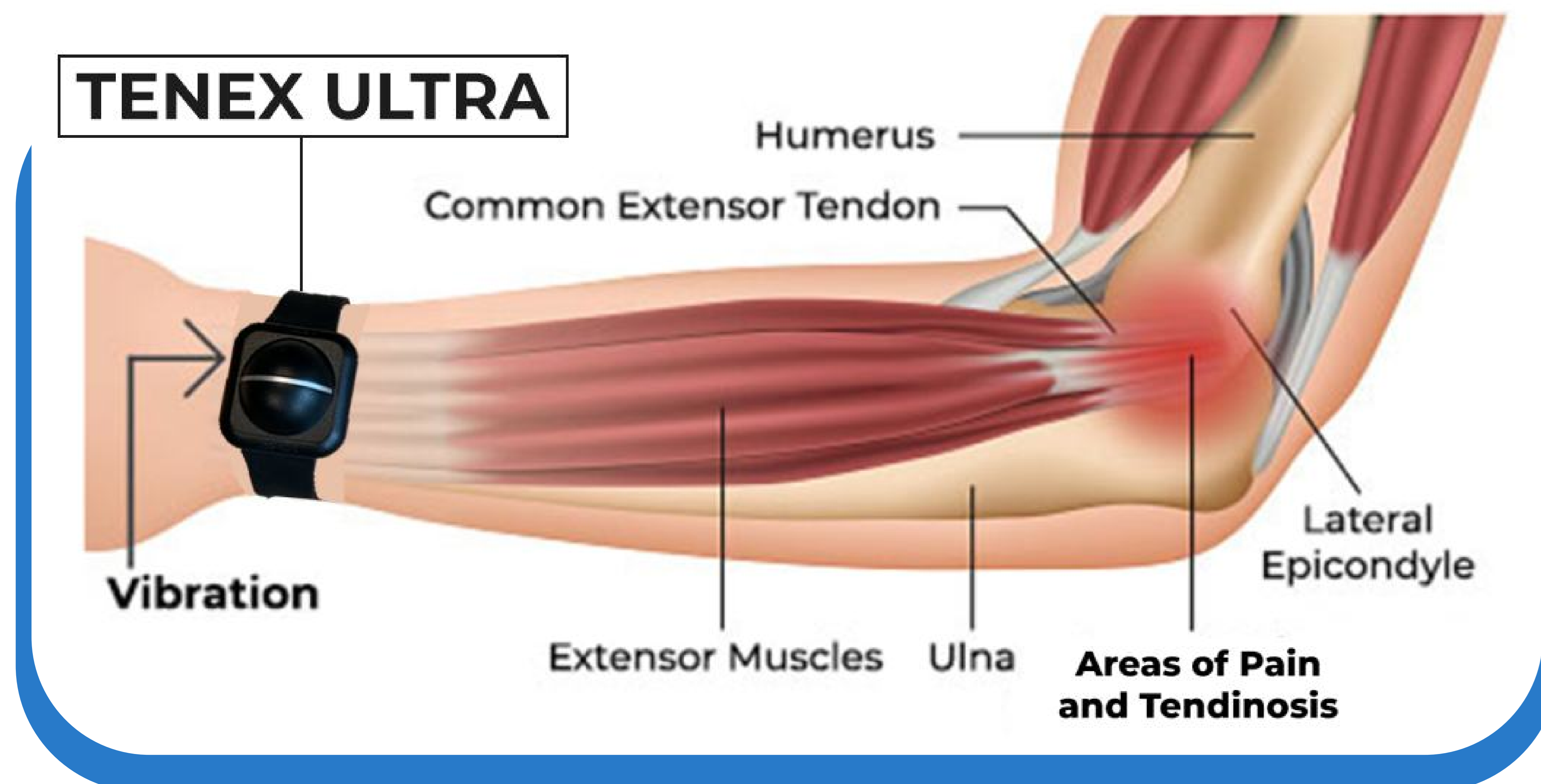
One approach that is not about reducing inflammation or increasing blood flow has been proven to help millions of tendinosis sufferers. ***It sits on top of the hand tendons at the wrist and basically absorbs the shock from grip and object impact...like a dampener in a tennis racquet.***

The Shocking Truth?

Elbow tendinosis is largely a result of compromised collagen fibers. When these fibers are stretched or torn, their ability to act as a shock absorber is greatly reduced. ***There is no scientific basis that compression sleeves or arm bands can reduce the shock from Repetitive Motion Activities.***

Only the TENEX ULTRA Elbow Shock Absorber is proven to replace the shock absorption lost by an injured extensor tendon, allowing the collagen to heal and resume its intended function.

Tennis Elbow



Path to Recovery

For Stage 3 and Stage 4 cases, next steps involve an immediate cease of the aggravating action for 2 weeks followed by a visit to a physical therapist. Most people largely ignore Stages 1 and 2 which typically lands them at Stage 3. Not good. A viable self-treat 60-day Recovery Plan for Stages 1 and 2, developed by nationally recognized PT, Dr. Dave Candy, is available on the TENEX Pain Solutions website, including exercises and milestones.

The purpose of this eBook is to get tendinosis sufferers to take a closer look at the false and real science of their condition and possible causes. Racquet sport players need to be more aware of their stroke mechanics and warm-up practices. Lessons from a certified pro can often correct bad form and reduce the likelihood that tendinosis will persist.

Ushiki T, Collagen, Reticular Fibers, Archive of Histology, Cytology, 2002

Yang G Rothrauff BB, Tendon Regeneration & Repair, Today, 2013

Edwards DA, The Blood Supply of Tendons, Journal of Anatomy, 1990

Khan KM, Maffulli N, Time to Abandon the Tendinitis Myth, Natl Institutes of Health, 2002

Boyer MI, Overuse Tendinosis, Not Tendinitis, Hastings, 2000

60 Day Plan for Recovery

STEP 1

DAY 1

Put on your TENEX ULTRA Elbow Shock Absorber and leave it on, 24/7 if possible or at least for all waking hours. People think Tennis Elbow is a sports injury and it can be, but 90% of TE cases are caused by some other Repetitive Motion Activity. If your extensor tendon is stretched or has micro-tears, dozens of daily activities can make it worse. So, wearing your ULTRA for the 60 Days will go a long way toward your Recovery.



Items That Cause Tendinitis

To the best of your ability, try to isolate the cause of your TE. Sometimes the cause is obvious, sometimes you have to visit your PT to help narrow down the possibilities. This is important because what you do when you're not playing or working matters. For example, if you sleep on your back with your hands on your chest, your elbow is bent, and this flexion can stretch/agitate your injured tendon. A weak compression sleeve can remind you not to bend your elbow. Or, if you regularly cook with an iron skillet and you always pick it up with the injured hand/arm, you're going to tweak your TE – so pick it up with the other hand. **Building awareness of all the little things that delay your Recovery is an element that is rarely addressed by medical professionals.**

Next up – ***REST the injured elbow for 10 days.*** If at all possible, refrain from hitting a pickleball, from hammering, from shooting a gun – whatever you have determined is the primary cause of your tendinosis. ***Don't ice. Don't heat. It won't matter. Don't take anti-inflammatories. Don't wear an armband. Don't stimulate with TENS. Don't strap a machine on your arm.***

STEP 2

DAY 11

Begin specific exercises to stretch and strengthen the muscles attached to the injured tendon. Start with minor resistance and work your way up. Stop or discontinue any stretch or lift that is beyond minor pain – some degree of discomfort is normal.

If discontinued, try again in a few days. The early goal of a therapeutic exercise program is to promote muscle endurance and improve resistance to repetitive stress while allowing the extensor tendon to heal. Following a well-structured conditioning program will help you return to daily activities, as well as sports and other recreational activities.

Length of program: This exercise program should continue for the remainder of the 60-day period. After your recovery, your doctor or physical therapist can instruct you in how these exercises can be continued as a maintenance program for lifelong protection and health of your elbow.

Wearing your TENEX ULTRA after your recovery will minimize the chances of a recurrence.

Recovery Exercises

1. Wrist Extension Stretch

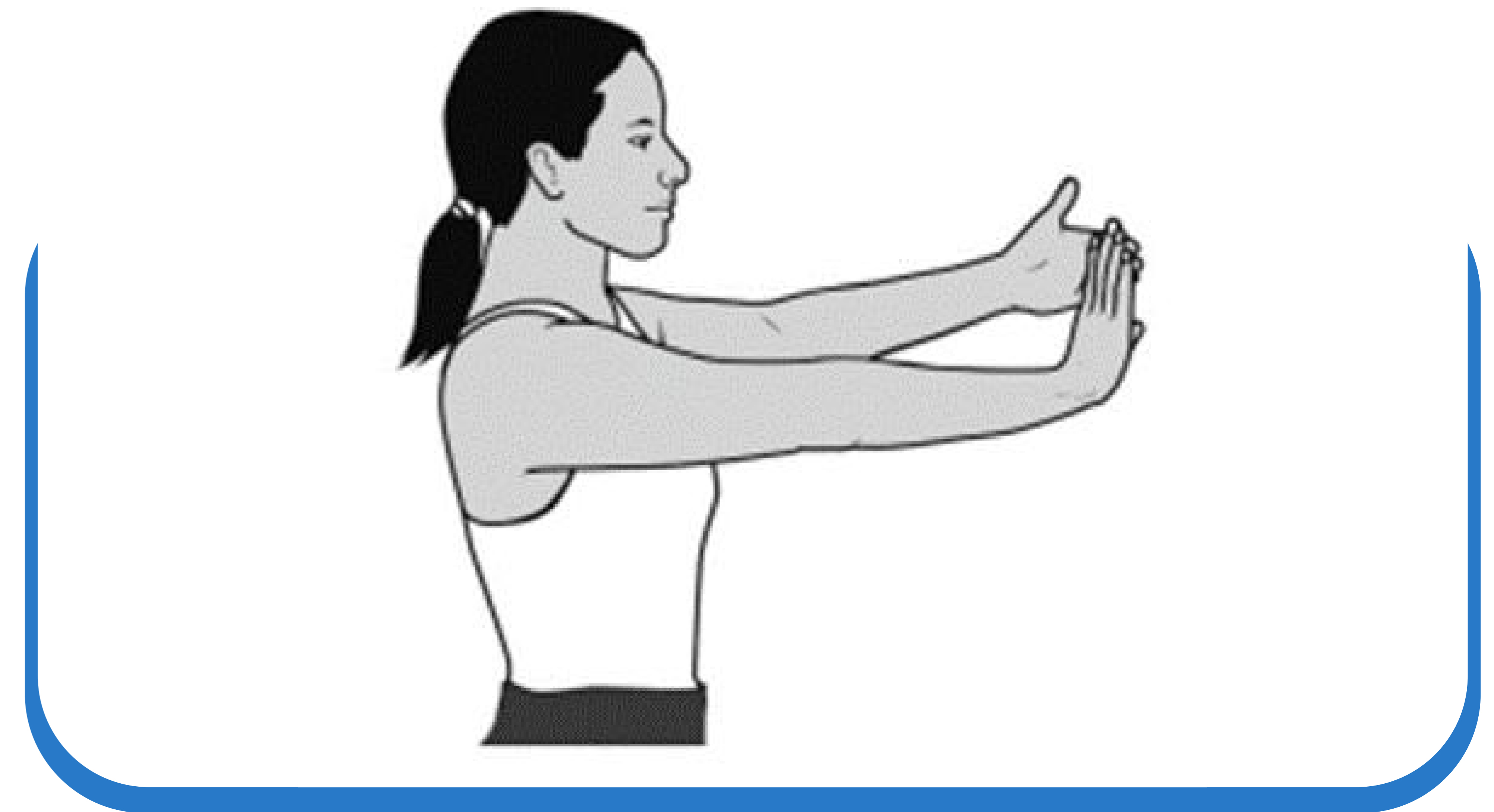
Equipment needed: None

Instructions: This stretch should be done throughout the day, especially before activity. After recovery, this stretch should be included as part of a warm-up for activities that involve gripping, such as gardening, tennis, pickleball and golf.

Step-by-step directions • Straighten your arm and bend your wrist back as if signaling someone to “stop.” • Use your opposite hand to apply gentle pressure across the palm and pull it toward you until you feel a stretch on the inside of your forearm. • Hold the stretch for 15 seconds. • Repeat 5 times.

Repetitions: 5 reps, 4x a day. Days per week 5 to 7.

Tip: Do not lock your elbow.



2. Wrist Flexion Stretch

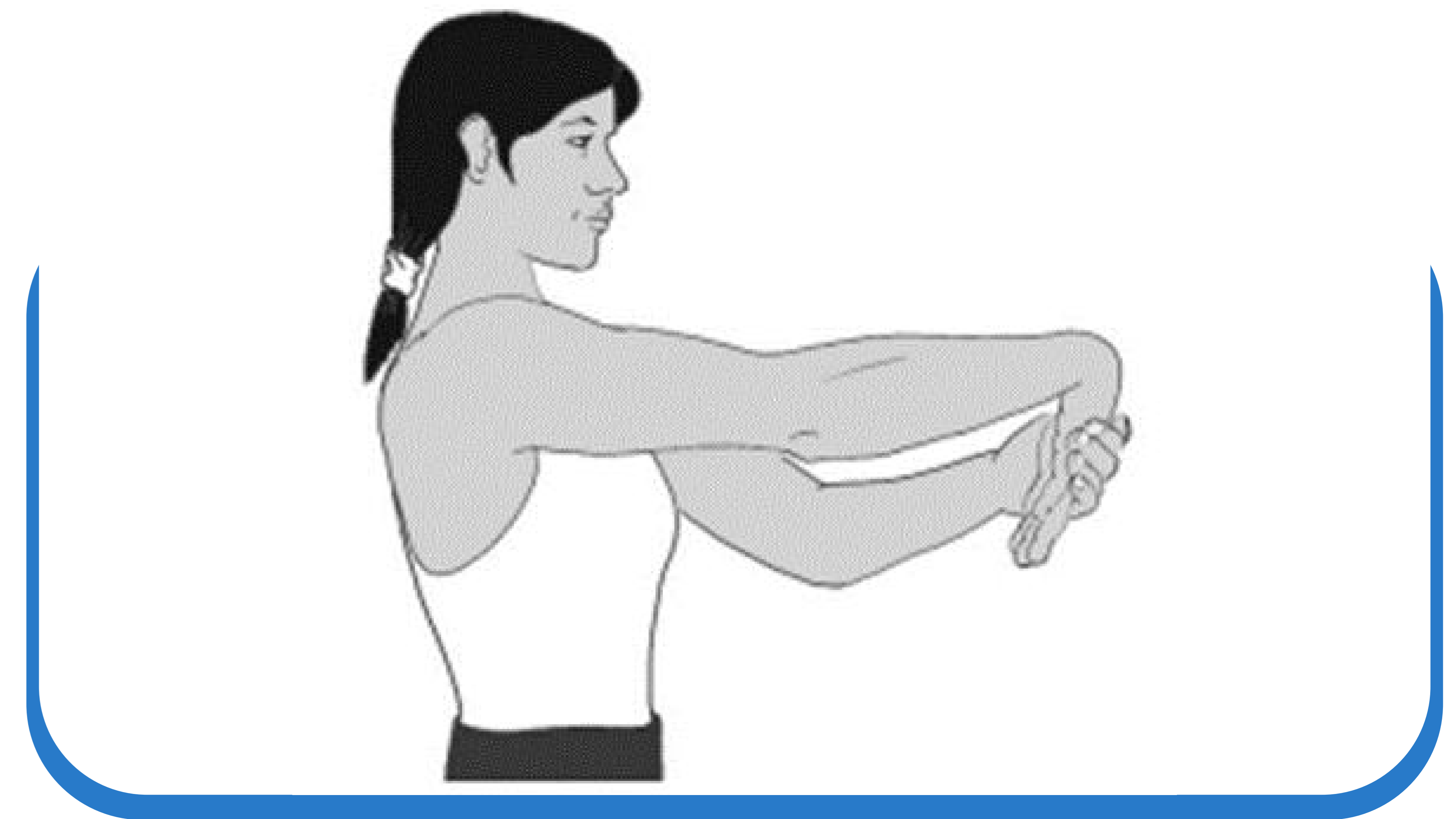
Equipment needed: None

Instructions: This stretch should be done throughout the day, especially before activity. After recovery, this stretch should be included as part of a warm-up for activities that involve gripping, such as gardening, hammering, tennis, racquetball and golf.

Step-by-step directions • Straighten your arm with your palm facing down and bend your wrist so that your fingers point down. • Gently pull your hand toward your body until you feel a stretch on the outside of your forearm. • Hold the stretch for 15 seconds.

Repetitions: 5 reps, 4x a day. Days per week 5 to 7.

Tip: Do not lock your elbow.



3. Wrist Extension (Strengthening)

Equipment needed: Dumbbell hand weights (1 lb., 3 lbs. at Day 30)

Instructions:

(1) Bend your elbow to 90 degrees and support your forearm on a table with your wrist placed at the edge. Early in rehabilitation, just doing the lowering down portion of this exercise using a light (1lb.) dumbbell can help resolve acute pain before progressing to doing the complete motion once there is less pain. Use the opposite hand to help push the wrist up as far as possible. Then, without assistance, slowly lower the weight until the wrist is flexed again.

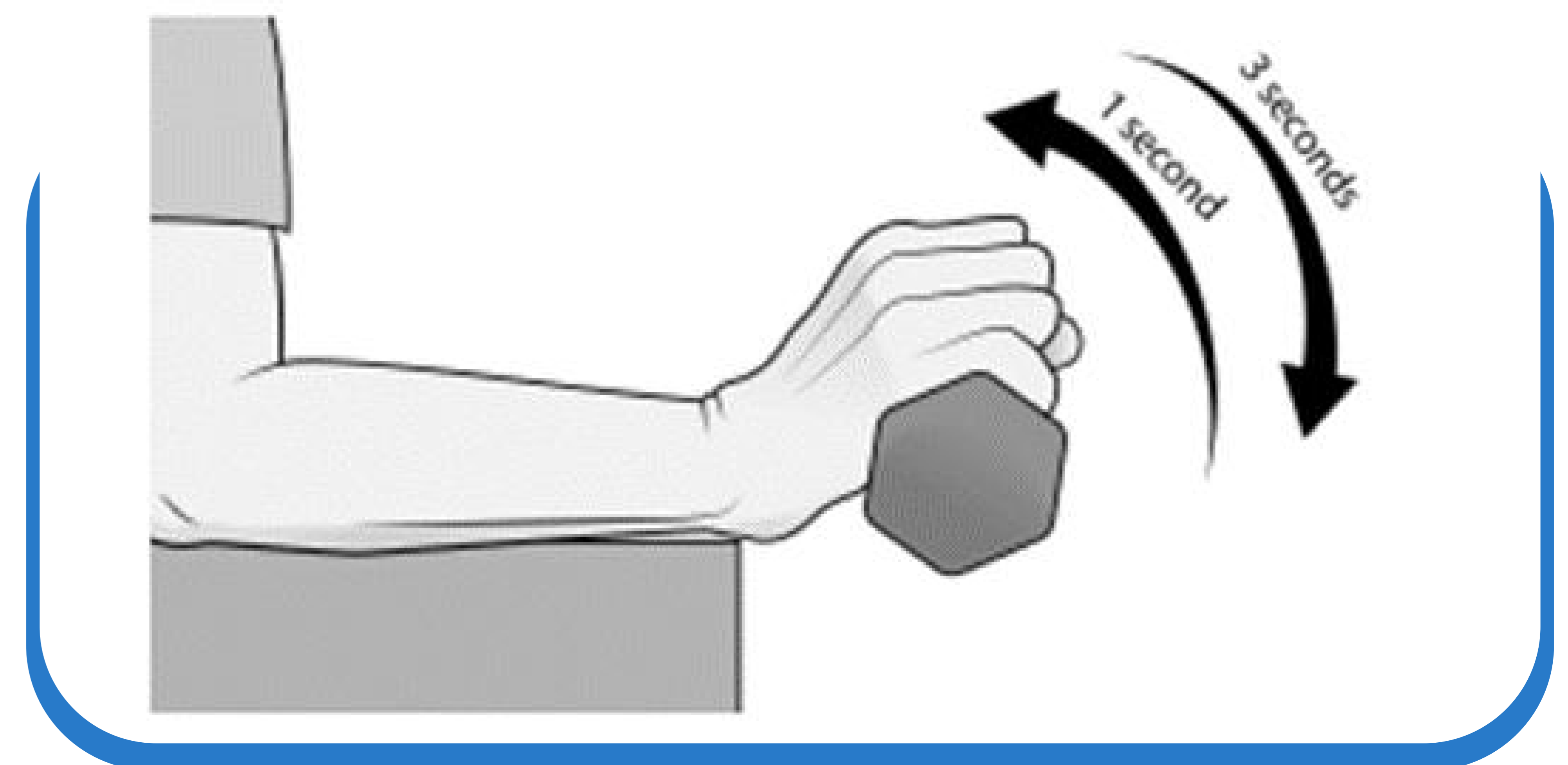
(2) Straighten your elbow slightly. Continue to support your arm on the table.

(3) Fully straighten your elbow and lift your arm so that it is no longer supported by the table.

Step-by-step directions to be followed for each stage • With palm down, bend your wrist up as far as possible. • Hold up for 1 count, then slowly lower 3 counts. • Begin without using a weight and increase the repetitions until you can complete 30. • When you can perform 30 repetitions on 2 consecutive days without increasing pain, begin performing the exercise using a 1 lb. weight.

Repetitions: 30 reps, 1x a day. Days per week 5 to 7.

Tip: Do not let the weight pull your hand down too quickly.



4. Wrist Flexion (Strengthening)

Equipment needed: Dumbbell hand weights (1 lb., 3 lbs. at Day 30)

Instructions:

(1) Bend your elbow to 90 degrees and support your forearm on a table with your wrist placed at the edge. Use the opposite hand to help push the wrist up as far as possible. Then, without assistance, slowly lower the weight until the wrist is flexed again.

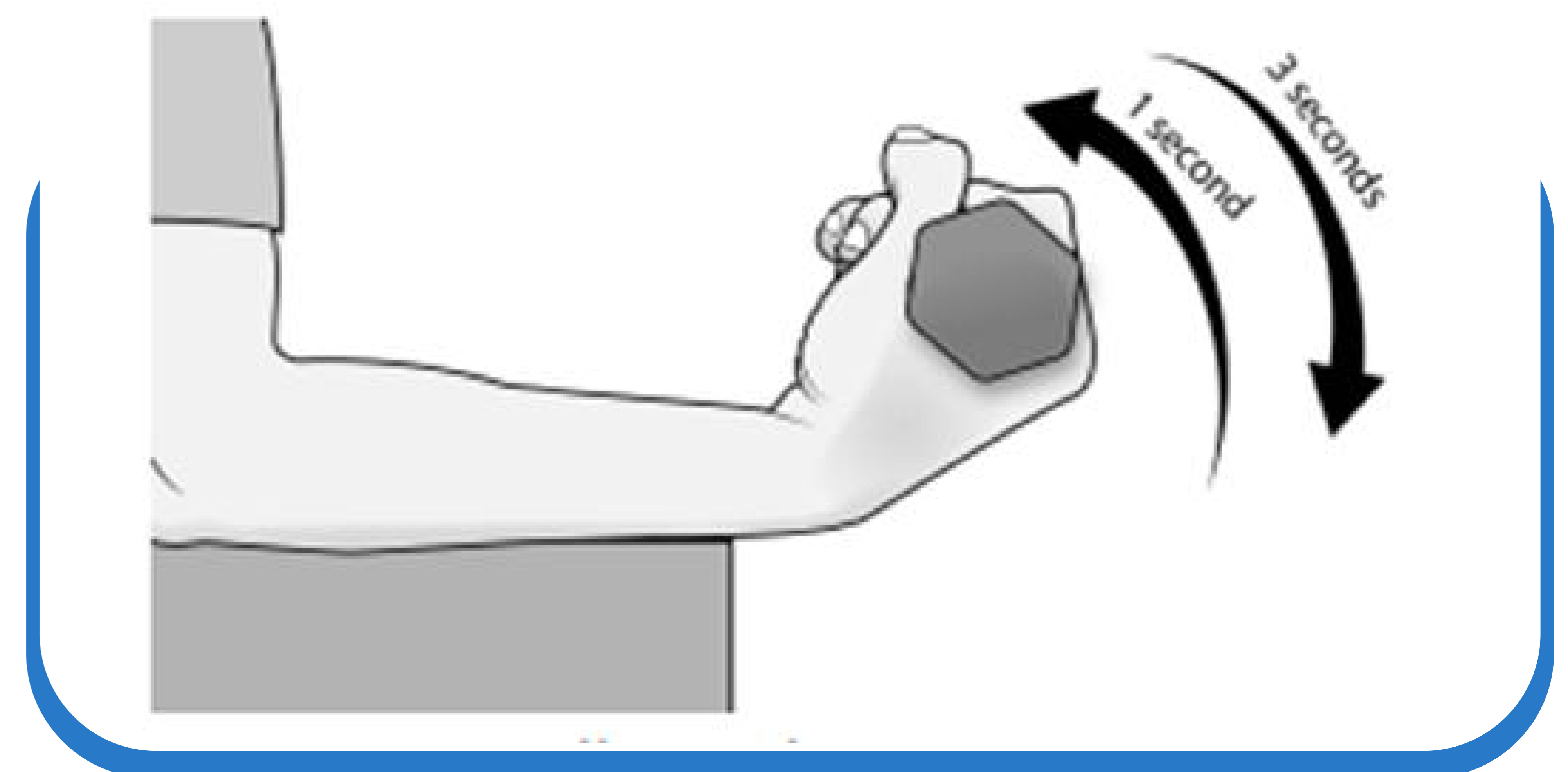
(2) Straighten your elbow slightly. Continue to support your arm on the table.

(3) Fully straighten your elbow and lift your arm so that it is no longer supported by the table.

Step-by-step directions to be followed for each stage • With palm up, bend your wrist up as far as possible. • Hold up for 1 count, then slowly lower 3 counts. • Begin without using a weight and increase the repetitions until you can complete 30. • When you can perform 30 repetitions on 2 consecutive days without increasing pain, begin performing the exercise using a 1 lb. weight.

Repetitions: 30 reps, 1x a day. Days per week 5 to 7.

Tip: Do not let the weight pull your hand down too quickly.



5. Forearm Supination & Pronation (Strengthening)

Equipment needed: Dumbbell hand weights (1 lb., 3 lbs. at Day 30)

Instructions:

(1) Bend your elbow to 90 degrees and support your forearm on a table with your wrist placed at the edge.

(2) Straighten your elbow slightly. Continue to support your arm on the table.

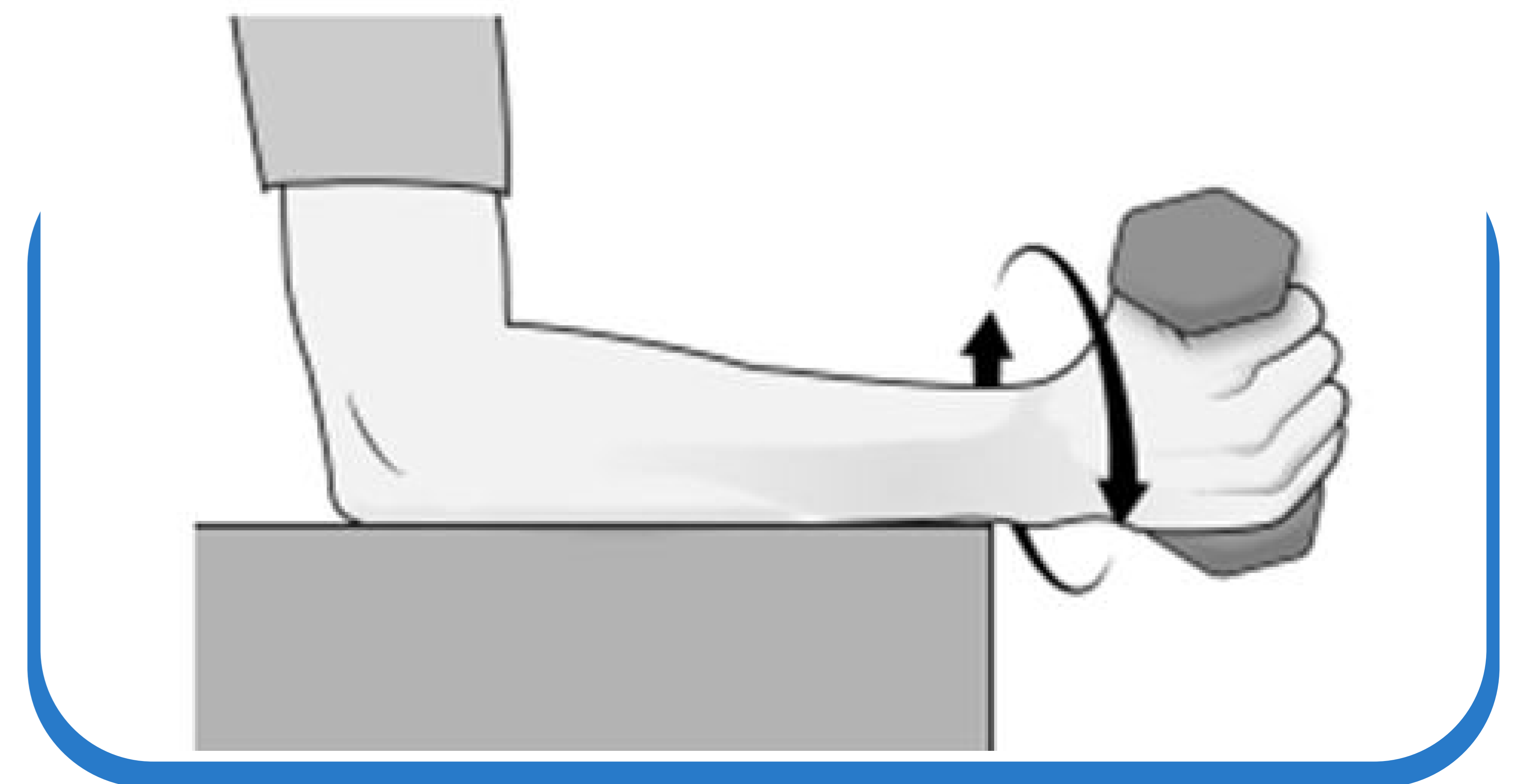
(3) Fully straighten your elbow and lift your arm so that it is no longer supported by the table.

Step-by-step directions to be followed for each stage • Begin with palm facing the side. Slowly turn the palm facing up. • Slowly return to the start position, then slowly turn the palm down. • Slowly return to starting position. This completes one repetition. • Begin without using a weight and increase the repetitions until you can complete 30.

• When you can perform 30 repetitions on 2 consecutive days without increasing pain, begin performing the exercise using a 1 lb. weight.

Repetitions: 30 reps, 1x a day. Days per week 5 to 7.

Tip: When using a dumbbell, try to let the weight pull your forearm in either direction as far as possible.



DAY 30

Repeat Recovery Exercises 1-5 at the same frequency with a 3 lb. weight. Add the following exercises to your routine.

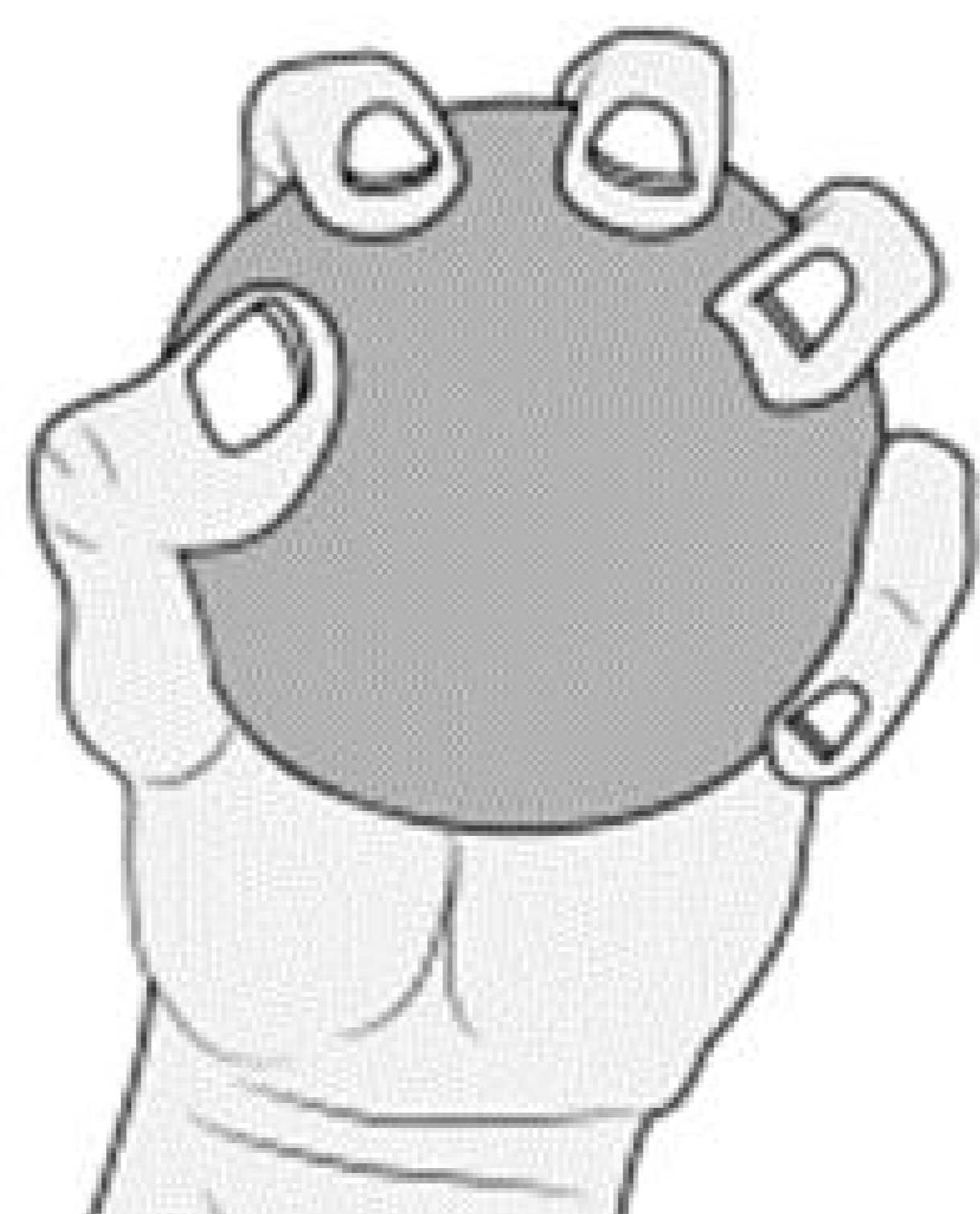
6. Stress Ball Squeeze

Equipment needed: Rubber stress ball

Instructions:

This exercise should be performed after completing the above staged strengthening exercises. Your arm and elbow position for this exercise should match the stage you are completing.

Repetitions: 10 reps, 1x day. Days per week 5 to 7.



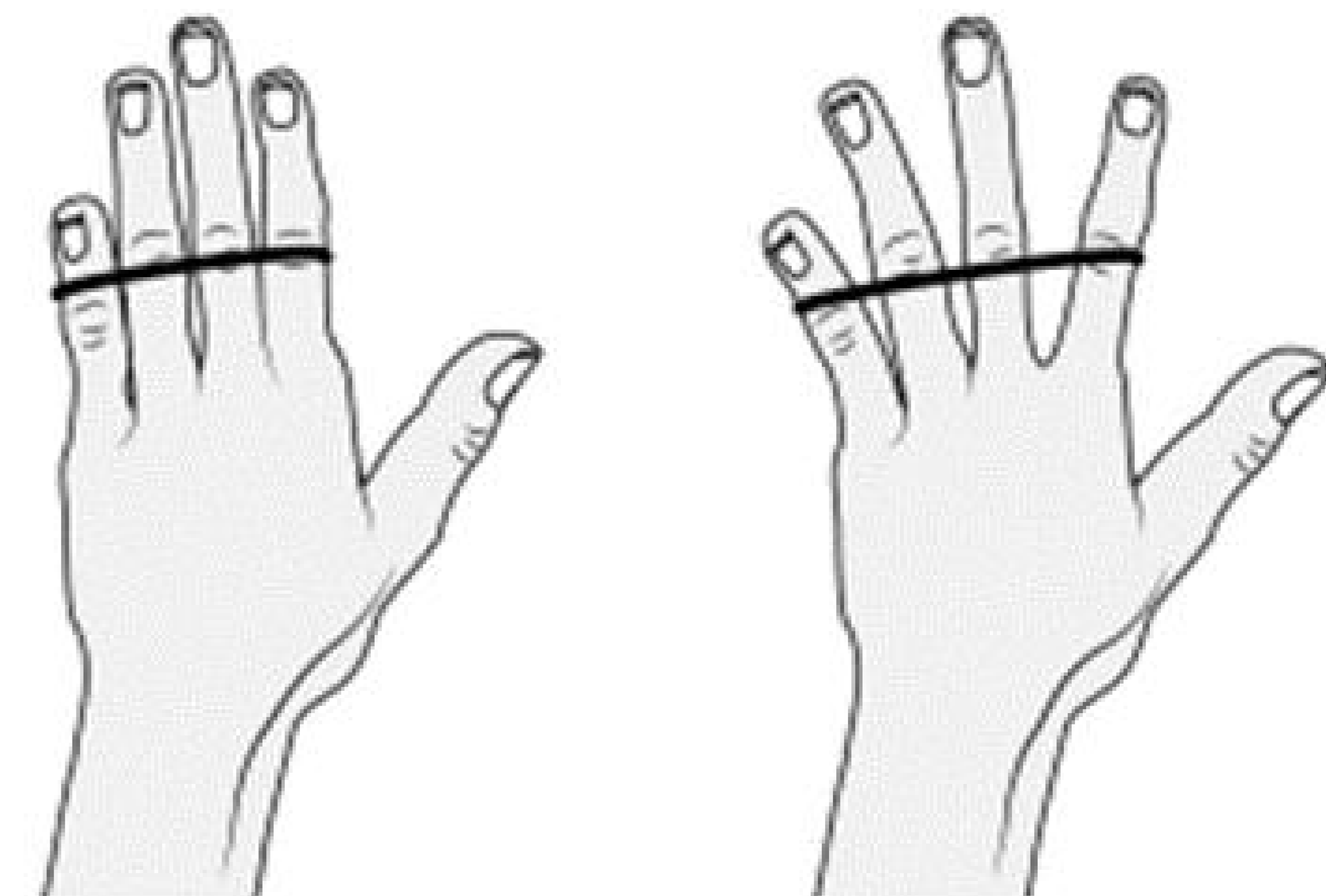
7. Finger Stretch

Equipment needed: Elastic band

Instructions:

This exercise should be performed after completing the above staged strengthening exercises. Your arm and elbow position for this exercise should match the stage you are completing.

Repetitions: 10 reps, 1x day. Days per week 5 to 7.



STEP 3

Vitamin C And Tendon Repair

Vitamin C = Collagen = Healthy Tendons!

Vitamin C is key because our bodies can't synthesize or store it and it's essential for the production of new collagen. And that's critical because collagen protein is what tendons are made of (90% or more.) New collagen is necessary to repair and replace the damaged tendon tissues that are causing us pain when we have Tennis Elbow.

Given enough basic protein building blocks, (known as amino acids) and Vitamin C – our bodies can synthesize new collagen. Now, you might be tempted to think “I get all the Vitamin C I need from my diet”. But do you? How many fresh,

raw, vital fruits and vegetables are you eating every day? How much Vitamin C does the human body need every day (keep in mind that it's a water-soluble vitamin that the body can neither store nor create)?

For most people, an extra 600mg of Vitamin C per day can expedite the recovery of a wounded extensor tendon. In addition to helping with collagen production, Vitamin C can improve heart health, enhance brain function, and boost immunity.

Ascorbic Acid is the cheapest form of Vitamin C, but we recommend Calcium Ascorbate which is easier to digest and has a Ph of 7.0, the same as water. **NutraBiotic** is our brand of choice. Available on Amazon.

Typically, tendinosis is a stretch or micro-tear of the tendon. Occasionally, the tendon actually tears away from the bone altogether. Yikes! Hope that's not YOU. If that's your diagnosis and a surgical procedure is required to reattach the tendon to the bone, additional Vitamin D from NutraBiotic can help tendon-to-bone healing.

Best Wishes From TENEX

Now that you know The Shocking Truth about Tennis Elbow, we sincerely hope this Plan puts you on a road to Recovery that is fully supported by your TENEX ULTRA Shock Absorber.

Visit Our Website www.tenexpainsolutions.com