

FOREARM
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**PROTECTION
PROGRAM**



**ATHLETIC
PERFORMANCE PHYSICAL THERAPY
POTENTIAL**



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The drills, loading prescriptions, and educational content in this Forearm Protection Program are provided for general informational purposes only. They do not constitute medical advice, nor do they replace an individualized rehabilitation plan or an in person evaluation by a qualified healthcare professional.

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For questions about the program or information about individualized rehabilitation or performance services, email athleticpotentialpt@gmail.com.

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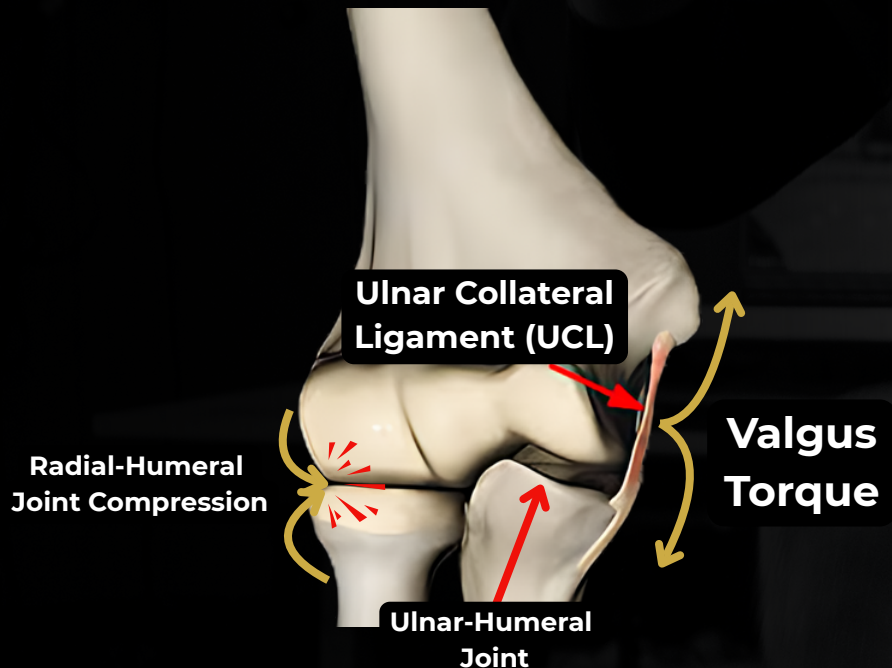
- 1 EVERYTHING TO KNOW ABOUT YOUR FOREARM AND YOUR UCL
- 2 THE PROGRAM
- 3 RECOMMENDED EQUIPMENT
- 4 HOW TO IMPLEMENT THE PROGRAM WITH YOUR THROWING ROUTINE



Why Your Forearm Matters More Than You Think

Every time you reach maximum-external rotation (MER), or layback as commonly referred, on a throw, the elbow is hit with valgus torque that tracks almost one-for-one with fastball velocity; about 90–110 Nm in many high-level pitchers.

The ulnar collateral ligament (UCL) alone can withstand only ~34–41 Nm, and the radial-humeral joint can absorb another ~30–40 Nm, leaving a big “torque gap” that must be absorbed by the muscle–tendon units (MTUs) crossing the medial elbow. If those MTUs fatigue, joint-space gapping widens, and UCL strain spikes raising injury odds up to six-fold.



QUICK ANATOMY LESSON

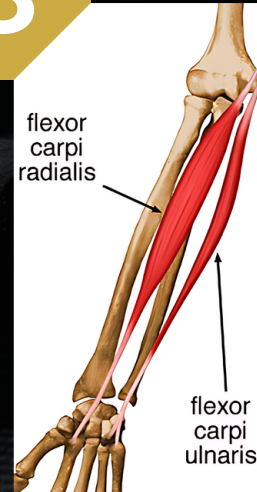
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Fingertip Flexor

Flexor Digitorum Profundus (FDP) overlays the distal attachment of the UCL on the sublime tubercle and is the only forearm muscle positioned to protect against distal tears.

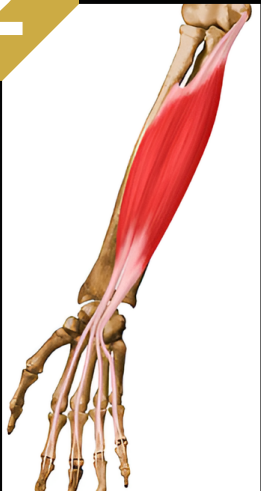
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Radial and Ulnar Deviators

Flexor Carpi Ulnaris and Flexor Carpi Radialis (FCU/FCR) primarily stabilize the elbow when the wrist is in more extreme positions of supination or pronation seen during offspeed and breaking ball pitches.

2



Midfinger Flexor

Flexor Digitorum Superficialis (FDS) sits atop and covers the entire footprint of the UCL. It's the largest contributor to producing varus torque (the force that opposes valgus) and is frequently injured alongside the UCL.

4



Pronator

Pronator Teres (PT) provides the least direct assistance to offloading valgus torque, but does play an important overall role in elbow stability.

Why Most 'Forearm Strength' Routines **MISS THE MARK**

Most conventional forearm exercises (wrist curls, rice bucket, carries) are done with a closed fist, which creates two key problems. First, the thumb and small hand muscles produce >50% of the force, reducing meaningful activation of the finger flexors. Second, these muscles stay in a shortened position, but during the throw they're in a lengthened, straight finger position when absorbing valgus torque during throwing.

While those traditional exercises can still stimulate forearm muscle endurance and hypertrophy, they rarely deliver the type of adaptation needed to actually protect the elbow. They fail to train it to handle the demands that matter most - the **rapid, high-force challenge preventing valgus load stretching the UCL at max external rotation.**

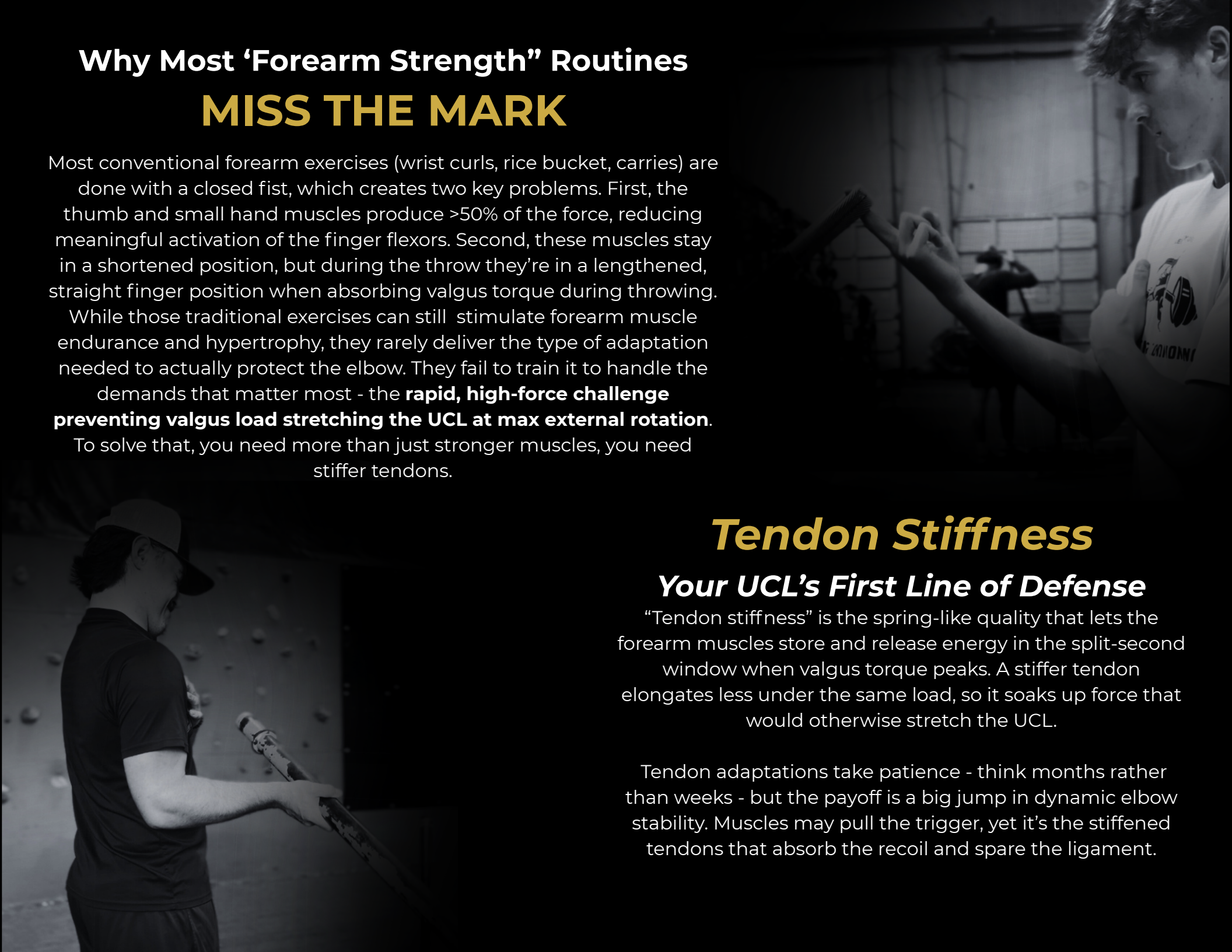
To solve that, you need more than just stronger muscles, you need stiffer tendons.

Tendon Stiffness

Your UCL's First Line of Defense

"Tendon stiffness" is the spring-like quality that lets the forearm muscles store and release energy in the split-second window when valgus torque peaks. A stiffer tendon elongates less under the same load, so it soaks up force that would otherwise stretch the UCL.

Tendon adaptations take patience - think months rather than weeks - but the payoff is a big jump in dynamic elbow stability. Muscles may pull the trigger, yet it's the stiffened tendons that absorb the recoil and spare the ligament.



THE PROGRAMS

TENDON HEALTH PROTOCOL

Choose any of the following options in each category.

Mix and match based on equipment availability.

Variation	Flexor Loading	Deviation Loading	Pronator Loading	Implementation
A	Banded Dowel Series	Manual UD/RD Holds Manual Pro/Sup Holds		All exercises are 1-3 reps of 30-45s holds. Choose one flexor, one deviator, and one pronator exercise. Intensity of the exercise should be between 20-40% of maximal effort. Significant fatigue should not be experienced and minimal post-exercise soreness should incur in the following 24-48 hours. These exercises may be completed up to twice daily, separated by 6-8 hours.
B	2-Finger 90/90 Holds	4-Way Banded Holds		
C		Kettlebell ISO Series		
D	Hook Grip KB Holds	Long Bat UD/RD Holds Long Bat Pro/Sup Holds		

Why Low-Intensity Long Holds?

After an injury or high-intensity outing, micro-injuries or inflammation can accumulate within the tendon. In response, the tendon develops stress shielding: intact fibers absorb most of the load, while damaged areas remain under-stimulated and fail to remodel. Sustained low-intensity holds (30–45 seconds) trigger tendon creep, a gradual relaxation of the healthy fibers that allows load to shift onto the injured zones. This controlled strain delivers the mechanical signal needed to realign collagen and promote healing. For pitchers, it's a low-fatigue strategy that supports in-season recovery, maintains tendon quality, and reinforces the durability needed for high-output throwing days; or acts as a starting point for the rehab of acute or chronic tendinopathies.

THE PROGRAMS

TENDON STIFFNESS PROTOCOL

Choose any of the following options in each category.

Mix and match based on equipment availability.

Variation	Flexor Loading	Deviation Loading	Pronator Loading	Implementation
A	Tension Strap Overcoming_ <u>ISO Series</u>			All exercise positions are completed for 2-4 reps of 80-90% maximum effort, with each rep held for 6-8s. Rest breaks = 15-20s between reps. Significant fatigue and normal muscular soreness may occur 24-48 hours post completion.
B	Barbell Overcoming ISOs			
C	<u>Rock Climbing_(or Bar)_Assisted Finger Holds</u>	<u>KB UD/RD Holds</u> <u>KB Pro/Sup Holds</u> (Heavy).		
D	<u>PlyoCrush Overcoming ISOs</u>	<u>Dowel Manual Overcoming ISOs</u>		

How To Get The Most Out Of High-Intensity, Short Holds?

This is the bread and butter of protecting your elbow, high intensity contractions stimulate the tendon stiffness quality directly responsible for offloading valgus torque. Rest breaks here should be used generously, if you feel as if the accumulated fatigue is prohibiting you from giving a true 80-90% each rep, then take as much rest as needed.

Do not complete a Stiffness Protocol if you are expected to throw at 90+% Intensity within the following 48hours.

THE PROGRAMS

TENDON RFD PROTOCOL

Choose any of the following options in each category.

Mix and match based on equipment availability.

Variation	Flexor Loading	Deviation Loading	Pronator Loading	Implementation
A	<u>Banded Impulse Overcoming ISO Series</u>			All exercises are completed for 12-20 Reps. For isometric variations, the intent is to ramp intensity of contraction from Zero to 100% effort, as fast as possible. For plyometric/drop catch/reactive variations, the goal is to drop into and out of the position (or resist it) and return to the starting point as explosively as possible.
B	<u>KB Drop Catch Series</u>			
C	<u>Band Reactive Impulse ISOs</u>	<u>3-Way Forearm Impulses</u>		
D	<u>Fingertip Plyo Pushups</u>	<u>Dowel Manual RFD ISOs</u>		

Why Does RFD Training Matter?

You could have all the strength in the world, but if you can't apply it in a meaningful time frame it won't help you any. Rate of Force Development (RFD) is the speed at which a muscle-tendon unit reaches high force. In the elbow, valgus torque peaks in $\approx 30-50$ ms; if the finger-flexor complex (FDS/FDP/FCU) can't generate protective force that quickly, even the stiffest tendon won't have time to offload the UCL. Our forearm program therefore layers in high-intent, explosive, short-duration contractions. These drills train the nervous system to recruit motor units faster, improve tendon "pre-tension" at ball release, and cut the delay between muscle activation and peak force. Combined with high-load stiffness work and long-hold recovery sets, RFD training closes the final gap: it teaches the forearm to activate instantly, matching the millisecond timeline that actually protects the ligament during live throwing.

HOW TO IMPLEMENT THE PROGRAM

In order to get the most out of the program, it's essential to evaluate where you currently stand in your training year. Most athletes will fall into one of three subgroups:

1. Healthy, Off-Season
2. Healthy, In-Season
3. Injured/Rehab Athlete

Once you've determined where you stand, it's important to understand how to appropriately add this into your training. To do that, we need to discuss the order of operations for designing a successful **training day and training week.**

ORGANIZE YOUR TRAINING DAY

The key to successful implementation is sequencing.

Use this simple "Order of Operations" for any training day:

1. **Movement Prep / Warm-Up**

- Increase temperature and readiness
- Light forearm mobility and activation (e.g., pronation/supination, wrist flexion/extension)

2. **Skill / Throwing Work**

- Perform throwing or skill sessions before heavy strength or tendon work.

3. **Forearm Protection Program**

- Generally, this can come before you lift, especially if you have a grip intensive lift that may leave you feeling fatigued. If building up the forearm is important to you, it should be the first thing you tackle after throwing.

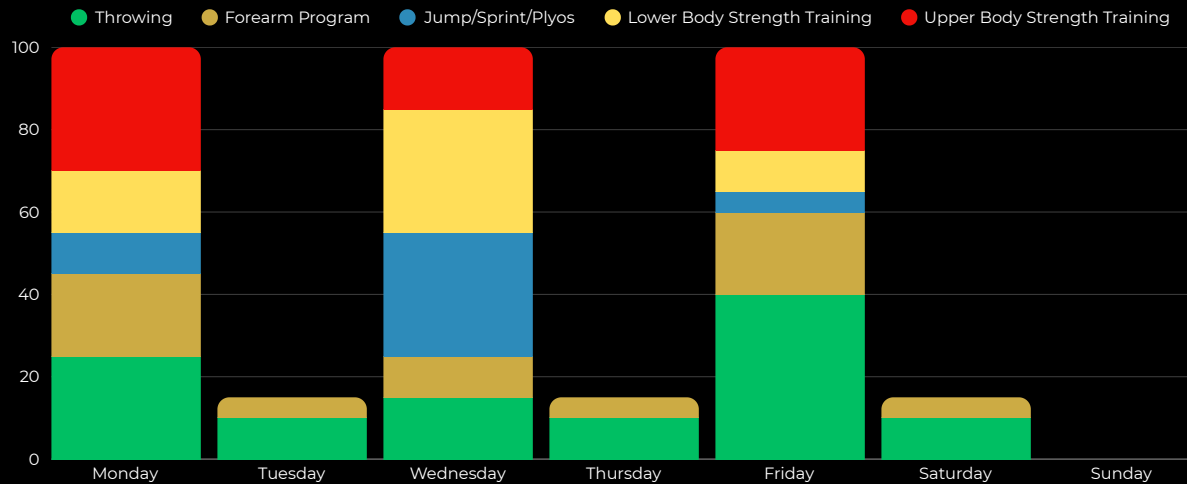
4. **Strength & Power Training**

- Include your normal lifts and global strength development.

5. **Recovery & Regeneration**

- Finish with light mobility, soft tissue work, or BFR flushing as needed.

THE TRAINING WEEK



THIS VISUAL SHOWS HOW ALLOCATION OF RELATIVE TRAINING VOLUME AND INTENSITY UNULATE THROUGHOUT A WELL DESIGNED TRAINING WEEK.

- MONDAY AND FRIDAY REPRESENT HIGH-DEMAND THROWING, FOREARM AND UPPER-BODY STRENGTH DAYS, ANCHORING THE WEEK WITH PEAK STRESS.
- WEDNESDAY SERVES AS A MODERATE THROWING AND HIGH LOWER-BODY OUTPUT DAY.
- TUESDAY, THURSDAY, AND SATURDAY ARE RECOVERY-FOCUSED WITH LIGHTER, LOW-INTENT WORK TO PROMOTE TISSUE ADAPTATION.

THIS WAVE-LIKE STRUCTURE BALANCES STRESS AND RECOVERY, ALLOWING THE ARM TO ABSORB HIGH-INTENSITY WORKLOADS WITHOUT EXCEEDING ITS CAPACITY.

Learning to organize your training week is about understanding how to manage stress across multiple systems rather than stacking everything on the same day. Different tissues, joints, and energy systems respond best when their loading and recovery cycles are staggered. A well-planned week ensures that as one system absorbs higher stress, others are in a lower-load state, maintaining overall balance. This structure builds momentum, allowing adaptation to occur without overtraining or losing quality. The goal is not to do more work but to distribute the right work at the right time.

SAMPLE SCHEDULES

HEALTHY OFF-SEASON

This schedule is intended for athletes with no medial elbow issues (flexor or UCL) and assumes a four-month off-season outside of competition. If you're running an off-season throwing program—velocity work, bullpens, pitch design, or similar—we'll specify how to align these training days with your high-intensity throwing so stress is sequenced appropriately.

Day (Throwing Intensity)	Day 1 (Med-High Throwing)	Day 2 (Low Throwing)	Day 3 (Medium Throwing)	Day 4 (Low Throwing)	Day 5 (Med-High Throwing)	Day 6 (Low Throwing)	Day 7 (OFF)
Weeks 1-2	Health	Health	Stiffness	Health	Health	Off	Off
Weeks 3-4	Stiffness	Health	Off	Health	Stiffness	Off	Off
Weeks 5-6	Stiffness	Health	Health	Health	Stiffness	Health	Off
Weeks 7-8	Stiffness	Health	Stiffness	Off	Stiffness	Health	Off
Weeks 9-10	Stiffness	Health	RFD	Off	Stiffness	Health	Off
Weeks 11-12	RFD	Health	Stiffness	Off	RFD	Health	Off
Weeks 13-14	RFD	Health	RFD	Health	RFD	Health	Off
Weeks 15-16	Stiffness	Health	RFD	Health	Stiffness	Health	Off



Your Off-Season Training Plan may look different than what is structured above. Please modify as needed. In general, your usage of Stiffness and RFD days should be on the same day as Medium-High Intent Throwing sessions (post-throw), assuming you are not doing 2 high/medium sessions back to back.

SAMPLE SCHEDULES

HEALTHY IN-SEASON

During the season, training must support performance, not compete with it. The goal is to maintain tendon health, strength, and explosiveness while managing fatigue. Because throwing schedules vary by role, there's no one-size-fits-all plan — instead, use the following rules and principles to guide your week.

CORE WEEKLY TARGETS

3× HEALTH SESSIONS – MAINTAIN TENDON INTEGRITY, BLOOD FLOW, AND RECOVERY CAPACITY

1× STIFFNESS SESSION – SUSTAIN PROTECTIVE LOAD-BEARING QUALITIES IN THE FOREARM FLEXORS

1× RFD SESSION – PRESERVE RATE OF FORCE DEVELOPMENT AND REACTIVITY UNDER LOWER VOLUME

STARTING PITCHERS

ANCHOR YOUR WEEK AROUND YOUR START DAY.

- 0-24hrs after a start → prioritize Stiffness work
- Midweek Bullpen or 3-4 days before next start → perform RFD
- Days Between → Health Work
- Day Before Start → Off or Light Health

RELIEF PITCHERS

BASE YOUR SCHEDULE ON USAGE.

- After outing + 2 days off guaranteed: Stiffness
- After outing + unsure of next 48 hrs: Health
- After outing + 1 day off guaranteed: RFD
- No appearance in 3+ days: Add extra Stiffness/RFD
- Avoid: Forearm work on potential game days or back-to-back relief windows

POSITION PLAYERS

EMPHASIS IS MAINTENANCE

- Perform Health work on mid-week practice and most game days.
- Add Stiffness or RFD once per week, ideally when guaranteed an off day the next day.
- Avoid doing additional forearm work before long throwing sessions or pregame infield

SAMPLE SCHEDULES

INJURED/REHAB ATHLETE



This schedule is intended to offer an **example** for athletes who may be going through an extended rehab process after a strain, sprain, or surgical procedure. **This program is not intended to replace any medical guidance and it is highly advised to seek assistance in implementing this program from a local health provider who is capable of evaluating your current needs and capacities. DO NOT IMPLEMENT THIS PROGRAM BLINDLY AND WITHOUT PROPER MEDICAL GUIDANCE.**

POST-OP CAUTION ZONE

Day	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Weeks 1-2	Health	Off	Health	Off	Health	Off	Off
Weeks 3-4	Health	Health	Health	Off	Health	Health	Off
Weeks 5-6	Health	Off	Stiffness	Off	Health	Health	Off
Weeks 7-8	Stiffness	Health	Off	Health	Stiffness	Off	Off
Weeks 9-10	Stiffness	Health	Health	Health	Stiffness	Health	Off
Weeks 11-12	Stiffness	Health	Stiffness	Off	Stiffness	Health	Off
Weeks 13-14	Stiffness	Health	RFD	Off	Stiffness	Health	Off
Weeks 15-16	RFD	Health	Stiffness	Off	RFD	Health	Off
Weeks 17-18	RFD	Health	RFD	Health	RFD	Health	Off
Weeks 19-20	Stiffness	Health	RFD	Health	Stiffness	Health	Off



NOT ALL HEALTH OR STIFFNESS EXERCISES ARE APPROPRIATE IN THE EARLY POST-OPERATIVE PERIOD AFTER A FLEXOR TENDON OR UCL PROCEDURE. **USE EXTREME CAUTION AND SEEK MEDICAL GUIDANCE BEFORE ATTEMPTING ANY DRILL DURING POST-OP REHAB. DO NOT PERFORM ANY EXERCISE WITHOUT FIRST CONSULTING YOUR REHAB PROVIDER TO CONFIRM IT IS APPROPRIATE FOR YOUR CURRENT STAGE OF RECOVERY.**

THANK YOU!

Thank you for taking the time to go through this program and invest in the health and performance of your arm. The fact that you've made it this far shows you care about longevity and performance — not just for this season, but for your entire career. Consistency with this work will separate you from the athletes who only train when something hurts.

WORK WITH ME DIRECTLY

If you're ready to take your performance and arm health to the next level, you can work with me and my team directly, either in-person or through a remote plan.

➔ Email me at Dylan.newcomer@athleticpotentialpt.com

Whether you're rehabbing, returning to throw, or building resilience for next season, we'll create a plan built specifically for your goals.

DYLAN NEWCOMER



I am the Director of Rehab at Driveline Baseball and the founder of Athletic Potential PT, a clinic located inside Driveline that serves both Driveline athletes and the wider Seattle-Tacoma area.

My mission is simple. Help athletes stay healthy, compete at their best, and enjoy the game they love for as long as possible.