Simplifying Performance Rehab Part 7: Sport-Specific Progressions

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medbridge

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Learning Objectives

- Select upper-extremity strength training progressions for an individual in phase 4 of tissue healing to support return to leisure sports and active recreation
- Classify upper-extremity power exercises appropriate for an athlete in phase 4 of tissue healing following shoulder or elbow injury
- Identify key acute and chronic workload variables required to monitor total stress during a baseball pitcher’s return-to-throw progression
- Order the progressive phases of a return-to-throw protocol following UCL reconstruction to safely restore structured physical activity

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Chapter 1

Strength and Power Programming

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Chapter Content

- Strength programming for a baseball pitcher in phase 4 of healing post UCL repair
- Upper-extremity power programming for a baseball pitcher in phase 4 of healing post UCL repair

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Surgical: Ulnar Collateral Ligament (UCL)

- 17-year-old male, junior
  - Baseball pitcher
  - Committed to pitch in junior college
  - Plays outfield when not pitching
  - Does not participate in any other sports
  - Underwent UCL repair with internal brace



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Player Goals

- Pitch in high school senior season
- Pitch in high-level (DI) college



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Phase 4: Advanced Phase

- Goals
  - Advanced strength, power, and endurance training
  - Introduction to the interval throwing program
  - Gradual return to throwing

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Phase 4: Advanced Phase (cont.)

Progression Criteria

- Criteria to begin long toss program
  - Full nonpainful ROM
  - Strength measures
  - Satisfactory clinical exam
  - Satisfactory function tests
    - Prone ball drop, one-arm ball throws, single-leg step downs, and prone plank

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Movement Readiness

Range of Motion			
Test	**Left**	**Right**	**Symmetry**
Shoulder flexion	155	165	10
Shoulder extension	60	63	3
Shoulder external rotation	133	110	23
Shoulder internal rotation	47	66	19
Shoulder total arc	180	176	4
Cervical rotation	80	80	0
Cervical flexion	100	Not collected	
Cervical extension	100	Not collected	
Thorax rotation	48	63	15
Lumbar rotation	54	58	4
Hip flexed external rotation	43	40	3
Hip flexed internal rotation	38	30	8
Hip flexed total arc	81	70	11
Hip extended external rotation	45	42	3
Hip extended internal rotation	35	28	7
Hip extended total arc	80	70	10
Hip flexion	120	120	0
Hip extension (Thomas test)	90	90	0
Knee flexion	140	140	0
Knee extension	5	5	0
Tibial internal rotation	20	20	0
Tibial external rotation	20	20	0
Ankle dorsiflexion	42	35	7

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Strength Assessment

Functional Movement Screen			
Test		**Raw Score**	**Final Score**
Deep squat		1	1
Hurdle step	**Left**	2	2
	Right	2	
Inline lunge	**Left**	2	2
	Right	2	
Shoulder mobility	**Left +/−**	2	1
	Right +/−	1	
Active straight-leg raise	**Left**	3	3
	Right	3	
Trunk stability push-up	**+/−**	2	2
Rotary stability	**Left**	2	2
+/−	**Right**	2	
Total Score		**13**	

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Lower-Body Strength

Bilateral Lower-Body Push	Unilateral Lower-Body Push	Bilateral Lower-Body Pull	Unilateral Lower-Body Pull	Carries
Goblet squat	Double-arm split squat	Stick deadlift pattern	Banded single-leg RDL	Sidelying arm bar
Unilateral kettlebell rack squat	Goblet hold split squat	Unilateral hold RDL	Single-arm single-leg RDL	Turkish get-up
Double kettlebell rack squat	Anterior rack forward lunge	Double kettlebell RDL	Single-arm single-leg RDL	6-position carry
Barbell front squat	Barbell forward lunge	Straight-bar RDL	Double-arm single-leg RDL	Suitcase carry
Barbell back squat	Barbell reverse lunge	Trap-bar RDL	Barbell single-leg RDL	Farmer's walk

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Upper-Body Strength

Bilateral Vertical Push	Unilateral Vertical Push	Bilateral Horizontal Push	Unilateral Horizontal Push	Bilateral Vertical Pull	Unilateral Vertical Pull	Bilateral Horizontal Pull	Unilateral Horizontal Pull
Incline stability hold	One-arm incline stability hold	High plank	Supine arm bar	Supine banded Superman	Supine shoulder packing	Supine shoulder packing	Supine shoulder packing
Alternating single-arm incline bench press	Alternating single-arm incline bench press	Push-up on box	Alternating single-arm bench press	Straight-arm hang	Half-kneeling arm vertical shoulder packing	Feet-elevated straight-arm TRX shoulder packing	Single-arm bench straight-arm shoulder packing
Alternating single-arm incline bench press	Half-kneeling landmine press	Alternating single-arm bench press	Alternating single-arm bench press	Flexed-arm hang	Half-kneeling single-arm pulldown hold	Feet-elevated flexed-arm TRX hold	Single-arm bench row hold
Dumbbell incline bench press	Split-stance landmine press	Dumbbell bench press	Alternating single-arm bench press	Eccentric pull-ups	Half-kneeling single-arm pulldowns	Feet-elevated flexed-arm TRX	Single-arm bench row
Barbell incline bench	Standing rotational landmine press	Barbell bench	Dumbbell single-arm bench	Weighted pull-ups	Half-kneeling single-arm cable pulldowns	Weighted TRX row	Single-arm bench row

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Strength: Day 1 Lower-Body Push / Upper-Body Pull

Strength: Lower-Body Push / Upper-Body Pull		
Exercise	**Sets**	**Reps**
Bilateral lower-body push	3	5
Lower-body corrective	3	5
Lower-body corrective	3	5
Bilateral upper-body horizontal pull	3	5
Upper-body corrective	3	5
Upper-body corrective	3	5
Unilateral lower-body push	3	5
Unilateral upper-body horizontal pull	3	5
Stability	3	5
Carry	3	30 seconds



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Strength: Day 1 Lower-Body Push / Upper-Body Pull (cont.)

Strength: Lower-Body Push / Upper-Body Pull		
Exercise	**Sets**	**Reps**
Barbell forward lunge	3	5
Brettzel	3	5
Half-kneeling kettlebell weight shift	3	5
Feet-elevated TRX row	3	5
Rib roll with pec stretch	3	5
Floor angels	3	5
Suitcase hold lateral squat	3	5
Half-kneeling single-arm pulldown	3	5
Coppenhagen hold	3	20 seconds
Farmer's walk	3	30 seconds



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Strength: Day 2 Lower-Body Pull / Upper-Body Push

Strength: Lower-Body Pull / Upper-Body Push		
Exercise	**Sets**	**Reps**
Bilateral lower-body pull	3	5
Lower-body corrective	3	5
Lower-body corrective	3	5
Bilateral upper-body horizontal push	3	5
Upper-body corrective	3	5
Upper-body corrective	3	5
Unilateral lower-body pull	3	5
Unilateral upper-body horizontal push	3	5
Stability	3	5
Carry	3	30 seconds



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Strength: Day 2 Lower-Body Pull / Upper Body-Push (cont.)

Strength: Lower-Body Pull / Upper-Body Push		
Exercise	**Sets**	**Reps**
Straight-bar RDL	3	5
Targeted cat/camel	3	5
Lumbar locked bridge	3	5
Alternating single-arm bench press	3	5
Lat stretch	3	5
Downward dog	3	5
Double-arm single-leg RDL	3	5
Split-stance landmine press	3	5
Nordic hamstrings	3	5
Suitcase carry	3	30 seconds each arm



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Strength: Day 3 Total Body

Strength: Total Body		
Exercise	**Sets**	**Reps**
Unilateral lower-body push	3	5
Lower-body corrective	3	5
Lower-body corrective	3	5
Unilateral upper-body horizontal pull	3	5
Upper body-corrective	3	5
Upper body-corrective	3	5
Unilateral lower-body pull	3	5
Unilateral upper-body vertical push	3	5
Stability	3	5
Carry	3	30 seconds



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Strength: Day 3 Total Body (cont.)

Strength: Total Body		
Exercise	**Sets**	**Reps**
Single-arm Bulgarian split squat	3	5
Brettzel	3	5
Half-kneeling kettlebell weight shift	3	5
Single-arm bench row	3	5
Rib roll with pec stretch	3	5
Floor angels	3	5
Single-arm single-leg RDL	3	5
Single-arm incline bench	3	5
Front plank	3	30 seconds
Unilateral rack slow marches	3	30 seconds each side



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Power Programming

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Power

Power		
Exercise	**Sets**	**Reps**
Barbell jump shrug	4	4
Half-kneeling med ball scoop toss	4	4 reps each side

Power		
Exercise	**Sets**	**Reps**
Half-kneeling decel catches	4	3 each side
Base position med ball scoop toss	4	4 reps each side

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Chapter Summary

- Strength programming for a baseball pitcher in phase 4 of healing post UCL repair
- Upper-extremity power programming for a baseball pitcher in phase 4 of healing post UCL repair

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Chapter 2

Sport-Specific Return: Return to Throwing

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Chapter Content

- Outline what a typical week of throwing for a healthy high school pitcher looks like
- Identify what is needed before a pitcher can start throwing
- Provide the framework for return to throw post UCL repair

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Typical Week of a High School Starting Pitcher

- Two days of high intent
  - One higher volume
- Throws six days a week
- Low, moderate, and high intent days

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	100%	50%–60%	80%–90%	100%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 10–12 Bullpen warmup throws	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 10–12 Bullpen warmup throws	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 mound warmup			8 mound warmup		
90′ × 20 60′ × 10 grips	Game 1–20	60′ × 20	90′ × 20 60′ × 10 grips	Game 1–20	60′ × 20	
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
Isometrics	**Arm Restoration**	**Arm Development**	**Isometrics**	**Arm Restoration**	**Arm Development**	

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What Is the Minimum Needed to Throw?

- **No pain with ANY testing**
- Shoulder ROM
  - Shoulder flexion: >160° and <5° asymmetry from nonthrowing
  - Total arc: 160°–180° degrees and <5° asymmetry from nonthrowing
  - Extension: 60°
  - Thorax rotation: 60°
- Shoulder strength
  - ER: IR ratio: 0.8–1.0
  - Total strength <10% asymmetry
- FMS
  - No 0s in any pattern
- Grip strength
  - <10% asymmetry

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What Is the Minimum Needed to Throw? (cont.)

- Lower-Quarter Y-Balance Test
  - <6 cm asymmetry anterior reach
  - <8 cm asymmetry posterior reach
- Upper-Quarter Y-Balance Test
  - <6 cm asymmetry any reach direction
- Closed Kinetic Chain Upper-Extremity Stability Test
  - >21 touches
- Introduction to strength program
  - Pain-free
- Introduction to upper-body plyo/patterning dynamic stability
  - Pain-free

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Why Is Mobility Important?

- Shoulder
  - Shoulder ER → 7% increase for each degree
  - Shoulder Flexion → 2.8× greater risk with a 5-degree difference
- Hip
  - Predictive of lower back and abdominal injuries in pitchers
- Ankle
  - Significant risk for shoulder and elbow injuries

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What Does Week 1 Look Like?

Week 1

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
50%–60%		50%–60%		50%–60%		
5–7 throws 30′–45′		5–7 throws 30′–45′		5–7 throws 30′–45′		
45′ × 20		45′ × 15		45′ × 20		
		Rest 3–5 min		Rest 3–5 min		
		5–7 throws 30′–45′		5–7 throws 30′–45′		
		45′ × 15		45′ × 20		
High Intent Day	**Low Intent Day**	**Moderate Intent Day**	**Low Intent Day**	**High Intent Day**	**Moderate Intent Day**	

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How Do We Progress?

- Key principals
  - Volume OR intensity
  - Volume before intensity
  - After 90 feet: only two high intent days a week
  - Progress to max long toss before bullpens
  - Deload at major progressions
    - Bullpens
    - Lives
    - Games

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Week 5 Progression

Week 5

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
50%–60%		50%–60%		60%–75%	50%–60%	
5–7 throws 45′–60′		5–7 throws 45′–60′		5–7 throws 45′–60′	5–7 throws 45′–60′	
60′ × 20		60′ × 20		60′ × 20	60′ × 20	
Rest 3–5 min		Rest 3–5 min		Rest 3–5 min		
5–7 throws 45′–60′		5–7 throws 45′–60′		5–7 throws 45′–75′		
60′ × 20		60′ × 20		75′ × 20		
Rest 3–5 min		Rest 3–5 min		Rest 3–5 min		
5–7 throws 45′–60′		5–7 throws 45′–60′				
60′ × 15		60′ × 15				
High Intent Day	**Low Intent Day**	**High Intent Day**	**Low Intent Day**	**High Intent Day**	**Moderate Intent Day**	

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Week Before Long Toss

Week 7

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
60%–75%	50%–60%		60%–75%	60%–75%	60%–75%	
5–7 throws 45′–75′	5–7 throws 45′–60′		5–7 throws 45′–75′	5–7 throws 45′–60′	• 5–7 throws 45′–60′ • 5 throws at 90′	
75′ × 20	60′ × 20		75′ × 20	60′ × 20	90′ × 20	
Rest 3–5 min			Rest 3–5 min		Rest 3–5 min	
• 5–7 throws 45′–90′ • 5 throws at 90′			• 5–7 throws 45′–90′ • 5 throws at 90′		• 5–7 throws 45′–90′ • 5 throws at 90′	
90′ × 20			90′ × 20		90′ × 20	
High Intent Day	**Low Intent Day**	**Low Intent Day**	**High Intent Day**	**Low Intent Day**	**High Intent Day**	

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What Do We Need to Start Long Toss?



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What Is the Minimum Needed to Long Toss / Pitch?

- **No pain with ANY testing**
- Shoulder ROM
  - Shoulder flexion: >160° and <5° asymmetry from nonthrowing
  - Total arc: 160°–180° degrees and <5° asymmetry from nonthrowing
  - Extension: 60°
  - Thorax rotation: 60°
- Shoulder strength
  - ER: IR ratio: 0.8–1.0
  - **Total strength <5% asymmetry**
- FMS
  - **No 0s or 1s in any pattern**

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What Is the Minimum Needed to Long Toss / Pitch? (cont.)

- Grip strength
  - **<5% asymmetry**
- Lower-Quarter Y-Balance Test
  - **<4 cm asymmetry anterior reach**
  - **<6 cm asymmetry posterior reach**
- Upper-Quarter Y-Balance Test
  - **<4 cm asymmetry in any reach direction**
- Closed Kinetic Chain Upper-Extremity Stability Test
  - >21 touches
- **Systematic progression of volume AND intensity of throwing**

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What Is Long Tossing?

- 120 feet
  - Experience the same amount of elbow forces as mound throwing

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Acute Effects of High-Intent Throwing

- ROM
  - Shoulder IR decreased significantly
    - Restored in four days
- Strength
  - Shoulder ER decreased significantly
    - Restored in 72 hours

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First Week of Long Toss

Week 10

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
60%–75%	75%–85%	50%–60%	60%–75%	75%–80%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	
90′ × 20 60′ × 5 grips	90′ × 20	60′ × 20	90′ × 20 60′ × 5 grips	90′ × 20	60′ × 20	
Rest 3–5 min			Rest 3–5 min	Rest 3–5 min		
	• 5–7 throws 45′–90′ • 5 throws at 90′			• 5–7 throws 45′–90′ • 5 throws at 90′		
	120′ × 20			120′ × 20		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

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First Week of Bullpen

Week 14

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	75%–85%	50%–60%	80%–90%	80%–85%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 5 pulldowns	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	
	Rest 3–5 min					
	8 bullpen warmup throws					
90′ × 20 60′ × 10 grips	Bullpen 1–20 All fastballs	60′ × 20	90′ × 20 60′ × 10 grips	90′ × 20	60′ × 20	
				Rest 3–5 min		
				• 5–7 throws 45′–90′ • 5 throws at 90′		
				• 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

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Week Before Lives

Week 19

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	1	50%–60%	80%–90%	1	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 bullpen warmup throws			8 bullpen warmup throws		
90′ × 20 60′ × 10 grips	Bullpen 1–20	60′ × 20	90′ × 20 60′ × 10 grips	Bullpen 1–25	60′ × 20	
	Rest 3–5 min			Rest 3–5 min		
	8 bullpen warmup throws			8 bullpen warmup throws		
	Bullpen 1–20			Bullpen 1–20		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

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First Game Week

Week 24

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	100%	50%–60%	80%–90%	100%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 5 pulldowns • 10–12 bullpen warmup throws	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 5 pulldowns	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 mound warmup throws			8 bullpen warmup throws		
90′ × 20 60′ × 10 grips	Game 1–15	60′ × 20	90′ × 20 60′ × 10 grips	Bullpen 1–25	60′ × 20	
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

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Course Summary

- Phase 4 power and strength training focus is increasing load while paying respect to biological healing
- Throwing progressions must progress volume before intensity can progress

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Movement Readiness

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Range of Motion			
Test	**Left**	**Right**	**Symmetry**
Shoulder flexion	155	165	10
Shoulder extension	60	63	3
Shoulder external rotation	133	110	23
Shoulder internal rotation	47	66	19
Shoulder total arc	180	176	4
Cervical rotation	80	80	0
Cervical flexion	100	Not collected	
Cervical extension	100	Not collected	
Thorax rotation	48	63	15
Lumbar rotation	54	58	4
Hip flexed external rotation	43	40	3
Hip flexed internal rotation	38	30	8
Hip flexed total arc	81	70	11
Hip extended external rotation	45	42	3
Hip extended internal rotation	35	28	7
Hip extended total arc	80	70	10
Hip flexion	120	120	0
Hip extension (Thomas test)	90	90	0
Knee flexion	140	140	0
Knee extension	5	5	0
Tibial internal rotation	20	20	0
Tibial external rotation	20	20	0
Ankle dorsiflexion	42	35	7

Lower Body Strength: Full Performance

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Bilateral Lower-Body Push	Unilateral Lower-Body Push	Bilateral Lower-Body Pull	Unilateral Lower-Body Pull	Carries
Goblet squat	Double-arm split squat	Stick deadlift pattern	Banded single-leg RDL	Sidelying arm bar
Unilateral kettlebell rack squat	Goblet hold split squat	Unilateral hold RDL	Single-arm single-leg RDL	Turkish get-up
Double kettlebell rack squat	Anterior rack forward lunge	Double kettlebell RDL	Single-arm single-leg RDL	6-position carry
Barbell front squat	Barbell forward lunge	Straight-bar RDL	Double-arm single-leg RDL	Suitcase carry
Barbell back squat	Barbell reverse lunge	Trap-bar RDL	Barbell single-leg RDL	Farmer's walk

Upper Body Strength Exercises

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Bilateral Vertical Push	Unilateral Vertical Push	Bilateral Horizontal Push	Unilateral Horizontal Push	Bilateral Vertical Pull	Unilateral Vertical Pull	Bilateral Horizontal Pull	Unilateral Horizontal Pull
Incline stability hold	One-arm incline stability hold	High plank	Supine arm bar	Supine banded Superman	Supine shoulder packing	Supine shoulder packing	Supine shoulder packing
Alternating single-arm incline bench press	Alternating single-arm incline bench press	Push-up on box	Alternating single-arm bench press	Straight-arm hang	Half-kneeling arm vertical shoulder packing	Feet-elevated straight-arm TRX shoulder packing	Single-arm bench straight-arm shoulder packing
Alternating single-arm incline bench press	Half-kneeling landmine press	Alternating single-arm bench press	Alternating single-arm bench press	Flexed-arm hang	Half-kneeling single-arm pulldown hold	Feet-elevated flexed-arm TRX hold	Single-arm bench row hold
Dumbbell incline bench press	Split-stance landmine press	Dumbbell bench press	Alternating single-arm bench press	Eccentric pull-ups	Half-kneeling single-arm pulldowns	Feet-elevated flexed-arm TRX	Single-arm bench row
Barbell incline bench	Standing rotational landmine press	Barbell bench	Dumbbell single-arm bench	Weighted pull-ups	Half-kneeling single-arm cable pulldowns	Weighted TRX row	Single-arm bench row

Typical Week of a High School Starting Pitcher

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Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	100%	50%–60%	80%–90%	100%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 10–12 Bullpen warmup throws	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 10–12 Bullpen warmup throws	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 mound warmup			8 mound warmup		
90′ × 20 60′ × 10 grips	Game 1–20	60′ × 20	90′ × 20 60′ × 10 grips	Game 1–20	60′ × 20	
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
				Rest 5–7 min		
				5 mound warmup throws		
				Game 1–20		
Isometrics	**Arm Restoration**	**Arm Development**	**Isometrics**	**Arm Restoration**	**Arm Development**	

What Does Week 1 Look Like?

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Week 1

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
50%–60%		50%–60%		50%–60%		
5–7 throws 30′–45′		5–7 throws 30′–45′		5–7 throws 30′–45′		
45′ × 20		45′ × 15		45′ × 20		
		Rest 3–5 min		Rest 3–5 min		
		5–7 throws 30′–45′		5–7 throws 30′–45′		
		45′ × 15		45′ × 20		
High Intent Day	**Low Intent Day**	**Moderate Intent Day**	**Low Intent Day**	**High Intent Day**	**Moderate Intent Day**	

Week 5 Progression

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Week 5

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
50%–60%		50%–60%		60%–75%	50%–60%	
5–7 throws 45′–60′		5–7 throws 45′–60′		5–7 throws 45′–60′	5–7 throws 45′–60′	
60′ × 20		60′ × 20		60′ × 20	60′ × 20	
Rest 3–5 min		Rest 3–5 min		Rest 3–5 min		
5–7 throws 45′–60′		5–7 throws 45′–60′		5–7 throws 45′–75′		
60′ × 20		60′ × 20		75′ × 20		
Rest 3–5 min		Rest 3–5 min		Rest 3–5 min		
5–7 throws 45′–60′		5–7 throws 45′–60′				
60′ × 15		60′ × 15				
High Intent Day	**Low Intent Day**	**High Intent Day**	**Low Intent Day**	**High Intent Day**	**Moderate Intent Day**	

Week Before Long Toss

Phil Plisky, PT, DSc, ATC, CSCS and Nate Denning, PT, DPT, SCS, CSCS, RSCC

Week 7

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
60%–75%	50%–60%		60%–75%	60%–75%	60%–75%	
5–7 throws 45′–75′	5–7 throws 45′–60′		5–7 throws 45′–75′	5–7 throws 45′–60′	• 5–7 throws 45′–60′ • 5 throws at 90′	
75′ × 20	60′ × 20		75′ × 20	60′ × 20	90′ × 20	
Rest 3–5 min			Rest 3–5 min		Rest 3–5 min	
• 5–7 throws 45′–90′ • 5 throws at 90′			• 5–7 throws 45′–90′ • 5 throws at 90′		• 5–7 throws 45′–90′ • 5 throws at 90′	
90′ × 20			90′ × 20		90′ × 20	
High Intent Day	**Low Intent Day**	**Low Intent Day**	**High Intent Day**	**Low Intent Day**	**High Intent Day**	

First Week of Long Toss

Phil Plisky, PT, DSc, ATC, CSCS and Nate Denning, PT, DPT, SCS, CSCS, RSCC

Week 10

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
60%–75%	75%–85%	50%–60%	60%–75%	75%–80%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	
90′ × 20 60′ × 5 grips	90′ × 20	60′ × 20	90′ × 20 60′ × 5 grips	90′ × 20	60′ × 20	
Rest 3–5 min			Rest 3–5 min	Rest 3–5 min		
	• 5–7 throws 45′–90′ • 5 throws at 90′			• 5–7 throws 45′–90′ • 5 throws at 90′		
	120′ × 20			120′ × 20		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

First Week of Bullpen

Phil Plisky, PT, DSc, ATC, CSCS and Nate Denning, PT, DPT, SCS, CSCS, RSCC

Week 14

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	75%–85%	50%–60%	80%–90%	80%–85%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 5 pulldowns	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′	5–7 throws 45′–60′	
	Rest 3–5 min					
	8 bullpen warmup throws					
90′ × 20 60′ × 10 grips	Bullpen 1–20 All fastballs	60′ × 20	90′ × 20 60′ × 10 grips	90′ × 20	60′ × 20	
				Rest 3–5 min		
				• 5–7 throws 45′–90′ • 5 throws at 90′		
				• 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

Week Before Lives

Phil Plisky, PT, DSc, ATC, CSCS and Nate Denning, PT, DPT, SCS, CSCS, RSCC

Week 19

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	1	50%–60%	80%–90%	1	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 3 throws at 270′ • 5 pulldowns	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 bullpen warmup throws			8 bullpen warmup throws		
90′ × 20 60′ × 10 grips	Bullpen 1–20	60′ × 20	90′ × 20 60′ × 10 grips	Bullpen 1–25	60′ × 20	
	Rest 3–5 min			Rest 3–5 min		
	8 bullpen warmup throws			8 bullpen warmup throws		
	Bullpen 1–20			Bullpen 1–20		
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

First Game Week

Phil Plisky, PT, DSc, ATC, CSCS and Nate Denning, PT, DPT, SCS, CSCS, RSCC

Week 24

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
80%–90%	100%	50%–60%	80%–90%	100%	50%–60%	
5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 5 pulldowns • 10–12 bullpen warmup throws	5–7 throws 45′–60′	5–7 throws 45′–90′	• 5–7 throws 45′–90′ • 5 throws at 90′ • 5 throws at 120′ • 5 throws at 150′ • 3 throws at 180′ • 3 throws at 210′ • 3 throws at 240′ • 5 pulldowns	5–7 throws 45′–60′	
	Rest 3–5 min			Rest 3–5 min		
	8 mound warmup throws			8 bullpen warmup throws		
90′ × 20 60′ × 10 grips	Game 1–15	60′ × 20	90′ × 20 60′ × 10 grips	Bullpen 1–25	60′ × 20	
Moderate Intent Day	**High Intent Day**	**Low Intent Day**	**Moderate Intent Day**	**High Intent Day**	**Low Intent Day**	

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Simplifying Performance Rehab Part 7: Sport-Specific Progressions

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