

INTERVAL THROWING PROGRAM

The objective of this protocol is to provide the athlete with a framework of throwing progression following an injury. These guidelines should not take the place of medical advice and if an athlete requires further assistance they should consult with their surgeon, physician, physical therapist, or athletic trainer.

The frequency of overuse throwing injuries in the youth athlete has continued to increase over recent years (Wilks et al. 2018). Most pitching injuries result from repetitive forces produced during the pitching motion (Dun et al. 2008) but, and increased incidence of these injuries can also include:

1. Overuse in the form of pitching year-round/pitching in multiple leagues
2. Improper pitching mechanics
3. Inadequate rest between seasons
4. Poor physical conditioning

STEP 1: RETURN TO THROWING

BEFORE the athlete can begin the Interval Throwing Program (ITP) it is essential that they have successfully completed the following steps:

1. Full, non-painful ROM
2. Shoulder, elbow, and wrist strength within normal limits, bilaterally (both sides), based on manual muscle testing (by Physician, PT, and/or Athletic Trainer)
3. Satisfactory clinical examination
4. Successful completion of all steps in the rehabilitation process (with PT and/or Athletic Trainer)
5. Satisfactory functional test scores (to be completed with PT and/or Athletic Trainer)

RECOMMENDED REHABILITATION PROGRAM

Monday/Wednesday/Friday	Tuesday/Thursday/Saturday	Sunday
<ul style="list-style-type: none"> • Throwers UE Strengthening Program/Advanced Program • Throwers Stretching • Interval Throwing Program - (may not begin ITP immediately, must be cleared by physician) 	<ul style="list-style-type: none"> • LE Strengthening/Core Stability Program • Cardiovascular Training • Throwers Stretching 	<ul style="list-style-type: none"> • Light ROM and Stretching

STEP 2: INTERVAL THROWING PROGRAM

SEE NEXT PAGE for modified throwing program for skeletally immature individuals.

***Athlete may progress to the next phase if the current phase is completed without pain or stiffness (loss of motion).

Throwing Program Instructions:

1. Perform stretching exercises/warm-up and then proceed with the throwing program.
2. Throw on line, sub maximal, pain free/comfort zone.
3. Pay attention to mechanics.
4. NO pain or stiffness (loss of motion) DURING or AFTER throwing - mechanics should be effortless.
5. Use appropriate rest periods in-between each step and cool down after phase completion.
(Mandatory day of rest between each phase, do not exceed 3 phases per week (may throw every 3rd day if fatigue/soreness persists).
6. Use ice after throwing to decrease the inflammatory response.

<u>WEEK 1</u> <u>30-60 FEET</u>	<u>WEEK 2</u> <u>60-75 FEET</u>	<u>WEEK 3</u> <u>90-105 FEET</u>	<u>WEEK 4</u> <u>105-120 FEET</u>
Phase 1: 1. Warm-up throws (30-45ft distance) 2. 20 throws @ 30ft 3. 15 throws @ 45ft 4. 10 throws @ 30ft	Phase 4: 1. Warm-up throws (30-60ft distance) 2. 10 throws @ 30ft 3. 10 throws @ 45ft 4. 30 throws @ 60ft 5. 10 throws @ 30ft	Phase 7: 1. Warm-up throws (30-90ft distance) 2. 10 throws @ 60ft 3. 15 throws @ 75ft 4. 20 throws @ 90ft 5. 10 throws @ 60ft	Phase 10: 1. Warm-up throws (30-105ft distance) 2. 10 throws @ 60ft 3. 15 throws @ 90ft 4. 20 throws @ 105ft 5. 15 throws @ 60ft
Phase 2: 1. Warm-up throws (30-45ft distance) 2. 15 throws @ 30ft 3. 25 throws @ 45ft 4. 10 throws @ 40ft	Phase 5: 1. Warm-up throws (30-60ft distance) 2. 10 throws @ 45ft 3. 10 throws @ 60ft 4. 20 throws @ 75ft 5. 10 throws @ 45ft	Phase 8: 1. Warm-up throws (30-90ft distance) 2. 15 throws @ 60ft 3. 15 throws @ 75ft 4. 20 throws @ 90ft 5. 10 throws @ 75ft	Phase 11: 1. Warm-up throws (30-105ft distance) 2. 10 throws @ 60 3. 10 throws @ 90ft 4. 10 throws @ 105ft 5. 20 throws @ 120ft 6. 10 throws @ 60ft
Phase 3: 1. Warm-up throws (30-45ft distance) 2. 10 throws @ 30ft 3. 15 throws @ 45ft 4. 15 throws @ 60ft 5. 10 throws @ 30ft	Phase 6: 1. Warm-up throws (30-75ft distance) 2. 10 throws @ 45ft 3. 10 throws @ 60ft 4. 30 throws @ 75ft 5. 10 throws @ 45ft	Phase 9: 1. Warm-up throws (30-90ft distance) 2. 15 throws @ 60ft 3. 15 throws @ 90ft 4. 20 throws @ 105ft 5. 10 throws @ 60ft	Phase 12: 1. Warm-up throws (30-105ft distance) 2. 10 throws @ 60ft 3. 10 throws @ 90ft 4. 10 throws @ 105ft 5. 25 throws @ 120ft 6. 10 throws @ 60ft

***Upon completion of program, pitchers can progress to interval mound/bullpen program and position players can return to unrestricted overhand throwing.

STEP 2: MODIFIED THROWING PROGRAM

For individuals with open growth plates (skeletally immature/open physes)

***Athlete may progress to the next phase if the current phase is completed without pain or stiffness (loss of motion).

Throwing Program Instructions:

1. Perform stretching exercises/warm-up and then proceed with the throwing program.
2. Throw on line, sub maximal, pain free/comfort zone.
3. Pay attention to mechanics.
4. NO pain or stiffness (loss of motion) DURING or AFTER throwing - mechanics should be effortless.
5. Use appropriate rest periods in-between each step and cool down after phase completion.
(Mandatory day of rest between each phase, do not exceed 3 phases per week (may throw every 3rd day if fatigue/soreness persists).
6. Use ice after throwing to decrease the inflammatory response.

<u>WEEK 1</u> 20-45 FEET	<u>WEEK 2</u> 45-75 FEET	<u>WEEK 3</u> 75-90 FEET	<u>WEEK 4</u> 90-120 FEET
Phase 1: 1. Warm-up throws (20-45ft distance) 2. 10 throws @ 20ft 3. 20 throws @ 45ft 4. 10 throws @ 30ft	Phase 4: 1. Warm-up throws (20-60ft distance) 2. 10 throws @ 30ft 3. 10 throws @ 45ft 4. 10 throws @ 60ft 5. 10 throws @ 30ft	Phase 7: 1. Warm-up throws (20-90ft distance) 2. 10 throws @ 30ft 3. 10 throws @ 45ft 4. 10 throws @ 60ft 5. 10 throws @ 45ft	Phase 10: 1. Warm-up throws (20-105ft distance) 2. 10 throws @ 60ft 3. 10 throws @ 90ft 4. 10 throws @ 105ft 5. 10 throws @ 60ft
Phase 2: 1. Warm-up throws (20-45ft distance) 2. 10 throws @ 20ft 3. 20 throws @ 45ft 4. 10 throws @ 40ft	Phase 5: 1. Warm-up throws (20-60ft distance) 2. 10 throws @ 45ft 3. 10 throws @ 60ft 4. 10 throws @ 75ft 5. 10 throws @ 45ft	Phase 8: 1. Warm-up throws (20-90ft distance) 2. 10 throws @ 30ft 3. 10 throws @ 45ft 4. 10 throws @ 75ft 5. 10 throws @ 60ft	Phase 11: 1. Warm-up throws (20-105ft distance) 2. 10 throws @ 60ft 3. 10 throws @ 90ft 4. 10 throws @ 105ft 5. 5 throws @ 120ft 6. 10 throws @ 60ft
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STEP 3: INTERVAL BULLPEN/MOUND PROGRAM

KHSAA Pitching Limitation Rule (For all interscholastic play including scrimmages, regular season and all rounds of postseason) is based on the number of pitches thrown in a game. Daily limitation guidelines are as followed:

1. The limit on the number of pitches is based on the level of pitching.
2. Specific rest periods are in place when a pitcher reaches a threshold of pitches delivered in a day.
3. The calendar rest begins on the day following the date on which the game began or a resumed game began regardless of the conclusion time of the game.

Kentucky High School Athletic Association (KHSAA) Baseball Pitch Count Regulation

Varsity Level	JV/Freshman Level
Maximum Pitches – 120 <ul style="list-style-type: none"> • 76 pitches or more – Three (3) calendar days of rest • 51-75 – Two (2) calendar days of rest • 25-50 – One (1) calendar day of rest • 1-25 – No mandated rest 	Maximum Pitches – 110 <ul style="list-style-type: none"> • 66 pitches or more – Three (3) calendar days of rest • 41-65 – Two (2) calendar days of rest • 26-40 – One (1) calendar day of rest • 1-25 – No mandated rest

Youth (American Sports Medicine Institute Recommendations)		
Maximum Pitches		
13-14yo (95/day)	11-12yo (85/day)	9-10yo (75/day)
<ul style="list-style-type: none"> • 56 pitches or more – Three (3) calendar days of rest • 36-55 – Two (2) calendar days of rest • 20-35 – One (1) calendar day of rest • 1-19 – No mandated rest 		