

Edward S. Chang, MD Inova Orthopaedics and Sports Medicine

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CLINICAL NURSE

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REHABILITATION GUIDELINES

THROWING PROGRAM

The intent of these guidelines is to provide the overhead athlete with a framework to return back to throwing. These guidelines should not take the place of medical advice. If the athlete requires assistance in the progression of the program, he/she should consult with their physician.

This program is adapted from:

Chang ES, Bishop ME, Baker, D, West RV. Interval Throwing and Hitting Programs in Baseball: Biomechanics and Rehabilitation. *Am J Orthop*. 2016 Mar-Arp;45(3):157-62

SAMPLE REHABILITATION PROGRAM

Mon/Wed/Fri	Tues/Thur	Sat	Sun
 Thrower's Ten Stretching Throwing Program (below) 	 Lower Body Strength Cardio Stretching Core Rotator Cuff 	Rest	Stretching

Throwing Program Basics

- 1. During warm-up, it may be helpful to use heat prior to stretching (hot pack, hot shower, etc).
- 2. Perform stretching exercises after applying the heat modality and then proceed with the throwing program.
- 3. Begin with the first step and advance as soreness rules allow, throwing every other day and completing one step per day.
- 4. Rest 8 minutes between sets.
- 3. Throw on line with sub-maximal effort, with a short arc.
- 4. All long tosses begin with a crow-hop.
- 5. Goal is to be pain free while throwing.
- 6. Pay attention to your throwing mechanics.
- 7. Following throwing, stretch the shoulder/elbow and use ice.
- 8. Position players are to complete Phase 1 prior to returning to play. Pitchers are to complete the entire program prior to returning to play.

Soreness Rules

- 1. If the arm is sore or painful more than 1 hour after throwing or the following day, take 1 day off and repeat the most recent throwing program step.
- 2. If sore during warmup but soreness is gone within the first 15 throws, repeat the previous workout. If the arm becomes sore during this workout, stop and take 2 days off. Upon returning to thrown, go back one step.
- 3. If sore during warmup and soreness continues through the first 15 throws, stop throwing and take 2 days off. Upon return to throwing, drop down one step.

Phase 1 – General Return to Throwing (Pitchers and Position Players)				
Step 1	Step 2	Step 3	Step 4	
Flat Ground, 45 ft	Flat ground, 45 ft	Flat ground, 60 ft	Flat ground, 60 ft	
Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	
Warm up throws*	Warm up throws	Warm up throws	Warm up throws	
25 throws	25 throws	25 throws	25 throws	
REST (8 min)	REST	REST	REST	
Warm up throws	Warm up throws	Warm up throws	Warm up throws	
25 throws	25 throws	25 throws	25 throws	
	REST		REST	
	Warm up throws		Warm up throws	
	25 throws		25 throws	

^{*}Phase 1 warm up throws = 20 throws at 30 ft. In Phase 1 throws should on an arc with a crow hop

Phase 1 – General Return to Throwing (Pitchers and Position Players)				
Step 5	Step 6	Step 7	Step 8	
Flat Ground, 90 ft	Flat ground, 90 ft	Flat ground, 120 ft	Flat ground, 120 ft	
Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	
Warm up throws	Warm up throws	Warm up throws	Warm up throws	
25 throws	25 throws	25 throws	25 throws	
REST	REST	REST	REST	
Warm up throws	Warm up throws	Warm up throws	Warm up throws	
25 throws	25 throws	25 throws	25 throws	
	REST		REST	
	Warm up throws		Warm up throws	
	25 throws		25 throws	

Phase 1 – General Return to Throwing (Pitchers and Position Players)				
Step 9	Step 10	Step 11	Step 12	Step 13
Flat ground, 150 ft	Flat ground, 150 ft	Flat ground, 180 ft	Flat ground, 180 ft	Flat ground, 180 ft
Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	Arc, Crow hop	Arc, Crow hop
Warm up throws	Warm up throws	Warm up throws	Warm up throws	Warm up throws
25 throws	25 throws	25 throws	25 throws	25 throws
REST	REST	REST	REST	REST
Warm up throws	Warm up throws	Warm up throws	Warm up throws	Warm up throws
25 throws	25 throws	25 throws	25 throws	25 throws
	REST		REST	REST
	Warm up throws		Warm up throws	Warm up throws
	25 throws		25 throws	20 throws
				Warm up throws
				15 throws
				progressing
				from 120-80 ft

Phase 2 – Beginning Picher Specific Phase			
Step 1	Step 2		
Flat Ground, Distance varies	Flat Ground, Distance varies		
Arc, Crow hop*	Arc, Crow hop*		
Warm up throws	Warm up throws		
15 throws, 60 ft	15 throws, 60 ft		
10 throws, 90 ft	10 throws, 90 ft		
10 throws, 120 ft	10 throws, 120 ft		
20 throws, 60 ft with pitching mechanics	30 throws, 60 ft using pitching mechanics		
	10 throws, 90 ft		
	20 throws, 60 ft using pitching mechanics		

^{*}Phase 2 warm up throws = 20 throws at 30 ft. In Phase 2 throws should be on an arc with a crow hop except when pitching mechanics are noted indicating pitches that should be thrown in a straight line without an arc or crow hop.

Phase 3 – Stage 1: Fastballs Only				
Step 1	Step 2	Step 3	Step 4	Step 5
Mound	Mound	Mound	Mound	Mound
50% Effort	50% Effort	50% Effort	50% Effort	50% Effort
Warm up throws	Warm up throws	Warm up throws	Warm up throws	Warm up throws
15 throws	30 throws	45 throws	60 throws	70 throws

^{*}Phase 3 warm up throws = 50 throws from flat ground at 120 ft with arc and crow hop

Phase 3 – Stage 1: Fastballs Only			
Step 6	Step 7	Step 8	
Mound	Mound	Mound	
Effort varies	Effort varies	50% Effort	
45 throws, 50% Effort	30 throws, 50% Effort	10 throws, 50% Effort	
30 throws, 75% Effort	45 throws, 75% Effort	65 throws, 75% Effort	

Phase 3 – Stage 2: Fastballs Only			
Step 9	Step 10	Step 11	
Mound	Mound	Mound	
Effort varies	Effort varies	Effort varies	
60 throws, 75% Effort	50 throws, 75% Effort	45 throws, 75% Effort	
15 throws, batting practice	30 throws, batting practice	45 throws, batting practice	

Phase 3 – Stage 3: Simulated Pitching				
Step 12	Step 13	Step 14	Step 15	
Mound	Mound	Mound	Mound	
Effort varies	Effort varies	Effort varies	100% Effort	
30 throws, 75% Effort	30 throws, 75% Effort	30 throws, 75% Effort	Simulated game,	
15 breaking balls, 50%	30 breaking balls, 75%	75 throws, batting	progress by 15 throws	
50 throws, batting	30 throws, batting	practice	per session	
practice	practice			