



## REHABILITATION GUIDELINES

### **THROWING PROGRAM**

**Edward S. Chang, MD**  
Orthopaedics and  
Sports Medicine

#### **OFFICE LOCATIONS**

**TUESDAY**  
8100 Innovation Park  
Drive  
Fairfax, VA 22031  
T 703-970-6464  
F 703-970-6465

**WEDNESDAY**  
1005 N. Glebe Rd  
Suite 410  
Arlington, VA 22201  
T 571-414-6940  
F 703-970-6465

**THURSDAY**  
**FRIDAY (AM only)**  
6355 Walker Lane  
Suite 300  
Alexandria, VA 22310  
T 703-797-6980  
F 703-797-6981

#### **CLINICAL NURSE**

Eileen Perri, BSN  
(703) 797-6918

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**

| <b>Mon/Wed/Fri</b>  | <b>Tues/Thur</b>  | <b>Sat</b> | <b>Sun</b> |
|---|---|------------|------------|
| <ul style="list-style-type: none"> <li>• Thrower's Ten</li> <li>• Stretching</li> <li>• Throwing Program (below)</li> </ul> | <ul style="list-style-type: none"> <li>• Lower Body Strength</li> <li>• Cardio</li> <li>• Stretching</li> <li>• Core</li> <li>• Rotator Cuff</li> </ul> | 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 throw, 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*<br>25 throws<br>REST (8 min)<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>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<br>25 throws<br>REST<br>Warm up throws<br>25 throws   | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>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<br>25 throws<br>REST<br>Warm up throws<br>25 throws   | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws | Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>25 throws<br>REST<br>Warm up throws<br>20 throws<br>Warm up throws<br>15 throws<br>progressing<br>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<br>15 throws, 60 ft<br>10 throws, 90 ft<br>10 throws, 120 ft<br>20 throws, 60 ft with pitching mechanics | Warm up throws<br>15 throws, 60 ft<br>10 throws, 90 ft<br>10 throws, 120 ft<br>30 throws, 60 ft using pitching mechanics<br>10 throws, 90 ft<br>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<br>15 throws | Warm up throws<br>30 throws | Warm up throws<br>45 throws | Warm up throws<br>60 throws | Warm up throws<br>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<br>30 throws, 75% Effort | 30 throws, 50% Effort<br>45 throws, 75% Effort | 10 throws, 50% Effort<br>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<br>15 throws, batting practice | 50 throws, 75% Effort<br>30 throws, batting practice | 45 throws, 75% Effort<br>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<br>15 breaking balls, 50%<br>50 throws, batting<br>practice | 30 throws, 75% Effort<br>30 breaking balls, 75%<br>30 throws, batting<br>practice | 30 throws, 75% Effort<br>75 throws, batting<br>practice | Simulated game,<br>progress by 15 throws<br>per session |