

## **Sports Conditioning for the Throwers Shoulder**

This program has been developed to provide a comprehensive guide to the conditioning of the shoulder for throwing sports. Following a specific program of exercises for the shoulder, on a year round basis, will help to reduce the risk of injury to the shoulder joint in throwing sports.

An effective shoulder and throwing conditioning program should be focused on providing exercises and drills to develop coordination, strength, speed, power and control in the shoulder joint muscles. In addition to the development of strength in the shoulder muscles, drills to enhance and train the high speed and force necessary for high performance throwing are critical for consistent performance and injury prevention

### **Five components of the shoulder training program:**

1. Warm-up
2. Flexibility and stretching
3. Shoulder and elbow strengthening
4. Plyometric training
5. Position specific throwing

### **Keys to success in training:**

1. Focused effort and concentration when training
2. Always use proper form and technique
3. Quality workouts on a consistent basis
4. Avoid over-training

### **Stretching Program**

- Stretching should always be preceded by a period of warm-up where you increase your body temperature until you are sweating.
- You should slowly assume the stretching position until a comfortable feeling of stretch is felt in the muscle and then held, without further movement, 10 to 15 seconds.
- 3 to 5 repetitions of each stretching exercise should be done, statically holding the stretch for 10 to 15 seconds. There should be NO BOUNCING or oscillations of the body during stretching exercises.
- Stretching should NOT BE PAINFUL or cause soreness after being done. Stretching should be done before and after each workout. Most importantly, always allow time to stretch during the cool-down period after finishing the exercise program.
- Flexibility exercises done in a maintenance program or general fitness program should be done 3 to 4 times per week for 1 to 3 repetitions each.

### **Stretching Exercises**

The following stretching exercises are intended to improve or maintain normal flexibility and range of motion of the shoulder. Illustrations and instructions are in the back of the handout.

### **Shoulder and Elbow Strengthening Program**

The following exercises are intended to isolate the essential muscles of the shoulder that provide strength and muscular balance to the rotator cuff muscles and the muscles that control the scapula (shoulder blade).

Each exercise should be done for one set of 15 repetitions, 3 times a week during both the off-season and in-season periods.

Weights used with these exercises should be built up gradually in increments of no more than 1 pound per week.

Each exercise is described and illustrated in the back of the handout.

### **Rotator Cuff and Scapular Strengthening Program**

The rotator cuff and scapular exercises are intended to isolate the essential muscles of the shoulder that provide strength to the rotator cuff and control the scapula (shoulder blade). Each exercise should be done for one set of 15 repetitions prior to a weight training workout or 2-3 times a week for good shoulder strength and muscle balance. Weights used with these exercises should be built up gradually in increments of no more than 1 pound per week. Each exercise is described and illustrated in the back of the handout.

**Plyometric program** (see attachment)

### **Wrist and elbow strengthening exercises**

These exercises are described and illustrated in the back of the handout

### **Position Specific Throwing**

The 'Interval throwing Program' (Wilk and associates) is a safe program to follow if you have had a shoulder injury or a long layoff from throwing competitively.

Always follow the instructions for warm-up and stretching in the previous section.

Throwers who are returning to throwing after injury to the shoulder should follow the interval-throwing program, exactly, on an every-other-day basis.



The criteria to progress from step to step are that the throwing session was pain free and there is no residual soreness the next day.

For throwers who are free of injury, but returning to throwing after a lay-off period, follow the interval-throwing program, on an every-other-day basis, without the rest periods.

You should use the 'crow-hop' method for each throw when performing the interval throwing session. The 'crow-hop' method consists of first a hop, then a skip, followed by the throw. This method helps simulate the throwing act, allowing emphasis on total body mechanics involved in the act of throwing. You should avoid throwing flat-footed to avoid placing excess stress on the throwing shoulder in your training program. The Interval Throwing Program is outlined in the back of this handout.

### **Off-Season Throwing Program**

Following an off-season throwing program is recommended instead of total rest during the off-season. Continuing to throw at a sub-maximum level will help you avoid the total de-conditioning of your throwing mechanics, muscle timing, and coordination. Continue to throw at a frequency of two times a week, following the following outline:

- a. Warm-up throwing
- b. 45 ft. (25 throws)
- c. 60 ft. (20 throws)
- d. 90 ft. (15 throws)
- e. 120 ft. (10 throws)

### **Returning to Throw Off the Pitchers Mound**

If you are a thrower who has been injured, or if you have had a long layoff from throwing, you should first complete the interval-throwing program before returning to the higher stress of pitching off the pitchers mound. If you have followed the off-season throwing program, or if you have successfully completed the interval-throwing program, you can now safely begin the 'Interval Throwing Program off the Pitchers Mound' (Wilk and Associates, 1991) which is outlined in the back of this handout.

For position players, you can usually safely return to position practice at this time. Warm up throwing before each workout should consist of 25 tosses at 45, 60, 90, and 120 feet (after general warm-up and stretch).

### **Return to Batting**

If you have had no injury to your shoulder, you may return to normal batting practice. If you are returning from a shoulder injury, follow the Return to Batting Guide.



### **Return to Batting Guide after Shoulder Injury**

- Start batting after progressing through the 90-foot stage of the interval-throwing program
- Do three pain-free workouts at each step before progressing to the next step.
- Start with 10 swings and add 10 swings each workout (30 swings total).
- When progressing to the next step(s), perform 20 swings from the previous step as a warm-up.

Step 1: Swinging a light bat

Step 2: Hitting off tee

Step 3: Soft-toss hitting

Step 4: Batting practice

### **Off-Season Batting Conditioning**

Following an off-season batting program will help keep the shoulder muscles as well as all the 'batting muscles' in shape during the off-season time period.

The following program, if followed two times a week, will help keep the shoulder in 'batting shape'.

1. Swing a light bat 30 swings
2. Hitting off a tee 30 swings
3. Soft toss hitting 30 swings
4. Batting practice 30 swings