



Return-To-Throw Program - M. Daniel Hatch, M.D.

Consider the following factors when beginning a return to throw program:

- 1) The act of throwing the baseball involves transfer of energy from the feet through the legs, pelvis, trunk, and out the shoulder through the elbow and hand (or the kinetic chain). Therefore any return to throwing after injury must include attention to the entire body.
- 2) The chance for re-injury is lessened by a graduated progression of interval throwing.
- 3) Proper warm-up is essential.
- 4) Most injuries occur as the result of fatigue.
- 5) Proper throwing mechanics lessen the incidence of re-injury
- 6) Baseline requirements for throwing include a pain-free range of motion of all joints involved in throwing, adequate muscle power, and resistance to fatigue.
- 7) Allow one day for flexibility exercises and recovery between each throwing and weightlifting day.

Because there is an individual variability in all throwing athletes, there is not a set timetable for completion of the program. The proper channeling of the athlete's energies into a rigidly controlled throwing program is essential to lessen the chance of re-injury during the rehabilitative period.

Weight Training

The athlete should supplement this program with a high repetition, low weight exercise program. Strengthening should focus on both anterior and posterior musculature so that the shoulder will not be predisposed to injury. Rotator cuff exercises should also be incorporated into the weight-training program. Perform the weight-training program on the same day, but after, you participate in the throwing program. Allow one day for flexibility exercises and recovery. The weight-training program should be stressed at this point as a "Maintenance Program". The athlete should continue to participate in this program throughout the season.

Progression

The throwing program is designed so that each step is achieved without pain or complication before the next phase is started. See Chart below.

Warm-up

5-10 minutes of light to moderate exercise will allow the muscles to warm-up helping with flexibility and decreasing your risk of injury. For example, that athlete should jog until a light sweat develops and then progress to the stretching phase.

Stretching

All muscle groups should be stretched. Begin with the legs and progress through the trunk, back, neck, and arms.

Throwing Mechanics

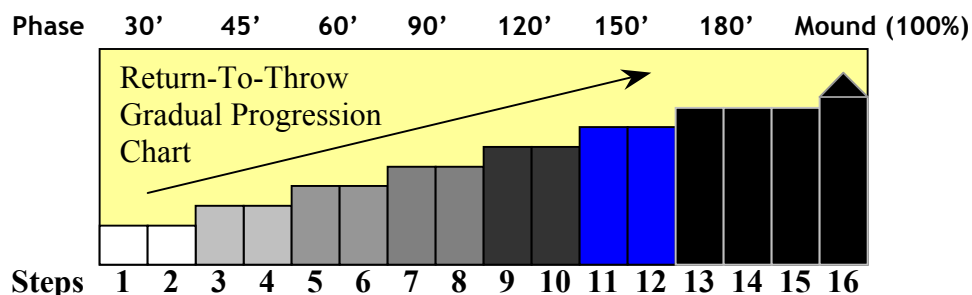
Crow-Hop Method: First a hop, then a skip, followed by the throw. The distance determines velocity. The ball should have only enough momentum to travel each designed distance. Emphasis on proper throwing mechanics should be stressed throughout the program.

Throwing

Using the Crow-Hop method, the athlete should begin warm-up throws at a distance of 30 feet, and then progress to the distance indicated for that phase. The object of each phase is for the athlete to be able to throw the ball without pain the specified number of feet, 75 times at each distance. After the athlete can throw 180 feet, 50 times, without pain he will be ready for throwing off the mound or returning to his respective position. At this point full strength and confidence should be restored in the athlete's arm. The return to unrestricted throwing should follow the same principles. A pitcher should first throw only fastballs at 50% progressing to 75% and 100%. If the athlete experiences any increase in joint pain the program should be backed off and re-advanced as tolerated, under the direction of the rehabilitation team.

Batting

Depending on the type of injury the time of return to batting should be determined by the physician. Return to unrestricted use of the bat should also follow the same progressive guidelines as seen in the throwing program. Begin with dry swings progressing to hitting off the tee, the soft toss, and finally live pitching.



30' Phase

Step 1: Day 1

- Warm-up throwing: 30 feet (25 times), Rest 5 min, 30 feet (25 times) (this will be used as the warm-up throwing throughout the program)

Step 2: Day 3

- Repeat step # 1 and add another set

45' Phase

Step 3: Days 5, 7

- Warm-up throwing
- Throw 45 feet (25 times)
- Rest 15 minutes, repeat one more time

Step 4: Days 9,11

- Warm-up throwing
- Throw 45 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 45 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 45 feet (25 times)

60' Phase

Step 5: Days 13, 15

- Warm-up throwing
- Throw 60 feet (25 times)
- Rest 15 minutes
- Warm-up throwing
- Throw 60 feet (25 times)

Step 6: Days 17,19

- Warm-up throwing
- Throw 60 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 60 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 60 feet (25 times)

90' Phase

Step 7: Days 21,23

- Warm-up throwing
- Throw 90 feet (25 times)
- Rest 15 minutes
- Warm-up throwing
- Throw 90 feet (25 times)

Step 8: Days 25, 27

- Warm-up throwing
- Throw 90 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 90 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 90 feet (25 times)

120' Phase

Step 9: Days 29, 31

- Warm-up throwing
- Throw 120 feet (25 times)
- Rest 15 minutes
- Warm-up throwing
- Throw 120 feet (25 times)

Step 10: Days 33, 35

- Warm-up throwing
- Throw 120 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 120 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 120 feet (25 times)

150' Phase

Step 11: Days 37,39

- Warm-up throwing
- Throw 150 feet (25 times)
- Rest 15 minutes
- Warm-up throwing
- Throw 150 feet (25 times)

Step 12: Days 41,43

- Warm-up throwing
- Throw 150 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 150 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 150 feet (25 times)

180' Phase

Step 13: Days 45, 47

- Warm-up throwing
- Throw 180 feet (25 times)
- Rest 15 minutes
- Warm-up throwing
- Throw 180 feet (25 times)

Step 14: Days 49, 51

- Warm-up throwing
- Throw 180 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 180 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 180 feet (25 times)

Step 15: Days 53, 55

- Warm-up throwing
- Throw 180 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 180 feet (25 times)
- Rest 10 minutes
- Warm-up throwing
- Throw 180 feet (50 times)

Step 16: Days 57 and 59

- Warm-up throwing
- Begin throwing off the mound or return to respective position