

Preseason Conditioning for the High Jump

by

Paul E. Turner, Ph.D.

Assistant Track and Field Coach

Harvard University

The sole purpose of preseason conditioning is to allow the athlete to practice at high intensity levels following the beginning of the season and to be able to quickly recover from each practice session. The ability to recover quickly results in an enhanced capacity to perform work. Therefore, emphasis is placed on general conditioning during the first month of practice. The preseason phase should consist of interval training and medicine ball workouts for general conditioning, low to medium intensity plyometrics, weight training, and event specific drills. The preseason routine should become very strenuous as it progresses. It cannot be overemphasized that the results of this preseason period will be seen throughout the season. Work not done early must be done later and that detracts from the more event specific training to be performed as the season evolves.

### **Interval Training**

Interval training occurs in two forms during the first month of practice: running on the track and running stadium stairs. Following a 1600 meter warm-up run and an individualized stretching routine, a typical preseason running workout would involve 4 X 400 meters at stride pace. Running paces are defined not in terms of time, but rather as a percentage of maximum effort. The four general categories of running pace are:

1. Strides: approximately 70 percent of maximal speed
2. Stride Plus: 75 percent speed
3. Fast: 85 percent speed
4. Sprint: 95-100 percent speed

While the paces are not exact, they provide a convenient reference point for the athlete and allow the flexibility of varying from day to day. Recovery between each exercise bout will decrease throughout this period. Typically, four to 4.5 minute recovery is given early during this phase, decreasing to two to 2.5 minutes later in the month. Although 400m is the most common distance of the interval workouts during this period other distances are also utilized. For instance, workouts such as 6 X 150m Stride Plus and 7 X 150m Stride Plus + 2 X 100m Fast are also employed. Intensity levels no greater than Fast should be used during the first month.

Also to be categorized as interval training are the various running workouts involving stadium stairs. Initial stadium workouts include 3 X 3 Run to the Top (approximately 30 rows) advancing to 10 repetitions of 30 rows. Recovery is dictated by the athlete during these workouts, but should not exceed five to seven minutes. Pulse rates can be utilized to determine progress and help determine intensity levels for both the track running and the stadium routines.

### **Medicine Ball Workouts**

In order to insure that total fitness is being developed, medicine ball workouts are a major part of the preseason routine. Prevalent during the first month of practice is a medicine ball workout comprised of:

1. 2 X 8 Chest Passes
2. 2 X 8 Forward Overheads
3. 2 X 8 Backward Overheads
4. 2 X 8 Forward Between the Legs (emphasize the legs)
5. 2 X 8 Side Passes (each side)
6. 2 X 8 Hammer Throws (each side)

The balanced nature of this workout facilitates all-around conditioning. The weight of the medicine ball depends upon the individual, but should be relatively light (3-5 kilograms) during this phase. The medicine ball workouts should be done two to three times per week.

### **Plyometrics**

Plyometrics during this phase should be of low to medium intensity. Initial plyometric workouts consist of a variety of low intensity exercises including:

1. Squat Jumps
2. Split Squat Jumps
3. Cycled Split Squat Jumps
4. Plyometric Sit Ups

These are performed 2 X 10 and can be executed two to three times per week. Approximately two weeks of this routine should occur to progressing to a slightly more strenuous routine. The next routine is comprised of:

1. Split Squat Jumps
2. Cycled Split Squat Jumps
3. Double Leg Hops
4. Bounding

These are performed 2 X 10 as before, but the workload is higher. Variations of these programs can be utilized. For example, a plyometric workout may be made up of 1 X 10 Squat Jumps, Split Squat Jumps, and Cycled Split Squat Jumps followed by 6 X 30m Bounds and 6 X 30m Hop-Bounds. An alternative to the 6 X 30m Bounds and Hop-Bounds is 6 X 10 Bounds and Hop-Bounds. In this scenario each trial distance can be marked and the athlete can strive to surpass the previous trial distance. Outstanding jumpers should be able to easily exceed 30m with 10 Bounds. This workout combines low intensity plyometrics with higher intensity plyometrics.

### **Weight Training**

Weight training should begin as soon as allowed under NCAA guidelines. The first two weeks of the weight program should be geared towards establishing base strength levels and proper lifting technique. In general, three sets of eight to 10 repetitions should be used and the athlete should lift three days per week. The suggested lifts include:

Bench Press  
Power Cleans  
Squats  
Leg Press  
Heel Raises  
Lunges  
Step Ups.

In that this is a relatively large number of exercises, only six of the seven lifts are performed each session. The athlete is allowed to choose five of the six, with the coach selecting the remaining lift. This is done for two reasons. First, it allows the athlete regular input into their training (and helps to motivate them) and secondly, having the coach choose the remaining exercise insures that the athlete will not consistently avoid a lift that they prefer not to perform. Following this initial period in the weight room the number of repetitions should decrease to eight with an accompanying increase in the amount of weight lifted. The 3 X 8 phase should last approximately four weeks.

### **Drills**

High jump specific drills are instituted early in the preseason routine. These include actual approach work, circular running to facilitate body lean, spiral running, and two- and four step pop-ups (both while running straight and on a turn). The pop-ups allow the athlete to develop proper plant, body position, and knee drive. While not necessarily done on a daily basis during this phase, the drills should be done regularly.

### **Typical Preseason Training Schedule**

An example of a week long training schedule is presented below:

#### Monday

Warm Up:        1600 Meters  
                         Stretch

#### Medicine Ball

1. 2 X 8 Chest Passes
2. 2 X 8 Forward Overheads
3. 2 X 8 Backward Overheads
4. 2 X 8 Forward Between the Legs (emphasize the legs)
5. 2 X 8 Side Passes (each side)
6. 2 X 8 Hammer Throws (each side)

4 X 400m Stride Plus

8 X Approaches

8 X Pop-ups

### Weight Training

Bench Press 3 X 10  
Power Cleans 3 X 8  
Squats 3 X 10  
Heel Raises 3 X 10  
Lunges 3 X 10  
Step Ups 3 X 10  
Leg Press 3 X 10

(choose six out of seven)

### Tuesday

Warm Up: 1600 Meters  
Stretch

#### Medicine Ball

as above

#### Plyometrics

1 X 10 Squat Jumps  
1 X 10 Split Squat Jumps  
1 X 10 Cycled Split Squat Jumps  
6 X 30m Bounds  
6 X 30m Hop-Bounds

### Wednesday

Warm Up: 1600 Meters  
Stretch

Stadiums: 1 X 4 Run to the Top (30 Rows)  
2 X Double Leg Hop 25 Rows

#### Weight Training

as above

### Thursday

Warm Up: 1600 meters  
Stretch

8 X Approaches  
10-12 Pop-ups  
6 X 30m Bounds  
6 X 30m Hop-Bounds

## Friday

Warm Up:        1600 meters  
                      Stretch

Medicine Ball  
                      as above

Stadiums:        4 X Run to the Top  
                          4 X Double Leg 25 Rows

Weights  
                      as above

This is a very rigorous routine that allows for even greater workloads to be undertaken throughout the season and for enhanced recovery from work.

## **Summary**

Progressive increases in workloads during the preseason phase is very important. Feedback from the individual athlete will help in determining the work to be prescribed. Listen to what they have to say concerning the exercises/drills. Remember that each athlete is an individual and their responses to work will vary, and therefore the workouts should be flexible enough to account for these individual differences. In many instances the coach will have to temper the enthusiasm of the athlete to prevent staleness from occurring. All workouts should be designed to reap the greatest benefits during the peaking periods of the indoor and outdoor seasons. As the conditioning of the preseason period ends, the emphasis shifts from base training to more technical aspects of the event (i.e., more actual jumping). However, basic conditioning and strengthening exercises should continue throughout the season to guarantee that the athlete can respond to athletic stress positively.

Harvard has recently had NCAA Division I high jump champions Dora Gyorffy (personal best 6'6.75") and Kart Siilats (personal best 6'2.5").