

# ENDURANCE & AGILITY TRAINING

There are six things a basketball player needs to improve to maximize their performance:

1. Endurance
2. Balance
3. Reaction
4. Agility
5. Acceleration
6. Decelaration

When training, be consistent. This is very important; you will not succeed in anything if you are not consistent. Don't let outside things get in the way of your training and cardio.

Make sure that your diet is consistent, and that you're eating healthy. It's very important that your body is properly fueled by nutritional foods. Training should be intense...you need the energy for maximum performance and recovery.

If anything seems too easy for you, turn it up a notch. If you're already an excellent runner, start with a 2-3 mile run and build up to a 7 mile run. You must be pushing yourself to reap all of the benefits.

On this page, and the pages that follow, is a suggestion training program for increasing endurance, balance, reaction, agility, acceleration and deceleration.

## ENDURANCE

You'll be running for a certain amount of time, not distance. You'll need plenty of stamina to keep strong up and down the court the whole game.

Keep a moderate to fast pace; you should be going hard the entire time. Try to run a further distance every time. If you feel like you can run longer than the given time limits, push yourself and run longer.

- Week 1 - 30 minutes
- Week 2 - 30 minutes
- Week 3 - 35 minutes
- Week 4 - 35 minutes
- Week 5 - 35 minutes
- Week 6 - 40 minutes
- Week 7 - 40 minutes
- Week 8 - 40 minutes
- Week 9 - 40 minutes
- Week 10 - 45 minutes
- Week 11 - 45 minutes
- Week 12 - 45 minutes

## TIPS ON ACCELERATION TRAINING

Always prepare for each speed training session with a thorough, active warm-up.

Speed training should be done at a time when your body is non-fatigued...at the start of a session, not the end.

For young athletes, under junior high age, speed development should be playful and game like and include quick, short bursts of speed with rapid changes of direction, like tag or short relay races.

Maximal strength and acceleration ability are closely relation. Develop your leg strength and hip mobility. Stress correct running mechanics.

Maximum speed is the combination of stride length and stride frequency. Do not develop one without the other.

Speed is a motor task, which means you CAN improve it. Not everyone will become an world class sprinter...but everyone can become faster with proper training.

Improving reaction times can be improved by working on primary stimulus: auditory, visual or kinesthetic.

Resistance training develops specific strength and improves acceleration. (Raising and lower weights slowly...builds endurance in the muscle.)

Vary your speed training methods and intensity to avoid building a speed barrier.

All strength training should be designed to improve speed and endurance.

## ACCELERATION / DECELERATION / AGILITY & BALANCE

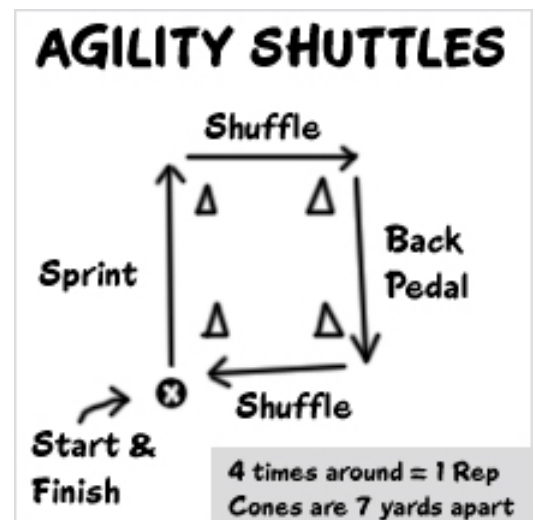
Distances will be kept the same; it's the time that you will be trying to increase. Have a partner or friend time how long each distance takes, and beat that time every week, whether it is by .5s or .05s.

Take enough time in between sprints to catch your breath and have full energy for the next sprint.

### AGILITY:

4 cones placed 7 yards apart. Four times around the cones equals one rep. Time it, work to increase speeds, just as in the sprints below. Works on acceleration and deceleration...balance and quickness.

- 100m - Beat time from previous week.
- 60m - Beat time from previous week.
- 40m - Beat time from previous week.
- 40m - Beat time from previous week.
- 10m - Beat time from previous week.



## **DOT PAD DRILLS**

These drills increase balance, agility and quickness.

You can buy or make your own dot pad. There should be five dots, 18 inches apart, in a 2-1-2 formation. Do the following jumps as fast as you can for 30 seconds, building to 45 seconds, then 60 seconds...tougher than it sounds.

Hop skotch across and back (frontwards and backwards)

Hop skotch across, jump and turn in air when across landing on dots, return.

Both feet each dot...across and back (frontwards and backwards)

Both feet each dot...across, jump and turn in air when across landing on dots, return.

One foot each dot...across and back (frontwards and backwards)

One foot each dot...across, jump and turn when across landing on dot, return.

### **TRIANGLE**

Using just three of the dots...not all five...turn entire body so that each foot touches a different dot each time.

### **TWO DOT DRILL**

Jump as quickly as you can between two dots using just one foot. Side to side and side to middle.

### **RICOCHET DRILL**

Both feet and one foot drill. Do not touch the middle dot. Jump to a different corner each time as quickly as you can. (36 inches) For younger athletes, have them jump corner middle other corner (triangle and straight across) 30 seconds building to 60 seconds, as above.

## **CORNERBACK DRILLS**

Run backward for ten yards, change direction for 10 yards:

- straight to the side
- angle (45 degrees)
- turn and sprint away
- stop and sprint back
- On Command (arm signal - same options as above...quickness and reaction.)

## **Texas Tech Basketball Plyometric Program** *Building explosive quickness and speed*

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The Soviets refer to plyometrics drills as “speed-strength work”. These drills consist of jumping and bounding drills to increase an athlete’s explosiveness. The athlete stores kinetic energy while descending and converts it to potential energy for the concentric contraction necessary to respond immediately. This reaction is made possible by the myotatic, or stretch reflex. If used properly plyometric drills can be enormously helpful in improving athletic performance.

Plyometric drills should be used in conjunction with bodyweight calisthenics for young athletes (junior high and below) and weight training with older athletes (high school and above).

The following drills are outstanding in enhancing explosive lateral movement and body control. The first few exercise are relatively easy and do not require much skill or strength, while the last few drills are more advanced. Start with the low intensity drills and after you have mastered them then progress to the more advanced drills once your strength and skill has improved. Plyometric drills should always be done after the active warm-up and prior to calisthenics/weight training. This sequence is important because these drills should be done while the muscles are fresh to maximize performance and results. The surface is extremely important as well all plyometrics should be done on a **HARD** surface. This surface type is optimal for the stretch-reflex to occur.

Remember to always stretch and warm-up properly prior to performing these drills.

There are a considerable number of plyometrics exercises that can be performed but here are eight of the most well recognized exercises. The following exercises are listed in ascending order from low to high intensity along with a brief explanation.

Drill # 1- Standing Long Jump (L)- Stand with both feet apart, then swing both arms back and then explosively jump forward for max distance.

Drill # 2- Stadium Stairs (L)- Accelerate up the stairs at max speed and then take a medium pace to the bottom then return up the stairs at max speed.

Drill # 3- High Step Crossover (L-M)- Very comparable to bounding but you take your lead leg and swing it across your body.

Drill # 4- Triple Jump (M)- Jump with both feet then land on the right foot then explosively jump off the right foot while swinging the left foot for momentum. Then repeat action with the left foot.

Drill # 5- Tuck Jumps (M)- Stand with both feet in a jumping position then jump aggressively up in the air while tucking your knees into your chest. Do this drill as rapidly as possible until you achieve the desired number of reps.

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Drill # 6- Split Squat Jumps (M)- Start in a lung position with your hands on your hips. Next powerfully jump up in the air then scissor your feet with the opposite leg landing in the front position.

Drill # 7- Bounding (M)- From a running start jump off of one foot then hop while alternating to the other foot for max distance and height then repeat with other foot.

Drill # 8- Line Double Leg Hops (M-H)- These are also known as “bunny hops”. Start on one side of a line. With two feet jump forward and across the line, and then repeat this until the desired number of reps is achieved.

Another good plyo drill to increase vertical jump is to stand on a box approximately 18” high...jump off and upon hitting, jump as high as you can with no delay. Bend the knees when you land, and try to keep the feet under the knees.

*REMEMBER...at the beginning of a plyometrics program low-intensity exercises should be performed then after these exercises are mastered you should increase the drill level and intensity level.*

In summary, when a plyometrics program is performed properly the end result will be a more explosive and better athlete.