



CHAPTER SEVENTEEN QUICKNESS DRILLS

Learning Outcomes:

By the end of this chapter you should be able to....

- Describe when and why to incorporate quickness training with one's athletes
- Instruct proper application of technique for each of the drills listed and make corrections when appropriate
- Articulate the reasoning for the utilization for each specific drill (i.e. be able to describe when and why to select the drill)

QUICKNESS

Definition: *Learning, thinking or understanding with speed and dexterity; one's reaction time and the initiation of movement. Another definition is "speed in response to a stimulus".*

When discussing quickness, we need to address reaction ability. The quicker you react to the stimulus, the more likely you are to make the play, stop the opponent, and get open to receive the pass, etc. The stimulus itself can present itself in a variety of ways: visual audible, and/or tactile. One's reaction time will vary depending on the stimulus. (Vickers, 2007)

- Tactile/Kinesthetic - fastest at 120 to 140 milliseconds.
- Audible - 140 to 160 milliseconds
- Visual - 180-200 milliseconds

While the numbers above do not seem impressive, experience shows us that wins and losses can come down to a matter of inches or milliseconds. If you were able to react just a bit quicker to block that game winning shot, or if you could have gotten to the line a little bit quicker to get by the defensive back to make that catch in the end zone, these split-second moments often determine the outcome of a game.

There is some question whether reaction time can even be improved, citing genetics and if this is predetermined. Proper training and experience, however, may significantly improve reaction time. (Schmidt & Wrisberg, 2007) Since the body must react to each type of stimulus in their respective sport, they must all be addressed in training. Incorporating variations in the drills and movements below will ensure that all stimuli are utilized and the athlete is implementing a complete training approach.

With these various stimuli come greater levels of complexity. When designing your programs for clients, be sure to progress them appropriately. Both agility and quickness drills that are pre-set, meaning the athlete knows where she is going to run, are recommended for beginners and youth. The focus on these clients should be form and technique. Build a solid foundation of proper movement patterns before adding layers of difficulty.

This touches on the importance of specificity. There are no cookie-cutter or one-size-fits-all programs. Be sure to adjust and modify your drills and programs to fit the specific needs of your client. An example would be performing agility ladder drills with an athlete. Make sure he is getting in and out of the boxes efficiently and on the balls of his feet before you add visual or audible stimuli into the drill.

The following includes a number of drills designed to improve quickness.

Note: A number of these drills can fall into either the Speed or Agility sections of this program. Take advantage of such drills, as they provide multiple benefits.

DRILL: Medicine Ball Wall Chest Pass

WHY:

Improve power, reaction time, and ability to absorb force.

HOW:

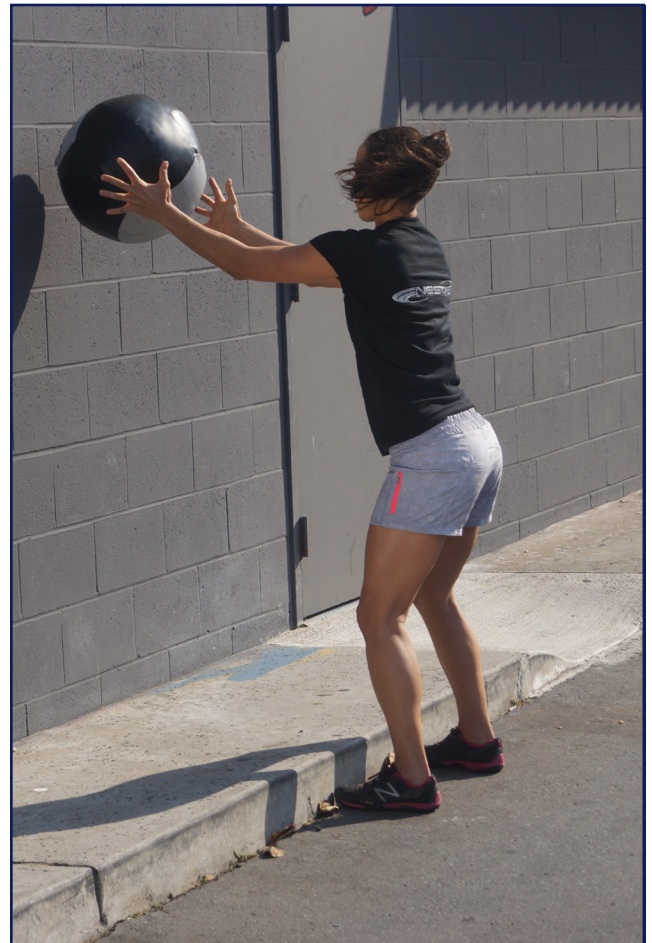
- Standing a couple feet away from the wall, hold a medicine ball at chest level while facing the wall.
- With both hands, throw the ball into the wall with enough force so it comes back at the same trajectory.
- Catch the ball with hands out in front of body, then quickly absorb the force and throw the ball back into the wall again.
- Perform this drill as fast as possible while maintaining proper form.

VARIATION:

- Change foot position; squared feet and lunge position are the most popular.

EQUIPMENT:

- Medicine ball and wall



DRILL: Medicine Ball Rotational Wall Pass

WHY:

Improve rotational power, reaction time, and ability to absorb force.

HOW:

- Stand a couple of feet away from a wall, facing perpendicular to it.
- Perform a rotational throw into the wall by pivoting shoulders, hips, and rear foot.
- Catch the ball, rotate back to the starting position to load the appropriate muscles (stretch reflex), and repeat the wall throw again



VARIATIONS:

- Vary the exercise by changing the athlete's foot position; squared feet is the most popular and a split squat (lunge) position is a more advanced option due to the narrower base of support

EQUIPMENT:

- Medicine ball and wall



DRILL: Medicine Ball Wall Overhead Throw

WHY:

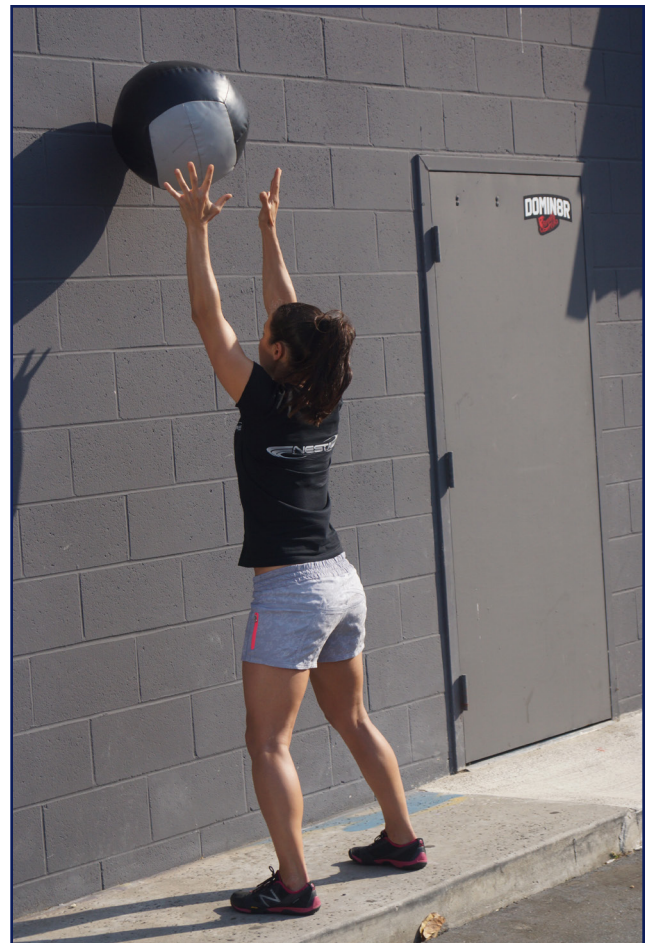
Improve overhead quickness, reaction time, and ability to absorb force.

HOW:

- Standing no more than one foot away from the wall, face the wall and hold the ball up over head with both hands.
- Keep core engaged and begin to quickly throw the ball into the wall with short, rapid throws.
- Bend slightly at the elbows and attempt to throw the ball as fast as possible while maintaining proper form.

EQUIPMENT:

- Wall and medicine ball



DRILL: Medicine Ball Wall Single Leg Throw

WHY:

Improve balance, coordination, reaction time and ability to absorb force.

HOW:

- Standing a couple of feet away from the wall, hold a medicine ball at chest level.
- Stand on one foot and bring the ball to the outside hip opposite the stance leg.
- As the ball is thrown into the wall, simultaneously kick the up leg straight back behind.
- As the ball is caught, return leg back to the starting position.



EQUIPMENT:

- Wall and medicine ball



DRILL: Medicine Ball

Overhead Throw and Chase

WHY:

Facilitate triple extension, change of direction and acceleration.

HOW:

- Perform an overhead throw that is initiated with a three-fourths (3/4) squat, followed by explosive triple extension from the ankle, knee and hip.
- Finish full triple extension, then quickly turn (direction can be indicated from trainer or predetermined) and accelerate to the ball as quickly as possible.

EQUIPMENT:

- Medicine ball



COMMAND DRILLS

The following includes great examples of drills used to effectively train an athlete utilizing different stimuli (tactile, audible, visual).

As mentioned before, cone drills, line drills, ball drills, etc. are great for improving foot work, coordination and mechanics, especially with beginners and young athletes.

Reaction drills, on the other hand, have a huge amount of carryover to the field of play as they simulate actual game-like situations. During a live sporting event, there is no predetermined route and drill, and an athlete is required to react to the stimulus and move accordingly. While defending an opponent on the basketball court, it is not clear where he is going to go. He is a shooting guard with an excellent three-point shot, so he may hesitate at the three-point line and then decide to cross over and dribble to the basket. By practicing reaction drills with your client, he will be more equipped to respond to these situations.



DRILL: Box Reaction Drill (The Quickness Box)

WHY:

Improve change of direction and reaction time.

HOW:

- Create a square with four cones that are five yards apart.
- Athlete stands in the middle of the box in an athletic position. Trainer stands outside of the box, facing the client.
- VISUAL: Trainer points to the cone that client should run to. Client accelerates to the cone, touches it, and then returns to the center for the next cue.
- AUDIBLE: Similar to the cues above, however, instead of pointing to the cone, the trainer verbally indicates which cone to be touched. Client touches the cone, then returns to the center for the next cue.



- COGNITIVE: Provide a simple math equation ($2+2$ for example) for client to solve and then go to the appropriate cone. Client then returns to the center, ready for the next cue.

EQUIPMENT:

- 4 cones



DRILL: Box Reaction Drill (cont.)

Coaches tip:

For five-yard spacing, it is not necessary for the athlete to completely turn his whole body around to get to cones #2 and #3. He should simply lower his center of gravity, and perform a diagonal shuffle to the appropriate cone. This way the athlete is always looking “up field” and has his eyes on the coach in preparation for the next cue. For further distances, cue the athlete to turn and accelerate to these back two cones.



DRILL: Y Drill

WHY:

Improve change of direction and reaction time.

HOW:

- Set up four cones in a “Y” position.
- The starting cone (#1) should be about 10 yards from the middle cone (#2).
- The middle cone should be about 10 yards away from the top two cones (#3 and #4).
- Begin at cone #1, with the trainer standing behind cone #2 facing the client.
- Upon command, accelerate towards cone #2.



- Trainer gives a cue (visual, audible, cognitive) to be interpreted, then proceed to the appropriate cone. It could be a change of direction and acceleration to either cone #3 or #4, or it could be a deceleration and back-pedal back to cone #1

EQUIPMENT:

- 4 cones



DRILL: Directional Change Drill (Lateral)

WHY:

Improve athlete's ability to react to a variety of cues.

HOW:

- Trainer and athlete face each other, standing about 10 yards apart.
- Upon command, shuffle (or run) in the appropriate direction indicated by the trainer.
- Maintain an athletic position and continue in the one direction until the next cue to change is given.
- This side-to-side drill can continue for desired time or reps.

MOVEMENT VARIATIONS:

- Shuffles, cariocas, sprints, crawls, etc.



DRILL: Acceleration to Backpedal or “Make Up Your Mind” Drill

WHY:

Improve athlete’s ability to react to a variety of cues.

HOW:

- Similar to the previous Lateral Change of Direction drill. This variation involves acceleration and back-pedaling.
- Trainer and athlete face each other, standing about 10 yards apart.
- Begin by back-pedaling away from the trainer.
- When given the cue, change direction and accelerate towards the trainer.
- This back and forth drill continues for the desired time.

MOVEMENT VARIATIONS:

- Sprints, bounds, crawls, etc.



DRILL: Mirror Drill

WHY:

Improve reaction time.

HOW:

- Have two people face each other, standing about five yards apart.
- Determine which athlete will perform the movements (athlete A) and which athlete will mimic the movements (athlete B).
- To start, athlete A will perform a variety of movements, which typically involve jumping jacks, pushups, spins, burpees, lateral hops, etc.



- Athlete B immediately follows the actions of athlete A, as if appearing in a mirror.

- Have the athletes stay within a five-yard circle throughout the exercise and continue for 15-20 seconds

VARIATION:

- Expand this much more than five yards and increase the duration and distance covered during the drill.

COACHING TIP:

- There are no limits to the movements that can be performed.



DRILL: Tag Drill

WHY:

Enhance coordination and reaction time.

HOW:

- Have two people face each other, ready to play a game of tag.
- The variation is that both athletes are “it”. Add stipulations such as no tagging above the waist or only use the left hand.
- Have the athletes stay within a five-yard circle throughout the exercise and continue for 15-20 seconds.

VARIATIONS:

- Trainer periodically calls out that only a certain body part can be used or touched – leg or arm only for example (audible stimulation).



DRILL: Partner-Resisted Chase Drill

WHY:

Improve reaction time using a tactile stimulus.

HOW:

- Have two people stand next to each other, with one facing forward and the other facing his partner (perpendicular to each other). (See image)
- Have partner B place his hand on partner A's hip or shoulder.
- Partner A will begin to laterally shuffle towards partner B while he applies light resistance.
- Partner B will let go, turn, and sprint away from partner A in the direction they were going.
- Partner A must chase him down and tag him as quickly as possible.

VARIATION:

- The trainer can determine when partner B lets go and runs.



DRILL: Ball Reaction Drill

WHY:

Enhance eye-hand coordination and reaction time to a visual stimulus.

HOW:

- Athlete and trainer face each other about five yards apart, with the athlete in an athletic position.
- The trainer will drop a ball to initiate the drill.
- The goal for the athlete is to retrieve the ball before the second bounce.



EQUIPMENT:

1-2 balls

VARIATIONS:

Vary the distance, start with eyes closed, start prone, have 2 balls



DRILL: Catch Drill Variations

WHY:

Enhance eye-hand coordination and reaction time to a visual stimulus.

HOW:

- Similar set up to the Ball Reaction drill.
- The trainer begins the drill by throwing the ball toward the athlete, who simply has to catch the ball and throws it back.

BASIC VARIATIONS:

Vary the distance, start prone, stand on one leg, use only one hand.



ADVANCED

VARIATIONS

- Begin facing away from the coach and turn upon command (audible stimulation)

Coaching Tip:

The primary difference between the Ball Reaction drill is that the athlete is accelerating toward the visual stimulus (ball) in the first drill, and the athlete is letting the visual stimulus come to him in the second one.



DRILL: Blind Wall Ball Drill

WHY:

Improve eye-hand coordination.

HOW:

- Have the client face a wall, standing five to 10 yards away. The trainer will stand an additional five yards further away from the wall behind the client.
- Standing a foot or two to either side of the client, the trainer will throw the ball so it hits the wall at about eye level.
- Client reacts to the ball coming off the wall and attempts to catch it on one bounce.



EQUIPMENT:

- A wall and a ball (tennis or lacrosse work well)

VARIATION:

- Perform with multiple balls, so as soon as the client catches one ball, he tosses it aside and gets ready for the next ball that is thrown.



DRILL: Reaction Ball “Goalie Game”

WHY:

Improve eye-hand coordination.

HOW:

- Set up a rectangle with cones #1 and #3 about five yards apart. The distance between cones #1 and #2 will be approximately 10 yards.
- Begin with one person between cones #1 and #3 and one person between #2 and #4.
- One athlete will begin the drill by rolling the reaction ball towards the other athlete (or coach).
- The object is to get the ball to roll between the opposite two cones and past the other person.

EQUIPMENT:

- Reaction ball and 4 cones to designate the field of play

COACHING TIPS:

- Do not roll the ball as fast as possible as this defeats the purpose of the drill and neither athlete improves his eye-hand coordination.
- Much like the Card Challenge drill below, this is an interactive exercise that works well as a competition or group/team challenge. A simple option would be to play a game to five points.



DRILL: Card Challenge

WHY:

Improve eye-hand coordination.

HOW:

- Face the trainer and stand about five yards apart.
- The trainer will throw a card up in to the air and the athlete has to react to the unpredictable flight of the card and attempt to catch it with one or both hands (predetermined before starting the drill).
- This drill that can be performed with one, two, or multiple athletes

EQUIPMENT:

- Deck of playing cards

COACHING TIP:

- This is a fun drill to do in a group setting to create a friendly competition. Example: Each athlete gets 3 cards thrown to him. Each round, the athletes who catch the most cards move on to the next round. This continues until there is one athlete left remaining..

