

FOREWORD

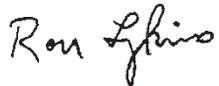
I've been with the American Association of adaptedSPORTS™ Programs since it was incorporated in 1996 and am proud to be a part of an organization that has become known as the United States' most innovative provider of interscholastic athletic programs for youth with physical disabilities or visual impairments.

Throughout my coaching career, I have had the privilege of working with many outstanding coaches and players. The ideas contained within the adaptedSPORTS™ Coaching Guides represent the cumulative experiences in an ever-growing body of knowledge that was in its infancy 10 years ago.

My ultimate goal with AAASP has always been to make sure that every child who wants to play adapted sports has a well-trained and knowledgeable coach who will help them develop into a well-rounded athlete. I am proud of what we are able to present within the adaptedSPORTS™ Coaching Guides, as well as our sports rule books and our professional coaches training program.

I hope you find our resources helpful in your quest to help these deserving young athletes.

Sincerely,



RON LYKINS
AAASP Director of Training
U.S.A. Paralympic Coach

Please go to www.adaptedsports.org or call 404 294 0070 to sign up for certification, schedule a workshop or order any of our publications.

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First Edition

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WHEELCHAIR HANDLING: SKILLS AND DRILLS FOR COURT SPORTS

Proper wheelchair handling is the most important skill to be learned in wheelchair sports. This guide illustrates the fundamental techniques of wheelchair handling and includes drills that will help athletes develop and hone these skills. An athlete must become proficient in propelling the chair forward and backward, and turning and stopping. Otherwise, they will not be in position to effectively develop and master other sport skills. Coaches must continually stress the importance of proper mechanics in wheelchair handling and should include drills in every practice session.

SKILLS

Forward Propulsion and Stopping

The first handling skills to be mastered are forward propulsion and stopping. As with all wheelchair handling skills, hand placement is critical to be successful and to avoid injury. The forward pushing stroke will begin at the 12 o'clock position (Figure 2) on the wheels. The player's thumbs and butt of the palms are placed on the chair's wheels as the fingers grasp the pushrim (Figure 1). The pushing stroke will begin with the elbows forcefully flexed downward. During the stroke, it is important to keep the elbows close to the body but not directly against it. The hands remain in contact with the wheels until the 3 or 4 o'clock position (Figure 3). At this point, the hands leave the wheels to begin the recovery phase.

There are two methods of recovery. With the first method, the athlete returns the hands and elbows to the beginning position within the same plane as the initial stroke. This action is similar to the movement of a piston in an engine (Figures 4 and 5).



Figure 1



Figure 2



Figure 3



Figure 10



Figure 4



Figure 5

With the second method, the athlete returns the hands to the starting position of the stroke by bringing them across the wheels at the level of the rear axles (Figures 6, 7, 8 and 9). When the hands are at the far sides of the wheels, the athlete raises the arms to bring the hands to the 12 o'clock position (Figure 10). Then the player grasps the wheels to start the next push. Both recovery methods are completed with the hands grabbing the wheels at the 12 o'clock position. The player should look forward with the head positioned over the knees. Throughout the push, the head should remain level (not bobbing up and down). The player should alternate looking over one shoulder, then the other, coinciding with each push.



Figure 6



Figure 7



Figure 8



Figure 9

To stop the wheelchair, the player extends the arms forward and grabs the handrims and wheels (Figure 11). Then the player pulls both wheels back and up, while leaning back into the wheelchair (Figure 12).



Figure 11



Figure 12

Backward Propulsion and Stopping

Backward propulsion is a valuable skill that is often overlooked and underdeveloped. It is generally, but not exclusively, used in a halfcourt defensive setting to prevent an offensive player from setting a pick on a defensive player. Pushing backward is also useful when two offensive players need to create space between each other. A big mistake offensive players make when they are too close to one another is to turn the chair around and push away. When a player turns away from the ball or their teammate, they cannot see what action is occurring on the court and cannot react properly. Hence, they are no longer a threat to the opposing team. It is important for coaches to teach offensive players to push backward in order to create space and to maintain offensive or defensive strategies.

The grip is the same as for pushing forward. The thumbs and butt of the palms are placed on top of the wheels at the 12 o'clock position and the fingers grasp the handrims (Figure 13). The stroke of the pull starts with the hands grabbing the wheels at the 9:30 or 10 o'clock position (Figure 14). The player pulls back on the wheels (Figures 15, 16 and 17), releases the hands at the 1 o'clock position, and flicks the wrists backward (Figure 18). At the same time, the player will lean back into the chair's backrest and alternate looking over one shoulder, then the other, coinciding with each pull.



Figure 13



Figure 14



Figure 15



Figure 16



Figure 17



Figure 18

To stop the wheelchair, the player should lean forward as far as possible without losing balance and grab the wheels tightly at the 9 or 10 o'clock position (Figure 19). After the wheelchair is stopped, the player must quickly recover to a forward pushing position (Figure 20).



Figure 19



Figure 20

Proper mechanics rather than speed must be emphasized when teaching backward propulsion. Players must be able to keep their wheelchair moving in a straight line. To do this, they must practice grabbing both wheels at the same position and pulling back simultaneously. As players become proficient in the mechanics of backward propulsion, they can begin to concentrate on increasing speed.

Pivots

To pivot a stationary wheelchair, the player uses a push-pull action on the wheels. The player reaches down on the wheel that coincides with the direction in which they want to pivot. The player grabs the wheel at the 7 o'clock position and pulls upward while grabbing the other wheel at the 12 o'clock position. The player pushes forward and leans into the direction of the pivot, while slightly shifting their weight over the pivot wheel (Figures 21, 22, 23, 24, 25 and 26).

Turning

To turn the wheelchair while moving, the player reaches forward and tightly grabs the wheel that coincides with the direction of the turn. While pulling back on the wheel, the player leans into the turn and slightly shifts their weight over the turning wheel (Figures 27, 28, 29, and 30).

Tilting

It is important for players to learn how to tilt their wheelchairs sideways and balance on two wheels. Tilting on two wheels is a legal sports technique and is used for shooting, defending, passing, and catching. To be able to tilt the wheelchair effectively, a player should be strapped

Pivots



Figure 21



Figure 22



Figure 23



Figure 24



Figure 25



Figure 26

Turning



Figure 27



Figure 28



Figure 29



Figure 30

into the wheelchair (Figure 31). The player tilts the wheelchair by pulling up on the wheel upon which they are not tilting. The free hand tightly holds the grounded wheel. While tilting on the two wheels, the player must learn to find their center of balance. As the player learns where that center lies, they will be able to hold the tilt for increasingly longer periods.



Figure 31

The coach should emphasize the following points and evaluate each player's techniques: The player must not lean over the wheel too far. The shoulder should stay above the rear axle and the ground. The hands should hold the wheel over the rear axle. The player's weight must be kept back and held over the point where the wheel is touching the ground. In order to see the ball, the player's head should be up at all times while tilting.

The player should begin by tilting about two feet from a wall. The player tilts up and can use the wall to balance (Figures 32 and 33). The next step will be for the player to take their hand off the wall and balance on their own. As the player's balance improves, they can take their hand off the wall for longer periods. Eventually, the player will be able to tilt away from the wall.



Figure 32



Figure 33

After the players learn to tilt using two hands, they should learn to tilt using only one hand. When the players can tilt using one hand, the next step is to tilt without using either hand. Players should learn how to tilt while holding a ball, catching a pass, passing, shooting, and playing defense.

The following are drills that will help players develop good wheelchair handling skills.

DRILLS

Down and Backs

Coaches use this drill to introduce forward and backward propulsion. The players start on the endline facing the opposite end of the court. On the coach's command, the players push forward. While the players move to the far side of the court, the coach evaluates their pushing mechanics. Emphasis must be placed on proper technique, not on speed.

There are many variations for this drill. The coach can have the players stop at all of the lines (free throw, halfcourt, endlines) or the coach can have players stop anywhere on the court upon command. By having the players stop, the coach can observe the starting and stopping techniques of each player.

Ladder Drill

The goal of the ladder drill is general conditioning and wheelchair handling. For this drill, players line up on the endline. On the coach's command, they push as quickly as they can to the nearest free-throw line and back to the endline (A), to halfcourt and back (B), to the far free-throw line and back (C), and finally to the other endline and back (D). They should be sprinting throughout the entire drill. Players can push forward or backward in this drill. Through each stage, players should remain in the same lane.

Coaches can also run a variation of this drill in which more wheelchair handling is involved. For example, players may be directed to execute any of several wheelchair handling skills at each turn point (i.e., a 360°; pivot right; pivot left; return a short distance up the course, give a chair fake in one direction, then turn in another). Coaches will need to make the drill's difficulty level commensurate with the players' ability levels (Diagram 1).

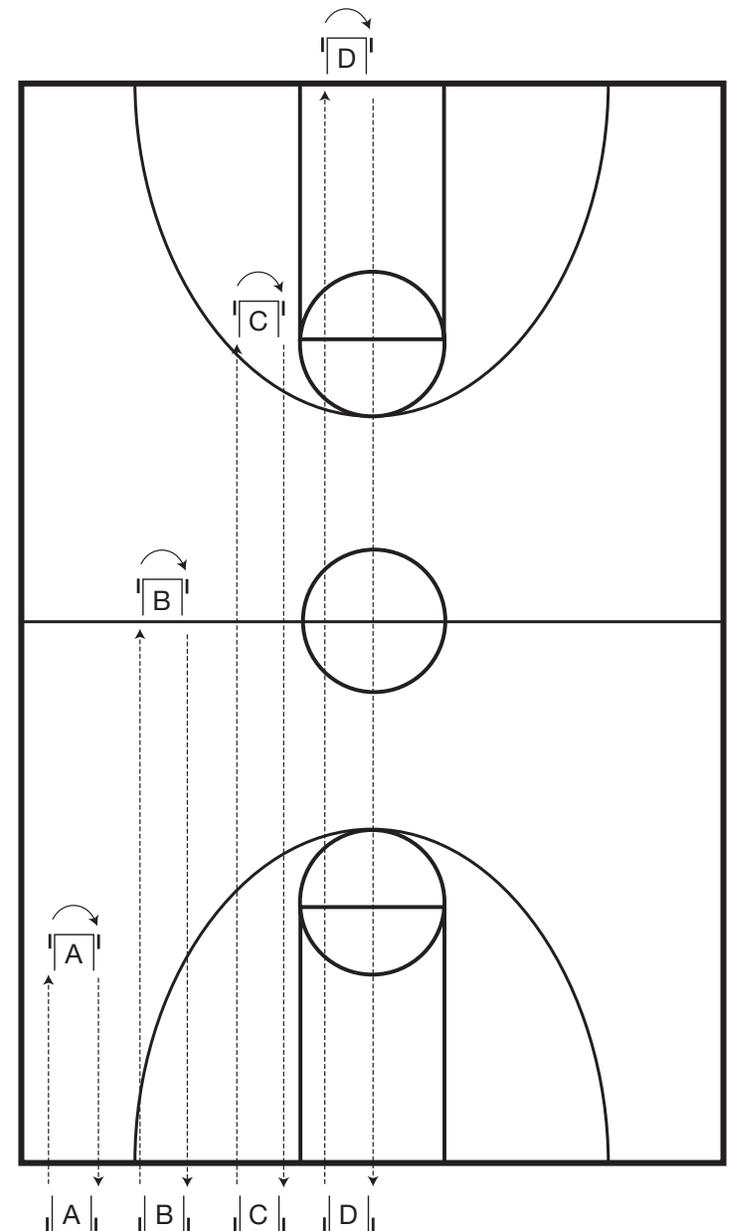


Diagram 1: Ladder Drill

Shark

This drill accomplishes a number of things. First, it is a good physical conditioning drill, as all players have to push hard and move fast. Second, the players are working on improving their wheelchair handling skills, as they have to make fakes, pivots, quick turns, etc. to escape being tagged. They must also work to avoid collisions, as there will be many players on the court moving in various directions. This simulates a game situation where they must be aware of the positions of other players while they move about the court.

In this drill, the players line up at one end of the court with one player at halfcourt. This lone player is the "shark." The players lined up at the endline try to reach the other end of the court without being tagged by the shark. The shark attempts to tag as many players as possible. Any player who is tagged becomes a shark who also attempts to tag the other players. The players who have not been tagged will try to reach the original endline again, this time with more sharks to avoid. The drill continues in this manner until every player has been tagged.

Wheelchair Handling Drill

The players line up on the baseline facing the coach at halfcourt. The coach blows the whistle and the players move forward. When the coach blows the whistle again, the players stop and pivot their wheelchairs in the direction that the coach indicates. Next, the players pivot back to face the coach and move forward. This is a continuous drill with players' moving progressively to the other end of the court (Diagram 2). The coach can point forward, backward or to either side. The coach can have players do 90°, 180°, or 360° turns.

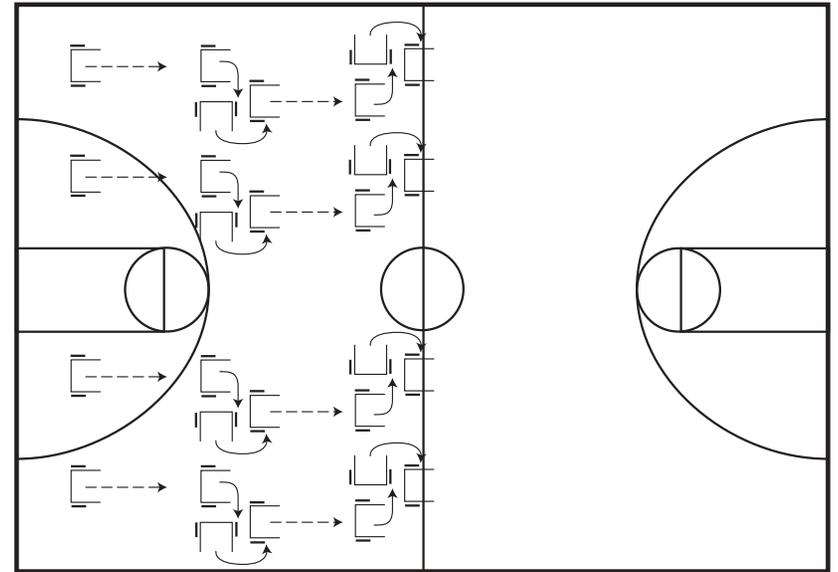


Diagram 2: Wheelchair Handling Drill

Lane Drill

One player starts out at the free-throw lane on the baseline. They push across the free throw lane and stop on the opposite lane line. Next, they angle their wheelchair, pull backward across the free throw lane, and stop on the other lane line halfway between the baseline and the free throw line. Again, the player pushes across the lane, stops on the opposite lane line, angles the wheelchair and pulls backward to the opposite elbow of the free throw lane. After the stop, the player executes a three-quarter turn (270°) and proceeds to the end of the line (Diagram 3).

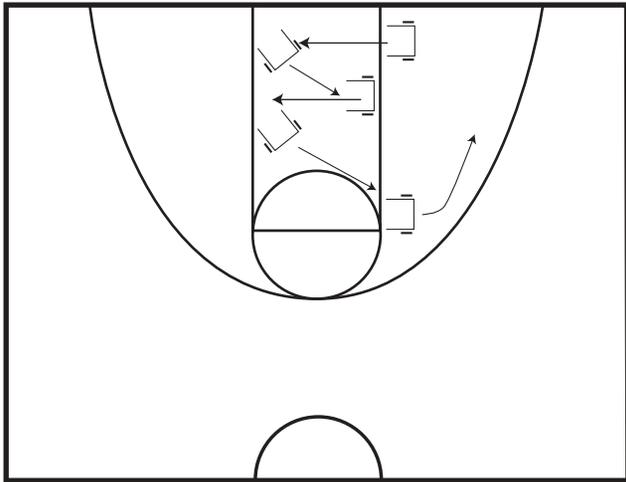


Diagram 3: Lane Drill

Line Drill

There are four parts to the Line Drill as shown in Diagrams 4 through 7. Diagram 8 illustrates the five positions on the court from where players repeat the drill.

The player starts in the corner on the baseline.

1. In the first part, the player pushes forward to the second free throw lane line and stops (Diagram 4).
2. The player pulls backward to the other free throw lane line and stops (Diagram 5).
3. Next, the player executes a 180° turn, pulls backward to the free throw lane line and stops (Diagram 6).
4. The player executes another 180° turn and pushes forward to the sideline (Diagram 7).

- The player repeats these actions between the sideline and either the first 3-point line or the free throw lane line if there is no 3-point line (Diagram 8b).
- Next, the player will push forward and execute the same actions between the halfcourt line and either the top of the 3-point line or the top of the key extended (8c).
- Third, the player pushes forward across the court to the opposite sideline and performs the same action between the halfcourt line and either the 3-point line or the top of the key extended (Diagram 8d).
- After completing these actions, the player proceeds to the end of the line (Diagram 8e).

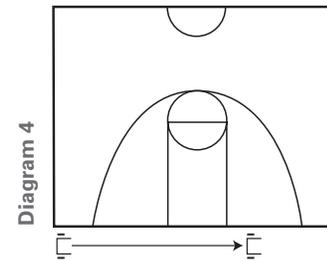


Diagram 4

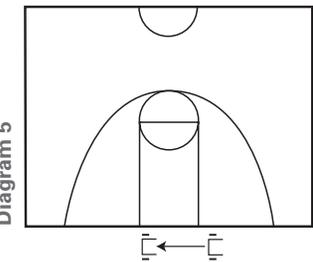


Diagram 5

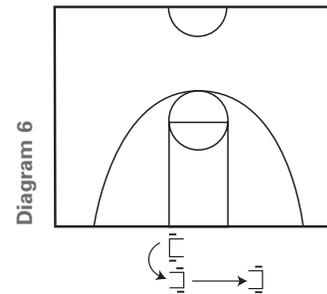


Diagram 6

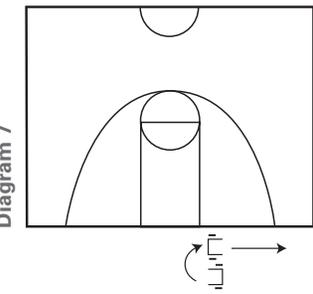


Diagram 7

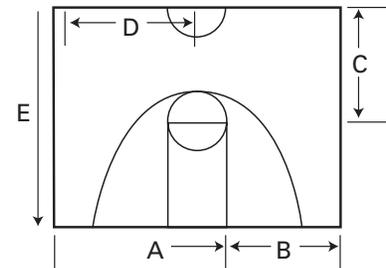


Diagram 8

Diagrams 4 through 8: Line Drill

Touch Four Boundary Lines Drill

This drill and its variations are excellent for developing wheelchair handling skills and for physical conditioning. The coach should emphasize: proper pushing mechanics; pushing with the head up; faking; and using other players as obstacles. Each drill should last between five and eight minutes.

All the players start in the jump circle. When the coach blows the whistle, the players race to touch all four boundary lines of the court and then return to the jump circle. The last player in the jump circle is out and sits on the sidelines holding a basketball over their head with their non-dominant hand for the remainder of the drill. As soon as this player exits the court, the coach blows the whistle to start the next race. The drill continues until only one player remains in the jump circle. This drill can also be performed with the players pushing backward.

Partner Tag

This drill stresses proper propulsion techniques and physical conditioning. The coach matches players (a “**Chaser**” and a “**Chasee**”) by speed and wheelchair handling skills. When the coach blows the whistle, the **Chasee** pushes away from the **Chaser** and tries to avoid being tagged. The **Chasee** is allowed two pushes before the **Chaser** can move and attempt to tag. The only player that the **Chaser** can tag is their **Chasee** partner. The **Chasee** can go anywhere on the court and can use any of the other players as obstacles. This causes the players to watch carefully and to push with their heads up. After a player is tagged, the partners reverse roles and a new chase immediately begins. As the players' wheelchair handling skills improve, the coach can instruct them to move their wheelchairs backward during the drill.

Notes

Notes