

# **BOWLING COACHING GUIDE**

**Teaching Bowling Skills** 

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### The Warm-Up

A warm-up period is the first part of every training session or preparation for competition. The warm-up starts slowly and systematically and gradually involves all muscles and body parts that prepare the athlete for training and competition. In addition to preparing the athlete mentally, warming up also has several physiological benefits.

The importance of a warm-up prior to exercise cannot be overstressed. This is true even for a sport like bowling. Warm-up raises the body temperature and prepares the muscles, nervous system, tendons, ligaments and the cardiovascular system for upcoming stretches and exercises. The chances of injury are greatly reduced by increasing muscle elasticity.

The basic physical fitness needs for developing bowling skills are strength in the upper arms and shoulders and endurance in the upper arm, shoulder and legs. Upper arm and shoulder strength will help the athlete develop the smooth and coordinated approach and delivery. Endurance allows the athlete to be able to bowl without undue fatigue when bowling a number of games (i.e. league play and tournament play).

The warm-up is tailored for the activity to follow. Warm-ups consist of active motion leading up to more vigorous motion to elevate heart, respiratory and metabolic rates. The total warm-up period takes at least 25 minutes and immediately precedes the training or competition. A warm-up period will include the following basic sequence and components.

Activity	Purpose	Time (minimum)
Slow aerobic jog	Heat muscles	5 minutes
Stretching	Increase range of movement	10 minutes
Event-Specific Drills	Coordination preparation for training/competition	10 minutes

### **Jogging**

Jogging is the first exercise of an athlete's routine. Athletes begin warming the muscles by jogging slowly for 3-5 minutes. This circulates the blood through all the muscles, thus providing them greater flexibility for stretching. A jog should start out slowly, and then gradually increase in speed to its completion; however, the athlete should never reach even 50 percent of his maximum effort by the end of the jog. Remember, the sole objective of this phase of the warm-up is circulating the blood.

### Stretching

Stretching is one of the most critical parts of the warm-up and an athlete's performance. A more flexible muscle is a stronger and healthier muscle. A stronger and healthier muscle responds better to exercise and activities, and helps prevent athlete injury. Please refer to the "Stretching" within this section for more in-depth information.



### **Event-Specific Drills**

Drills are progressions of learning that start at a low ability level, advance to an intermediate level and, finally, reach a high ability level. Encourage each athlete to advance to his/her highest possible level.

Kinesthetic movements are reinforced through repetitions of a small segment of the skill to be performed. Many times, the actions are exaggerated in order to strengthen the muscles that perform the skill. Each coaching session should take the athlete through the entire progression so that he/she is exposed to the total of all of the skills that make up an event.

### **Specific Warm-Up Activities**

- Swing arms back and forth, simulating the pendulum swing.
- Walk through the approach and delivery without the ball.
- Use 10-15 minutes as a warm-up period on the lane, bowling the ball.

### The Cool-Down

The cool-down is as important as the warm-up, however it is often ignored. Abruptly stopping an activity may cause pooling of the blood and slow the removal of waste products in the athlete's body. It may also cause cramps, soreness and other problems for athletes. The cool-down gradually reduces the body temperature and heart rate, and speeds the recovery process before the next training session or competitive experience. The cool-down is also a good time for the coach and athlete to talk about the session or competition.

Activity	Purpose	Time (minimum)
Slow aerobic jog	Gradually reduces heart rate and body temperature	5 minutes
Light stretching	Removes waste from muscles	5 minutes



### Stretching

Flexibility is a major element in an athlete's optimal performance in both training and competing. Flexibility is achieved through stretching, a critical component in warming up. Stretching follows an easy aerobic jog at the start of a training session or competition.

Begin with an easy stretch to the point of tension, and hold this position for 15-30 seconds until the pull lessens. When the tension eases, slowly move further into the stretch (developmental stretching) until tension is again felt. Hold this new position for an additional 15 seconds. Each stretch should be repeated four to five times on each side of the body.

It is also important to continue to breathe while stretching. As you lean into the stretch, exhale. Once the stretching point is reached, keep inhaling and exhaling while holding the stretch. Stretching should be a part of everyone's daily life. Regular, consistent daily stretching has been demonstrated to have the following effects:

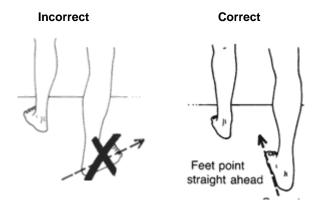
- 1. Increase the length of the muscle-tendon unit
- 2. Increase joint range of motion
- 3. Reduce muscle tension
- 4. Develop body awareness
- 5. Promote increased circulation
- 6. Make you feel good

Some athletes, like those with Down syndrome, may have low muscle tone that makes them appear more flexible. Be careful to not allow these athletes to stretch beyond a normal, safe range. Several stretches are dangerous to perform for all athletes and should never be part of a safe stretching program. These unsafe stretches include the following:

- Neck Backward Bending
- Trunk Backward Bending
- Spinal Roll

#### Calf Stretch

Stretching is effective only if the stretch is performed accurately. Athletes need to focus on correct body positioning and alignment; take the calf stretch, for example. Many athletes do not keep the feet forward in the direction that they are moving.





Another common fault in stretching is bending the back in an attempt to get a better stretch from the hips. An example is a simple sitting forward leg stretch.

### Incorrect Correct





As you can imagine, there are a host of stretches and variations to them to achieve your goals. However, we will focus on some basic stretches, highlighting major muscle groups. Along the way, we will also point out some common faults, illustrate corrections and identify stretches that are more event specific. In addition, we will also have some reminders to keep breathing while stretching. We will start at the top of the body and work our way to the legs and feet.

# Coaching Tips

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- ☐ It is important that coaches and assistants make sure that stretches are being done effectively and are not harmful to the athlete. To do this may require direct, individual physical assistance, particularly with lower ability players.
- ☐ Some stretches require a good sense of balance. If balance is a problem, use stretches that can be done while in a sitting or lying position.
- ☐ Coaches should attend to athletes doing the exercises improperly, as well as provide personal attention and reinforcement to those doing them effectively.
- Use stretching as a "teachable moment" with athletes. Explain the importance of each stretching exercise and which muscle group is being stretched. Later, ask the athletes why each stretching exercise is important



The following stretches are designed to specifically loosen and limber those muscles that are used most during bowling. An ideal routine includes three sets of five, with at least three exercises in each major muscle group.

# **Upper Body**

### Neck/Shoulder Stretch - Side

### **Neck/Shoulder Stretch - Front**





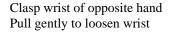
Stand/sit in comfortable position, shoulders and arms relaxed at sides Slowly turn head to left, back to center, turn to right Slowly tilt head to back, back to center, bend forward, chin to chest

### **Wrist Stretch**

# **Chest Opener**









Clasp hands behind back Palms facing in Push hands up, towards sky



# **Upper Body**

### **Side Arm Stretch**



Raise arms over head Clasp wrist of opposite hand and pull gently to the opposite side Push up toward sky with opposite arm Bend torso slightly to the opposite side

### **Side Arm Stretch**



# **Triceps Stretch (Back)**



Raise both arms over head Bend right arm, bring hand to back Grasp elbow of bent arm and pull gently toward the middle of the back Repeat with other arm

# **Triceps Stretch (Front)**





# **Upper Body**

### **Forearm Flexors**





Clasp hands together in front, palms facing out Point fingers up, wrist bent Grasp fingers with other hand Gently pull fingers toward body Repeat with other hand

### **Side Stretch**



Raise left arm over head, keep other arm at side Bend sideways to the right Repeat with other arm to left side

### **Side Stretch**



This exercise can also be done with assistance; the athlete above is using his cane. Athletes can also use a stable assistive device to aid them in completing their stretching routine.



### Low Back & Glutes

# Quadriceps





Balance on one leg while bringing the heel of opposite foot up to buttock Grasp the heel of the foot and gently push back with the quadricep muscle, not the knee Repeat with other leg

If your athletes have trouble keeping their balance, let them hold on to your shoulder or a teammate's

# Lower Body

### **Ankle Rotations**



Balance on both feet, standing tall
Shift weight to left leg
Point toe of right foot downward
Rotate foot around ankle clockwise three to
five times
Rotate foot around ankle counterclockwise
three to five times
Shift weight to left leg and repeat

# **Forward Bend with Crossed Legs**





Stand, arms outstretched overhead Cross one ankle over the other ankle Slowly bend at waist Bring hands to ankle level without strain



# **Lower Body**

# **Forward Lunge**



Step out with left leg Bend left knee, extend leg and shift weight forward and hold Repeat with opposite leg

# **Forward Lunge with Assistance**



This exercise can also be done with assistance; the athlete above is using his cane. Athletes can also use a stable assistive device to aid them in completing their stretching routine.

# **Calf/Achilles Stretch**



Place palms against wall Step back with left leg Bend right knee and extend as in the forward lunge until slight tension is felt and hold Repeat with opposite leg



# Stretching - Quick Reference Guidelines

### **Start Relaxed**

Do not begin until relaxed and muscles are warm

### **Be Systematic**

Start at the top of body and work your way down

### **Progress from General to Specific**

Start general then move into event-specific exercises

# Easy Stretching before Developmental Stretching

Make slow, progressive stretches

Do not bounce or jerk to stretch farther

### **Use Variety**

Make it fun; work same muscle with different exercises

### **Breathe Naturally**

Do not hold breath, stay calm and relaxed

### **Allow for Individual Differences**

Athletes start and progress at different levels

# **Stretch Regularly**

Always include in warm-up and cool-down

Stretch while at home too



### The Grip

There are two basic types of grips used in bowling: conventional grip and fingertip grip.

### **Conventional Grip**

Most Special Olympics bowlers use the conventional grip because it provides a firmer hold with the fingers. It also gives the bowler a more secure feeling about having full control of the ball. The conventional grip also allows the athlete to hold more of the ball, thus providing the feeling of a secure release. The finger hole depths are deep enough to allow the fingers to enter the ball up to the second knuckle. The thumbhole is drilled to allow the whole thumb to be inserted into the ball. The thumbhole is drilled the same for both the conventional and fingertip grip.

### **Fingertip Grip**

The fingertip grip is recommended for the advanced bowler. The finger holes are drilled to allow only the tips of the fingers to be inserted into the bowling ball. This grip will spread the hand across more of the surface area of the ball, known as the span (distance between the thumb and finger holes). The thumbhole is drilled the same as the conventional grip. The fingertip grip allows for more lift on the ball during the release.

### **Athlete Readiness**

	Places	his/her	fingers	and	thumb	in	the	ball	properly	
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Supports the ball by placing the non-bowling hand under the ball with elbows in, close to the body

# **Teaching the Grip**



- 1. Athlete places his/her fingers in the ball, the ring and middle fingers in first, then the thumb.
- 2. Fingers always go in to the same depth.
- 3. The grip needs to feel natural and comfortable. Do not place any strain on the thumb, fingers or wrist.
- 4. Fingers not in the hole may be spread out from or held close to the fingers in the ball.

# Key Words

- Fingers first then thumb
- Non-bowling hand under the ball

### **Faults & Fixes Chart**

Error	Correction		
Thumb in first	Demonstrate to athlete, placing fingers in first		
Thumb falling out of ball before release	Insert bowlers' tape in thumbhole to secure grip		
Finger holes are sticky	Make sure hands are clean and dry		



# Coaches' Tips for the Grip - At-A-Glance

# **Tips for Practice**

- 1. If the athlete is having difficulty with proper finger placement, try marking those fingers (stars, fingernail polish, magic marker, etc.) to further remind him/her.
- 2. Have the athlete pick the ball up from the ball return with both hands. While holding the ball with both hands, rotate the ball so that the holes of the ball are on top.
- 3. The non-bowling hand is under the ball, providing support, while the bowler places his/her fingers and thumb in the holes.



# Skill Progression - Retrieving the Bowling Ball

Your Athlete Can:	Never	Sometimes	Often
Observe lane courtesy			
Approach ball return from correct side			
Identify his/her ball			
Pick up ball correctly from ball return			
Cradle the ball in one arm and move to his/her starting position on the approach			
Totals			

# Teaching Bowling Skills Retrieving the Bowling Ball



### Retrieving the Bowling Ball

When retrieving the ball from the ball return, it is very important that it is picked up properly with both hands.

### **Teaching the Bowling Ball Retrieval**

- 1. Make sure the athlete knows the correct lane that he/she is to bowl on before stepping on the approach.
- 2. Ensure that there are no bowlers on the adjacent lanes, one lane right or left of the athlete, before stepping onto the approach.
- 3. Athlete reaches for his/her own ball. Bowlers always use the same ball.
- 4. Athlete grasps the ball with both hands, placing the hands on opposite sides of the ball, away from incoming balls. This prevents the fingers from getting crushed.
- 5. Athlete cradles the ball in one arm and moves to his/her starting position on the approach. For a right-handed athlete the ball rests in his/her left arm and is supported on the side by the right hand and body.

### **Key Words**

- Use your own ball
- Remember lane courtesy—look left look right
- Watch your fingers



# Coaches' Tips for Retrieving the Ball - At-A-Glance

# **Tips for Practice**

- 1. To aid the bowler in identifying the correct lane, have the bowler look at the overhead automated scoring display which identifies the bowler to bowl next and identifies the lane to bowl on. If there is no such equipment, you may want to identify the person the bowler is to follow.
- 2. Explain to the athlete what could happen if his/her fingers are between the ball when another ball rolls onto the ball return rack. Although it does not enter the rack with much speed, a ball does not stop until it bangs against another ball or against someone's fingers.
- 3. Explain to the athlete why the use of two hands is better than one hand when picking up the ball from the return rack. It puts less stress on the fingers and wrist, saves energy needed to bowl for a long time and helps prevent the ball from falling to the floor or, worse yet, on his/her toes.
- 4. Do not pick up the ball with the fingers in the holes. Fingers are not inserted until the stance has been taken and the approach is ready to be made. Athlete cradles the ball in one arm and moves to his/her starting position.



# Skill Progression - Proper Stance

Your Athlete Can:	Never	Sometimes	Often
Locate starting position on approach for first ball.			
Stand appropriately for making spares.			
Demonstrate proper foot placement - Left foot forward, if right-handed.			
Assume correct stance with eyes focused on bowling pins or target arrows/dots.			
Hold ball under control with two hands.			
Hold ball at proper height relative to body position.			
Totals			



### Athletic Pose

The athletic pose is also referred to as the "coach's eye". This concept is used to analyze a bowler's delivery into four points.

- 1. Waist Down Foot placement, knees and hips
- 2. Waist Up Spine, shoulders, head and eyes
- 3. Ball Position Height and position side to side
- 4. Hand Position Grip, position of the fingers and thumb

**Waist Up** 



**Ball/Hand Position – Bowling Hand** 



**Waist Down** 



**Ball/Hand Position – Non-Bowling Hand** 





### **Teaching the Proper Stance**

It is important for the athlete to establish a stance that is comfortable and natural. Use the following suggestions as guidelines only. Remember, what may work for one athlete, may not work for another. There are five basic stances and deliveries.

### Staggered Stance without a Push away

The staggered stance is the first phase of one-handed bowling for beginners. The bowler takes the starting position at the foul line and takes no steps.

Waist Down:	The toe of the foot opposite the ball arm is about three inches behind the center dot.  The ball side foot is 4-18 inches back to create balance. The knees are slightly bent.
Waist Up:	The back is slightly bent forward. The bowler's eyes focus straight ahead at the target.
Ball Position:	The arm hangs straight down by the side.
Hand Position:	The thumb is on top of the ball with the thumb at a 10 o'clock position for right-handers and a 2 o'clock position for left-handers.

### **Ball Position**



# Coaching Tips

- ☐ Remember, this is the first phase of learning to bowl for some athletes.

  This is also the preferred method of bowling for athletes who do not take a four-step delivery.
- ☐ The bowler starts with the ball low, begins a ball swing and releases the ball when ready.

### Foot Placement



### Coaching Tips

- ☐ This is the perfect time to begin teaching foot placement. Correct positioning of the feet will help develop a smooth swing.
- ☐ Sometimes you will have to demonstrate to the athlete how and where the feet need to be positioned.



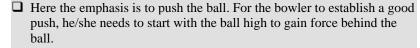
# Staggered Stance with a Push away

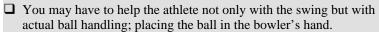
The bowler takes the starting position at the foul line and takes no steps. However, the bowler holds the ball at a higher position to create an arm swing and a push away.

Waist Down:	The position is the same as without a push away.
Waist Up:	The position is the same as without a push away.
Ball Position:	The ball is held at the side of the body at a comfortable place between waist and chest high. The opposite hand is placed under the ball to support the weight of the ball.
Hand Position:	The hand is now behind the ball with the thumb at a 10 o'clock position for right-handers and a 2 o'clock position for left-handers, and the fingers at a 4 o'clock position for right-handers and an 8 o'clock position for left-handers. The wrist is firm and straight.

# **Ball Swing**





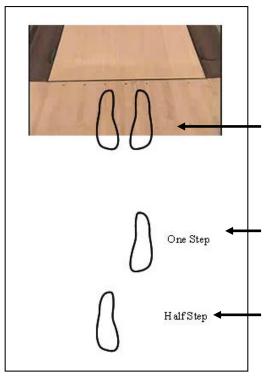




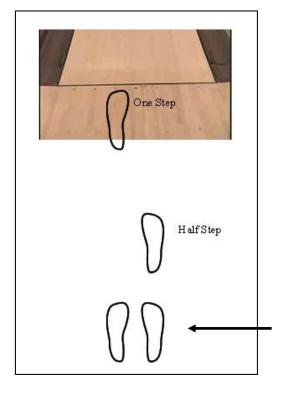


# Swing and Slide

This delivery is the same as a bowler would use in a four-step approach. Use the following to find the starting position (Foot placement locations assume a right-handed bowler, for left handed bowler step with opposite foot to mark out your starting point).



- 1. Bowler stands on the center dot facing the settee area.
- 2. Bowler's heels are on the dots by the foul line.
  - 3. Bowler takes 1½ steps toward the settee.
- 4. Bowler turns to face the bowling lane and this is where the bowler begins their delivery. (See Diagram 5)



5. This is where the bowler begins their delivery.



Waist Down:	The ball foot is only 2-5 inches behind the toe of the other foot, with the weight mostly on the ball -side foot. The knees are slightly bent.
Waist Up:	The back is bent slightly forward. The eyes are focused on the target straight ahead.
Ball Position:	The same as in the staggered stance with a push away.
Hand Position:	The same as in the staggered stance with a push away.

### **Incorrect Pose**



### **Correct Pose**



# The Four-Step Delivery

This stance is the same as the swing and slide. To find the starting position, the bowler stands at the center dot facing the settee area with his/her heels on the dots by the foul line and takes 4½ steps toward the settee. The half step is to accommodate the slide.

Waist Down:	The ball foot is only 2-5 inches behind the toe of the other foot, with the weight mostly on the ball-side foot. The knees are slightly bent.
Waist Up:	The back is bent slightly forward. The eyes are focused on the target straight ahead.
Ball Position:	The same as in the staggered stance with a push away.
Hand Position:	The same as in the staggered stance with a push away.

# The Five-Step Delivery

This stance is the same as the four-step delivery. To find the starting position, the bowler stands at the center dot facing the settee area with his/her heels on the dots by the foul line. The athlete takes five steps toward the settee.

# Key Words

- Feet position
- Relax, bend your knees a little
- · Eyes on your target
- Ball position



# Coaches' Tips for the Proper Stance - At-A-Glance

# **Tips for Practice**

- 1. To encourage proper foot placement for athletes standing at the foul line, use a mat with footprints for the beginning bowler. Remove the mat when the athletes get used to the proper position.
- 2. A helpful hint in determining the athlete's starting point for the four- or five-step approach is to have him/her stand at the foul line, facing the seating area. Have the athlete take 4½ or five steps toward the seating area. This is close to where the athlete's starting point is located.
- 3. Insure that the ball is between waist and chest high and to the side of the body so as to not block his/her view of the pins or target arrows. Have the athlete pick a target—either the pins or targeting arrows/dots. Tell the athlete to keep his/her eyes on the mark as they bowl.
- 4. The athlete's shoulders are at a slight angle because of the weight of the ball. The body is square to target.
- 5. Not all of these suggestions will work for everyone. Try them, modify them and use what works best for the athlete. Variations are acceptable provided they are comfortable and help the athlete bowl well.



# Skill Progression - Approach - Delivery

Your Athlete Can:	Never	Sometimes	Often
Perform pendulum swing with swing and slide.			
Perform, with consistent rhythm, four- or five-step approach with push away and pendulum swing.			
Perform smooth four- or five-step approach with push away and pendulum swing.			
Deliver ball without going over the foul line.			
Totals			



# Teaching the Approach - Delivery

The proper approach involves the movement of the bowler and ball at the same time toward the goal of delivering the ball down the lane. There are three basic approaches:

- 1. Step and slide
- 2. Four-step approach
- 3. Five-step approach

Each of these includes the push away, the pendulum swing and delivery. Although not called an approach, the one-step delivery is included here to provide a transition from standing at the foul line to a full four-or five-step approach.



Beginning bowlers have a hard time putting all the components of the approach together at first. Start bowlers at the foul line using the pendulum swing, then move to a swing-and-slide approach, and ultimately a full approach. At first, the full approach will probably be nothing more than the athlete trying to take the proper steps up to the foul line and then performing the pendulum swing and delivery.

Have the athlete master each part before proceeding to the next part. Evaluation of the athlete during the first two training sessions will provide you an idea of a starting point for training.



### **Teaching the Pendulum Swing**

- 1. Athlete assumes the proper stance at the foul line.
- 2. Hold ball at side with bowling arm extended, thumb faces the pins.
- 3. Keep arm relaxed and wrist straight.
- 4. Have the athlete swing the ball forward at waist level and then backward in a natural arc to a position no higher than the hips. At this point, the body is leaning forward, the knees are slightly bent.
- 5. Keep shoulders parallel to foul line.
- 6. Keep ball, arms and elbows close to the body throughout swing.
- 7. Keep looking at target arrows/dots or pins.
- 8. Follow through with the arm continuing upward on its straight course.

### **Key Words**

- Look at your target
- One, two, roll the ball
- Let the ball swing back
- · Follow through

### **Teaching the Swing and Slide**

- 1. Athlete assumes the proper stance at the foul line.
- 2. Have the bowler push the ball out toward the target and bring the arm back.
- 3. As the ball moves forward from the back swing, the opposite foot starts to slide forward.
- 4. The bowler's front knee is slightly bent, as the ball goes past the ankle.
- 5. In the finishing position, the shoulders are slightly forward so they are above the front knee while the arm follows through straight toward the target and upward.

# Key Words

- · Ball out and down
- · Look at the target
- Slide
- Knee slightly bent
- · Shoulders slightly forward
- Follow through toward target and upward



### **Teaching the Four-Step Approach**

The four-step approach allows for the most natural rhythmic body movement during the delivery. This approach increases accuracy and reduces fatigue. The four-step approach is described below and is the recommended method to teach athletes. Instructions are for right-handed bowlers. Use opposite foot if teaching left-handed bowlers.

### First Step with Coach Assistance





Push the ball forward as the right foot steps straight ahead. This may be a short slide step. The ball is over the forward foot at the end of this step.

Your coaching assistance can take many forms. Sometimes, you may have to physically place the ball in the proper position. Other times, you may have to walk through the first step with your bowler to help him/her see and get the feel of this first step.

### Second Step



In the second step, the ball arm begins the swing down and back while the opposite arm extends to the side for balance. At the end of this step, the ball is on its way back and even with the calf of the ball-side leg.

You may have to demonstrate the skill to give the athlete a visual on how the skill is correctly achieved.

Third Step



The ball-side foot steps forward. At the end of the third step, the ball is at the height of the back swing.

Third Step with Coach Assistance



As the athletes' skills progress, you may find it easier to demonstrate proper technique first, and then let the athletes practice by themselves.



# Fourth Step



As the opposite foot slides forward, the ball descends from the back swing and is released over the foul line.

# Fourth Step with Follow Through



In the finishing position, the shoulders are slightly forward. They are above the front knee while the arm follows straight toward the target and upward.

### **Key Words**

- · Push ball forward
- Arm follows through straight Upward toward target
- Back swing
- Swing ball down and back
- Shoulders are slightly forward
- Opposite arm extends to the side for balance
- Ball over the foul line

# **Teaching the Five-Step Approach**

The five-step approach is basically the same as the four-step approach. The difference is that the first step is with the left foot in the five-step approach. The ball is not pushed away until the start of the forward movement of the right foot, as in the four-step approach. This extra step prior to the push away can be a relaxing motion for the athlete.



# Coaches' Tips for Approach/Delivery - At-A-Glance

### **Tips for Practice**

- 1. When holding the ball at side, have athlete count his/her movements. This will help prepare the athlete for learning the four-step delivery.
  - If the athlete has too much back swing, a handkerchief placed under the armpit of the bowling arm may help correct the problem. On a proper back swing, the handkerchief remains in place, and does not falls out.
  - "One" ball swing forward
  - "Two" ball swings back,
  - "Three" or "Roll the ball" forward and release down the lane.
- 2. Tell the athlete not to apply any muscle to the swing; just let the weight of the ball carry it back and then straight ahead.
- 3. Talk the athlete through the approach. "Let's begin: right foot, left foot, right foot, slide."
- 4. Once the athlete begins to use the proper movement, have the athlete get into an approach rhythm and count their steps. Count "One" for first step, "Two" for second step, "Three" for third step, "Slide" or "Roll the ball" for fourth step. Do this without a ball a few times, increasing the speed of action each time. Repeat after a few times, using a ball.
- 5. Stand behind the athlete, counting the steps while the athlete performs the steps. After a few times, let the athlete practice on his/her own. Remember, have them count the steps out loud.
- 6. To get the athlete to release the ball over the foul line, place a bowling towel or small piece of rope on the foul line, and tell the athlete to throw the ball out over the towel/rope.
- 7. Position of arm and hand on the follow through can be demonstrated by taking a bowling towel and putting a knot in it. Give the towel to the athlete and then back away. Have the athlete do a one-step delivery throwing the towel to you, using your stomach as the target. Watch the follow through, the athlete should have his/her right arm extended with the right hand pointing at your stomach with the thumb pointing up. Explain that this is the same motion they use when bowling.
- 8. A home training method is to have the athlete and a friend practice pitching a softball underhanded back and forth to each other. The same motion is used to deliver the bowling ball. After the pitch, look at the position of the arm, hand, and thumb.
- 9. Correct the athlete if bowling hand finishes across and in front of the body.
- 10. Hand, arm and shoulder follow through in a straight line with target. After the ball has left the athlete's hand, have them make a motion as if shaking hands with someone.



# Skill Progression - Teaching Scoring

Your Athlete Can:	Never	Sometimes	Often
Understand to count pins knocked down			
Recognize strikes and spares			
Understand basic terminology (i.e., open, split, strike, spare)			
Understand basic scoring procedure			
Totals			

# Teaching Bowling Skills Scoring



### Scoring

High scores are the goal in bowling. Athletes must be able to recognize bowling scoring symbols and have a general understanding of how bowling is scored. Automatic scoring equipment, in most cases, has eliminated the need for manual scoring and made the job of keeping score easy.

### **Teaching Scoring**

- 1. A game consists of 10 frames. Each frame is added together to get the score of the game. A traditional series is composed of three games.
- 2. The double-box system is displayed and is used for scoring each frame. The number of pins knocked down with the first delivery is shown in the left box of each frame.
- 3. The pins knocked down on the second delivery, if any is shown in the right box.
- 4. When a bowler fails to knock down all the pins in one frame with two deliveries, it is called a miss. The symbol for a miss is a "-."
- 5. When a bowler knocks down all the pins in one frame with two balls, it is called a spare. The symbol for a spare is a "/."
- 6. When a bowler knocks down all the pins in one frame with one ball, it is called a strike. The symbol for a strike is an "X." Three strikes in a row are called a "turkey."
- 7. When a bowler comes in contact with the foul line or any portion of the lane or structure beyond the foul line, it is charged as a "foul" and no pins are counted for that delivery. If the foul occurs on the first ball, the pins are set for the second delivery, and zero pins are counted for that delivery. The bowler then gets one ball to knock all 10 pins down. If all 10 pins are knocked down on the second delivery, it is counted as a spare.
- 8. Splits are pins left standing after the first ball is delivered with a pin or more gap between them. It is not considered a split if the headpin (number 1 pin) is left standing.

### **Key Words**

- Frame
- Series
- Miss
- Spare
- Strike
- Turkey
- Foul
- Split



# Coaches' Tips for Teaching Scoring - At-A-Glance

# **Tips for Practice**

1. For most of your athletes, a general understanding of how scoring is done is all that is needed. For those athletes whose ability will permit them to learn to keep score, you can refer them to your national or international rulebook or one of many books on bowling available in bookstores or libraries.



### Spare Making

Spare shooting is the key to achieving good scores. Spares are easier to convert than they appear. An old bowling saying is, "If you cannot strike, spare them to death." To pick up a spare, move to the side of the approach opposite the location of the standing pins. When multiple pins are left standing, the spare adjustment is based on the pin closest to the bowler. Three keys to spare shooting are:

- 1. Consistent delivery
- 2. Consistent arm swing
- 3. Rolling the ball over the target

### **Team Play**

Bowling is an individual sport. However, bowlers are often paired together to form teams to compete in bowling leagues. Pairing is also done to permit tournament competition in doubles events (two bowlers) or team events (three to five bowlers). Each bowler's score is added together to arrive at doubles or team score. Special Olympics recognizes these groupings and has competition levels for both types.

### **Targeting Techniques**

Most bowlers use one of two basic targeting techniques to aim their delivery at the pocket: pin bowling or spot bowling.

### Pin Bowling

Bowlers using this technique fix their eyes on the pins from start of the approach to the follow through. The athlete proceeds, selecting the 1-3 pocket for right-handed bowlers or the 1-2 pocket for left-handed bowlers as their objective for the first ball. If all 10 pins do not go down on the first ball, then they fix their eyes on the remaining pins when bowling their second ball.

#### Spot Bowling

Athletes, instead of aiming for the strike pocket 60 feet down the lane, use either of two sets of seven markings placed on the lanes. There are lane dots 6-8 feet beyond the foul line, or arrows approximately 15 feet down the lane. These serve as aiming aids: bowlers can figure out which board their ball lands on and what boards it rolls over on the way to the pins. The athlete must draw an imaginary line from the point of release to the target spot to have a precise idea of the path the ball will take.

**Locator Dots** 



Athletic Pose & Feet Placement





#### Four Basic Shots

### **Straight Ball**

The straight ball travels in a relatively straight line and will be subject to considerable deflection, since it will tend to shove its way through the pins. Therefore, a straight ball that enters the pocket at anything other than the precisely perfect spot—the right side of the headpin—is not likely to result in a strike. Therefore, the straight shot is not a high-percentage shot. The ball needs to roll close to the second arrow, rather than down the center of the lane, where the ball will have a better chance of entering the strike pocket and getting good mixing action among the pins.









#### **Hook Ball**

Most beginning bowlers will have a tendency to bowl the hook ball or the curve ball. If the athlete has a natural hook, do not try to change it, let the athlete work with it. The hook ball is a very effective shot, since it allows for more margin of error than the straight ball. The hook of the ball comes from the lifting motion of the middle and ring fingers during the release. The primary reason it is so effective is the mysterious mixing action it generates among the pins.

### **Curve Ball**

In throwing the curve, an exaggerated hook, the arm and wrist will be turned to the left, and the thumb will generally come out of the ball at about the 9 o'clock position. Its wide circling path makes it hard to control. However, if the ball crashes into the strike pocket just right, it can sweep away all 10 pins.

### **Backup Ball**

Instead of breaking into the 1-3 pocket, the backup ball will break away from it. If it is the bowler's natural shot and you find that you are unable to have the athlete adapt to another one, have the athlete move to the left side of the approach and aim the ball over the second arrow from the left, the same as a left-handed bowler. That way, it will break into the 1-2 strike area normally used by left-handers.



# Skill Progression - Learning the Bowling Center

Your Athlete Can:	Never	Sometimes	Often
Identify the location of the control counter, concourse area, bowling area			
Identify the settee area (bowling area)			
Identify the approach area			
Identify the foul line/foul light and understand their functions			
Identify the ball return			
Identify the automatic scoring equipment			
Understand how the balls are returned and the operation of the ball return equipment			
Totals			



### The Bowling Center

The bowling facility or center is comprised of an even number of lanes on which the game is played. The lane is between 41 and 42 inches wide and is made up of 39 boards across. The bowling ball is rolled or delivered 60 feet down the lane lengthwise from the foul line to the rack of 10 pins. On each side of the lane is a 9-inch wide channel. The bowler begins the delivery on the approach. The approach consists of the area where the wood starts, from the settee area to the foul line. There is one person on the approach at a time.

There are guide dots, also called locator dots, along the approach that are also in line with dots at the foul line and out on the lane that are used for accuracy in steps and delivery of the ball. There also are target arrows out on the lane used for this same purpose. Lanes are normally oiled daily to prevent friction and to allow better tracking for the ball.

The rack of pins is located in the pit and is arranged in a triangular formation, 12 inches apart from the center of another. A bowling pin is 15 inches tall and each pin weighs between 3 pounds, 6 ounces and 3 pounds, 10 ounces. The pins are numerically identified 1-10, 1 being the headpin.

- Facing the pins, the number 2 pin is in the second row to the left of the number 1 pin.
- The number 3 pin is in the second row to the right of the number 1 pin.
- The third row consists of the number 4 pin to the left, number 5 pin in the middle and the number 6 pin to the right.
- The fourth row consists of the number 7 pin to the left, number 8 pin next, number 9 pin next and the number 10 pin on the right.

### Coaching Tips

Discus	s the general layou	t of the bowl	ing cente	er with th	ne athlete	e, identi	fying	the 1	major co	mpone	ents - c	control
counte	r, lanes, approach a	area, pit area,	etc.									
T.C.	•				•							



# Teaching the Areas of the Bowling Center

At the beginning of each training season and at regular intervals, each athlete needs to be assessed to determine what knowledge and skills have been mastered and which areas require further work.

### **Control Counter**

This is the hub of the bowling center. Lane assignments are made here, and house shoes are distributed from this location. This is also where athletes go if there are any problems with their lanes and there is not an intercom.

### **Concourse Area**

This usually is the area behind the lanes where spectators watch bowlers and where the bowling racks holding house balls are located. A restaurant is often located in this area.

### **Bowling Area**

This area consists of a number of lanes, normally set apart in pairs by the seating area. It is here that the athlete bowls. Explain to the athlete that the lanes are set apart in pairs because during competition bowlers are expected to alternate between the two lanes.

Competition requires that alternate lanes be used. Therefore, when bowling games, athletes alternate lanes.

#### **Settee Area**

It is here the athlete will wait until it is his/her turn to bowl. In many bowling centers, space is provided here for coats, street shoes, bowling bags, etc. If a specific area is not provided, then the area under the seating area is where ball bags and street shoes will be placed.



### Coaching Tip

☐ This area is the hub of activity for the bowlers, therefore, it is important to maintain order and keep this area clear of non-bowlers or coaches.

### **Ball Return Equipment**

The reset button is located here. Teach your athletes the purpose of the reset, when to use it and who may use it (e.g., athletes, coaches, lane assistance, etc.). In addition, teach athletes the correct way to pick up the bowling ball from the ball return, so they will not hurt themselves.



### Coaching Tip

☐ It is important that bowlers pay close attention to oncoming balls to the return. Remind athletes to take a moment and watch for balls before picking up their ball.



# **Approach Area**

Have the athlete observe the dark "locator" dots or arrows on the approaches and lanes; discuss the purpose of these markings. They provide very visible reference points for the athletes to use when they take their stance. The locator dots help athletes line up their approach and aim the ball.

### Foul Line and Foul Lights

Explain the purpose of the foul line. Just as court lines function as boundary lines for basketball, the foul line serves as the boundary line for bowling. What happens if an athlete crosses the foul line? The foul light comes on and usually a loud buzzer or horn sound will also ring out.

Foul lights are a requirement for competition. Therefore, all training is best conducted with the foul lights on. With foul lights turned on, show athletes what happens if a bowler steps over the foul line. If your athletes find themselves stepping on the foul line, adjust their starting mark further away from the foul line. You can also assess their approach to make sure they are not overreaching in their steps.







Step on the foul line and the buzzer will sound. The athlete will not receive any credit for pins knocked down which will impact his/her overall score.

### **Bowling Lanes and Channels**

Point out the dots and arrows/darts located out on the lanes. Explain that these become targeting points when they begin to bowl. Point out the channels and what happens when the ball is bowled into the channel.

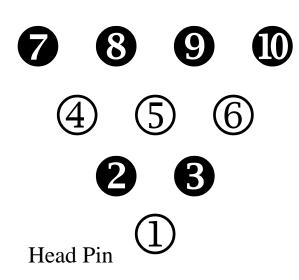




#### Pin Deck

The pin deck is where the pins are located. There are 10 pins arranged in a triangle with the number 1 pin being the "headpin."

- When facing the pins, the number 2 pin is to the left of the headpin; the number 3 pin is to the right of the headpin. This is the second row.
- In the third row, the number 4 pin is the left pin; the number 5 pin is the middle pin; and the number 6 pin is the right pin.
- In the fourth row, the number 7 pin is the left pin, followed by the number 8, 9 and 10 pin. The number 10 pin is the right pin in the fourth row. The athlete needs to be able to identify the pin number to report to the control counter if a pin needs to be reset.





### **Automatic Scoring Equipment**

Explain that the scoring equipment is used to keep score for each bowler. The overhead display is also a valuable tool that highlights the name of the person whose turn it is to bowl next.

### **Key Words**

- What shape are the pins set up in?
- Remember: no food or drinks in the settee area (bowling area)
- When do we and who presses the reset button?



### **Modifications & Adaptations**

In competition, it is important that the rules not be changed to suit athletes' special needs. There are, however, approved bowling aids that do accommodate athletes' special needs and are permitted in the rules. However, coaches can modify the training exercises, sport equipment and ways of communicating to meet athletes' special needs to better help them to achieve success.

# **Modifying Equipment**

Successful participation for some athletes requires equipment modifications to suit their particular need.

# **Ramp Bowling Procedures**

Bowlers unable to throw a bowling ball may use a bowling ramp. This is a two-piece unit which assists wheelchair users and/or those with limited strength or mobility. A light push by the bowler pushes the ball down the ramp and onto the lanes. There are two types of ramp bowling: assisted and unassisted.





### Coaching Tip

Remember, that the bowling ramp functions as the bowler's foot and cannot cross the foul line.

### **Assisted Ramp Bowling**

Another alternative for wheelchair athletes, who do not have the strength or desire to bowl traditionally, is the bowling ramp. It is a metal or aluminum frame with a 30-degree slope. The ramp is placed on the approach and the direction in which it aims is controlled by the athlete through small movements of the ramp. The ball (preferred ball weight is 16 pounds) is placed atop the ramp by an attendant after the athlete has aligned the ramp properly and requested the ball. The bowler ensures that the ball is placed properly and, if not, rotates it as needed. When the athlete is ready to roll the ball, one hand is placed on the ramp to help hold it steady as the ball comes off the ramp at the bottom.

Ramp Bowl Release



Ramp bowling serves as a viable method for all athletes who need a little more assistance to enjoy the game of bowling with family and friends.

It's a Strike





For making spares, only a small adjustment in the ramp's position is needed. The rear of the ramp is moved slightly left for right-side spares, and slightly right for left-side spares. For center spares, use the strike alignment. Only a small push is needed to get the ball rolling. Positioning of the ball with regard to thumb and finger holes will have an effect on the direction the ball will roll. Experiment with the ball to determine the proper place of the ball on the ramp.

Once the proper placement of the ball had been determined have the athlete note a feature on the ball to use as an alignment mark. This can be thumb or finger hole, or a name or number on the ball. Remember a criterion for advancement to competition is that the athlete must do his or her own alignment without assistance.



An assistant moves the ramp to the foul line and places it in the position requested by the bowler, by either voice or sign. When possible, please allow the athlete to adjust and direct where he/she wants the ramp to go. The assistant may not arbitrarily place the ramp. The ramp may not go over the foul line or the throw will be marked as a foul for the bowler.

Whether using a ramp with a wheelchair or when standing, it is important to let the athlete adjust his/her ramp. You can always give guidance; however, let the athlete have the final say whenever possible.





Next, the ball is placed on the ramp and the assistant holds the leg of the ramp with one hand. This is done while the assistant's back is turned to the pins, so as not to direct the ball or see the path the ball is going. The assistant then removes his/her hand from the ball. The athlete must hold the ball on the ramp and then push it down the ramp towards the pins. This is repeated as needed for each of the 10 frames.

At the end of the frame, the ramp is then placed back over the ball return until the next frame.

### **Unassisted Ramp Bowling**

- 1. The bowler moves the ramp to the position he/she wants it.
- 2. Next, the ball is taken from the ball return and put on the ramp.
- 3. The bowler then pushes the ball down the ramp toward the pins. This is repeated as needed for each of the 10 frames.
- 4. At the end of the frame, the ramp is then placed back over the ball return until the next frame.

### **Bumper Bowling**

The sport of bowling has begun using devices (often referred to as bumpers) placed in the gutters most of the way down the lane to prevent the ball from going in the gutter. These bumpers almost eliminate the gutter ball entirely and thus permit a bowler to get some pin fall. Bumpers are normally used when instructing beginning bowlers (normally young bowlers). They permit the coach to teach the skills and at the same time allow the bowler to get some pin fall, thus achieving a measure of success. These can only be used for instructional purposes. Scores bowled using the bumper cannot be used to determine a bowling average for advancement to any competition. Athletes who only bowl using bumpers are not to be considered for competition.



### **Modifying Your Communication Method**

Different athletes require different communications systems. For example, some athletes learn and respond better to demonstrated exercises, whereas others require greater verbal communication. Some athletes may need a combination – to see, hear and even read a description of the exercise or skill.

### **Modified Bowling Equipment**

- Bowling ramps for athletes who are unable to lift the ball or for those in wheelchairs.
- Adapter-Pusher device to aid in pushing the ball down the lane.
- Handlebar Extension Accessory used with the Adapter-Pusher device by ambulatory bowlers unable to lift the ball.
- Handle-grip bowling ball where the handle snaps back in the ball instantly upon release.
- Stable guide rail for athlete who can lift and deliver the ball but has balance problems.
- Use of chair or wheelchair to deliver the ball for those with upper body strength but unable to stand or walk.

# Specific Bowling Hints for Adapted Bowling

### **Bowling for the Blind**

It is very difficult, if not impossible, for blind persons to visualize angles. Therefore, it is imperative to develop a system whereby all shots will be in a straight line. The following systems are being used successfully:

### **Bowling with the Rail**

- 1. Strike Ball: Hook the elbow of the guiding arm over the rail and adjust the rail position so the ball is lined up with the center of the lane when hanging at the slide of the bowler in their delivery hand. The rail will now remain in this position for all succeeding shots.
- 2. Left-Side Spares: 4, 7 and 8 pins. Hook rail under the armpit of the guiding arm. This will line up the delivery arm with the above pins.
- 3. Right-Side Spares: 6, 9 and 10 pins. Hold rail in the hand of the guiding arm with the arm extended straight out to the side, parallel to the floor. This will line up the delivery arm with the above pins.
- 4. Center Spares: Return to the Strike position (number 1). This will cover the 1, 2, 3 and 5 pins.

### **Bowling without the Rail**

Many blind bowlers prefer not to use the rail. These people utilize the ball return as a starting position from which to adjust. This is accomplished by resting the leg against the side of the ball return and then side stepping to gain the proper position for various shots. Since the ball return is between the two lanes used in a match, this will mean using the left leg on the right lane and the right leg on the left lane. It is necessary to develop a uniform side step. The moves in this method are usually as follows:

- 1. Right Lane: Rest left leg against the ball return. Strike ball and/or center spares; two side steps to the right. Right-side spares; three side steps to the right. Left-side spares; one side step to the right.
- 2. Left Lane: Right leg will rest against the ball return. The strike ball or center spare move will remain the same, two side steps to the left. Left-hand spares; three side steps to the left. Right-hand spares; one side step to the left.

# Teaching Bowling Skills Modifications and Adaptations



Assistance must be given the bowler in establishing the proper length of a side step. After this, the only assistance necessary is to guide the bowler to the lane and call out the pins remaining. The bowler generally develops a sense of hearing which can tell him/her approximately how many pins have been knocked down. Some blind bowlers roll a hook ball, which creates an almost impossible problem in picking up the number 6 or 10 pins. Try to have the bowler develop a straight ball with the thumb of the bowling hand at about 12 o'clock at the time of delivery.

When teaching beginners, it is advisable to have them stand at the foul line in the proper position and deliver the ball with just a pendulum swing and no steps. This later can be developed into one, two or three steps for an approach. The shorter the length of the step, the easier it is to maintain a straight line. Rolling the ball smoothly and slowly in the beginning is of the utmost importance, for as soon as the ball is thrown or rolled too hard, the person has a tendency to pull the arm across the body and angle the ball.

For those not totally blind, have them stand about two feet in front of the foul line with the delivery arm in line with the center or "big" dot on the floor at the foul line. Make sure their shoulders are square to the foul line and then let them roll over the center dot for the strike ball and center spares and the dot to the right of center for the 3-6 or 6-9 combination. The athlete can move to the second dot to the right of center for the 6-10 combination. Use the dot to the left of center for the 2-4 combination or the 8 pin, and second dot to the left of center for the 4 pin or the 4-7 combination.

### Wheelchair Bowling - Without a Bowling Ramp

The basic concept of rolling the ball is the same, minus the approach. Centers can aid bowlers by furnishing ramps down into the bowling areas and up to approaches. A wheelchair with a wheel-locking device is required. The chair should also be equipped with an extra seat cushion to raise the bowler up so that the forearm is parallel to the floor when resting on the chair arm. A wedge cushion is also to be used between the non-throwing side of the bowler and the side of the chair so he/she does not slide when delivering the ball.

Most bowlers, when able, prefer to pick up the ball from the ball return by themselves. They then roll the chair up to the foul line, position themselves so that when their arm hangs over the side of the chair it is aligned with their "spot" on the lanes; then set their wheelchair brake. Rest the throwing arm on the arm of the wheelchair, palm up, ball in hand. Then push the ball out to the front and side away from the wheel of the chair.

The best results are gained by rotating the wrist one turn, so the back of the hand is next to the wheel on the back swing and continue this hand position forward until the ball has passed "bottom dead center." For the remainder of the swing, rotate the wrist until the thumb is at about the 9 or 10 o'clock position (right-hand bowler). This will produce a hook but is the easiest method to ensure the ball does not hit the chair wheel. Spare shooting here, as in the "blind system," should be restricted to direct-line shooting where possible, no cross lane, especially where it would be necessary for the ball to cross in front of the chair.

In some cases, wheelchair bowlers are unable to handle the ball well enough to bowl using the above method. In such instances, a good method is to get a wooden, straight-back chair, attach a rubber covering to each leg and improvise a seat belt on the chair. Place the chair at the foul line, pick up or aid the bowler to the chair and strap the seat belt across the bowler's lap. The chair should be low enough so that by leaning a bit the bowler can pick the ball up off the floor. The bowler then straightens up so the ball clears the floor and can then go into a pendulum swing. It is necessary for an attendant to hold the back of the chair down. In most cases of league or tournament bowling, special exceptions as to the rules are requested so a bowler may roll three frames without moving since it is a major effort to get them strapped into the chair.



### Mental Preparation and Training

Mental training is important for the athlete, whether striving to do his/her personal best or competing against others. Mental imagery, what Bruce D. Hale of Penn State calls "No Sweat Practice," is very effective. The mind cannot tell the difference between what is real and what is imagined. Practice is practice, regardless of whether it is mental or physical.

Ask the athlete to sit in a relaxed position, in a quiet place with few distractions. Tell the athlete to close his/her eyes and picture performing a particular skill. Each is seeing himself/herself on a large movie screen on a bowling lane. Walk them through the skill step by step. Use as much detail as possible, using words to elicit all the senses - sight, hearing, touch and smell. Ask the athlete to repeat the image, picture rehearsing the skill successfully - even to the point of seeing the ball going down the lane and making a strike.

Some athletes need help to start the process. Others will learn to practice this way on their own. The link between performing the skills in the mind and performing bowling skills on the lane may be hard to explain. However, the athlete who repeatedly imagines correctly completing a skill and believing it to be true is more likely to make it happen. Whatever goes into one's mind and one's heart comes out in his/her actions.

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