



## Improve your accuracy, timing and ball speed while freeing your swing

**D**uring my career as a bowler and coach, I have heard thousands of discussions about the pushaway. From recommendations to push the ball out as far as possible to letting it drop immediately, various coaches have espoused to me a specific rationale for informing their students about how to get the ball started. And, these discussions continue. In this article, I want to discuss some specifics about what I have observed through an extensive study of this topic, including ongoing discussions with my colleagues, Randy Stoughton and Del Warren.

At the Kegel Training Center, my colleagues and I have the opportunity to study bowling in an in-depth manner on a daily basis. Through this analysis, we continue to discover the many cause and effect relationships associated with the physical game. One of those relationships is how a bowler engages the ball into the swing.

In fact, how the bowler “pushes” the ball sets up the rest of the approach sequence. More specifically, how the bowler “pushes” the ball away will determine several things: speed of the feet, timing at the top of the swing, body position throughout the approach, as well as accuracy. Yes, it actually impacts accuracy.

To add to this discussion on the effectiveness of specific pushaway ideologies, I have actively reviewed of thousands of videos to explore the cause and effect relationship between how a bowler gets the ball into the swing and the remainder of the physical game throughout the approach. From this analysis, it appears that “the hinge” technique offers bowlers more benefits than pushing the ball out and away from the body.

In this month’s issue, I discuss the important effects associated with how the bowler begins: target accuracy, ball speed, timing, swing freedom and grip pressure.

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## Using a hinge leads to improved target accuracy

From an analysis perspective, it is very interesting to view the connection between how a bowler pushes the ball and how this impacts target accuracy. This is not normally a point of discussion around the topic of the pushaway, but it certainly is a cause and effect associated with the pushaway. Let's start with the photos of two different pushes, a hinge versus a traditional full-extension push. (See "Student with pushaway" and "Tommy Jones with hinge" sequences ) To see the difference in body position, review the photos of the beginning of the approach, when the bowler is either pushing the ball or using a hinge. Notice the difference in the body position and amount of angle of the bend at the waist between the two bowlers.

In the approach, your body will always strive for balance. With the extreme push out or up and over, the body will remain taller to retain balance. We can see this in the photo of the bowler with the big push. On the other hand, when the bowler hinges, the body will follow and actually bend at the waist. Which looks more relaxed? Clearly, the bowler who has hinged has a more relaxed body position. This reduction in tension



**Student with pushaway**



**Tommy Jones with hinge**

will help the bowler be more fluid throughout the approach.

In addition to being more relaxed at the beginning of the approach, the difference in pushes has created body position differences that will remain throughout the approach. Specifically, this initial body position, after the pushaway, sets the stage for the head and body position going into the slide. In the second set of photos below, as the slide foot intersects the ball-side foot, I have drawn a rectangular box to illustrate the position of the head into the slide. At this point, notice the difference in the body angles. The bowler who had the extreme push remains taller in this position, while the bowler who has hinged has a more balanced, athletic body position.

As the bowlers complete the slide into the release, the bowler who

hinged has remained in the same head position, while the big-push bowler has descended more relative to their initial position into the slide. Think about how this relates to accuracy. Due to the hinge, this bowler is in the same position at the top of the swing as he is in the finish. He has no up and down (vertical) movement of the head. His eyes can more easily remain on the target.

The bowler with the big push descends vertically as he slides. Consequently, the big-push bowler has moved in two different directions as he slid (i.e., forward horizontally and down vertically). Who will be more accurate, the bowler using the hinge or the bowler with the big push? The bowler who hinged has stayed in the same position, allowing improved visual tracking while sliding. The bowler who pushed out has to track the target while moving in two directions, forward and down.

Clearly, the bowler who hinged will be more accurate, having to deal only with sliding horizontally toward the pins. This requires only one directional change with his visual target. The big-push bowler must slide while descending. This is detrimental to visual tracking and will impact targeting accuracy negatively.



**Student slide with pushaway**



**Chris Barnes slide with hinge**

## Hinge, timing and grip pressure

Bowlers who push the ball far from their body tend to have later timing at the top of the swing. This contributes to a taller body position into the slide, as discussed above. When a hinge is used, the body is more relaxed and naturally leans more at the waist. Accordingly, the body strives for balance and this leads to improved timing at the top of the swing. Moreover, the ball begins its downswing as the slide foot intersects with the ball-side foot. This position is like the equilibrium point of the swing, representing good timing.

Since bowlers need not catch up in the downswing to be on-time at the bottom, the swing is likely to be more relaxed into the release. Pushing the ball away from the body is equivalent to a lever with the pivot point on the shoulder. The farther the moves are away from the body, the more force is needed. This requires increased tension in the hand, wrist, arm and body.

The use of the hinge also contributes to a freer swing. In addition to less tension in the body, grip pressure is impacted by how bowlers push the ball. A ball that is pushed far away from the body requires more effort to hold onto. This will naturally lead to squeezing the ball. On the other hand, letting the ball fall, with a hinge, will reduce grip pressure. In conclusion, bowlers who hinge will promote a freer swing.

## Hinge and foot speed (ball speed)

If you want to improve your ball speed, using a hinge will promote faster foot speed. Since the body will strive for balance throughout the approach, the hinge promotes faster

speed as well as improved timing at the top of the swing. Since the swing is engaged earlier with a hinge, your feet will move more quickly to position themselves in the most balanced position. This requires faster feet. Faster feet translates to quicker ball speed

When you hinge, your body will naturally move toward being on time at the top of the swing. This is the equilibrium point, with the ball beginning to descend at the point in which the slide shoe intersects the ball-side foot.

When a bowler pushes the ball away from his body, the foot tempo is slower as his body waits on the swing. Moreover, his body is tenser and slower. This will reduce ball speed.

## Improving your hinge

Now that I have discussed the value of using a hinge, I want to share with readers an easy-to-use drill to greatly improve your utilization of a hinge.

An effective method to improve your hinge is to use the 3-step drill. The 3-step drill promotes a hinge and improves footwork and timing. Here is the step-by-step process to establish the distance from the foul line, as well as how to execute the drill:

1. Go to the foul line, turn with your back to the pins. Now, take 3-1/2 steps, looking straight back to the wall. Pivot at this distance. This will be your starting position for the 3-step drill. Stand on 22 and target 15. You can also use this drill to practice getting in front of the ball return. This will prepare you for those moments in which you have to play that deep, due to lane transition.
2. To begin, try to just let the ball fall. You want to keep your elbow close

to your body and let the ball fall. This is hinging from your elbow. Do not push the ball away from your body.

3. As a righthanded bowler, you will start with your left foot. Think left-right-left. Conversely, if you're a lefthanded bowler, you will start with your right foot. Think right-left-right.
4. Once the hand starts to fall, take the first step. I ask students to think, "drop-left." In other words, let the bottom of the hand drop, then take the step. Your feet will want to move quickly. If you feel your feet are going quicker, then you are executing properly.
5. Finish and hold the position until the ball goes to the end of the lane. This will build a habit of finishing and posting the shot.

This is a great warm-up drill as well. I recommend using the 3-step drill as a normal part of your practice process. Specifically, spend 15 minutes with the drill each practice session. Or, complete three to five 3-steps before doing one full approach. This can be completed for 10 to 20 cycles.

## Weighing the benefits

There have been many historical debates about how to get the pushaway started. I present evidence about the importance of using a hinge over an extended pushaway. Through an extensive video analysis of the physical game, I conclude the hinge will lead to great improvements in one's game. Specifically, you will be more accurate, have a freer swing, and improve your ball speed as well as timing while reducing grip pressure. The choice is yours. But, please give the hinge a try. The benefits of using it are truly worth the effort. 