It is recommended that you change your oil and rotate your tires every 5000 miles. This is part of an ongoing maintenance program to protect your investment in your vehicle. And, with this proactive approach, you get the most out of your automobile. But, even with a dedicated approach to prevention, you need to take maintenance a step further when something doesn’t function properly. Time passes and your vehicle’s parts wear out, fatigue and break. A part that goes bad can make your engine work harder, causing potential problems in other areas due to the inefficiencies. When this occurs, you go to the dealer or a mechanic who runs a diagnostic computer checkup that identifies any anomalies as identified by sensors in your vehicle. Without the diagnostic checkup, you and the mechanic wouldn’t know what to change in the car.

Well, the same goes for bowling. As a dedicated bowler, you periodically should run an evaluative diagnostic on your physical game. Without an assessment, you won’t know what is currently malfunctioning and causing your physical game to be less efficient. A bad habit can alter your physical game and become engrained into the norm.

And, this can have a consequence. If one part of your physical game is not functioning, it applies more pressure on another area in a compensatory manner. Accordingly, your physical game changes in an effort for your body to maintain balance.

Accordingly, bowlers should get a diagnostic checkup and a tune-up to match their areas of change and replacement. In this month’s issue, I discuss elements of the physical game and provide you with guidance on what to evaluate. This is not intended to be exhaustive, as each of these areas could be discussed in much greater detail. Rather, it is intended to provide some key focus in areas that are tremendously important to a great physical game.

**Diagnostic checkup #1: Stance**

The stance position is important for two main reasons: establishing the line of sight of the target line relative to the body, as well as creating space for the ball to remain under the head as it enters into the swing. If adequate space is unavailable, the bowler must move the swing around the body...leading to an inefficient swing.

The stance position should create space for the ball to remain close to the body as it enters into the swing. As is illustrated by the stance photo (Photo 1), the stance position has created space by drop-

Joe Slowinski, ABD, M.Ed. is a full-time coach at the Kegel Training Center, in Lake Wales, Florida, and former Director of Coaching and Coach Certification for the National Sports Council of Malaysia. Joe was named a Top 100 Coach for 2005, 2006, & 2007 by BJI. He can be reached at joe.slowinski@kegel.net Visit his coaching site at www.bowlingknowledge.info
ping the shoulder. This also sets the eye over their swing in the stance, promoting accuracy with respect to the intended target line.

**Diagnostic checkup #2: Footwork sequence**

The next diagnostic checkup is an evaluation of the footwork. Specifically, footwork consists of two important elements: step pattern and step rhythm. From the front or rear view, you want to review the step pattern. Ideally, you want to see a step + stepover + step + stepover + slide in front of the last step sequence.

The stance shoulder lean works in tandem with the initial stepover step to create space for the ball to remain close to the body and under the head. For those taking five steps, this is the second step. For a four-step bowler, this is the first step. This allows a bowler to drop the ball straight down, rather than moving it around the hip and leg.

Moreover, each of the ball-side steps creates additional space for the swing through the entire approach. By stepping over, additional space is created between the shoulder and leg. From a rhythm standpoint, the two steps entering into the slide should be quicker. A quicker tempo in these steps indicates less tension and more fluidity. (See Photo 2).

**Diagnostic checkup #3: Swing**

I discuss the swing slot in great detail in my July 2008 Bowling This Month installment of Slowinski at-large. Specifically, a great swing starts under the head and stays online throughout, with a follow-through through the face.

In the last diagnostic checkup element, I discussed the importance of footwork. This is needed to enable the body to move out of the way of the swing. Often, due to previous habits, bowlers move the ball to the outside as they move the ball into the swing. An evaluation from the front view will determine if the lateral ball motion is to the outside. This is seen with lateral movement as well as open space between the bowling arm and the side of the body. And, with a corrected step sequence, a bowler can retain this bad habit.

If timing is late in the start, then it is likely that they will move the ball to the outside to avoid the body. This will create an inefficient swing. Accordingly, timing is important. The ball needs to be down at the knee at the point that the first step-over step has created adequate space.

Moreover, watch the hand position in the downswing. As discussed previously, the elbow should be inside the wrist. Many amateurs will begin the hand to the outside of the ball as the ball begins the downswing. A front or rear view will reveal the position of the hand in the downswing.

**Diagnostic checkup #4: Timing**

Timing will be evaluated from the side view. I review three timing components: swing start, top of the swing and release relative to slide.

First, swing start timing is measured relative to where the first ball-side step is compressed. Specifically, where is the ball relative to the knee when this step hits the ground? Many top players have the ball approximately knee high at this location.

Second, the top of the swing timing is measured relative to where the slide foot is located as the ball begins the downswing. Elite timing, as measured by most top players in the world, has the ball beginning the downswing approximately when the slide foot intersects the ball-side heel.

Third, the release relative to the slide is measured by looking at the location of where the ball is when the slide foot stops. Most top players have the ball between the heel and the ankle when the slide stops.

In an important note, elite players have timing at the top of the swing much more in common than swing start or slide timing. Consequently, in an evaluation, top of the swing timing is the most important, followed by timing at the release point. There is more variation in the swing start than the other two timing elements.

I have provided two images each of Walter Ray Williams Jr. and Tommy Jones, illustrating their first
two timing elements (See Photo 3 sequence). As you see, both are similar. As the second step compresses, the ball is approximately knee high. And, at the top of their respective swings, the slide foot intersects the ball-side heel.

**Diagnostic checkup #5: Finish position**

The finish position is an important aspect of a great game. Good balance and the ability to hold the finish position is critical to observe ball motion. First, observe where the slide knee is ending. Does it continue forward past the toe when the slide stops? The slide leg knee should continue past the foot after the slide foot stops. This allows the bowler to remain balanced while insuring that the eyes can remain on the bowling ball to observe ball reaction. If the slide knee remains too straight, bowlers tend to stand up after release or bend over the top of the knee.

From a front-view perspective, evaluation points should also include how close the ball is to the ankle at the release point. Ideally, you want the ball to be close to the ankle with the shoulder dropped well under the other shoulder. Specifically, the angle at this point is from 135 to 145 degrees measured from the shoulders. If the shoulder is not dropped, it is impossible to keep the swing through to the release under the head. The follow-through should be through the face.

Finally, where is the trail leg? The foot should be approximately around 7 o’clock for righthanded bowlers and five o’clock for lefthanded bowlers. The trail leg position is important to ensure balance when the shoulder is dropped significantly at release.

**Getting more out of the physical game diagnostic**

I encourage you to re-read the following articles along with this article. Each is designed to be compiled into an extensive analysis of the physical game and to better understand each specific element of the physical game. Collectively, it will provide you with guidance on how to improve your physical game after the diagnostic evaluation is completed.

- June 2009. “Why the balance arm shoulder is so important: A staple in mastering the physical game”
- February 2009. “HINGE IT to a better physical game”

**Drills to improve your physical game**

In addition to the articles listed above, the following articles will help you target a specific area to improve your physical game:

- The Hinge article above also describes the 3-step drill.

**Closing thoughts**

At the Kegel Training Center, I have the benefit of reviewing approximately 1500 hours of video annually. With this large video database, we review the best players in the world on a daily basis. This provides many opportunities to reflect on how the physical games of the best players in the world are more biomechanically efficient. Consequently, our analysis is based on extensive observations as well as research and best practice. It is our hope to pass this on to you in an effort to help you be the best bowler that you can become.