"Is Elbow Drop Bad?"

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*Supporting narrated video (NV) demonstrations, high-speed video (HSV) clips, technical proofs (TP), and all past articles are available online at **billiards.colostate.edu**. Reference numbers used in the articles help you locate the resources on the website.*

Recently, I posted online video **NV J.135** that discusses and demonstrates different types of pool strokes, looking at both advantages and disadvantages of elbow drop caused by shoulder and upper-arm motion. Advice and techniques are also offered for those hoping to eliminate elbow drop from their stroke. In this article, I summarize some of the useful info from the video.

As shown in the video, many top players flex their shoulder and drop their elbow during their stroke. Usually, the drop occurs only after the hit, during the follow through, after the cue ball (CB) is long gone. Regardless of what mechanics a pro uses, even if the technique is contrary to what most instructors recommend, pros spend countless hours mastering their technique, and they can deliver the cue accurately and consistently, regardless of their mechanics choices. However, for most people, including many pros, keeping the shoulder and elbow still during the stroke will produce better and more consistent results. Many amateurs who move their shoulder and drop their elbow have trouble with timing and consistency, leading to tip-contact point and stroke inaccuracy. If this might be the case for you, you are reading the right article.

Stroke Types

As demonstrated in the video, there are several common ways to stroke a pool cue. The generally recommended stroke type is called a "pendulum stroke," where the shoulder and elbow remain still during the entire stroke. An alternative "piston stroke," where the cue moves in a straight line, requires coordinated shoulder and up-and-down elbow motion. A common stroke variation is called a "J" stroke, where the backstroke and forward stroke into the CB are pendulum style, to help ensure tip contact point accuracy, and the follow through is more piston style with elbow "collapse" or "drop." The grip-hand trajectory is shaped like a flattened horizontal letter "J" (see **Image 1**).

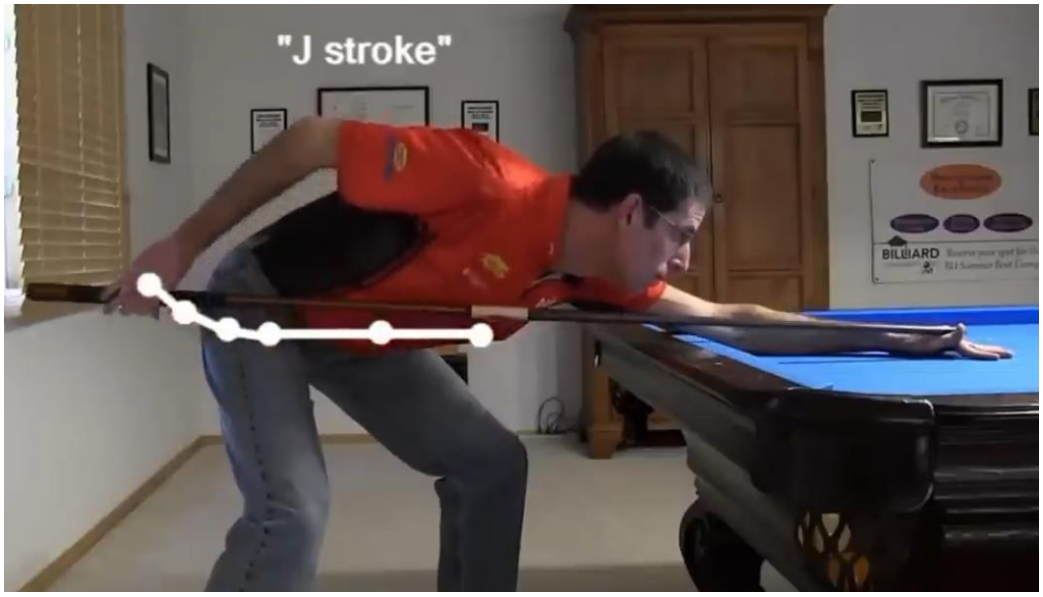

Image 1 "J" stroke

Advantages and Disadvantages

If you go to the **elbow-drop resource page** linked in the video description, you can find lists of both advantages and disadvantages. The primary advantage is that elbow drop can allow you to generate more power with less effort and strain, and it is more natural. A primary disadvantage of dropping your elbow during the stroke into the ball is you will likely not hit the CB where you expect consistently. One big problem with elbow drop for many people is that other bad things sometimes come with it like wrist turn and sideways "chicken wing" motion (see **Image 2**), both of which can throw the cue off line.

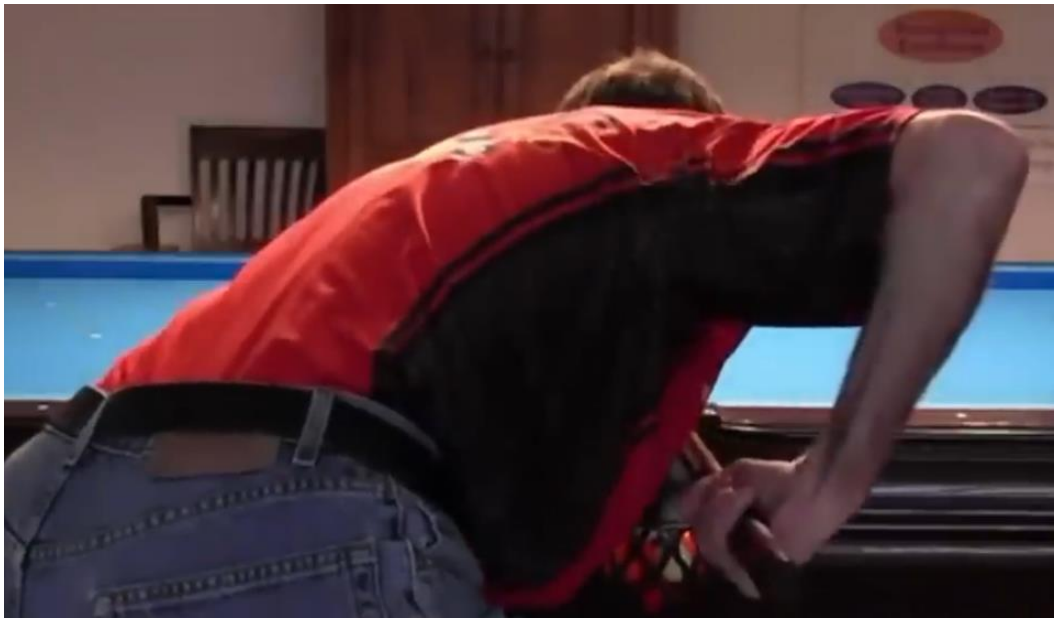

Image 2 "Chicken wing"

How to Eliminate

If you want to stop moving your elbow, but you are having trouble doing so, the advice in this section might help. First, you can have a friend lightly place fingers around your elbow while you stroke back and forth (see **Image 3**). If you move or drop your elbow, it will be clear to both your and your friend. Your friend can also hold your upper arm and shoulder while you stroke to remind you that these should remain still to keep the elbow from dropping. Another clue of a dropping elbow early is banging the cue into the rail.

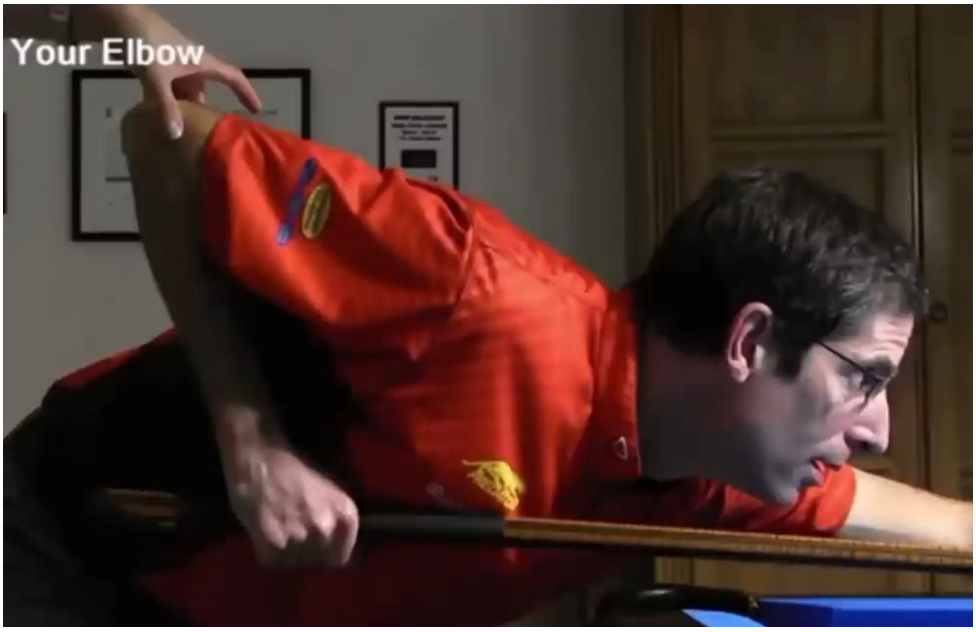

Image 3 Friendly elbow finger touch

Some additional techniques you can do on your own to help eliminate elbow drop are demonstrated in online video **NV J.135**. Get down into your stance, addressing the CB, and shift your bridge hand and cue to the side, where you can stroke past the CB. Then take "air strokes," going back slowly and accelerating smoothly forward past the CB to simulate the stroking motion. Now, keeping everything still, turn just your head back so you can see your forearm (see **Image 4**). Continue the "air strokes" to observe if your shoulder and upper arm are moving, causing your elbow to drop. If so, try to keep this from happening, really focusing on the shoulder and upper arm. This is good practice because once you find the right motion, you will be both seeing and feeling a still-elbow stroke, and this will help build brain/muscle memory.

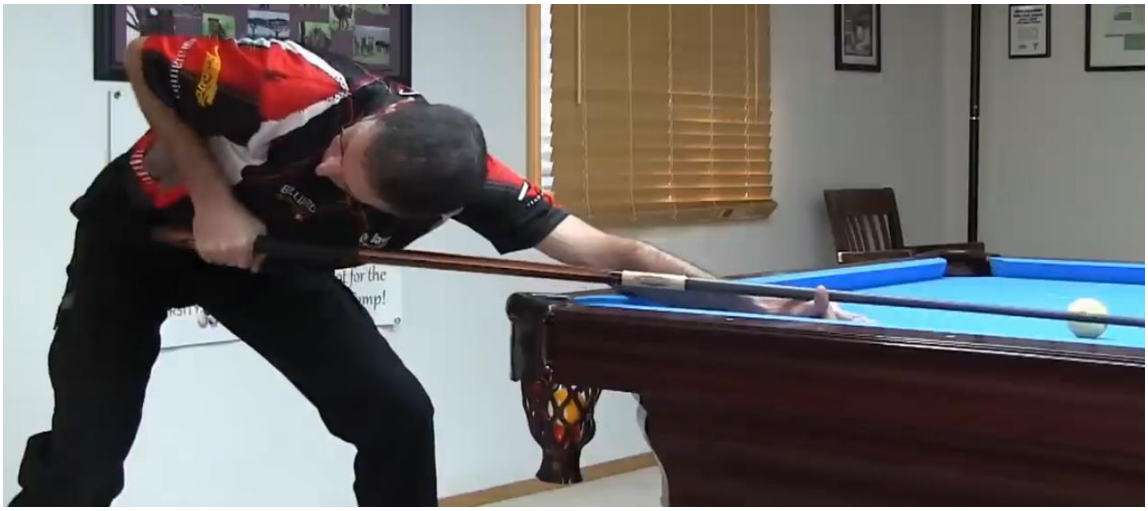

Image 4 "Look back" trick

It might also help to "lock and load" the shoulder while standing. As I demonstrate in the video, just lift and tuck back your shoulder as part of your pre-shot routine, and really focus on keeping it in this position during the stroke. Another benefit of the shoulder "lock and load" is if you tend to have a "chicken wing" setup with the elbow out away from your body, the shoulder tuck can help you get your elbow in with the forearm more vertical.

Some people have commented on my stance in previous videos concerning my shoulder alignment. My cue and forearm are in the plane of the shot, but my shoulder is well outside the plane (see **Image 5**). Traditional pool instruction suggests the shoulder should also be in the shot plane. For some people, especially those with an open stance, this can be difficult. You might need to pull your shoulder up and back and/or add body or neck twist and turn, which might not be very comfortable (or even possible for you). But this might not be necessary. As demonstrated in the video, if the elbow and forearm are in the shot plane, you can still have a very straight and consistent stroke. If your forearm is vertical and your vision center is properly aligned, and if you can keep your elbow still during the stroke into the CB with straight cue motion, it doesn't really matter where the upper arm and shoulder are.

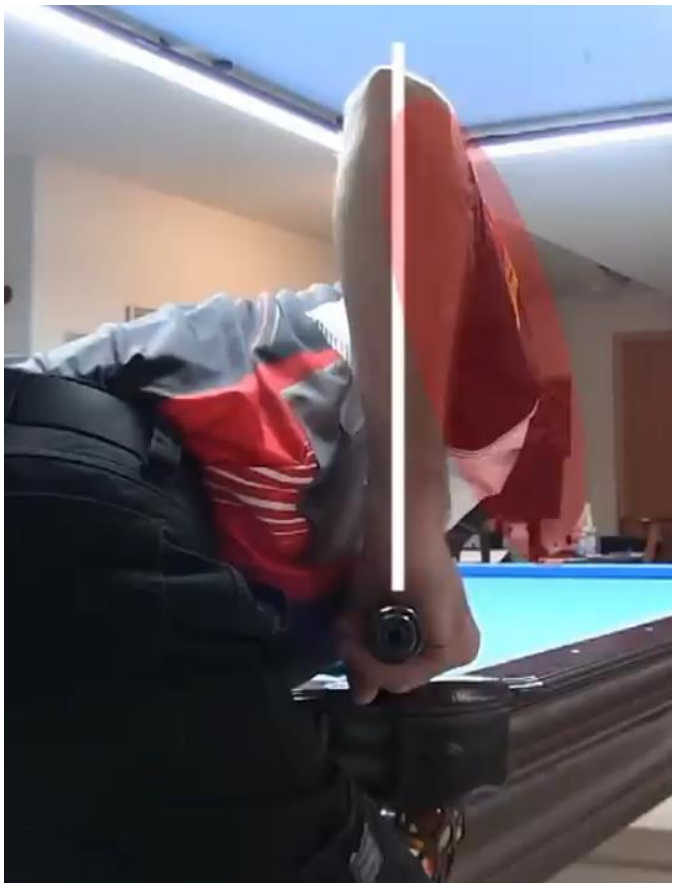

Image 5 Shoulder out of the shot plane

If you are still having trouble keeping your elbow still, it can help to focus on different things. While doing "air strokes," first try to focus on keeping your shoulder locked. If your shoulder joint does not move, the elbow cannot drop. Keeping the shoulder joint still is a good thing because the shoulder can move in many ways that can throw the cue off line. If that doesn't work, try to instead focus on keeping your upper arm perfectly still, again while taking "air strokes." If that doesn't work, instead try to focus on keeping your elbow still, imagining your elbow joint as a hinge, with the hinge pin fixed in space. And if that doesn't work, instead try to focus on the grip hand coming up to the chest. With a pendulum stroke, the hand should come up during the follow through. Try to find out which one of these focusing targets works best for you. After enough practice with this, eventually you won't need to focus on the stroke mechanics anymore. The still-elbow pendulum stroke will become your "new natural" motion.

If none of this works, you can do "air strokes" up against a wall (see **Image 6**). If you feel and hear lots of rubbing, it is because you are moving your shoulder and upper arm, causing your elbow to drop. Once you get your elbow to stop dropping, you will not hear and feel the rubbing.

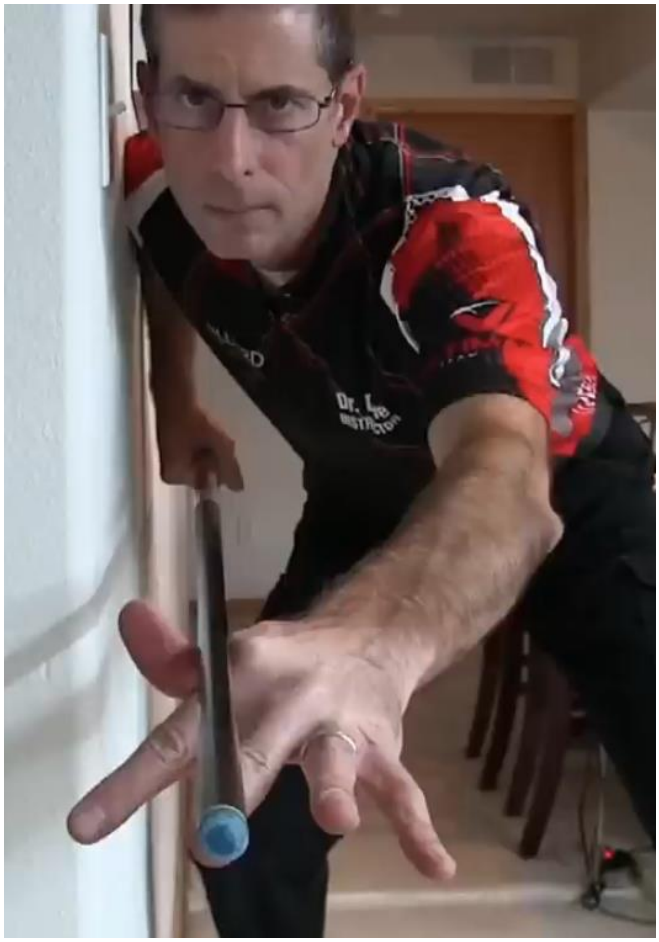

Image 6 "Air strokes" against a wall

So … should you drop your elbow during your pool stroke? Well, if you can drop it with perfect and consistent timing, and if you drop it straight down with no "chicken wing" motion, and if you have been effective dropping your elbow for many years, then there is no reason to change. However, if you have trouble with tip contact point accuracy or if you have trouble with stroke straightness and consistency, keeping your shoulder, upper arm, and elbow still can help you be more effective, and it might help you reach your potential more quickly.

Good luck with your game,
Dr. Dave

normal video

NV J.135 – Why and How to Prevent ELBOW DROP During Your Stroke

PS:

- I know other authors and I tend to use lots of terminology, and I know not all readers are totally familiar with these terms. If you ever come across a word or phrase you do not fully understand, please refer to the online glossary at ***billiards.colostate.edu***.

Dr. Dave is a PBIA Master Instructor, Dean of the Billiard University, and author of the book: The Illustrated Principles of Pool and Billiards and numerous instructional DVD series, all available at: ***DrDaveBilliards.com****.*