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

In a recent online video (NV J.106), I covered how to detect various fouls and showed examples of bad calls in pro tournament matches. In a follow-up video (NV J.107), I demonstrate 10 useful ways to avoid a double-hit foul when the gap between the cue ball (CB) and object ball (OB) is small. I summarize these techniques below.

# 1. Angled Hit

When the gap between the CB and OB is very small, the most reliable way to avoid a double hit is to shoot the CB at an angle. As long as the CB starts off in the tangent-line direction (see **Image 1**), the shot is legal.



**Image 1** Angled Hit with Tangent Line

### 2. Short Bridge and Stroke

When the ball gap is not too small, one relatively easy way to avoid a double hit is to use a short bridge length and short stroke.

#### 3. Elevated Cue

Again, when the gap is not too small, it can be easy to avoid a double hit simply by elevating the back of the cue. But as demonstrated in online video NV J.107, even a highly elevated cue is no guarantee of a legal hit. Do not let anybody tell you after attempting an elevated draw shot with a small gap, with the CB going well forward of the OB: "I elevated the cue, and the CB drew back, so it isn't a foul!" If they want to argue with you, tell them to watch the video.

Even when the gap is really small, a double hit can still be avoided with cue elevation and bottom spin, but the cue needs to be nearly vertical during the stroke.

# 4. Tight Grip or Bridge

When the gap is small and the OB distance to the pocket is short, you might be able to get a good hit by holding the tip close to the CB and just tightening the grip (in lieu of a stroke), which can provide slight forward motion of the tip. Another option is to use a firm grip on the shaft with a tight closed-bridge hand to limit cue motion. When you attempt your normal stroke motion, the locked bridge hand will flex and shift a little, allowing the cue to move forward only a small distance.

#### 5. Reverse Stroke

For shots that are difficult to reach, a good option is a reverse stroke as shown in **Image 2**. First position the cue on the table pointing in the required direction to pocket the ball, with the tip close to the CB. Then form a bridge close to the CB and grip the cue with your fingers close to the bridge. The bridge hand, which should be firmly planted on the table, will stop the forward motion of the cue to prevent a double hit. As demonstrated in online video **NV J.107**, you can even control the CB with follow or draw using this technique.



**Image 2** Reverse Stroke Technique

#### 6. Rail Hand Stop

Another technique to avoid a double hit is to use your grip hand to stop the stroke against the rail. First position the tip close to the CB and then slide your grip hand forward so it is touching the rail (see **Image 3**). Then attempt to stroke into the CB with a normal stroke, with the grip hand knuckles stopping the stroke against the rail. It might hurt a little, but it works like a charm. Again, as demonstrated in the video, you can even control the CB with follow or draw using this technique.



Image 3 Knuckle-Buster Technique

# 7. Sidespin

When using sidespin, it is much easier to avoid a double hit with an inside-spin shot. **Image 4** shows an example inside-follow shot being used to get shape on the 8 up table. The double hit is easy to avoid here since the CB is coming off the OB in the opposite direction as the tip is coming off the CB. It is more difficult to avoid a double hit with an outside spin shot, where the cue tip motion is starting in the same direction the CB is heading off the OB.



**Image 4** Inside Follow Double Hit Avoid Example

Another sidespin technique that can be used to avoid a double hit while getting significant CB speed is a fouetté or whip shot. In online video NV J.107, extreme bottom-right spin is being used, allowing the tip end of the shaft to flex away from the CB as the CB clears a possible double hit with significant draw. See the video for supper-slow-motion video footage of several examples.

# 8. Use Light Grip and Wrist

Another good approach for avoiding a double hit with a small gap is to use a jump cue. Because most jump cues are light, if you use a short stroke, it can be easy to avoid a double hit. It helps to use a really

loose finger-tip grip with lots of wrist action to limit how much the cue can move forward. The light weight of the jump cue limits how far it moves forward after the hit since most of the speed is delivered to the CB.

### 9. Near Horizontal Forearm

Another technique you might prefer is choking up on the cue, with the forearm almost horizontal, where the cue won't advance much with a regular pendulum-stroke motion (see **Image 5**). The hand comes up more than forward to limit the follow-through. As demonstrated in the video, a related technique is to use your chest or the end of travel of your elbow joint to limit the forward motion of the cue.



**Image 5** Choked-Up Technique

# 10. Really Light Cue

A creative way to avoid a small-gap double hit is to use a super light cue. In online video <a href="NV J.107">NV J.107</a>,, I've extended my jump-cue shaft with a paper towel tube I slit, cut and taped to the joint to make the "cue" satisfy the required minimum length of 40 inches. The total weight is about 4 oz, which is lighter than the CB (6 oz). Therefore, with a light grip and wristy fingertip stroke, or by just hitting the "butt" of the "cue" with your hand, the "cue" will bounce back from the CB and easily avoid the double hit. If you don't like the paper-towel-roll idea, you could instead make a short and light cue out of a thin aluminum, fiberglass, or carbon fiber tube or solid balsa wood.

I hope you learned something from the 10 ways to avoid a double-hit foul. I also hope you can use some or all the techniques in various game situations. Maybe the shots will help you win some games. If you want to learn more about any of the techniques, or see more demonstrations, check out the links in the YouTube video description of NV J.107.

Good luck with your game, Dr. Dave



NV J.106 – BAD CALLS in Pool ... FOULS that Weren't Called NV J.107 – 10 Useful Ways to AVOID A DOUBLE HIT Foul

# <u>PS</u>:

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 <u>online glossary</u> at <u>billiards.colostate.edu</u>.

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