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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](http://billiards.colostate.edu). Reference numbers used in the articles help you locate the resources on the website.

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To be a good pool player, you must be able to aim, align, and stroke accurately and consistently. I recently posted an online video ([NV J.35](#)) that demonstrates the top 10 most useful drills to help you develop and improve these important skills. I summarize some of the highlights below.

### 1. Test Stroke Straightness

The first drill is a very simple way to test stroke straightness. As shown in **Photo 1**, just stroke directly over a rail cushion line to make sure the cue remains over the line during the entire stroke. As demonstrated in the video, another simple way to test stroke straightness is to stroke between two vertical golf tees. Obviously, if you don't follow through straight, the tees will move. You can move the tees closer together as you improve.



**Photo 1 Stroking Over Cushion Line on the Rail**

### 2. Mirror Check

As shown in **Photo 2**, a mirror can be very useful to check your vision center alignment and stroke straightness. You can also adjust your stance and head orientation in front of the mirror to try to find a comfortable way to get your face squarer with your eyes more level. For more information and advice, see the [“vision center”](#) and [“finding your perfect stance”](#) videos linked in the video description.



**Photo 2 Using a Mirror to Check Aim, Alignment, and Stroke**

### **3. Hitting Balls into a Pocket**

A good drill for beginners to practice straight-line aim, alignment, and stroke is to shoot each of a row of balls into a corner pocket bridging on the far short rail. As always, be sure to keep your head and body as still as possible during each stroke. If you cannot make 10 in a row, you might want to get some help from an instructor.

### **4. MOFUDAT**

Photo 3 shows the setup for **MOFUDAT** ... the **MO**st **F**amous and **U**seful **D**rill of **A**ll **T**ime. The goal is to hit the cue ball (CB) up and down the table and have it come straight back to the tip. It can help to put a golf tee on the far rail to serve as a clear aiming target. It is also helpful to use "sentinel" balls to demand an accurate contact point on the cushion. You can narrow the sentinel ball gap as you improve. Be sure to stay down and still until the CB comes back to your tip. This is a good way to practice and reinforce the important habit of not jumping up on your shots. If your aim is off the CB will not hit the cushion target accurately and the CB will not come back straight. If you have good aim but don't hit the CB exactly on the vertical centerline, the CB will hit the cushion at the right place but will not come back straight. As demonstrated in the video, if you use a stripe instead of the CB, the stripe will stay vertical only with a very good centered hit. If you hit the CB off center, even a hair, the stripe will wobble slightly.

If you really want to test your aim, alignment, and stroke, use backspin. The drag action intensifies the effect of any unintentional sidespin. A good hit is much more difficult to achieve with backspin. With just a hair of right, the CB rebounds to your right. And with a hair of left, the CB goes left. And if all of this is too easy for you, add more speed. Stroke accuracy and consistency are usually worse with faster speed.



**Photo 3 MOFUDAT**

## 5. Line of Straight Stop Shots

The video contains several ball-pocketing drills to test your aim, alignment, and stroke. First, just set up a line of balls across the table and place the CB for a long, straight shot on each. The goal is to hit stop shots as well as you can. If your aim is off, the CB will not stop in place; and if you have any sidespin, it will clearly reveal itself. That's why you want to strive for a stop shot ... so you can clearly identify your errors. As you improve, add more balls and increase the shot distance. Try to get to the point where you can make 10 in a row from long distance. If you miss any, start over and repeat until you make all 10 without a miss.

## 6. Short Stop/Follow/Draw in Side

For a simple drill to test stroke straightness and basic CB control, place the CB in the center of the table and an object ball (OB) halfway to a side pocket. First try to hit 5 stop shots in a row. Then follow the CB into the same pocket, again trying for 5 in a row. Then draw back to scratch in the opposite side 5 times in a row. People usually have much more trouble with the draw shots. See my recent [Top 10 draw-shot technique advice video](#) linked in the video description if you want or need some help.

## 7. Practice Long, Straight Stop/Follow/Draw

This drill involves a long shot along the table-diagonal, where the OB is halfway between the CB and pocket, making the shot as tough as possible. To ensure the shot is straight, it helps to carefully place and mark the CB and OB positions with donut stickies. First, try to pocket 10 stop shots in a row. If you have any unintentional sidespin, the CB will turn in place. If you have any bottom spin remaining at the OB, the CB will draw back slightly. And if your aim is off, the CB will drift sideways. Again, strive for a perfect stop shot with no sidespin.

Then practice follow shots, trying to make the ball and scratch at least 5 times in a row. You will be able to do this only with good aim and alignment, and with an accurate stroke. Again, be sure to be still, and focus on your fundamentals. Then try to pocket the ball and draw back for a scratch. This shot is a real tester, especially on cloth that is not very slick or fast. If you can get 1 or more out of 5, you are doing well.

In addition to marking the CB and OB positions, it is also helpful to mark your straight follow-through position. That way you can check if your follow through was straight or not after each shot by seeing if the tip finishes over the follow-through mark.

## 8. Progressive Stop/Follow/Draw

The next set of drills is from the first [Billiard University \(BU\) Playing Ability Exam](#). If you want to see Shane VanBoening and other pros taking the BU Exams, see the link in the video description. The BU Exam drills are scored and are called progressive drills, because when you do poorly the drills get easier; and when you do well, they get harder. Progressive practice pool drills were first developed by Bob Jewett, my co-author on the [Video Encyclopedia of Pool Practice \(VEPP\)](#).

The first drill is for stop shots, where you start with the CB 4 diamonds from a corner pocket. If you stop the CB to within a ball of the stop-shot target close to the pocket, you move the CB back a diamond. And if you don't, you move forward a diamond. The longest distance is 7 diamonds, and any shot you make from this position counts as a bonus point. Your score is the final CB position after 10 shots plus the number of bonus points. With no misses, the maximum possible score is 14. Keep a log of your scores so you can see how you improve over time.

With the progressive follow drill, the goal is to pocket an OB and have the CB end up in a target paper rectangle. The CB moves as before and the OB is always 1 diamond in front of the CB. Again, when you miss, you move the CB forward a diamond.

With the progressive draw drill, the goal is to pocket an OB close to a corner and draw the CB back into a 2x1 diamond area below the side pocket. Again, with each success, you move the CB back 1 diamond. This drill can be difficult, especially if you are not very good at draw shots. Again, see the link in the video description if you want to improve.

## 9. Progressive Cut Shots

The video also shows a progressive drill for practicing cut shots. You can do this drill with different OB and CB locations, but the setup shown in the video is recommended. As with the other progressive drills, you move the CB to easier positions when you miss and to more difficult positions when you succeed. Don't forget to log your scores so you can track improvement over time. And set target-score goals to give you something to work toward. That makes practice more fun and it adds a little competitive pressure.

## 10. Shot-Making Drill

The last drill was developed by Colin Colenso for testing and rating a player's shot-making skills. It consists of 16 different shots, 8 from each side of the table, as shown in **Photo 4**. There are 6 different CB positions and 8 OBs that are pocketed in the corner. The ball positions are easy to locate relative to the diamonds, but they don't need to be placed perfectly. There is a diagram you can print at the link in the video description.

You get one point for each ball pocketed. You are not penalized for a scratch. If you do each of the 16 shots 5 times, the total possible score is 80. Alternatively, you can do each shot only twice and multiply your point total by 2.5; or you can do each shot only once and multiply your point total by 5. Either way, the maximum possible score is 80. Again, always keep track of your scores so you can see how you improve over time. At the link in the video description, there is a rating system that relates your total score to an approximate level of ability on the standard ABCD scale, your expected BU Exam scores, expected league handicaps, and your predicted Fargo Rating.



**Photo 4 Colin Colenso's Potting Drill**

I hope the information in this article helps you improve your aiming, alignment, and stoking skills. Everything described is demonstrated in online video [NV J.35](#). Be sure to watch the video and try out the drills the next time you practice. If you want more information, links to many supporting resources can be found in the [YouTube video](#) description. Have fun with the drills.

Good luck with your game,  
Dr. Dave



normal video

[NV J.35](#) – Top 10 Aim, Alignment, and STROKE DRILLS

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](http://billiards.colostate.edu).

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