



A PANE IN THE GLASS

VIDEO ANALYSIS: A PRIMER

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As with most articles & essays I have authored, this one is the result of many coaches and instructors asking exactly how to analyze a curling delivery using a video camcorder. There is NO right or wrong way to accomplish this. What follows is as much the “Tschirhart Method” as anything else and therefore by its very nature should be looked at with a “hairy eyeball”!

To begin, the method I’m going to describe here makes some assumptions. The most important is that the videographer is also a certified instructor/coach. Although I’ll make some observations about what to look for when you analyze the delivery you have just recorded, this will be more of a technical essay than an analytical one. If you’re reading this document and you are not a certified instructor, please allow me to provide some advice...GET CERTIFIED!!!! For those of you out there who are former players (aka known in your mind and those of close friends and family as “a curling legend”) it’s not good enough to analyze a delivery “because you always did it that way”. That’s not fair to yourself and especially to the athletes who will entrust their most valuable possession to you, their curling delivery. You need the sport science to back up much of what you suggest to the athlete (notice the word “suggest”). That’s time-tested pedagogy that doesn’t come with the territory as a player by the way. So do it and do it soon. Contact your provincial/territorial organization for details!

EQUIPMENT

Delivery analysis has really moved into the 21st century. At High Performance Camps around the country, we now use a camcorder that likely does not contain any video tape. That’s because the camcorder is just an “image capture device” which downloads the image to a laptop computer which then through sophisticated software, helps with the analysis of the curling delivery through manipulation of the image. To date the two most popular programmes for this purpose are **Dartfish** (expensive) and **V1 Home** (inexpensive). To be fair, Dartfish is worth every penny of its cost but most delivery clinicians will not require the many applications to which Dartfish can be put. V1 Home, which was originally designed for golf swing analysis, is all you need if curling delivery analysis is your sole task.

With all that being said, what you need, for what I call, "handheld analysis" is a video camcorder and a laser device. A digital projector is a "nice to have" as it makes an exceptional playback device but a television monitor or the camcorder's LCD screen will work. I like a laser level that is currently sold by Lee Valley Ltd. (www.leevalley.com) for under \$30. It's orange in colour, adjustable, simple to carry, store and use but you will see many models that can work equally well at building supply centers and hardware retail outlets.

METHOD

Another assumption I'm going to make is that the athlete employs the industry standard "no back-swing delivery". If time is an issue, I'll instruct the athlete that he/she will be asked to deliver six shots. They include **a clockwise and counterclockwise draw (2) and a clockwise and counterclockwise take-out (2)**. For these four deliveries I position myself in front of the athlete. I'll move to a position well to the side of the sheet of ice that is being used for the delivery analysis (one or two sheets away for better perspective) for the remaining two shots. I stand halfway between the top of the house and the hog-line **for a draw and a take-out** (with rotation at the discretion of the athlete). That's six deliveries! If time is not an issue then I would suggest deliveries of various weights and lines of delivery but for the sake of this assay, we'll assume the aforementioned six.

I like to use yellow handled stones since experience has demonstrated that they show up better on the screen. *The stone is positioned, now get this, so that the middle of the stone is opposite the inside edge of the hack.* Surprised you? That's because, in theory, one would like to think that the stone should be placed so that the middle of the stone is directly in front of the hack foot. Well, that's the theory. In practice the vast majority of the athletes place the stone in the aforementioned position.

Obviously if you are using various lines of delivery, the laser will be positioned so that those lines are simulated but wherever the laser is positioned, adjust the beam so that it strikes the stone in the exact middle both vertically and horizontally (in other words, in the center of the stone and the striking band).

For the "six delivery express version" I position the laser on the center-line well back from the hog-line (the beauty of a laser is the minimal beam dispersion over distance). Worthy of note here is that with a no back-swing delivery, there is really no such thing as a "center-line shot". The best way to illustrate this point is to stand behind the edge of the hack to which the laser is aimed and mentally draw a straight line from that point (remember, the inside edge of the hack), through the laser to the tee line at the away end taking note where that imaginary line meets the tee line. I'll save you the suspense, it's about the edge of the button, the real button by the way, not the manhole cover version currently used at some televised national events.

For those four "in front deliveries" I stand so that I straddle the laser to align the camcorder and the laser. Now the athlete can grip the stone and execute the first delivery. I become totally a videographer at this point, using the "zoom" feature that is quite common on most digital camcorders to focus momentarily on the grip then pulling back to place the athlete in "full frame" which I continue to do as the athlete delivers the stone toward me.

Worth mentioning at this point is the role the other members of the team play in the process. I position one player by the hack to prepare the next stone for the shooter. Another teammate is along the side-line and the fourth, has the key task of making sure the stone does not strike the laser. I caution this athlete to use his/her hand as opposed to a brush as it's easy for the stone to slide off the brush only to strike the laser.

When the shooter completes the delivery, he/she simply returns to the hack where his/her teammate has another stone waiting. When one player has completed the six shots, the players simply rotate positions. In this way you can easily tape a team in about 20-30 min.

DELIVERY ANALYSIS

As previously stated, this article is not a “delivery analysis” article but I will give you the observation basics.

From the front, you were asked to zoom into the grip. There are four keys to a good grip.

- second finger pads should be on the bottom of the handle
- side of the thumb should be on the side of the handle (a “V” is formed by the index finger and thumb)
- fingers should be together
- wrist should be high so that the fingers are more or less perpendicular to the handle

If an athlete mentions that his/her favourite elite curler, when observed on television does not use that grip, assure the athlete that their favourite elite curler, many years ago, perfected the basic grip and might have customized it for special circumstances.

Watch to see if the athlete’s clockwise rotation grip is different from the counterclockwise grip OR if there is a significant difference among the members of the team. Remind them that the grip is the only connection the athlete has with the stone and the stone does not know what you look like, it only knows what you’re done to it. Enough said!

Next, observe where the athlete moves the stone to start the delivery. Again, we positioned the stone so that the middle of the stone is opposite the inside edge of the hack. It should be there for both rotations and all weights. Watch for changes to stone setup among the members of the team. It can explain many brush placement struggles!

When the athlete moves the stone back toward the hack, that movement should be straight and the forward movement, ideally should retrace that line. I often see a “bulge” in the path the stone makes. That’s much more common than you might think. If it doesn’t bother the athlete when he/she sees it, then I usually don’t make a big deal of it either BUT, if it does concern the athlete, the “fix” is simply a matter of making sure the athlete “follows the stone”. The bulge happens when the athlete gets the body over the top of the stone as they (the stone and the athlete) leave the hack.

And now the key point, just as the only way the athlete is connected to the stone is with the grip, the only way he/she is connected to the ice is with the sliding foot (the “trail leg” just comes along for the ride but more about that soon). Watch how the athlete positions and moves the sliding foot. There should be a small space (about the width of the handle of the brush) and hopefully that “silly little space” is maintained as the athlete moves the sliding foot back and forward. If you see the athlete “wrap” the sliding foot behind the hack foot, that’s a red flag! From the front, the trail leg should be hidden from view. I’m not overly concerned whether the athlete toes “in”, toes “straight” or toes “out” with the toe of the trail foot. I just want it hidden from view! If is visible to the side, then I “suggest” (there’s that word again) that they try toeing “in”.

Now for the laser, ideally that beam will be positioned on the striking band of the stone in the exact middle and will not wander from there to the release point. I have breaking news. If the laser beam wanders, the laser is not moving. It MUST be something else!

As the athlete moves to the release point, you should see the gooseneck of the handle move from the two o'clock or ten o'clock position to twelve o'clock at the instant of release depending upon the rotation selected.

Lastly, watch the follow-through, especially where the delivery hand is concerned. The hand should remain where the handle of the stone used to be for an unhurried count of 1-2-3 after release before there is a hint of ending the slide portion of the delivery.

From the side you will see the pull back of the stone and the sliding foot. The sliding foot should only move as far back as the hips. When the stone moves forward, the sliding foot should move comfortably into position. There should not be a huge delay unless the athlete is in "full take-out mode". The reason I position myself half-way between the top of the house and the hog-line, one or two sheets away, is to catch the athlete in full slide so that I can hit "pause" as the athlete is opposite from my position. Here is what I want to see. **The weight of the athlete appears to be evenly distributed on the entire surface of the sliding foot.** If that occurs it's virtually impossible for the athlete to "drift" to one side of the line of delivery, which can be a concern for many curlers. Also, the sliding device (brush or stabilizer) should be positioned so that the shoulders are square to the target. If a brush, the head of the brush should be approximately opposite from the stone or at least the back edge. It should not be at right angles to the athlete!

From the side view, the athlete will be able to see how he/she summons take-out weight as opposed to draw weight. Understanding what the athlete does to affect the desired result is important.

Don't mess with the hog-line! From the side view position you can easily see if the athlete is too close to the line. Don't mess with the hog-line! Got it?

TERMINOLOGY

Since there was no accepted delivery terminology some years ago when we started working with this no backswing delivery, a few terms evolved and have been commonly accepted. Some are quite traditional such as the "**hack position**" which is self-explanatory. When the athlete draws the stone and body back to that pause position, we have dubbed it the "**park position**". The instant the athlete enters the slide portion of the delivery, he/she has "**bottomed out**" (the foot of the trail leg will likely have just crossed the end line). I encourage the athlete to "**pose**" in the follow through. This may be more a personal thing but I'm very concerned when I see an athlete collapse out of the delivery the instant the stone leaves the hand.

PARTING COMMENTS

Try to use a camcorder that has both a pause and slow-motion feature. If you're going to purchase a camcorder, you might check out the "automatic shut down feature". If you're using either of the software products mentioned in the essay, you will discover that since you're not actually recording, only capturing the image, this feature which is usually desirable may prove otherwise when the camcorder continually shuts down only to have to be restarted. It's just a note of caution! I prefer projecting the images through a digital projector as opposed to a television monitor. Handle with care! As with anything else, it will take practice to get your video skills up to speed but it's time well spent! Remember, a curler's delivery is his/her signature skill.

Enjoy working with your athletes!

SUGGESTED READINGS (www.ntc.curling.ca go to the "articles" page)

"Straight, Simple, Silent"

"The Anatomy of the No Back Swing Delivery"

"You Have the Power"

"Prescription for the Wayward Trail Leg"

"Eye Dominance: Fact or Fiction"

"The Window of Velocity"

"Stone Placement & Its Impact on Ice Reading"