

USA Curling

Level II Instructor Manual

Clinic Overview

- Level II Clinic Registration Form
- Clinic Agenda
- Instructor Certification Criteria

Reference Materials

- ABCs of a Good Delivery
- Power Generators
- Delivery Sequence
- Video-Taping Deliveries
- Delivery Analysis
- Delivery Faults & Fixes
- Sweeping
- Timing Rocks
- Timing Systems
- Basic Strategy

Test, Forms, & Evaluation

- Level I Exam
- Level II Instructor Certification Application
- Course Evaluation



INSTRUCTOR CLINIC REGISTRATION ROSTER

Clinic Level

Level One

Level Two

Lead Instructor Name _____	City _____
Lead Instructor Phone _____	State _____
Lead Instructor Email _____	Date _____

CLASS PARTICIPANTS *(Please Type or Print)*

	Name	Street Address	City	State	Zipcode	Telephone	Email
1							
2							
3							
4							
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6							
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Sample Agenda
USA Curling Level II Instructor Clinic

- 2:30 pm Welcome & Introductions
- Review Agenda & Timetable
- Purpose of Level II Instruction – Technique & Analysis
- USA Curling – Registration & Certification Criteria
- All Presentations Based on the No-Lift Delivery
- Delivery Components – Review ABCs of a Good Delivery
- Power Generators – Weight Shift, Body Drop, Leg Drive, & Arm Extension
- Delivery Analysis Form
- Things to Watch For – Traps to Avoid
- Sweeping Technique, Zones, & Timing (sweeping & shooting tool)
- How to Video Tape
- 3:45 Break
- 4:00 On-Ice Demonstrations – Delivery, Sweeping, & Video Taping
- 5:15 Participant Deliveries & Video Taping
- 6:00 Break
- 6:15 Classroom Delivery Analysis
- 7:00 Curling Drills (tie to strategy rankings)
- 7:15 Wrap-Up, Exam, Registration, & Evaluation
- 7:30 Adjourn

Level I Instructor – Club Instructors

General Job Description (9/08)

A Level I Instructor is trained to work primarily with new curlers. Level I Instructors work mainly within their own club, helping beginners learn the game and novices to improve basic skills using delivery techniques identified as best practices by USA Curling. Activities of a Level 1 Instructor include:

- Serve as lead instructor at open houses or other public events, supervising volunteer instructors and ensuring that they are giving delivery instruction that is consistent with USA Curling standard practices.
- Instruct at junior curling programs for beginning curlers, school physical education programs, etc.
- Organize, promote, and deliver learn to curl classes for new curlers (generally 2 hours in length)
- Organize, promote and deliver basic skills clinics in their own clubs, targeted at novice curlers with 1-3 years of experience and those who have curling experience but have never received state-of-the art instruction. These clinics are aimed at reinforcing skills learned as beginning curlers.
- Organize, promote and deliver basic strategy courses in their own clubs, targeted at novice curlers with 1-3 years experience and those who have curling experience but have never received instruction in basic strategy. These clinics focus on simple game strategies and scenarios.
- Be available to the club as a resource for one-on-one instruction for novice curlers as needed or on a scheduled basis.
- Organize, promote and deliver multi-session instructional leagues or community education classes. Recruit volunteers to assist with teaching in these leagues and classes.

Initial Qualification Criteria

- Attend Level I instructor clinic.
- Pass written test at 80% or higher.
- Successfully complete First-Aid training course.
- Within 12 months of attending a Level I instructor clinic, spend at least 5 hours functioning as an instructor at a club learn to curl activity or some other instructional event using USCA-approved fundamentals and presentation techniques.

Continuing Education Requirements

Every three years, Level I instructors must:

- Stay current with the prescribed USCA instructional methods and presentation techniques.
- Document at least 15 hours of continuing involvement as an instructor – club level or higher.
- Pass written test at 80% or higher.
- Maintain First-Aid certification.

Level II Instructor – Advanced Instructors & Coaches

General Job Description (9/08)

A Level II Instructor has two main purposes: to work with intermediate and advanced curlers to improve their performance and to train aspiring Level I and Level II instructors. Being a Level II instructor is also a prerequisite for become a certified coach. Level II instructors provide training to experienced curlers on topics that bring their game play to the next level, including power generators, sweeping techniques, strategy, timing, etc. Level II instructors are also trained to conduct video tape delivery analysis. In addition to all the activities associated with a Level I instructor, a Level II instructor's activities include:

- Organize, promote and deliver Level I and Level II instructor clinics.
- Be available to new clubs in your region to help with demonstrations or open houses to help them develop interest
- Organize, promote and deliver Intermediate or advanced skills clinics.
- Organize, promote and deliver Intermediate or advanced strategy sessions, covering more complex game scenarios than would be addressed in a basic strategy session.
- Be available to your own club as a resource for one-on-one instruction for intermediate and advanced curlers either as needed or on a scheduled basis.
- Help develop and organize the overall instruction program at your club, making sure that there is adequate instruction available that serves curlers at all levels of experience.

Initial Qualification Criteria

- Level I instructor for at least one year (may be waived by chairman of Training & Instruction Committee).
- Attend Level II instructor clinic.
- Pass written test at 80% or higher.
- Successfully complete First-Aid training course.
- Serve as an instructor at a Level II instructor clinic year (may be waived by chairman of Training & Instruction Committee if the applicant is seeking coaching certification and has worked extensively as a coach with a competitive team during the past 24 months).
- Within 12 months of attending a Level II instructor clinic, work with intermediate and/or advance curlers for at least 5 hours concerning USCA-approved upper level instructional activities, including delivery analysis.

Continuing Education Requirements

Every three years, Level II instructors must:

- Stay current with the prescribed USCA instructional methods and presentation techniques.
- Document at least 15 hours of continuing involvement as an instructor or coach.
- Document participation as a presenter in a USCA sanctioned clinic or camp during the past three years.
- Pass written test at 80% or higher.
- Maintain First-Aid certification.

Level III Instructor – State, Regional, & National Course Conductors

General Job Description (9/08)

A Level III instructor performs all the duties of a Level I and Level II instructor and actively promotes state-of-the art instruction in the United States by participating in national curriculum development and related presentations. Related activities include:

- Development of curriculum used by USA Curling.
- Prepare written articles or papers on instruction-related topics that have been published by a third party, such as the US Curling News.
- Serve as a primary presenter at Level II instructor clinics, skills camps, or junior camps.
- Prior or current active involvement on the USA Curling Training and Instruction Committee.

Initial Qualification Criteria

- Instruct actively as a lead presenter at USCA instructional clinics and/or camps at the state, regional, or national level for three continuous years.
- Be actively involved in national curriculum development and author articles related to curling instruction.
- Serve as the lead instructor at a Level II instructor clinic.
- Be thoroughly familiar with and teach according to approved USCA fundamentals and presentation techniques.
- Demonstrate the ability to give presentations on USCA programs.
- Have strong instructional and interpersonal skills.
- Successfully complete First-Aid training course.

Continuing Certification Requirements

Every three years, Level III instructors must:

- Participate as a lead instructor at one or more USCA sanctioned instructor clinics or camps using prescribed USCA instructional methods and presentation techniques.
- Provide documentation of positive evaluations from attendees at past clinics/camps.
- Be an active participant in activities of the USCA's Training & Instruction Committee.
- Maintain First-Aid certification.

Reference Materials

- ABCs of a Good Delivery
- Power Generators
- Delivery Sequence
- Delivering the Curling Stone (Tschirhart)
- Video-Taping Deliveries
- Delivery Analysis
- Delivery Faults & Fixes
- Sweeping
- Brushing (Tschirhart)
- Timing Rocks
- Timing Systems
- Basic Strategy

ABCs of a Good Delivery

(Based on No-Lift Delivery)

Alignment

A proper delivery focuses on an imaginary line that runs from the hack foot to the skip's broom. Everything in the delivery, from the initial set-up to the release, should be parallel or perpendicular to this line. The shooter's hips and shoulders are perpendicular and the rock is directly on top of this line at all times. The slider foot should move parallel to this line during the forward press and drawback. Out of necessity, the slider foot must move slightly sideways to get centered under the chest but, at that point, it must move straight along the line of delivery, directly behind the stone. Introducing other side-to-side motions in the delivery will necessitate corrective actions somewhere else. Avoid the need to correct – stay straight.

Balance

Proper balance results when the slider foot is flat on the ice and centered under the chest, directly behind the stone. If possible, the slider foot should be angled out to effectively increase slider width. The broom head should remain on the ice at all times at approximately the 10 o'clock position and gripped at a location that allows the shoulders to remain parallel to the surface of the ice.

Proper balance starts with the initial set-up in the hack with the feet about shoulder width apart with the heel of the slider foot about even with the toe of the hack foot. The shooter should be able to crouch in the hack in a very relax position.

Weight transfers will shift body weight from both legs to the hack leg and then to the slider foot during the course of the delivery. All of these transfers must take place smoothly while maintaining balance. Rhythm is an extremely important component of a balanced and effective delivery.

Curl (Grip, Turn, & Release)

Grip the rock by placing the middle knuckles of your fingers on the bottom of the handle and wrapping your thumb over the top. The pad of the thumb rests on the side of the handle; the handle is gently pinched between the thumb and the side of the index finger. Grip the stone directly above the middle of the stone. Keep your wrist high and your palm off the handle.

The leading edge of the handle is cocked to either the 10 or 2 o'clock position, depending on the turn that is being played, and is held there until approximately the last four feet of the slide. At that point, the handle is gently rotated toward the 12 o'clock position and released with the hand in a handshake position.

Power Generators

(Based on No-Lift Delivery)

Rock speed may be derived from four distinct power generators:

- Weight shift
- Body drop
- Leg drive
- Arm extension

Weight shift occurs when a shooter is in the most upright and back position and begins to move the body toward the skip's broom. Additional power is generated as the shooter's body moves down toward the ice (body drop). Still more power and speed are created when leg drive is exerted with the hack foot. A final source of power may come from arm extension but shooters must be extremely careful not to push the stone – doing so may affect the rock's alignment plus it will produce faulty interval stopwatch times.

Most power is generated by the body drop and leg drive. The amount coming from each will be dictated by ice conditions and the shot being played; a harder body drop and more leg drive will typically be applied when shooting takeouts or when playing on heavy ice.

Excessive elevation during the draw back and the subsequent body drop during the ensuing portion of the delivery may unduly complicate the delivery. Lower is better – strive to achieve a “sitting in a chair” position at the far point of the draw back portion of the delivery.

Delivery Sequence & Rhythm

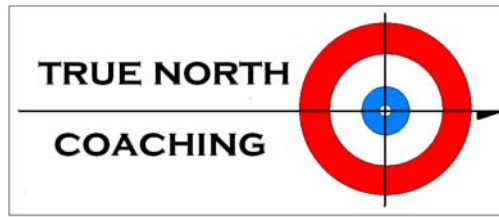
- Forward Press
- Draw Back
- Start Forward Motion
- Position Slider Foot
- Apply Leg Drive
- Slide

Overall cadence: Forward Press, Rock / Foot – Rock / Foot – Slide)

1. Forward press – starts rhythm and breaks rock's inertia. Body leans forward. Right arm (for right-handed player) is not stiff but leaning forward does move rock forward, too.
2. Rock/Foot – the rock is pulled back by bringing the hips back (not by pulling strictly with the arm). The slider foot comes back at the same time but goes back farther than the rock – to a point where the toe of the slider foot may be about even with the heel of the hack foot. At all times, the shooting arm is kept relaxed but extended. The rock stays out in front of the head. If it gets under the chest, the shooter will have to pull it forward with the arm to get it back in front – something to definitely avoid.
3. Rock - Rock begins to move forward – caused by the hips moving forward. (hips indirectly connected to the shoulder and arm and rock – all move forward together).
4. Foot – slider foot moves forward and then sideways to a point under the center of the chest. Stop at balance point. This is an extremely important event in the overall sequence. If it doesn't happen, the shooter will probably be out of balance and may experience lateral draft.
5. Slide – the rock and torso have moved slightly forward. There is now room for the slider foot behind the stone and under the chest. The slider foot is positioned and leg drive is applied.

At all times, the body and the rock must be lined up toward the skip's broom. The rock must be centered on an imaginary line that runs from the hack foot to the broom. The slider foot moves in to a position that is on that line, behind the stone, and under the chest. At that point, primary leg drive is applied. This sequence and positioning will enhance balance and reduce the risk of lateral draft.

The shooter's weight should be distributed on both feet prior to the forward press but slightly more weight is on the hack foot. Through the draw back, the majority of weight is shifted to the hack foot. Weight is then shifted to the slider foot once it is positioned under the chest and leg drive is applied.



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PRESENTS THE COACHING SERIES...

“A PANE IN THE GLASS”

Delivering the Curling Stone 101

by Bill Tschirhart (2007)

No single technical change has so captured the imagination of the curling world than the *no back swing delivery* (which for the purpose of the remainder of this article shall be dubbed the "no bs delivery" [enough with the snickering]). It's now the industry standard. When I instruct at summer camps, in clinics etc. and say "backswing" to the young athletes, they think I'm talking golf!

There have been video-tapes made about this style of delivery and certainly it is an integral part of the curriculum in virtually every nation's instructional programme. So why spend more time on this topic? It's what **hasn't** been said about the no bs delivery that concerns me so indulge me and let me get this off my chest. As those who know my words best would expect, first some history. Two events occurred in quick succession that gave rise to the no bs delivery.

First, ice technicians were provided with the equipment and expertise to make ice that was relatively faster and more consistent than ever before. Second, juniors used their creativity and intellect to come up with a delivery that was the perfect complement to the "new and improved" ice surface. Many of these juniors had come through the "little rocks" programme at their local curling facility. Most of the instructors cautioned the burgeoning curlers to keep the little rock on the ice at all times (more to protect the ice area around the hack I suspect) but it worked for a variety of reasons. It did keep the ice chips around the hacks to a minimum and it was safer. But most importantly, it made the actual delivery much less complicated than the much beloved *back swing delivery*.

It was the simplicity of the no bs delivery that encouraged those neophyte little rockers to stick with it when strength and experience gave them license to enter the world of full size granite curling stones. It seemed logical to them that if at the point of release the athlete should be more or less behind the stone anyway, why not position the stone in front of the body right in the hack? It was a great idea but could one summon enough leg drive to propel that amount of granite at take out velocity? Aye, there's the rub! The answer, through participant observation was a resounding "yes"! But how to accomplish the task was the issue!

So, we've touched upon the first pillar of the no bs delivery. Position the stone so that it is *close to a spot in front of the hack in which the athlete's hack foot resides*. Some coaches and instructors get very precise with this, demanding that all the athletes on the team place the stone so that it is directly in front of a particular toe of the hack foot. Once done, it means that the athlete, the stone and the target brush are on the same line (the line of delivery).

It is my observation that in reality, most curlers position the stone so that the middle of the stone is opposite the inside edge of the hack. In fact, when I record a delivery, that's where I place the stone. I then aim my laser beam at the center of stone on the striking band. I do that because regardless of the position the athlete places the stone for his/her version of the no bs delivery, my laser will still strike the stone at some point, perhaps on the middle, but somewhere.

Since we're only attached to the stone in one way and that's with our hand, the basic grip has four components: **a) the second finger pads should be on the bottom of the handle b) the side of the thumb should be on the side of the handle c) fingers should be together and d) the wrist should be high so that the fingers are approximately ninety degrees to the handle.** This should position the hand so that the axis of rotation of the wrist is superimposed on the axis of rotation of the stone (directly above the bolt of the stone). Lastly, the gooseneck of the handle should be positioned so that it is at 10 o'clock for the clockwise rotation and 2 o'clock for the counter clockwise rotation so that the stone can be released with the gooseneck at the 12 o'clock position.

Before I leave the grip, I want to make one strong point. Don't be fooled by the elite athletes you see on TV. Their grip might not look like the one I've just described. It's that way for two reasons. The vast majority of those athletes, likely as juniors, did learn the basic grip and that leads to the second point. For a variety of reasons, not the least of which is a vast amount of skill, they have customized that basic grip to meet very specific needs that only an elite athlete can appreciate. Oh yes, when asked by curlers about wearing a glove on the delivery hand, I refer them to the number of curlers they see on TV who do so. Enough said!

Place the ball of the hack foot on the sloped portion of the hack and the entire sole of the sliding foot in contact with the ice surface so that the weight of the body is more or less equally distributed on both feet. The heel of the sliding foot will be approximately beside the toe of the hack foot. Now the kicker! There should be a space between the feet (about the width of the handle of a curling brush). Stay tuned for the reason.

Now let's look at the sliding device. If you're using a brush as your sliding device, it should be positioned so that the handle rests just above the hip with your hand on top of the handle about 2/3 of the way from the end of the brush handle and the head opposite the stone (throughout the entire delivery). That last part rolls off the lips of instructors and the keys of this computer very easily but it's extremely important and deserves attention. So many curlers hold the brush properly in the hack but by the time the stone is at the critical release point, the head of the brush is now well behind the position of the stone. A good test in practice is to become aware of your peripheral field of vision. If at the point of release, the head of the brush is not in your peripheral vision as you focus on the target, then you might wish to address this issue because when the brush head is not in your peripheral vision, it is going to have an effect (and not a good one) on the position of your body. Essentially, when the brush is not opposite the stone, the body (as noted by the shoulders) is twisted and no longer square to the target. Not good!!! Now that we have the hack position issue settled let's get that stone moving.

Some athletes will first move the stone forward slightly. This is the time-honoured "forward press". It's clearly a preliminary movement much like the "wind up motion" that a baseball pitcher will employ prior to drawing the ball back. Dr. Al Reed formerly of the University of Ottawa explains this press motion is a "trigger mechanism" to the delivery of the stone. It is my experience that modern curlers are about evenly divided on this press thing. To date more and more athletes are dispensing with the press since the drawing of the stone back toward the hack accomplishes the same goal (that of breaking the friction that exists between the ice and a stationary stone). For my part, when working with athletes I leave it entirely up to them. If they use it fine. If they don't, well, that's fine too!

Let's get one thing clear about the entire motion of the stone. Remember, the whole idea behind the no bs delivery is to keep the stone "on the line of delivery". All the motions of the stone, both forward and back must be in a straight line! It may be a three stage event (press, back and forward) or a two stage process (back and forward). Whatever you choose, keep the stone on the line of delivery.

When we noticed so many athletes using this "new" delivery it was assumed that athletes would be able to draw the stone back and forward on the same line with relative ease. We were wrong! We noticed that many athletes were drawing the stone back on the line of delivery but there was a noticeable "bulge" as the stone began its forward motion. Usually this action was small and quick and by the time the athlete was in the slide (what we call "bottoming out") the stone was back on line once again. For my part, I would point it out, or better, the athlete would notice it on a visually-recorded delivery but when questioned about it, I would give it a cursory comment and leave it at that. I left it up to the athlete to make the adjustment. If an adjustment was deemed necessary by the athlete, I suggested that the "bulge" existed because the athlete was moving his/her body over the top of the stone. The downward pressure of the body on the stone caused the bulge. The remedy involved making sure that the stone is kept in front of the body. My mantra suggested to them was, "Follow the stone!"

Remember that sliding foot? As the stone moves back toward the hack foot, the sliding foot will move backward as well and if you employed that "silly little space" between the sliding foot and hack foot, you will be able to move the sliding foot backward in a straight line. A very good thing!!! Many curlers position the sliding foot in front of the hack foot. When they move the sliding foot backward it must move around the hack foot, usually to a position behind the hack foot. When the forward movement begins, the sliding foot now must move around the hack foot once again. The expectation of the athlete is to now slide straight but the part of the body upon which the athlete is about to attempt that straight slide is following a curved path. Need I say more?

Maintaining the space between sliding foot and hack foot is the best way to accomplish the straight movement of the sliding foot but not the only way. Some very good curlers set up as in the previous paragraph and move the sliding foot in that "C curve" motion but when the sliding foot comes forward around the hack foot, there is a distinct, albeit short, pause. Then the sliding foot can move straight forward. Many of our elite athletes wrap the sliding foot around behind the hack foot then step over the ankle of the hack foot and place the sliding foot back onto the ice to begin the forward motion. From an overhead view, the sliding foot does move straight but part of its journey is off the ice.

Of the three methods of moving the sliding foot straight, I strongly recommend the first. The second is OK and the third requires much practice. It's your choice!

We have been referring to the backward movement of the sliding foot but we're really talking about the movement of another body part, the hips. The area around the hips is where the center of the body's weight is housed. That's important to remember!

From that "draw back" position, the stone is moved forward and the sliding foot is moved into such a position so that you can slide in a straight line with the stone to the release point where it is released with a positive rotation toward the skip's brush.

Permit me a coaching point. Clearly, as the athlete enters the slide portion of the delivery, as instructors and coaches we have the driving urge to add the phrase, "Move your sliding foot to a position under the mid-line of the body (i.e. below the sternum)." That's correct, but I don't do that anymore and here's the reason why. When I "say", "Move your sliding foot to a position

under the mid-line of the body” most athletes hearing that add an adverb phrase ...”*as quickly as you can*”. And when you move the sliding foot laterally as quickly as you can, it has a tendency to maintain that path resulting in a drift, the bane of so many recreational curlers. By not saying anything the sliding foot moves to that mid-line position gradually, with a straight slide the result. It’s a natural movement for the body so that the athlete does not fall down. Remove that phrase from your coaching instructional admonitions and see what happens!

Now that the athlete has entered the slide portion of the delivery, ***the weight of his/her body should be evenly distributed on the slider***. I say this more often in clinics than any other phrase. It’s key to eliminating the dreaded “drift” that plagues so many recreational curlers. When the weight of the body is evenly distributed on the slider, it’s virtually impossible to drift. There are some other spinoff benefits as well but this is the big one!

Now, about that rub to which I referred earlier and this is where the vaulted no bs delivery’s star in the curling heavens dims slightly but first, another history lesson.

For this we again need to return to the days of the back swing delivery. Even though this type of delivery is ancient history, it had some good aspects. There is nothing more natural in the physical world than a pendulum. It wasn’t an accident that clocks ran accurately for centuries thanks to the reliability of the pendulum. In the back swing delivery, the delivery arm is nothing more than a pendulum with the stone being the weight on the end of the pendulum arm. Since the length of the arm does not change, the amount that the weight is drawn from its rest position determines how fast the weight moves (my gr. 11 physics teacher would be proud). When back swingers are asked how they change the momentum applied to the stone I often get the answer, "I drive harder out of the hack". That might be true but most likely the curler providing that response does so due to something else that gets changed and that’s the length of the back swing. The extra drive from the hack simply allows the athlete to "follow the stone" (where have you heard that before?). Now, to be sure, some curlers with a back swing delivery do indeed control the momentum of the stone strictly through leg drive (with the length of the back swing remaining constant) while still others use a combination of the two. It’s imperative that every curler knows how he/she does it since ***weight control is the most important skill in our game!***

To this point, you might wonder why the back swing delivery has largely been replaced. Well, that great attribute just described was more than offset by the fact that when a back swing curler assumes the hack position, the stone is positioned to the side of the athlete (close to the center line) to allow the stone to swing back on a straight line. When the stone swings forward, the curler has to move his/her entire body in behind the stone (not an easy feat). Essentially the body weight moves across the line of delivery and sometimes (much too often for the recreational curler) that body keeps moving in a lateral direction making the accurate delivery of the stone a real challenge to say the least! Now we’re back to the no back swing delivery which removes that problem entirely. But, what to do about weight control without that pendulum?

This is the "meat and potatoes" of this essay and a question I get asked constantly. The answer appears simple, leg drive! But that’s not a good answer as it is not entirely accurate from my perspective. Allow me to explain.

Since there is no back swing, there must be something else that must change. Let’s, for the sake of argument say that it’s strictly leg drive. We have some interesting empirical data on this matter.

My friend Dr. Gavin Reid conducted a study with John Morris, currently playing third for Kevin Martin and a two time world junior champion. The question examined was whether an elite athlete like John could drive out of the hack with the same force time after time. John was asked

to place a very sophisticated insole device into his hack shoe. It measured the downward pressure on this foot. The data was then downloaded to a computer where the appropriate software displayed results for Dr. Reid. The conclusion was that John could not apply a force with his drive leg of equal magnitude in succession. Now, enter the amateur sleuth, yours truly, to say that I think Dr. Gavin's standards were high to be sure and that the employment of a fine tuning mechanism (i.e. delivery arm extension) plus the brushing affect of two competent brushers more than makes up for a deficiency in leg drive reliability. Nonetheless, it's something to think about. But let's return back to our weight problem.

If we recall the back swing delivery, the further the weight of the pendulum is drawn from its rest position, the faster it moves (swings). In the no bs delivery, we have something to make up for that "pendulum weight". It's the weight of the body (centered at the hips). If we move it back further, then like the pendulum, we build up kinetic (potential) energy. In the back swing delivery, the release of that energy was easy as the stone's natural tendency was to return to its rest position but in the no bs delivery, we have to make it happen.

From this point on I'm going to use some terms that are now commonplace among instructors. That drawing back of the hips to a certain point is called the "park" position. When the athlete enters the full slide portion of the delivery, we call that "bottom out". The release is, tah dah, "release" (and don't forget "follow through" as the last step).

This is where I'm going to suggest that there is an important similarity (surprisingly enough) between the two types of deliveries. In the back swing delivery, especially if the athlete uses the length of the back swing as the primary mechanism for weight control, the stone describes an imaginary arc in the air. I suggest that in the no bs delivery, an imaginary arc is described as well but in the no bs delivery, the arc is described by the hips of the athlete. On other words, weight control with a no bs delivery is nothing more than a matter of time, the time taken from "park" to "bottom out".

As an example, let's assume that it takes one second for an athlete with a no bs delivery to go from park to bottom out. Assuming no fine-tuning mechanism, just a clean release the stone will travel a certain distance down the ice. On the next shot, again assuming that all the other parameters of line, release, rotation and no fine-tuning are constant, the time from park to bottom out is 1.5 seconds, the stone will not travel as far. Conversely if the aforementioned parameters are once again constant, but park to bottom out time is now 0.5 seconds, the stone will travel further than either of the first two. Try it with a stopwatch. Stand beside the athlete. When the hips start forward, start the watch. When the hack foot leaves the hack, stop the watch. With a no bs delivery, this park-to-bottom-out section is critical as it's the key to weight control. If you use more leg drive you are simply shortening the park-to-bottom-out time and if you employ less leg drive then you lengthen that time. Look, every curler **MUST** be able to articulate how he/she varies the weight of the stone. The curler who can't is on thin ice indeed!

That's fine as far as it goes but what about the central question? How do I shorten the park to bottom out time sufficiently to generate full take out weight. Here's the "new stuff"!

Think of a large pane of glass positioned at the hacks. When you're in the hack position, part of you is in front of the pane of glass and part of you is behind. When you raise your hips to shoulder height (don't let the shoulders rise) and draw them back to that "park" position (with the sliding foot coming along for support), you are essentially "loading the gun". The movement of the weight of your body forward and down to the bottom out position is what really propels the stone forward. But, when you're behind the pane of glass, if you were to take the direction of most instructors and "push" you'll go **BACKWARD** since you are **BEHIND** the point where the pushing (hack) foot is located. No, the first motion forward is a **PULLLING** motion as you

attempt to break that pane of glass. When you get the center of the weight of your body (hips) over the hack (i.e. breaking the glass), there is a transition from pull to PUSH. That transition is not a natural act for many curlers learning the no bs delivery, me included. Generating enough forward momentum then changing from pull to push and doing it seamlessly is no mean feat. Many curlers during initial attempts have a slight pause "at the glass" to be sure the weight of the body is in front of the hack so that push can begin. They literally waste the pull portion. As a result, they cannot summon enough force from the residual push to impart take out weight.

So, there's the key. Draw the hips back to "load the gun" (i.e. develop "kinetic or potential energy) then pull forward as hard as you can until the center of the body's weight moves slightly forward of the hack then push without pausing.

Thankfully, there is another source of power. It's the sliding foot. Essentially, if we get the sliding foot moving quickly, the whole body moves quickly. So, consider lifting the sliding foot from the surface of the ice to get it moving faster. Don't forget how important it is to move it forward as straight as possible. There was a time that we would have not suggested an athlete ever take the sliding foot from the ice surface but for take-out weight in the no bs delivery, it's all but essential to do so.

There are two more sources for power in the no bs delivery. You can release the stone earlier in the slide but the best way to add more power is to position your hack foot higher in the hack. It's like magic so give it a try!

Making the transition from pull to push is the aforementioned "rub" to which I initially referred. That's probably going to take some practice. Oh, practice, what a novel idea!

Enjoy working with your athletes. I'll see you soon behind a pane in the glass!

Video-Taping Deliveries

It is recommended that each participant's delivery be video-taped three times and that each participant operate the video equipment during one of the other participant's deliveries. Two of the taped deliveries should be straight on, one with an in-turn down one side of the sheet and one with an out-turn down the other side of the sheet. The third delivery should be taped with a side view.

Ideally, the straight on deliveries should be done using two different target devices. One device should include a fine-link chain or rope suspended from a plastic pipe that is positioned about four feet above the ice surface, about 18 inches to the side of the center line, and approximately at the hog line. The shooter should deliver to the chain/rope as if it was the skip's broom. The video recorder should be positioned outside the hog line with the chain/rope directly in line between the camera and the center of the shooter's hack foot. The set-up position should show the stone directly in front of the hack foot and the delivery should show the rock coming straight to the chain/rope and both the center of the rock and the shooter's dominant eye should touch the chain/rope.

The second delivery target should be a laser that can be set on the ice. The shooter should be directed to get into the set-up position with the target being the laser (set-up on the other side of the sheet from the previous delivery and just outside the hog line). Once the shooter is in position, one of the participants should adjust the laser so it is shining exactly in the middle of the stone. The video camera should be positioned directly behind the laser and pointed straight towards the middle of the stone. The shooter should then deliver the stone at the laser. The position of the laser beam on the stone during delivery will highlight any C-Curves that occur.

During the side view video taping, the shooter can deliver to either device. This angle will allow monitors to assess delivery components that are not readily visible from the frontal view.

Once all participants have operated the video equipment and been video taped, the group should view the recording on a television monitor and use the delivery analysis form to assess the deliveries. Lead instructors should help participants understand the form and to learn what to watch for, both positive and negative. This should be a time of open discussion involving all instructors and participants. As is the case when working with athletes, instructors should limit constructive comments to no more than two or three elements of the shooter's delivery – as much as a person can reasonably assimilate per session.

Delivery Analysis

Name: _____

Instructor: _____ Date: _____

<u>Component</u>	<u>Description</u>	<u>Proper?</u>		<u>Comments</u>
<u>Setup</u>				
Hack Foot	Straight, ball on hack	Y	N	_____
Sliding Foot	Slightly Forward	Y	N	_____
Alignment	Shoulders/Legs Square	Y	N	_____
Rock Position	On desired line-of-delivery	Y	N	_____
Broom Position	Arm relaxed, broom forward	Y	N	_____
Grip	Thumb position	Y	N	_____
Rotation	Handle cocked at 45 degrees	Y	N	_____
<u>Forward Press</u>				
<i>Distance</i>	<i>No more than 6"</i>	Y	N	_____
Body Movement	Waist only	Y	N	_____
<u>Draw/Step</u>				
Line Of Delivery	On line	Y	N	_____
Grip	Still cocked	Y	N	_____
<i>Hip Elevation</i>	<i>Hips up, knees bent</i>	Y	N	_____
Sliding Foot	Parallel to line	Y	N	_____
<i>Weight Shift</i>	<i>Behind Hack</i>	Y	N	_____
<u>Forward Motion</u>				
<i>Line Of Delivery</i>	<i>On line, no "C" or hook</i>	Y	N	_____
Grip	Still cocked	Y	N	_____
<i>Body Drop</i>	<i>Rock first, delay foot</i>	Y	N	_____
Leg Drive	Complimentary	Y	N	_____
Broom Position	Still forward	Y	N	_____
<u>Slide</u>				
<i>Balance</i>	<i>Over sliding foot</i>	Y	N	_____
Line of Delivery	On line	Y	N	_____
Direction	No drift/fishtail	Y	N	_____
Shoulders	Square to skip's broom	Y	N	_____
<u>Release</u>				
Arm Extension	Arm only	Y	N	_____
Rotation	Approx. 3' from release	Y	N	_____
<i>Hand Position</i>	<i>Hand shake, 12:00 o'clock</i>	Y	N	_____
Follow Through	Maintain delivery position	Y	N	_____

Other Comments: _____

DELIVERY FAULTS & FIXES

FAULT	DETECTION	CAUSE	FIX
Balance	Unsteadiness / Wobbliness	Improper sliding foot position	Sliding foot central to body trunk, between sternum and belly button Slight toe out for more stability Assume delivery position and have second curler pull first curler along the ice while holding the brush handle
	Body tilting to one side or the other	Weight on delivery device or the stone	Practice without stone and /or sliding device
	Timing	Sequence out of step	Call sequence - Rock, Foot, Rock, Foot, Slide
	Foot beside stone	Sliding foot moves forward too soon	Delay foot forward, make sure stone moves first
	Lateral drift	Timing / direction of sliding foot moving into position	Adjust timing Practice sliding foot placement for stability
	Trailing leg not fully extended	Not getting full leg drive when leaving hack	Practice leg extension off the ice and then on the ice
Line of Delivery	Lateral drift	Excessive leg drive	Reduce amount of leg drive and increase body drop through weight shift
	Straight slide but off-line	Poor alignment	Shoulders square to target. Hack knee and hack toe pointing to target
		Sliding foot out of position	Align heel of sliding foot behind stone so that stone, heel and trailing toe are in line during slide
	Step back is not straight	Stone out of position on step back	Align with skip's broom and draw straight back
	Forward delivery motion not straight (shoulders turning)	Sliding device does not remain in constant position relative to stone during delivery	Practice maintaining positioning of sliding device and stone
	Sliding foot not on line of delivery	Feet not positioned correctly on setup	Feet parallel to line of delivery on setup Practice using alignment aids such as cones or cups

FAULT	DETECTION	CAUSE	FIX
Release	Flip wide or crossfire inside	Poor start position	Start at 10 and 2 positions
		Early or slow release resulting in rock being in neutral position before release; flipping or dumping action results	Hold 10 or 2 handle positions to start of "release zone"
		Not finishing at hand-shake position	Practice "pass the roll" drill using PVC tubing
	Rock rotation	Quiet handle	Increase rotation on release; positive release to hand shake position
		Too much rotation	Quieter release; reduce flipping action
	Different points of release	Lack of weight control	Practice a short ice game such as curling bocce
	Inconsistent curl		Practice alternating shots - draw, takeout, draw takeout, etc.
		Poor grip	Check grip on handle
	Palm off handle, grip stone in fingers		
Not completing rotation	Follow through to hand shake position		

Sweeping

(Compiled by Jon Mielke, Capital Curling Club – Bismarck)

Introduction

- Sweeping is the margin of error that often separates good teams and really good teams
- As a shooter – use your sweepers - don't be heavy and don't be wide

Purpose – clean & heat

Impact – farther and straighter

Note: Timing of sweeping is critical – may actually increase curl

Technique

- Side to side (watch width of stroke)
- Finish away from stone
- Pressure and velocity
- Upright posture - upper body weight and both arms pressing down broom's shaft
- One on each side of stone
- Position of sweepers on the ice prior to delivery – behind back line to outside of sheet
- Communicate desired shot – sweepers talking to each other and shooter once shot is called by skip

When to Sweep

- Shooter – Communicate line and weight
- Skip – Communicate line; weight as shot nears house
- Sweepers – Judge weight on draw shots
- Timing is critical, especially on come-arounds
- Who do you listen to?

Timing Stones

- Interval timing
- Things to watch for – arm extension or pull-back
- No substitute for judgment

Sweeping Drills

- Not in my house
- Progressive hog line



Articles



Brushing 101

Wednesday, January 04, 2006 | Source: by Bill Tschirhart

We work hard to back up what we teach and preach with empirical data. Sorry to say that this is not the case with the skill of brushing. Most of what we think we know comes from participant observation. That being said, here IS what we think we know.

TO BE EFFECTIVE, YOU MUST BRUSH QUICKLY, WITH AS MUCH DOWNWARD PRESSURE AS POSSIBLE.

Now there's a revelation, but there's much more to that than first appears. Let's deal with the downward pressure part first.

When curlers switched from corn brooms (ah, what a loss to the game from an aesthetic perspective) many decided that to maximize downward pressure it was necessary to grasp the handle of the brush as low as possible. It really did "look" as though the athlete was pressing down really hard as opposed to one who grasped the brush higher on the handle. In fact, just the opposite proved to be the case. You can easily test this out for yourself and your teammates.

Get an ordinary bathroom scale and assume that low hand position. Press down with the brush on the scale and get a reading. Now, position your hands higher on the handle. Get the weight of your body on the balls of your feet and angle the brush as close to perpendicular as you can. Now press down and read the scale. I have an old corn broom that says you have increased the downward pressure substantially!

Although the evidence is in that this "high hands position" will indeed produce greater downward pressure, what's the sense assuming this position if the stroke rate is significantly reduced as an undesirable side effect? It's not! Therefore a compromise is in order between hand position, body position and handle angle which will allow for the greatest amount of downward pressure and maximum stroke rate.

In research and development, literally as I write this on a sunny June morning in 2002 here in Calgary, is an "instrumented brush". This device, when placed into the hands of a brusher will once and for all, gather data which will prove to the athletes that adjustments can improve his/her ability to brush effectively. I can't wait for this device! But, back to participant

observation. Let's talk hands.

It is generally accepted that it is best if the palm of the upper hand faces "up" while the palm of the lower hand faces "down". The handle of the brush is then secured between the upper arm of the higher arm and the rib cage. Remember; keep those hands as high on the handle without sacrificing too much stroke speed as possible.

OK, so far so good but we can't brush in a stationary mode. We must move with the stone to be brushed so let's now talk "footwork".

GOOD BRUSHERS CAN BRUSH FROM EITHER SIDE OF THE STONE AND WILL WEAR GRIPPERS ON BOTH FEET.

Another change that brushing brought about is the relative positions of the two brushers. Let's return for a moment to those days of old when the brushers were, tah dah, "sweepers".

Both sweepers were usually, not always but usually, on the same side of the stone. This made sweeping in unison much easier and due to the nature of the action of the broom, two sweepers could literally be shoulder-to-shoulder without disturbing one another's footwork. This is NOT the case when two "brushers" brush. The footwork is entirely different.

I like to describe the footwork when brushing as a combination of basketball shuffle and cross-country skiing. Generally the feet face toward the target of the stone (especially the front foot). And even though the brusher wears grippers on "both feet" (more about that in a moment), the feet can still "slide" enough to make the movements of the feet smooth. But, this cross-country ski action takes up a lot of space, certainly much more than the footwork of those two "sweepers" so it would be awkward at best if two brushers were on the same side of the stone. It is difficult to describe in words the action of the feet. It really is trial and error. You adopt a method which allows you to maximize brushing effectiveness (see first brushing point in this article).

The gripper/gripper idea first started when brushers realized that to brush "on the opposite side of the stone", it placed the "slider foot" as the rear or push foot. This was awkward and somewhat dangerous. So the answer was to place one's gripper over the slider while brushing on that "opposite side". Little did we know that other, very positive spin offs would occur. They include; added safety (especially for "older curlers"), increased heart rate recovery due to the fact that the athlete must "walk" back to position rather than use the push/slide method and greatly reduced stress on the knee of the slider leg (again a huge advantage to older curlers). Who would have thought? It is now commonplace for curlers to go "gripper/gripper" for all the skills of the game except executing the actual delivery of the stone. If you have not made the switch to gripper/gripper, I urge you to do so. Now!

Grippers are not expensive. Get new ones each year. They dry out quickly and shed easily. They are the primary cause of "picked stones"!

USE A BRUSH THAT IS SUITABLE TO THE ENVIRONMENT.

Most elite curlers agree that under frosty conditions, a hair type of brushing device might have an advantage over a synthetic device. Ice technicians tell us that from a pebble wear perspective, the synthetic brush head "appears" to actually wear down the pebble to a greater degree than a hair device. The type of device selected is very much a compromise between the needs and wishes of the team and the athlete. Don't select a brush that is too heavy or too long for example. Oh, by the way, no tests which have been conducted have proven that one type of generally accepted brushing device is more effective than any other! But, tests certainly have demonstrated that brushing is effective in helping the stone to maintain its momentum!

Besides the actual "brushing surface" of the brush, the head of the brush tends to be manufactured in different lengths as well. Right now the most well-known brushing tandem are "Huff and Puff" (a.k.a. Marcel Roque & Scott Pfeifer) the front end for the world champion Randy Ferber/Dave Nedohin team. They both use very long brush heads as do the "other" well-known brushing duo for Wayne Middaugh (Scott Bailey and Ian Tetley). I must admit that I don't really understand why they use such a large brush head. The running surface is only about half the diameter of the stone. It's rather small. Even a "small head" brush, placed at the correct angle will keep a portion of the brush head in contact with the ice in front of the running surface at all times (a key point for most excellent, competitive brushers). It's a matter of personal preference. Some brush heads are "angled" to the handle of the brush so that the brush head moves across the path of the stone in such a way as to always be perpendicular to the path of the stone. That certainly promotes maintaining a portion of the brush head in front of the running surface of the stone.

Of course, from a rules perspective, the brush must "move" across the path of the stone with the last stroke clearly being away from the path of the stone. Most officials are quite lenient on the definition of "move".

BE AS FIT AS YOU CAN TO BE THE MOST EFFECTIVE BRUSHER YOU CAN.



Source: Performancebrush.com

TIMING ROCKS: MANY METHODS... WHICH ONE TO CHOOSE?



We may use the stopwatch to evaluate the draw weight and the take out weights. In this article, I will describe the use of stopwatch for draw weight. I will write about the use of stopwatch for take out weights in the next issue. I first remind you that the higher the time observed, the faster the ice is. That is the faster the ice, the slower runs the rock and than higher is the time.

We use the stopwatch since the seventies and many methods as been developed :

DISTRIBUTORS

1. From the back line to stop
2. From the 1st hog line to stop
3. From the 1st hog line to the 2nd hog line
4. From the back line to the 2nd hog line
5. From the back line to the 1st hog line

COLUMNS

Timing Rocks: Many methods... Which One to Choose?

Each of these five methods shows some advantages and disadvantages. These are all effective methods. The goal of this article is to help you make an enlightened and judicious choice

Interval Timing or

METHOD 1:

From the back line to stop

Timing From the Back

We start the stopwatch when the rock reaches the 1st back line and we stop it when the rock stops. If the stone stops at the right place (in front of the « T »), the time is good. If the rock stops in front of the house, we add one half of a second to the time we got for each 5 feet we need (0.1 sec. per foot). Since two good brushers may make the rock move about 10 feet more which means one second, we throw without consideration for tenth of second. Good curlers throw rocks within half of a second, never within tenth of a second. Than a rock stopping one or two feet in front of the house miss the target by about 5 feet or half of a second ; if your stopwatch shows 26.5 sec., you add 0.5 sec. which give you a 27 sec. draw weight

Line to the First Hog

Line

Timing the Take Outs in Curling : Why Not?

Mental preparation :

Stress Control or

Management

ADVANTAGES:

Mental preparation :

Imagery

1. The time obtained by this method is higher than the time of the other methods; than, the reference you get is more precise.
2. It is easy for the skip to start the stopwatch at the back line and than concentrates on the line of throw and the release. When skipping, I like to time the rocks to have my own references rather than referring only on the brushers time

Brushing technique for

power brushing

A New Look At The

No-Backswing Delivery

DISADVANTAGES:

Release : Biggest

challenge in Curling

The Problem :

Drift

Four major faults

observed during the no

backswing delivery

1. Since the curlers don't have the same technique, the time from the back line and the hog line may be slightly different from one to the other. As far as I am concern, the difference in time is insignificant since it consists of tenth of second and we throw within half of second.
2. If the rock is thrown with the right weight, but touches a stationary stone, the time we get is not valuable; we have to forget it and time the next rock. This comment is right, but there is always other stone to time.

Knee problems: a

common curling

ailment

METHOD 2:

From the 1st hog line to stop

This method is similar to the first one but the stopwatch is started at the

Meaningful practice

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hog line.

ADVANTAGES:

1. This approach eliminates the drawback of the first method, which is a slight difference in time from one player to another.
2. The time we get is about 3.5 seconds less than the time obtained with the first method, but remains a precise reference.

DISADVANTAGES:

1. It is difficult for the skip to start the stopwatch at the hog line, since he is concentrating on the line of throw and the release of the thrower, there are too many tasks to perform at the same time and more errors occur. With this method, the skip almost has to rely on the brushers to get feedback on draw weight.
2. Same as the 2nd disadvantage of the 1st method: if the running stone touches a stationary rock, the time we get is no good and we have to time another rock.

METHOD 3:

From the 1st hog line to the 2nd hog line

The stopwatch is started at the 1st hog line and stopped at the 2nd one. We then eliminate the problems of the two first methods.

ADVANTAGES:

1. As mentioned for method 2, the technical differences between curlers do not influence the time shown on the stopwatch.
2. The time shown on the stopwatch is good even if the running stone touches a stationary rock as opposed to the methods 1 and 2.

DISADVANTAGE:

1. The time we get is very short: about twice shorter than the time we have with method 1. We generally have time varying between 13 and 14 seconds. The difference between 13 and 13.5 sec. or 13.5 and 14 sec. is enormous. This reference, even though it circumvents the disadvantages of the methods 1 and 2, shows a dangerous lack of precision. Telling your skip 13.5 or 14 seconds is not enough precise.

METHOD 4:

From the back line to the 2nd hog line

This approach combines methods 1 and 3. It offers very few advantages. Even though the time we get is higher than the time we get with method 3 from about 3.5 seconds, it remains unprecise. Moreover, the 3.5 added seconds is questionable.

ADVANTAGES:

1. This method is easier than the previous one to utilize for the skip.
2. The time shown is slightly higher than the one found with the previous method (about 3.5 seconds).
3. As for the previous method, the time got is good even if the running stone touches a stationary rock.

DISADVANTAGES:

1. As mentioned for method 3, the time obtained is still short and gives a vague reference.

METHOD 5:

From the back line to the 1st hog line

I already wrote on this method in the October 2000 Issue page 20 . The article was called: « Searching for Draw Weight? » This method consists in starting the stopwatch at the back line and stopping it at the 1st hog line. One tenth of a second is comparable to half of a second regarding methods 1 and 2 or one tenth of a second approximately corresponds to 5 feet.

ADVANTAGES:

1. Not only is this method useful to the thrower, but also to the sweepers.
2. It rapidly shows the technical differences within team-mates
3. It identifies the slower and/or the faster rocks and help matching the rocks.
4. This method may be used with any of the other methods.

DISADVANTAGES:

1. The time is very short.
2. It demands a high level of concentration since we play with tenth of second.

Allow me to write about my preferences. As you probably feel it my preference goes with method 1. Despite the disadvantages, I like it for the precision of the references we get. When I skip, I like to have my own timing and I want to start the stopwatch at the back line to be free when watching the line of throw and the release. It is also possible and advisable to combine method 5 with method 1 or any other method of your choice. Doing so, start the stopwatch at the back line and stop it at the 1st hog line using the « LAP » button, have a look at the time, restart the stopwatch pushing the same « LAP » button and stop the stopwatch when the rock comes to rest. This way you have the time of method 1. If you haven't been using these method, try them and make your choice; you will improve your game.

Source: Performancebrush.com

INTERVAL TIMING OR TIMING FROM THE BACK LINE TO THE FIRST HOG LINE



I set up that system of timing in 1992. The idea was to help the sweepers evaluate the speed of the rock to improve their weight judgment. That theory was one of the 12 tasks to obtain my level IV coaching certification.

At that time we were using a countdown stopwatch set at 3.5 seconds. The idea is to start the stopwatch when the rock reach the back line and listen for the sound of the stopwatch when reaching zero. The location of the stone at the sound tells the sweepers where the rock is going to stop.

DISTRIBUTORS

After three weeks of training, we made a test to verify the effectiveness of the system. Our skip threw 10 draws; the sweepers had to tell where they believe the stone was to stop and they had to make their prediction when the rock was near the first hog line. We got exceptional result; our sweepers never miss by more than one foot. Than, we knew we had put together a very successful system.

COLUMNS

Timing Rocks: Many methods... Which One to Choose?

Countdown stopwatches being difficult to find, many teams used regular stopwatches and stopped it at the first hog line. The interval timing was born.

Interval Timing or Timing From the Back Line to the First Hog Line

Even though, at the beginning, the only goal of the interval timing was to help the sweepers judge the speed of the rocks, we soon found more advantages to that system. That method allowed us to find the speed of the rocks. If one or many rocks were different for draw weights, the interval timing was showing that difference. It also means that this system helps to match the rocks before or during a competition.

Timing the Take Outs in Curling : Why Not?

I remember a very special situation. At the 1993 World Junior Championship in Grindelwald in Switzerland, we had to play with horrible rocks and before one particular game I had to tell my team that I could not match the stones since there weren't 2 rocks the same. I told the players to manage the best they could with that situation. Believe it or not, these curlers were making their draws with a lot of precision. At the fifth end meeting, I asked them how they could manage to make their draws with these rocks and they said: « Using the interval timing the lead tells us the speed of each rock ».

Mental preparation : Stress Control or Management

Mental preparation : Imagery

Brushing technique for power brushing

Indeed, we know that when one ear the sound of the countdown stopwatch right at the hog line, the speed of the draw is 26,5 seconds (from back line to stop) and with a little experience one knows the speed of the ice according to where the sound is listened. We also know that 10 feet for a draw equal one second for the draw weight.

A New Look At The No-Backswing Delivery

Release : Biggest challenge in Curling

During that game at the Grindelwald World Junior Championship, the sweepers could tell to each player on the team the speed of each rock. For example, if the sound of the stopwatch is equivalent to a 27 seconds draw and that stone stop one foot in front of the house, we know that this draw is half second light. Therefore the draw weight for that rock is 26.5 seconds.

The Problem :

Drift

The same method may be applied when using a regular stopwatch by timing the time for the rock to travel from the back line to the first hog line. After a while one knows the speed of the ice (or the rock) according to the time obtained.

Four major faults observed during the no backswing delivery

Knee problems: a common curling ailment

More and more highly competitive teams use this interval timing method. Most of them utilize a regular stopwatch. My personal preference goes for the countdown stopwatch since only one touch at the start is needed and there is no stop. The margin of error is reduced in comparison with a regular stopwatch which needs a second touch to stop the timer at the hog line. Moreover, the sweepers have to read the time after stopping the watch which is not the case with the countdown system.

Meaningful practice

If you haven't tried this method of timing yet? You should go for it. It is easy to get use to it.

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Timing Systems

A General Comparison

Near Hog-Line to Far Hog-Line	Near Hog-Line to Far T-Line	Near Back-Line to Far T-Line	Near Back-Line to Near Hog-Line
12.00 seconds	21.50 seconds	24.80 seconds	3.30 seconds
13.00 seconds	23.00 seconds	26.50 seconds	3.50 seconds
14.00 seconds	24.50 seconds	28.20 seconds	3.70 seconds
15.00 seconds	26.00 seconds	29.90 seconds	3.90 seconds

Take-Out Weights

Weight	Near Hog-Line to Far Hog-Line	Weight	Near Hog-Line to Far Hog-Line
Peel	7.0 - 8.5 seconds	Bumper	10.5 - 11.5 seconds
Normal	8.5 - 9.5 seconds	Hack	11.5 - 12.5 seconds
Control	9.5 - 10.5 seconds	Back-Line +	12.5 - 13.5 seconds

Basic Curling Strategy

(Compiled by Jon Mielke, Capital Curling Club – Bismarck)

(For Skills Camps, use items in *italics* for class discussions. Other items are reference materials for later consumption).

- *Shot Options – Which One to Choose?*
- *Basic Strategy - What Are Your Goals for the End?*
- *Remember “Hi Sea” (Hammer, Ice, Score, End, & Abilities) or “SHEET” (Score, Hammer, End, Environment, & Team)*
- *Understanding and Using the Free Guard Zone Rule*
- *Sample Ends & Goals*
- Shot Ranking
- Things to Remember/Consider
- Practice with Purpose
- Strategy – It’s Not Rocket Science
- Reading Ice

Shot Options – Which One to Choose?

Here’s the situation – there are no rocks in play and your opponent just threw one into the 8 foot about 2 feet to the right of the center line.

As a group, list all your possible options (pay no attention to score, end, etc.):

Here are a few options, there may be more:

Nose hit	Hit & roll right	Hit & roll left
(Note that all hit options can be played with peal weight, regular weight, control weight, board weight, hack weight, etc.)		
Throw it through	Straight freeze	Corner freeze
Tap to back of rings	Draw in open	Draw behind
(Note that all open draws can be to numerous locations in the house)		
Long guard	Medium guard	Short guard
(Note that all guard options can be middle, left, or right)		

There are literally dozens and dozens of shot options.

Which shot do you play? It depends on lots of factors! Your decision is based on your goal for the end and how shots have been played so far in the end. Your goals for the end will dictate your overall strategy. Remember, it is better to have a plan and fail than not to have a plan, at all!

Basic Strategy - What Are Your Goals for the End?

Basic curling strategy – as a general rule:

- With the hammer – score 2 or more or blank the end and keep the hammer.
- Without the hammer – steal or force your opponent to take one.

There are numerous exceptions to these rules of thumb but they are a good place to start your thought process.

Knowing which of the dozens of shot options to call is dictated by your goal for the end. These goals help determine what strategy to employ. These goals and the related strategy may change while the end is in progress, depending on the other team's strategy and shots that are made and missed by both teams.

Remember “HI SEA”

In addition to basic goals for each end, the shots that a skip will call should take several factors into consideration. It's called “HI SEA Strategy.”

Hammer – which team has the hammer? You can be more aggressive if you have the hammer. Be more cautious without it. Generally speaking, try for two or more if you have the hammer or, in the alternative, blank the end and keep the hammer. Without the hammer, steal or force them to take one.

Ice – is the ice quick or heavy? Is it straight or swingy? Is it consistent or are there spots that are tough to play. If the ice is a factor, try to use it to your advantage. Use early ends to “read” various parts of the ice. Watch for changes as the game goes along.

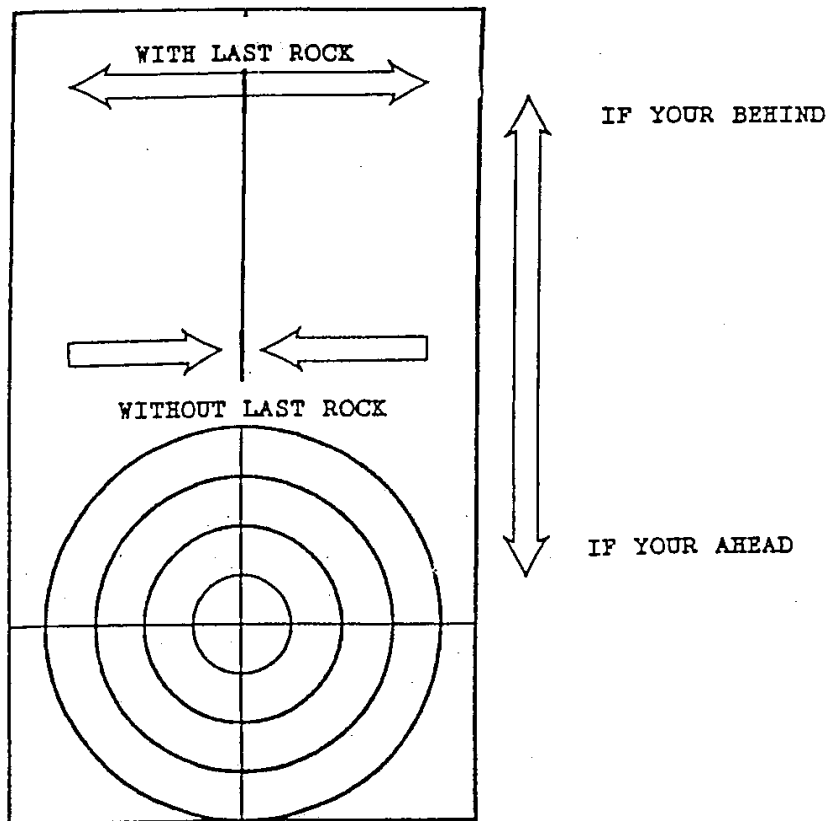
Score – the score, in combination with other factors, helps dictate your strategy. If you are way behind late in the game, you may have to be overly aggressive. If you're way up – be especially conservative.

End – strategically, curling games are typically divided into three segments – early, middle, and late ends. Teams often try to accomplish different things and are more or less conservative or aggressive, depending on the end. For example, early ends may be used to learn the ice, get teammates loosened up, assess the other team's strengths and weaknesses, etc. Conversely, a team may be more inclined to take a single point in the second to last end if they are already up by 2.

Ability – the strengths and weaknesses of your team and those of your opponent help to determine what strategy is being played and what shots are called. With a beginner at the lead position, you may play more draws than you would otherwise. Conversely, if you are a good hitting team, you may decide to play more aggressively early in ends since you can bale out later with big weight hits. Abilities often dictate playing styles, shot selections, and strategies.

Understanding & Using the Free Guard Zone Rule

Basic Curling Strategy



Free Guard Zone – area between hogline and tee line and outside the house. When playing first four rocks of end, opponent's stones in FGZ may not be removed from play. If a FGZ stone is removed, all displaced stones go back and shooter is removed.

Aggressive / Offensive – a style of play geared to stealing a point(s) or scoring two or more with the hammer. Lots of rocks in play, center guards (without the hammer), raises, finesse shots, fewer takeouts.

Conservative / Defensive – a style of play that is used when scoring a big end is not the objective. Your goal is to blank the end, score one, or maybe even give up one. You just don't want to give up two or more. Use this style of play early in the game to learn the ice and let players get comfortable, when trying to get the hammer for the next end, or

when trying to protect a lead late in the game. Few guards, lots of take outs. With the hammer, keep an open path to the four foot for your final shot, if needed.

Sample Ends & Goals - Have A Plan

Situation: Ice is good. 3 feet of curl with both turns. 24 seconds.
Both teams are made up of solid players and everyone is curling well.

End: 9th End of 10 End Game
Score: 5-4; You Are Down
Hammer: You Have Hammer

What is your goal for the end? _____
What would you accept? _____
Do you expect them to do with their first stone? _____
How will you respond? _____
If you get 2, what next? _____

End: Second to Last End
Score: 7-5
Hammer: You Have Hammer
Situation: Nothing in Play – Ready to Throw Hammer

What do you want to do?

Think about the last end and how it will be played, depending on whether you blank the end or take 1.

End: Last End
Score: 5-4; You are Down 1
Hammer: You Have Hammer

What do they want to do? _____
What would they accept? _____
What can't happen: _____
How do you expect them to play? _____
What do you want to do? _____
What would you accept? _____
What can't happen? _____
How will you play? _____

Shot Ranking

(Rank Shots from Easiest to More Difficult)

There are no right or wrong answers but ranking shots by your perceived degree of difficulty will help you and your team understand what kinds of shots they want to play (higher percentage shots) and which hard shots they want to force their opponents to play (lower percentage shots).

- | | |
|-----------|-------------------------------|
| 1. _____ | A. Short center guard |
| 2. _____ | B. Open takeout |
| 3. _____ | C. Double takeout |
| 4. _____ | D. Perfect freeze |
| 5. _____ | E. Open draw to four foot |
| 6. _____ | F. Chip rock in FGZ |
| 7. _____ | G. Long center guard |
| 8. _____ | H. Hit & stick takeout |
| 9. _____ | I. Open draw to house |
| 10. _____ | J. Hit & roll behind guard |
| 11. _____ | K. Run-back takeout |
| 12. _____ | L. Draw thru port to 4 foot |
| 13. _____ | M. Board weight takeout |
| 14. _____ | N. Corner guard |
| 15. _____ | O. Draw behind corner guard |
| 16. _____ | P. Raise from top 4 to back 4 |
| 17. _____ | Q. Hack weight takeout |
| 18. _____ | R. Back circle weight raise |

Practice to make “easier” shots automatic and “harder” shots easier.

Practice with purpose - use specific drills to sharpen skills and to turn weaknesses into strengths.

“We are what we repeatedly do. Excellence, then, is not an act, it is a habit.”

Things to Remember / Consider

Fully understand the Free Guard Zone rule.

With hammer – score 2 or more or blank; without hammer – steal or force them to take 1.

Control the top of the house and the path to the 4-foot.

Late in the game – try to score in even ends (play to have hammer in last end).

Decide which rocks are “friends”, which ones are “enemies”, and which ones are neutral.

Never play to miss, but always error on the “pro” side.

Divide game into early, middle, and late ends – know when to be aggressive and when to be defensive.

Plan several shots ahead and several ends ahead.

Be patient – don’t need to make up deficit all in one end. Position self for shot to win.

Opponent’s stones behind the tee may be your friend, especially if you have the hammer.

Have a game plan and stick to it unless the situation dictates otherwise.

Play high percentage shots suited to your team’s strengths.

Make the other team throw hard shots.

The best strategy is to call a good shot and then to make your shot.

Front end – be ready to shoot; clock management.

Be sure that everyone on the team knows what shot is being played.

Skips call the game but others may occasionally suggest other options; skip ultimately decides.

When faced with multiple opponent stones in the house & playing a hit, take out the “higher” stone (except with the hammer).

Forget shots & ends already played. The most important shot of the game is your next one – play in the present, not in the past.

Keep applying pressure – something good will happen.

Support your teammates – it encourages your team & discourages your opponent.

Remember the “Spirit of the Game” – be courteous and a good sport.

Common “Do’s” and “Don’ts”

- Plan ahead several shots and even several ends.
- If you play a certain shot, consider what they will do. Is that likelihood okay?
- Call the higher percentage shot.
- Always consider “risk” vs. “reward”.
- Play to your team’s strengths.
- If you are up, the guards are not.
- Guard a guard straight on when attempting a steal.
- Given a choice, rarely draw through a port.
- Late in the game, attempt to score in even ends.
- Never “bump” on a come around freeze.

Strategy is what makes curling fun to play and fun to watch.

If both teams shoot 100%, the team with the best strategy probably wins.

If your team shoots 50% and your opponents shoot 75%, which team will win?

Answer: Who knows? But it might be your team if you use better strategy.

Good strategy is not a substitute for good shot making.

How do you become a good shot maker? Clinics, coaching, and practice.

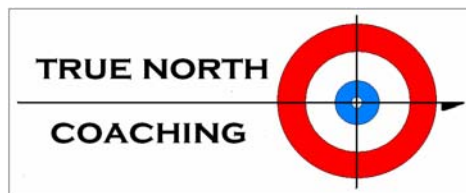
Good shot-making is important but sound strategy is equally as important

How do you learn sound strategy? Play, observe (other skips, TV games, etc.), ask questions of people who know (& listen to the answers), study (brochures, books, Internet, etc.), clinics, experiment, etc.

Practice With A Purpose

You will play the way that you practice.

- Work on consistent release points and handle rotations – more predictability.
- Get “out to the stick” on delivery and take care not to over-rotate handle.
- Use times as both a shooting and a sweeping tool.
- Develop “muscle memory” by using interval times – always have a number “in your head” when you’re shooting and learn how hard to come out of the hack. On 3.4 second ice (back line to tee), .1 second = 6 feet at target end.
- If 3.4 seconds (back line to tee) is tee line weight
 - 3.5 will be a tight guard
 - 3.6 and 3.7 will be longer guards
 - 3.3 will be back line weight
 - 3.2 will hack weight
 - 3.1 will be board / bumper weight
- You can use the same tool to develop consistent team hit & light hit weights.
- Be aggressive sweepers – more shots are missed by under vs. over sweeping.
- Remember the good shots. Always approach from the positive.
- Remember which stones are your “friends” and which ones are not.
- With the hammer, don’t be overly anxious to remove opponent stones behind the tee line. Especially when you need points, these may be good backers. Consider playing taps to move “higher” opponent stones towards back of rings.
- Work to control the path to the four foot – either by covering it with your stones or by keeping it open.



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“A PANE IN THE GLASS”

Bill Tschirhart – True North Curling Inc.

STRATEGY – IT’S NOT ROCKET SCIENCE OR BRAIN SURGERY

by Bill Tschirhart

I don’t personally know of any single topic that has been the focus of more discussion, consternation, frustration and salt & pepper shaker maneuvering than curling strategy. But, please notice the title. It’s not rocket science or brain surgery! With that out of the way, let’s begin and we’ll do that with a question. How important is strategy to the final outcome of a curling game? What’s your answer?

Here’s my answer and it comes from years and years (more than I care to recall) of coaching and watching teams of all skill and experience levels play. It’s not very important! Why? I’m glad you asked!

The best answer is skill based. Consider this. If your team shooting percentage is less than 50%, you don’t make enough shots to worry about strategy. You need to focus on getting some technical assistance. If your team makes in excess of 85% of its shots, then you make so many shots, strategy again is of little consequence since I have yet to see a skip call a shot which is not going to improve the situation! But, if your team shooting percentage is between 50% & 85%, you need to make the most of those shots.

In other words, don’t use strategy as a scapegoat. Your team missed more shots than your opposition did. And, the shots you missed were “killer shots”. That’s why you lost!

I like definitions. They frame the whole matter and strategy has its share. Trust me. I’ve seen them all but here are the ones I like best.

Strategy is the shot called, in light of a predetermined game plan, based upon a variety of factors which reflect the team’s strategic philosophy. What a mouthful that one is but notice the order of this sentence. More about that later!

Strategy is a plan that ensures that when you out curl the opposition, you also win the game. There is nothing, I say nothing that is more frustrating than to feel as though you have executed shots to a higher degree than your opposition and yet you lost the game.

Strategy is a series of decisions that ultimately determine the effectiveness of the shots your team is able to make on the outcome of the game. Notice the word “decisions”! Strategy

is a decision-making process. But, many teams don't have the foggiest idea of the components of that process.

That's what this essay is about. I'll show you how to make the decisions that will maximize the shots your team is able to make. I can't make the decisions for you. No one can and nor should they unless they're a member of your team. Your strategic plan needs to fit your team. You should not aspire to anyone else's strategy. You can learn from more experienced and skilled teams but don't try to emulate their strategy hook, line and sinker!

Before I go on there are some acknowledgements I want to make. Even though this essay has my by-line, I'm not the author of all of this material. There are several national coaches with the Canadian Curling Association who have put in hours upon hours of work to put this "workshop" approach to strategy together. In fact, in summary form, the activities suggested here, which I hope you find "user friendly", are the product of a number of seasons of synthesis and evaluation. I liken it to computer software. When it's user friendly to the consumer, you have to know the software is extremely sophisticated. That clearly is the case here.

Before I reveal just how simple this process is, I want to make one distinction. **Strategy and tactics are not synonyms.** Now, before you rack your brain trying to recall what your fifth grade teacher said about "synonyms", simply put, strategy and tactics do NOT mean the same thing. They ARE related but that's as far as it goes. Allow me to illustrate the difference between (not among, that would involve three or more items, forever the teacher) the two.

Strategy is a plan, be it general or more specific in nature. Tactics are the ways in which the plan will be implemented. I wish I had the proverbial "nickel" for every team that has asked for help with their "strategy" as the team is convinced it's an area that needs some work. When I watch the team play then sit down with the team after the game, I usually begin like this. "Your strategy is quite sound but your tactics don't match your plan." Here's a curling example!

Let's say that the opposition has a stone just biting the eight foot circle on the center line (which in essence means it's in front of the tee line). It's a lead stone and it's the only stone in play. Your plan is to deal with that stone. To ignore it and place your stone in another location would be a different plan and therefore different "strategy". I can think of six different "tactics" for the chosen "strategy" of dealing with that stone. What might they be? Try not to look ahead. Put this down or turn your eyes from your computer screen and list them. I'll wait!

Hi! Welcome back. I watched an episode of CSI while you were working on those tactics. Here they are (in no particular order).

- Hit and stay.
- Tap it to a position behind the tee line (perhaps straight back or in a sort of tap-and-roll alignment).
- Hit and roll out (peel).
- Freeze (i.e. draw to the stone).

- Split the stone off the center line keeping it and the shooter in the house.
- Hit and roll to a position in the eight or twelve foot circles

Now try the tactics for the strategy of ignoring the stone.

- Draw to the side of the house.
- Place a corner guard.
- Place a center line guard.
- Deliver the stone purposefully through the house.

I know! I know! Some of you keeners out there are rolling your eyes with some of the tactics. That's because you're placing the strategy or tactic into context already. Good for you! And that's precisely the point. There are factors that mitigate against one strategy over the other and one tactic over the rest. OK smarty pants, what are the factors that dictate strategy and tactics? Make your list!

Well, the list can be long indeed and the subject of discussion in the curling lounge over a beverage of your choice but there are three that clearly stand out. They are END, SCORE and LAST STONE ADVANTAGE. They are always factors that need to be considered. Hey, when you talk about a game situation, what do you say? "It was the ninth end. We were down three and didn't have last rock." But, to be sure, there are other factors. The list below is a partial list. As situations and venues change, so does the composition of the list of factors.

- Ice conditions.
- Stone conditions.
- Opposition skill level.
- Your team's current skill level (you don't always bring your "A" game!).
- Number of stones to be played in the end.
- Fatigue.
- Momentum.
- Time of day.

These factors will shuffle in importance. They constantly change as the game progresses. Being aware of the factors that are at or near the top of the list is a skill onto itself and clearly is one of the characteristics that set one person apart from others as skip material. And, since we're on the subject of responsibility, let's get one item off the table right away. All members of the team should be aware and participate in the strategies and tactics a team

employs. That does NOT mean that there's a committee meeting on the ice prior to the calling of every shot. Yikes no! But all members of the team, as you'll see, will play a key role in the process that goes into creating the strategic plan and the tactics to be employed.

It's a simple four step process (this is the user friendly part)!

1. DISCOVER YOUR TEAM'S STRATEGIC D.N.A.
2. FORMULATE A GAME PLAN.
3. CREATE AN END PLAN.
4. CALL THE SHOT THAT COMPLIES WITH THE FIRST THREE STEPS.

Go back to the first definition of strategy and read it once again. Now perhaps you understand why I noted that the definition is written in "inverse order". On other words, it's backwards! So many curlers feel that strategy is but one thing, calling the right shot. They're not entirely incorrect but they have it backwards. The shot called is the "end product" of a process. Without the process, the shots called are entirely unrelated and that's what gets teams into trouble from a strategic and tactical perspective. I like to say to those people that if that's your definition of strategy, ***it's like building a house starting with the roof!*** I believe there's a lot of "roofing contractors" out there!

I want to make one more point before we continue and it's about jargon (language). One of the reasons why those hard-working CCA national coaches took up this strategy teaching challenge in the first place was due to the fact that when teams talked about strategy, the conversation often broke down due to a lack of a common jargon. You will learn some new words here. Use them! It's arguably one of the best parts of this whole process. You will now have a common language! OK, let's get to the heart of the matter and find out about those four, simple steps!

STEP ONE – DISCOVER YOUR TEAM'S STRATEGIC D.N.A.

I'm continually amazed at the high number of curling teams that have never had a discussion among their members as to how they wish to play the game. Teams talk about ice, stones, bonspiel dates, uniforms, food & equipment etc. but rarely about how they want to play the game. Amazing!

Every team has a built-in philosophy of how the game should be played. It's the result of four individuals' collective skills and experiences. It's one of the factors that should bring four curlers together in the first place (oops, you DIDN'T consider that when you formed the team? Yikes!).

There are but three types of teams, ***offense first***, ***defense first*** and ***blended attack***. Your team will naturally prefer to play the game based upon one of the three types.

Offense First – Notice the adverb "first" (and with the second type, defense "first"). That was not placed there haphazardly. It's key to the understanding that an offense first team, when

considering its strategy and tactics possibilities, will always look for the offensive ones “first”. It may not ultimately choose that course of action but it’s clearly the first consideration!

Defense First – On the other end of the spectrum are the teams that will consider the defensive options first. Like their offense first cousins, they may not choose the defensive path for a variety of reasons, and choose to play quite offensively.

Blended Attack – As the term implies, this is a combination of offense and defense and, as I will illustrate, can be the most challenging way to play.

In each case, there are three key components that are required for a team to play effectively and the first component is the same for all three. You either want to play like an offense first team, a defense first team or a blended attack team or you feel a necessity to play like one of them. You never have to justify your desire to play in one of the three styles. It may not be prudent for reasons I will soon illustrate but it’s your choice. From time-to-time, an offense first team will play like a defense first team or a blended attack team. From time-to-time, a defense first team will play like an offense first team. And, by definition, a blended attack team will ultimately have to decide to continue to play offensively or defensively.

There was a time in our sport when a team could play like an offense first team or a defense first team from one end of the season to the other. Those times are gone! **Job #1 is clearly to learn to play as effectively as possible “your natural way” but sooner or later, your team will have to learn to play like the other two!!!** That’s simply the competitive environment in which we find ourselves today.

For each style of play there is also a team skill set necessary. **For an offense first team, the finesse shots must be played well.** You know what they are, the taps, guards, come-arounds, freezes etc. **A defense first team will play the up weight** particularly well. They are the take outs, peels etc. **And a blended attack team must be able to play all the shots well.** I believe I mentioned earlier that a blended attack style, although perhaps the best way to play, can be the most challenging.

Here’s where the rubber meets the road. For each style of play there is an intangible quality that can’t be ignored, which is exactly what so many teams do!

An offense first team must be resilient! It will play with many stones in play. It needs to be aware and accept the fact that it’s providing scoring opportunities **for both teams** and occasionally, the opposition will be the one to score. If your team is playing that style and that occurs, you can’t look as though someone has shot your dog! That can’t bother you! **A defense first team needs patience and plenty of it.** It’s going to be involved in many close, low scoring games with most going down to the last stone of the last end or even an extra end. If you are uneasy about that, then perhaps that’s not the style for you. **And for the blended attack team, who must decide not only between offense and defense but exactly when to do so, you need someone to make the decision and three others to seamlessly agree. It puts a lot of pressure on your team dynamics.** They had better be rock solid (pun intended)! Sometimes is difficult to know if your natural way to play is that of a blended attack team. Here’s a good

measuring stick. If your team, likely through the one calling the shots, is constantly **calculating the odds**, then that's a reasonably good sign that you have the makings of a blended attack team.

An offense first team usually does not calculate the odds. Exactly the opposite is true and occasionally they will "buck the odds" (imprudently in my mind especially when the team does not have last stone advantage) and get burned, sometimes "in spades". The same is true for a defense first team but in a slightly different disguise. They will be so protective against a potential scoring threat (they're like a long-tailed-cat-in-a-room-full-of-rocking-chairs) that it borders on paranoia.

As you can see, step #1 is an off-ice activity that might require several hours or at least several sessions. It's time well spent! Not only that, it's essential that you do so! You need to make this decision wisely. Take a good hard look at how your team really plays. It should be based upon what I call "competitive data" and that's not "shooting statistics" per se. I will have more to say on that subject in another essay in this series but for now accept that's it's what's really happening on the ice, not what the members of the team "think" is happening or would like to see happen!

STEP TWO – FORMULATE A GAME PLAN

This is the one aspect of strategy that most curling teams "attempt" at least. Usually there will be a discussion about how they plan to play various stages of the game taking into account a variety of factors. That's a good thing so I'll simply help you streamline that process. Drum roll please! Here's another definition.

A Strategic Game Plan serves as your team's general blueprint to start the game, previewing your basic objectives along with your intended progression from the first end to the last. (Full marks to my friend Rob Krepps for this one.)

The operative words here are "general" and "start". Here is some new terminology to help. If, you decide to start the game playing like an offense first team, then you intend to **pursue** scoring opportunities. That might change quickly but that's OK. Remember, it's only a plan to "start" the game. On the other hand, again due to reasons known only to you and your team mates, you may feel that it's best to **protect** against scoring threats by your opposition in the initial stages of the game. You may discover rather quickly that you have your "A" game and your opposition is struggling and decide to take advantage of the situation and switch to offense and therefore begin to pursue scoring opportunities. Lastly, you may decide to play a more wait-and-see role and play shots primarily to see the reaction you get from the opposition. As a result, you **probe** in the early portion of the game.

That's it! Your game plan then is to **pursue, protect or probe**. Three simple yet powerful words!

STEP THREE – DECIDE UPON AN END PLAN

This, in my mind, is a great failing for so many curling teams. Before I go on about this, another drum roll please, definition. ***A Strategic End Plan serves as your team's specific***

blueprint to start an end, clearly defining your outcome priorities along with the tactics that you will use to achieve them. (More thanks to Rob.)

Notice this time it's not a "general" plan, it's a "specific" plan but again, it's only a plan to "start" the end. That plan can switch on just one shot. You might decide, again for a variety of reasons, to pursue a scoring opportunity. Therefore you will play the end as an offense first team would play it. On the other hand, again for a variety of reasons, you may feel it's more prudent to protect against a scoring threat from the opposition and therefore begin the end playing like a defense first team. If you believe that it's in your best interests to simply place stones in potential positions waiting to see how the end unfolds, then you start the end playing like a blended attack team.

The terminology adopted for an end plan includes colours, **green**, **red** and **yellow**. Yes, it's like a traffic signal! Green means "go", red means "stop" and yellow signifies "caution". And here's where a little team dynamics comes into the picture. Team dynamics is all about effective and efficient communication both on and off the ice. In this case here's a suggestion I know works.

When the end concludes and the thirds (mates) agree on the score (that's the official conclusion to an end of curling by the way) have your third/mate meet with the skip at center ice. Turn to the scoreboard and consider those "big three" factors (*end, score & last stone advantage*). Decide between you what the next end plan will be (green, red or yellow). By the time the third/mate returns to the delivery end, the stones should have been cleared at which time the message can be passed along to the front end. Do this for each and every end!!!! If your team does nothing else, this alone will improve your w/l record!

STEP FOUR – CALL THE SHOT

If you have done steps 1, 2 & 3, the shot to be called will literally bubble to the surface. In some cases there may be more than one shot that fits the bill. In that case take a look at the player who will be playing the shot. Duh, choose the one that he/she is most likely to make and with a tactic to match (wow, this is cerebral stuff isn't it?)!

SUMMARY

STRATEGIC DNA	GAME PLAN	END PLAN	SHOT
offense first	pursue	green	finesse
defense first	protect	red	up weight
blended attack	probe	yellow	potential

PARTING THOUGHTS

This entire essay was intended to provide a template for your team to understand the difference between strategy and tactics, to understand the process of establishing a plan and to motivate you and your team to take the time, away from the ice surface to proceed through the process. I'm well aware that some of you, reading to this point, might be somewhat disappointed.

You expected, at some point, that I would help you call the right shot. Well, I did but in the manner of the parable of the starving fisherman. Rather than give you fish to eat which will keep you alive for a finite period of time, I've provided the fishing gear and skill to use it so you can feed yourself indefinitely.

Be realistic! It's great to watch the athletes on TV but trying to emulate their strategy and tactics can be disastrous to your club team. Make the most of the shots your team plays well. List them and stay within them. That doesn't mean that your team needs to be locked into those shots. If your team feels it lacks some of the weapons it needs, get some help from coaches and instructors in your area. There's no rule that states that a club team can't practise!

Think "outside the box"! Don't fall into lockstep with your contemporaries. Be prepared to use tactics that are not quite so common. There's more than one way to play many shots. If you choose a less common tactic, one your team has practised and mastered, it can prove problematic for your opposition.

There is no "risk free" strategy regardless of the type of team you are (offense first, defense first or blended attack). An offense first team risks having a big end scored against it. By the very nature of the way an offense first team plays (lots of stones in play) it creates potential scoring opportunities for BOTH teams. Occasionally your opposition will take greater advantage of that situation by simply playing at a higher level in an end or, again due to the fact there are so many stones in play, get a lucky "tick-tac-toe" shot leaving you up to a particular body part in alligators, a situation from which your noble "last rock chucker" cannot bail the team. When that happens, you can't fold you tent! On the other hand, that defense first team that's constantly protecting against scoring threats will give up scoring opportunities in doing so. And, I think I've already established that the nice, safe role of blended attack is fraught with risks, not the least of which is the strain on team dynamics in addition to miscalculating those odds.

Lastly, don't blame strategy when it's tactics that are your problem (now that you know the difference between them). This is all about "making curling shots!"

Enjoy working with your athletes. I'll see you soon behind "a pane in the glass"!

Reading Ice

Curling ice is seldom perfect. The surface of an ice sheet has varying profiles, each of which will influence the way that a curling stone curls or does not curl. The ice surface will also change during the course of a game, affecting both speed and curl.

Here are some typical profiles. Think about how each characteristic will influence a stone's curl. Use early ends to "learn" the ice and observe every stone that is played to watch for changes. Competitive games are often won by the team that correctly reads the ice and notices changes during the game. Use the ice to your advantage and, when possible, force the other team to play shots on difficult parts of the sheet.

ICE PROFILES



NORMAL



FALL



RUN



DISHED



BOWED



RIDGED

Level II Instructors Exam

1. What are the ABCs of a good delivery? Which is most important?
2. List the key power generators in the no-lift delivery.
3. Why is taking the rock back to the hack foot preferred to taking it back to the center of the hack?
4. Describe how an instructor knows when a student has shifted weight properly and achieved the potential for good balance in the delivery.
5. Describe a proper grip and release.
6. What is a C-Curve and what impact does it have on a delivered stone?
7. What two things make sweeping effective?
8. List the main areas of analysis (things to focus on) in the no-lift delivery.
9. List three presentation “traps” an instructor can fall into.
10. Why is a no-lift delivery preferable to one with a backswing?

Bonus question: Explain why rocks curl.

USA Curling - Level II Instructor Clinic

Evaluation

USA Curling is committed to the continuous improvement of our instructors, training tools and systems. Please take a few minutes to answer some questions regarding the clinic you just completed.

Clinic Date/Place _____ / _____

Lead Instructor: _____

What was the most useful part of the clinic?

Do you think there was enough time to cover the material? Yes No

Did the instructors present the material in a clear fashion? Yes No

Were your questions addressed adequately? Yes No

Were there enough instructors to assist you on the ice? Yes No

Do you feel prepared to improve your delivery? Yes No

Suggestions to improve the clinic:

Please comment on the overall value of the clinic.

Please return your completed questionnaire to the instructor.