Introduction to Basic Curling Strategy

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Introduction to basic curling strategy

Curling is, at its heart, a very simple game. The *object* is to get more of your stones closer to the button than your opponent. That's it. The *strategy* of curling is different than the *object* of the game… strategy is the set of tools that you use to help achieve that objective.

The tools are numerous, which is why curling strategy can be very involved and complex, and there is no definitive black or white, right or wrong approach. It's like chess. You have to evaluate multiple moves in advance to determine if the move that is being contemplated works best. You usually have several choices to make, and you need to evaluate all your options to determine which has the highest probability of success for the current situation.

The first question you probably need to ask is: can the shot be made? You need to consider the ability of the players, the condition of the ice, and of course, the difficulty level of the shot being called.

The next question is likely: what happens if the shot isn't made? What are the likely consequences, and what is the probability of those consequences coming true? In other words, what is the risk?

The final question (at least for now) is: What is the other team going to do after this shot is made (or perhaps isn't made)?

Once you're comfortable with your decision, then you have to call the shot correctly. You need to understand how to read the ice, understand the weight of the shot, and understand calling the line of delivery.

Once you're comfortable finding answers to those three questions, you can start thinking further into the future, and asking those same questions recursively (over and over again) before the first shot is called – "If we do this, then they'll do that, which allows us do this, then they'll follow with that, and then we can do this in order to score."

In order to help you answer these three questions and then execute the shot, we need to cover some of the topics mentioned in the question, as well as some others:

- Ability of the players
- Condition of the ice
- Difficulty level of the shot
- Risk calculation
- Last rock advantage
- Score
- Reading the ice
- Delivery weight
- Calling line of delivery

The last topic to be discussed is team communication. Curling is very much a team sport. All 4 players are crucial to the success of each and every shot. Communication between team members is more about shot execution than it is about strategy, but it is a major factor in the success of a shot. In this topic we'll cover the essential elements of communication.

Ability of the players

A successful shot is made up of several attributes:

1. The player's aim is accurate,
2. the weight of the shot is appropriate,
3. there are no sweeping errors, and
4. the ice is read correctly

The player delivering the stone is responsible for the first two, the sweepers are responsible for the third point, and the skip (or vice-skip/third) is responsible for the last one. All of these attributes factor in to the players' ability.

If the person throwing doesn't have accurate aim, then avoid precision shots, like takeouts or drawing around opposition guards. If the person throwing doesn't have very good weight control, then call a shot where it doesn't matter if the rock stops out front of the house or gets buried deep in the house. If the sweepers aren't good judges of weight, don't call finesse shots, like a freeze (drawing up within an inch of a rock already in the house), or complicated raises – shots where the appropriate weight is crucial to the success of the shot. Of course, these are ideal situations – in real life, you may have no other option than to call those shots, and hope that it works out.

You also need to consider the ability of the opposition players. If they exhibit a weakness, it's OK to exploit that to your advantage. If the front end of the opposition team isn't able to do an accurate takeout, and yet they keep trying it, you should put rocks in the house and let them shoot at them (and likely miss).

The key element is to know how to maximize your own team's strengths.

Condition of the ice

When referring to the condition of the ice, we're usually referring to how fast the ice is, and how swingy it is. In terms of how fast the ice is, it's really a question of how much force is required to get the rock to the other end. If the ice is either sticky or freshly pebbled, there will be a lot of friction causing the stone to slow down, so you need lots of force to overcome that friction. This is referred to as *heavy* ice. On the other hand, *keen* (or fast) ice is the opposite of heavy ice. The amount of force required to get the rock to the other end is greatly reduced because, for various reasons, the friction between the rock and the ice is reduced.

Determining how swingy the ice is refers to how much a rock will curl away from the line of delivery while it travels down the ice. As expected, ice that is swingy curls a lot. The opposite of swingy ice is straight ice.

The condition of curling ice varies from city to city, club to club, sheet to sheet, and even minute by minute on any given sheet. Environmental conditions, like the relative humidity and temperature of both the ice and the air above the ice, can affect the conditions. The ice makers at a club typically have the most influence over ice conditions. They're responsible for ice maintenance, cleaning, flooding, shaving, pebbling, temperature, etc. All of these factors contribute to ice conditions. Discussing how all these factors affect the ice is a course on its own, so we won't be diving into that here.

The one aspect that will be discussed is the pebble. When the ice is pebbled, tiny droplets of water are sprinkled on the ice surface, where they freeze and form tiny bumps on the ice. Before any stone travels over them (when they are in an untouched state) the top of each frozen bump is rounded. When a 42 pound granite stone travels over top of them, the tops of the rounded bumps are eventually worn down and flattened. The process of flattening out the bumps is called wearing down, or smoothing out, the pebble. The energy required to move the stone across a rough, bumpy surface is much higher than moving it across a flat, even surface.

While the pebble is fresh and being worn down, the ice appears to be heavy, and higher levels of force are required to get the rock from one end of the ice to the other. After 2 or 3 ends of throwing rocks back and forth across the ice, the pebble has been sufficiently worn down and it provides an even, level surface (the pebble isn't completely worn down – but each of the "bumps" is fairly equal in height and has a flat top). At this point, not as much force is required for the stone to travel down the ice, so at that point (usually after 2 or 3 ends) the ice is known to be "keening up" or getting faster.

In terms of understanding the ice, the strategic part is to know that at certain points in the game, two separate shots can require different weight to achieve the same result. Teams that don't understand how the ice changes over the course of a game will be at a disadvantage, because they will waste shots trying to figure out the weight.

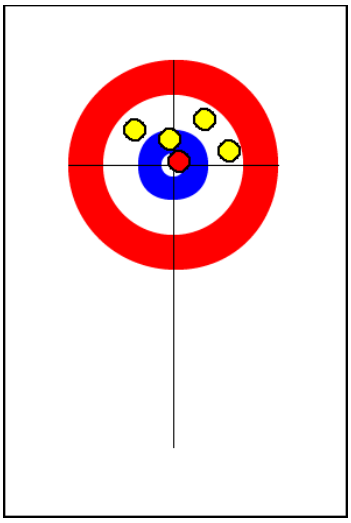
The other aspect to reading the ice is determining if there are flaws in the ice, and remembering where those flaws are. You can use them to your advantage by forcing the other team to play towards them.

Another success factor is to be able to read the ice for the amount of curl, but that will be discussed later in this session.

Difficulty level of the shot

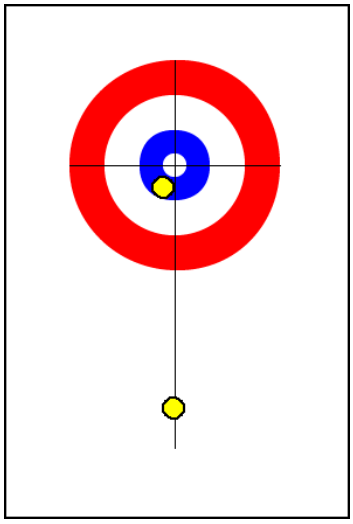
To make the perfect shot, it requires a lot of skill, and often a bit of luck. But not all shots are the same. There are definitely degrees of difficulty when considering which shot to call. If a stone is meant to stop short of the house, it's a guard. If the guard is being thrown first, with the hopes of drawing in behind it on the next shot, then the exact placement of that guard isn't crucial. That guard is an example of a shot with a low level of difficulty. It doesn't really matter where it stops; it's somewhere out in front of the house.

If there are several rocks in the house, and they're all behind the tee line, and they're clustered together, you can try to draw up to (in front of) them. If the shot has too much weight, it doesn't really matter, because the other rocks in the house will stop it, and your rock will end up being closer to the button than the other rocks. This too, is a relatively low difficulty level shot.



Opponent's rocks behind the tee

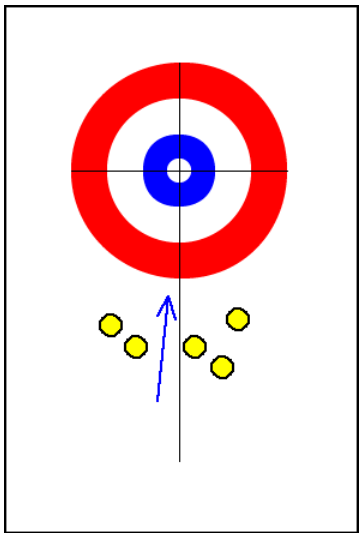
On the other hand, if you have to hit your opponent's rock and remove it from play, but it's being protected by a guard, and when you're sitting in the hack you can only see a small percentage of the target rock peeking out from around that guard, your weight and aim have to be very precise in order for the rock to curl the appropriate amount in order to hit the opposition rock. If it doesn't curl enough, you'll miss the target. If it curls too much, you'll hit the guard instead, likely leaving the target rock alone. That type of a shot is much more difficult.



Partially covered takeout

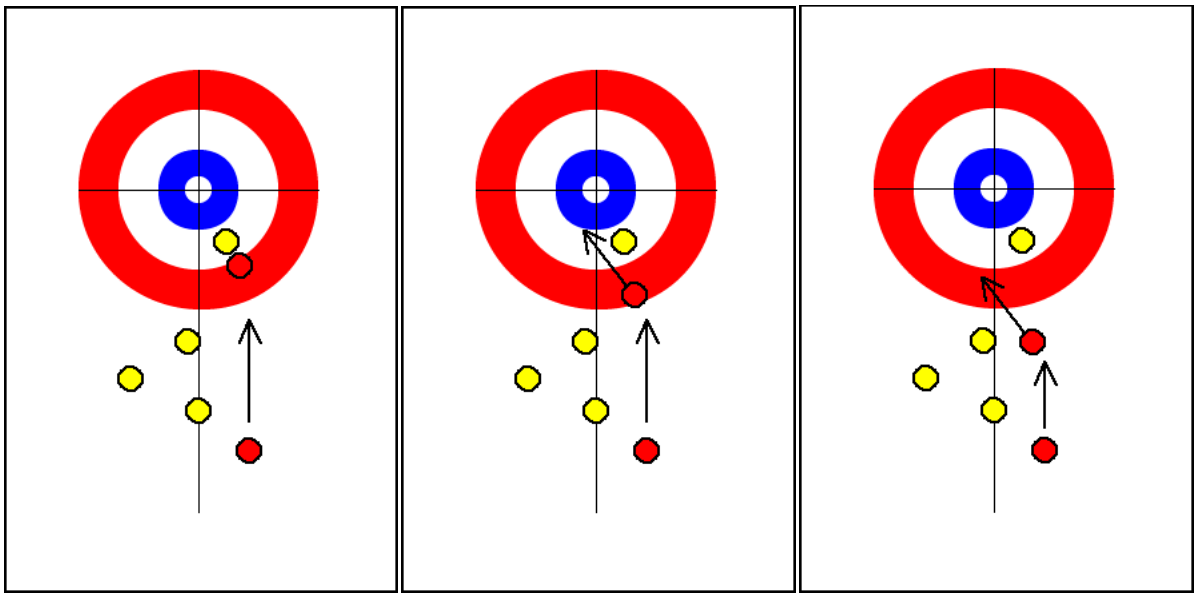
If the path of a draw shot has to be precise, like perhaps it has to get through a port (two rocks that are side by side, but separated by the distance of just a little more than a rock's diameter), then that shot has a high degree of difficulty. If the rock curls too

much, or not enough, it will end up hitting one of those two rocks making up the port, and your shot won't be successful.



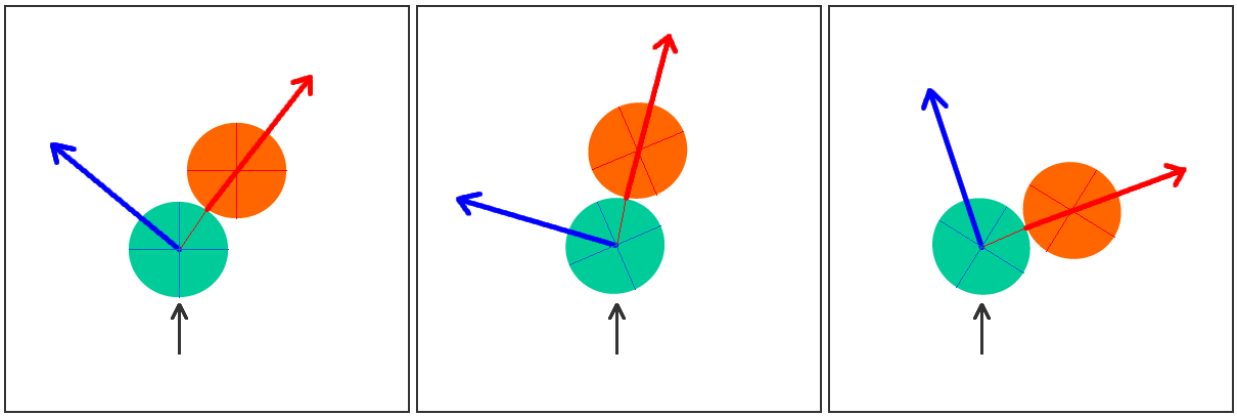
Drawing through a port

If you need to hit multiple rocks in order to make your shot, the further apart the rocks are spaced, the more difficult the shot becomes. If two rocks are physically touching each other, and one rock is in front of the other (but also a bit off to the side), then if you hit the front rock, it doesn't really matter where the contact point is, you're pretty much guaranteed to knock the back rock out, and possibly the front rock as well. However, if you take the same rocks but separate them by 1 foot, the point of contact on the front stone is less forgiving. You still have some variance in terms of where exactly you have to hit the rock in order to make the shot, but it's not as forgiving as when the two rocks were touching. Now for a third scenario – separate the distance of the two rocks by 6 feet or more. Now, the point of contact on the first stone is absolutely crucial, as the angle has to be perfect for the front rock to make contact with the back rock. As the distance increases between multi-stone shots, so does the level of difficulty.



Rocks touching *Small space between* *Large space between*

As in billiards, or from grade 10 physics, the angle of incidence equals the angle of reflection. Since curling stones are circular, the angle of reflection is always 90°, or tangential, to the point of impact. When calling shots that require angle hits, you can use that principle to predict where the rocks are going to go, assuming they're hit in the expected location. A "nose hit" is where the target rock is hit dead centre, and the shooter doesn't move after impact. Anything other than a nose hit will result in the target rock moving, and the shooter rolling in a direction 90° to the direction that the target rock went.



The target stone's direction is directly opposite of the point of contact. The shooter moves tangentially (90°) to the direction of the target.

Risk calculation

Risk is defined as the probability that something will happen multiplied by the consequence of that event happening. You first need to understand the difficulty level of the shot to understand what the probability of making it is. The more difficult the shot, the lower the probability is that it will be made. That part is easy enough. The harder part is determining the consequences of missing the shot, since the possibilities are numerous. Imagine that you are trying a take-out on a stone that is partially covered by their guard, and there are no other rocks in play other than their target rock and their guard. There are numerous possible outcomes.

1. Miss everything. The two rocks are in the same spot as before you threw.
2. Make the shot. You remove the target rock and leave the guard in place.
    a. Your shooter curls enough past the guard to make a nose hit and is now covered by the guard. Your rock is essentially in the same spot where the target rock was.
    b. Your shooter hits somewhere on the side of the target rock and rolls into the open, but stays in the house.
    c. Your shooter hits somewhere on the side of the target rock and rolls out of the house.
3. You hit the guard.
    a. The guard is driven back onto the nose of the target rock, and even though the target rock is removed from the house, the guard is now in its place.
    b. The guard is driven back onto the target rock, but hits it on an angle, and both the target and guard roll out of the house.
    c. The guard is bumped back into the house, and now the other team has two stones in the house instead of one.
    d. The guard misses the target rock all together and rolls out.
    e. The guard is moved slightly, so it is still a guard, but not covering as much of the target rock as before.

There are even more outcomes to list, but this illustrates the number of potential consequences, some not so bad, others rather disappointing, that you need to consider – and there were only two rocks in play. Imagine when there are several rocks in play! Clearly, anything that allows the other team to keep their points is a bad consequence. Anything that gives them more points than they had is even worse. You need to be able to identify all the negative consequence possibilities and determine what the likelihood

is that they'll come true, based on the difficulty level of the shot. Once you understand the risk, you need to decide if the risk is worth it.

If you have last rock (the hammer) and you're leading on the scoreboard by a significant margin, there is no point in trying anything risky. Alternatively, if you're already losing, it's the last end, and only a miracle can save you, you may as well try the riskiest shot that has the greatest reward. You may get lucky and win the game. If not, does it really matter if you lost by 2 or by 10 points?

Last rock advantage

The coin toss at the beginning of the game determines which team gets the last rock advantage. It is also known as the hammer. Once the game is in progress, last rock advantage goes to the team who was most recently scored against. If your team scores in one end, your opponent gets last rock advantage in the next end, and vice versa. If there is no score in an end (called a blank end) the last rock advantage is carried over to the same team who had it during the blanked end.

The reason it's called an advantage is because if your team throws the last rock of the end, and if there is a scoring opportunity, it is up to your team to capitalize on that opportunity. You've got the final chance to score a point before the end is completed. If you score with the last rock advantage, it's called "taking" a point (or points). If you manage to score when the opposition has the last rock advantage, it's called "stealing" a point (or points).

If you have the hammer, ideally you want to keep the centre of the house clear so that if you need to draw to the button with your final rock of the end to claim the point that is rightfully yours, you're able to do that. That means there should be no other rocks in the centre cluttering up your path to the button.

However, if you're the team without the hammer, then you want foil the opposition's plans and clutter up the centre so your opponent can't draw to the button with their last shot. That is only effective if you also have a rock or two of your own in the house in a scoring position, and they are protected so the team with last rock can't take them out. If they can't take them out, and they can't out-draw them, that's the way to steal points.

Score

The score, and the number of ends left in the game, determines the types of shots you should call. This is a more advanced topic that we'll spend more time on in another session, but basically, if it's early in the game and the score is close, you can afford riskier shots. If it backfires, and the other team gets the points, you still have time to claw your way back out of the hole.

If you've got a considerable lead, you want to reduce the number of opportunities that your opponent will have to score multiple points. If the game is close and nearing the end, you don't want to be in a position where you need to steal multiple points in the last end to win, because that's a very difficult thing to do.

In general, if you can routinely take 2 points (when you have the hammer) or steal 1 point (when you don't have the hammer), you're likely going to win a lot of curling games.

Reading the ice

Reading the ice is the process of predicting how much a rock will curl compared to its initial trajectory. It is something the entire team should do, not just the skip.

Under normal and predictable ice conditions, reading the ice can be difficult at best. Factor in that the ice surface can often have flaws, debris, melted and refrozen spots from people sitting, kneeling or laying on the ice, and a host of other "unpredictable" conditions, and reading the ice successfully becomes much more of an art than a science.

The only way to improve your ice reading abilities is to pay attention. You have to watch every single shot, both from your own team and the opposition team. You need to watch how the player delivers the rock, the line of delivery for the rock, the path that it takes as it travels down the ice, and the point where it comes to rest.

You have to take into consideration that different release styles will result in different amounts of curl, so the paying attention part just got harder, since you have to keep track of the differences between each of the players. It's also possible that some rocks curl more than others – yet another factor to consider.

The following nine steps will help you become consistent at reading ice. Putting all the factors together will take a lot of time and practice.

Watch how the player delivers the rock:

1. Did the player have a clean slide, toward the broom?
2. Did the player release the rock cleanly and put the correct turn on it?
3. Did the player release the rock at the broom?

Watch the line of delivery:

4. Where is the actual line of delivery? If the rock went in a perfectly straight line from the point of release, where on the tee-line would it cross? This isn't necessarily where the skip was holding the broom. If the player hit the broom, then it will be that spot. However, if they missed the broom, you need to figure out what the actual line of delivery is.

Watch the path of the rock:

5. Does the rock travel down the ice and slowly curl in the direction it's supposed to?
6. Does the rock move in a direction opposite to the expected? If so, where on the ice did that behavior first become apparent? (Remember that spot, and try to avoid it in the future!)
7. There is usually a point when the rock leaves the line of delivery and starts curling. Where is that? Shortly after it's released? Half way down the sheet? Near the second hog line?

Determine the final resting place:

8. Where does the rock end up once it stops (or where would it have likely ended up, in the event that it hit something along the way and its natural path was altered).
9. How far is the final position from where the initial line of delivery was (see point #4)?

If you know the line where the rock started out, and where the rock ended up, you've got a pretty good idea of how much the ice curls. If the rock stopped where you thought (hoped) it would (and the player hit your broom), then your ice call was very good. If it didn't curl as much as you thought it would, next time you need to move your line of delivery call closer towards where you wanted the rock. That's called "taking less ice." On the other hand, if it curled more than you expected it to, next time

move the line of delivery farther away from where you want it to stop – this is called "taking more ice."

Delivery weight

The delivery weight refers to how much force you need to apply to the stone to send it down the ice and thus accomplish the required shot.

Listed here are the types of weight calls, in order of least amount of force to most amount of force:

- Long guard (rock comes to rest just over the hog line)
- Medium guard (rock comes to rest halfway between the hog line and the start of the house)
- Short or tight guard (rock comes to rest just barely outside of the rings – almost in the house, but not quite)
- Front of house draw (rock comes to rest inside the house, but in front of the tee-line)
- Tee line (rock comes to rest on the tee line)
- Back of house draw (rock comes to rest inside the house, but behind the tee-line)
- Back Line (rock will come to rest just past the back line)
- Hack (rock will come to rest at the hack)
- Board (rock will naturally come to rest at the back board, behind the hack)
- Control (rock is moving slow enough that the sweepers still have some control over the amount of curl)
- Normal (standard takeout weight)
- Peel (a very forceful takeout)

Anything heavier than Tee line weight is usually used in combination with hitting other rocks. Back of house and backline weight are usually used to bump a guard into the house, for example. Remember, a rock loses a lot of energy when it strikes another. Most of the force is transferred to the second rock, but some force is lost in the impact and overcoming the static friction to get the second rock moving. Therefore, even though the first rock had enough energy to make it to the back house, after it hits a rock, the second rock won't go nearly as far as the first one would have if it hadn't hit anything.

A rock thrown with Hack weight or heavier is used for takeouts. Generally speaking, the slower the rock moves, the more it will curl. If you need to throw a takeout that will curl a lot, you'll need to use hack or board weight. Keep in mind that the lighter the

weight, the less chance that you'll remove the opposition's stone completely from play. In many cases, it is sufficient to just move their rock out into the open so you can try to hit it and remove it next time.

Calling the line of delivery

For this discussion, when skip is mentioned, it's referring to either the skip or the third – whoever is holding the broom. If you're the skip, you'll need to be proficient at calling the line of delivery. That means you're giving instructions to the sweepers as the rock is moving down the ice. It's the sweeper's job to determine whether the weight is appropriate for the shot. It's the skip's responsibility to call the line. Sweeping does two things. It keeps the rock from slowing down, and it straightens out the amount of curl. If the sweepers think the shot is light, they can sweep it in order to help the rock travel a bit further. If the skip thinks the rock is curling too much, sweepers should be called on in order to minimize the amount the rock curls. This goes back to watching the path of the rock in the Reading the Ice section.

The skip has to visualize where the rock is going to end up based on how much movement is observed during the rock's travel. If the skip visualizes that the rock will hit something it's not supposed to, based on its trajectory, the skip calls for sweeping in order to keep the rock going in a straighter path. On the other hand if the shot isn't curling enough, the skip can call the sweepers off (if they were sweeping).

Sometimes the sweepers have to sweep because the shot is too light, and even though it's not curling enough, the skip has to sacrifice the optimal line call in order to achieve the weight. This is where team communication is so important.

Team Communication

There are several aspects of curling that require clear communication. The skip has to communicate the desired call to the sweepers and the thrower. If they don't understand what the skip is asking for, they need to get the skip to repeat the call, or clarify it in some way. It's much better for the skip to have to explain the shot, than have the player misunderstand, make an assumption, and throw the wrong shot. The two vital pieces of information the player throwing the rock needs are: (1) should the rock turn clockwise or counter-clockwise? (2) how much weight should I throw? If the player can't answer those two questions, clarification from the skip is required.

Once the rock is in motion, the person who is throwing the rock should let the sweepers know immediately if something went wrong during the delivery. "I missed the broom" meaning that the line of delivery is off what the skip was calling for. "It's light" meaning that they didn't manage to throw as much weight as they thought they would. "It's heavy" meaning they threw more weight than they thought they would. This is simply open communication so that the sweepers will have an idea of what the shot is doing.

The weight of the shot is now in the sweepers' hands. They need to communicate with the skip as to how heavy or light they think the shot is. If they think it is light, they should begin sweeping immediately, and not wait for the skip to instruct them to do so. If the skip thinks the weight is sufficient, the sweepers should be called off by the skip. If the skip yells out "Just for weight" or "Line is fine" that means it's the sweepers judgment only that determines whether the shot should be swept. By saying that, the skip is indicating that in terms of the rock path, there are no problems.

Conversely, the sweepers need to holler out to the skip if they think a draw is guard weight, front of house, tee line or back of house (or that it's too heavy and it will go through the house). It's ok to change the call halfway down the ice. Everyone understands that it's a judgment call only – and conditions change while it travels down the ice.

The skip should also help the sweepers visualize where the shot should come to rest (on a draw shot) by tapping the targeted ice area while they are sweeping or following along beside the rock in motion.

The entire team should discuss skip's signals. A curling rink can be a very noisy place, thus players at the other end of the rink usually have to depend on hand signals or broom motions to decipher what shot is being called, whether the player throwing the rock missed or hit the broom, whether to sweep or not, and where the rock's optimal resting place is. There are some common signals, but unless everyone on the team is aware of what each signal means, it won't be effective.

Conclusion

That concludes a very introductory look at basic curling strategy. Once your team is able to utilize all of the information presented here, then they are ready for more advanced strategy topics.

More advanced topics include:

- Overall game plan
- Advanced shot calling
    - Utilizing the free guard zone
    - Setting up an end to steal points
    - Defensive vs. Offensive shot calling
- Understanding angles
- Rock timing
- Consistent Delivery
- Better team communication
- Further understanding of the ice