

Gate Clearing 101

As a coach and a mentor of young athletes, we are all faced with the job of providing a proper set of standards so our “kids” can reach, and possibly surpass their goals in competitive alpine ski racing.

Let’s face it, this is not about us, rather it’s all about the racer. As these young racers progress, they will encounter different aspects of technique that will aid them in their development. We as coaches are obligated to continually monitor our athletes, and help them create a plan to succeed in this sport. We lean away from the “*just take another run and I’ll tell you what you did wrong*” approach, to rather pre-plan for their successes. We work in progressions and we balance the aspects of each athlete to progress at their own level and pace while we help them create a “road map”, which will hopefully guide each child individually in this sport.

Additionally, coaches must monitor the levels of their children’s development, taking the next step as they master the previous steps. Gate Clearing is a tactical step, which will indeed allow your athletes the ability to become better at slalom racing. The goal of this paper is to make you comfortable in the process, which should hopefully allow your young racers and aid in their development.



Remember...IF YOUR KIDS ARE HAVING FUN, THEY WILL STAND A BETTER CHANCE OF SUCCESS !

For the basics, we would have to guess that everyone is in agreement that gate clearing is a vital tool for athletes competing in slalom competitions.

To undertake this mission, you will be required to alter your racer’s stance and line, and to some degree turn shape, to begin to clear gates. Quite simply, you will have to gear your racers to shift to the center, and which ultimately places their center body mass on the inside plane of the gate in question.

Overall, our goal is to provide you with a tactic to improve your racer’s technique in slalom. We will repeat this specific message over and over, so here’s your first taste... ***gate clearing is not about the hit, rather, it’s about the line!*** Make a mental note of this because it’s important. The “mind-set” of a ten or eleven year old racer can tend to slide into the dangerous world of “*it’s pretty cool to hit gates.*” This factor must be taken into account, since in order to motivate a young athlete, you must understand their ideals, motivations and at the base of it, what really drives each kid.

Your task is to create a set of circumstances with your racers to get them to understand that hitting gates is a product of their NEW line, it’s not the main event.

So, over the next few pages, we will discuss and highlight a few of the necessary elements in gate clearing and describe the possible techniques necessary to accomplish this goal. In addition, we will showcase the necessary equipment that your racers may need to purchase along the way.

Finally, we will provide you with a few of the possible tools and tactics that your racers will need to take with them into a normal full gate race course. The art of learning on brushes, stubbies, holding the poles horizontally, or chanting at the moon are tactics that you should know by now, and you probably know what works, and more importantly what doesn't work to place your kids on the gates.

Again, this paper is directed at hopefully giving you some additional information in the proper methods of gate clearing.

Hopefully, this will gear your minds to wrap around the concept so that we can pursue this tactic efficiently during the Fall, and into the Winter.

Again, we do this sport because it's fun. Have fun with the learning aspects with your racers, which will most certainly give your racers the additional tools to reach... and hopefully surpass their goals!

Gate Clearing 101

1. Are your athletes ready?

This is a very important topic, because “although your heart may say yes-yes, while your body may say no-no”. I think that was a Britney Spears song but it seems to work...

- A. We've learned through physics class, that the higher you hit something, the easier it will fall based upon a principle called “leverage”. In this regard, a smaller racer may not be able to “push” that gate over as easy as a larger racer. Again, are your racers ready?
- B. Additionally, we have a factor called “body mass”, which is similar to the height issue. This is something that we must consider in order to determine if it would be appropriate for your athletes to take to the gates.
- C. The young J-5 racer in Figure 1.1, has decent angulation, he's aggressive in his line, he has great matching angles in his skis, ankles and knees, YET... he is a little too small and we would guess too light to get his torso to the line inside the gate and efficiently take this gate down.



Figure 1.1

So this boils down to three simple common elements that will determine if your racers are ready to clear gates.

- (a). *Are they anatomically large enough?* No offense yet shorter athletes, no matter how well they ski, may lack the physical size to bring their center body mass to the inside of the gate. See Figure 1.1.
- (b). *Do they carve proper turns?* If a young racer does not carve a good turn now, they most certainly will not be able to do so after they begin to hit gates. Technique is so important to this exercise that we created an entire section listed herein.
- (c). *Do your athletes have the proper angulation which will allow them to place their torso to the inside line of the gate?* Let's face it, if your campers don't carve clean turns, with firm acute angles in their legs and hips, they will never be able to get their body on that inside corridor.

2. How's their technique?

- A. This is an important topic simply because we cannot build a good house over a crummy foundation. Turn Shape, Turn Arc, Body Positioning, Moving to the Inside, Weight/Balance and being Squared to the Hill are topics that need to be addressed, which can answer the question of whether this tactic makes sense to introduce to each specific racer.
- B. Turn Shape and Turn Arc. In order to be able to clear the gates, the athlete must have control of his or her turn shape. Rounded turns are the key to this exercise, insofar as the athlete needs to continue to create and carve rounded turns. In the past, they've been running courses and for the most part, staying away from the gates. Now, you must remove the old, and introduce your racers to the inside line, which will allow them to take (and I hate using this word) a "tighter" line.

IMPORTANT TOPIC... your athletes will be able to take a more aggressive line this tactic, so their turn shape may reflect this possibility. In the past, your racer may have completed 60% of their turn at the gate, whereas now, they may have taken a straighter line into the rise line, yet they've completed 70% of their turn at the gate. The goal will be in their ability to utilize the rounded turn, and in essence be pointing at their next aim point at the point of contact with the gate.

An aside...A good exercise to “gage” your racer’s aim points, is to examine the exit “slap marks” of the gates in your slalom courses. The holes and/or furrows created by the gates “slapping” the snow following a hit by an athlete, will highlight the direction the skier is headed at the time of impact.

- C. Body positioning. In order for your racer to clear a gate, you must train them to get their body to “come across the gate”. This is to say, that they must have sufficient angulation in your lower body, to effectively place their torso/upper body (i.e.: head, chest and tummy) on inside the line of the gate. The athlete in Figure 1.2, has the angulation and height to place her body to the inside line of the gate. This action allows her center body mass to cross over to the inside line of the gate.



Figure 1.2

(a). Again, the question becomes at this stage, is your racer tall enough to create the angle to cross over and place their sternum and head on the inside line of the gate? If they're not large enough, nor have the proper angles to cross into the inside line of the gate, they will have great challenges to continue on this process. Rest assured, they will get bigger so patience may be a key determiner.



Not sure why I placed this here, however, this is our family on vacation in Amsterdam. I figured I wrote this, I can paste any pictures in.

- D. Squared to the Hill. It is very important for the athlete to understand that they will need to remain “square” to the hill and to the terrain.



Figure 1.3

This is to say, that they should find themselves with their shoulders, chest and hips, running perpendicular to their turn shape.



Figure 1.4

In Figures 1.3 and 1.4, the hands up and attacking. Most of all, both Resi and Ben are squared to the hill and to the terrain.

If the racer finds themselves turning, reaching or twisting their bodies “across” the gate, the torque created in this action will release the pressure they have built in their skis, which is vital component needed to accelerate out of the turn.

Additionally, the twisting will release edge pressure, which in turn will not support their turn radius, which in the end will not allow them to hold that line.

E. Moving to the Inside. As your racers progress in stance and balance, you will provide them with the direction to begin to “initiate” their movement to the gate by simply “moving to the inside” The skier in Figure 1.5, Ted Ligety, has initiated his turn to the gate in anticipation of holding the designated line. This will allow the skier to place the necessary amount of force on the skis to hold the line to next anticipated aim point.



Figure 1.5

The racer in Figure 1.5, has shifted his body to the inside line to anticipate the turning radius. **IMPORTANT TOPIC**...Note his eyes and the focus on his aim spot. He's already focused on the next aim point, rather than simply slamming a gate. To him, this gate is already in the past.

For this discussion, remember the move to the inside as the defining moment of the turn. The kids may not “get” the idea of this move right away, so get creative insofar as how you project this move. I've heard, “falling into the turn” to “diving into the pool”. Whatever works to promote the idea, but pay real close attention to the folks you're addressing...they're kids, and sometimes, you may need to trick them into doing the tactic. They don't care why they need to do it, they just want to move forward.



Figure 1.6

Figure 1.6 highlights the move to the inside, note the position of her head, you can almost feel her stare at her new aim point. By the way, her turn is almost done...

This is a kind of important aside on turn shape. Did you ever hear a coach yelling out “turn early”? More often than not, the kids hear this, then perceive that it means that they need to start their turns very far up the hill. Don't laugh, you've done it.

It's important for you to understand that this is all about what the kids **UNDERSTAND**. They know that they can start a turn, and then finish it...so their goofy coach must mean that they'll need to start the turn early so they're not “late” for the next gate.

What a bummer of a swing thought.

Please impress upon your kids to be a little patient in their turn. A little bit of a generalization, but sure, have them turn in on the rise line, then finish the turn at the gate headed off on their next aim point. That's “Turn Early”. More often than not, these kids are turning so far up the hill, and so early to the gate, that if they truly held that original line,...they'd probably run to the inside of the gate.

Take the time to watch a few of your skiers, I would bet that many are turning so early because in the back of their minds they think that's what they need to do because someone told them to "turn early" and did not follow through to explain.

Turn shape is key in slalom and in the art of gate clearing. Have them be patient and await the rise line, then move to the inside to commit to the turn, and clear the gate heading to their next aim point.



Figure 1.7

- F. Weight balance for the turn shape. As they slide to the inside line to clear the gate, they will need to apply the necessary pressure to execute the turn.



Figure 1.8

As you will note in Figure 1.8 , we have this guy again, yet pay attention to the balance in this specific turn. He has two equal elements in play, which allows him to execute this turn... he weights the outside foot, while he pressures the inside foot. By the way, the matching angles are just perfect.

This should jump start your brain-bucket to give you a taste of the skiing techniques necessary to begin this task. At this point, we have to ask ourselves, we've discussed body positioning, heading to the inside and our turn shape. The question becomes, what do we do with our racers hands? This is so important that it should be encapsulated in a separate article, yet it must be covered here as well.

3. Inside Hand Clearing Technique

- A. This is the act of “getting on the gates” and allowing your racers inside arm to work across the gate. The racer in Figure 1.9 is utilizing the inside hand clear. However, note the racer’s body position to the gate. The racer must drive their upper torso to the inside path of the gate. Quite honestly, at this point for some racers, it’s survival.



Figure 1.9

- B. As we set the stubby courses, concentrate on keeping your racer’s hands up and forward through the gate, while they focus on the following pole plant to drive their body up and towards their next aim point.

The racer in Figure 1.10 has just cleared the gate, her hands are up, weight forward, almost perfect matching angles of her skis and legs,... but most important, she is setting up for an aggressive pole plant. You can almost feel the arms “pulling” her hips out of the turn.



Figure 1.10

Hands up, hands level, hands forward!

An Aside: This seems to be a good area to talk about pole plants, so why not? As an aside, pole planting is a valuable tool to link your turns and position your body. I personally like the double pole plant for a host of various reasons. The pole plant in itself, allows your racers to bring their body up and across to initiate the next turn. The double pole plant, allows their body to square itself to the turn and to the pitch of the hill. Although integrated to gate clearing, pole planting is an important topic which we will cover in another lesson guide.

- C. During the drills using the tall SL gates, try placing colored tape along your kid’s poles which will allow your racers to guide and target the gate

with their hands. This will teach them to remain tall through the gates, plus will familiarize you with their hand position as they clear the gate.



Figure 1.11

Hands coming up and level, prepared for an aggressive double pole plant.



Figure 1.12

Figure 1.12 is a pretty cool shot of a young lady on her way to the overall slalom title this past year. She's found the pressure balance applied to each of her skis for the turn shape. Equally as important, she goes for an aggressive double pole plant to initiate her next turn.

D. It is very important for you to recognize your racers' stance and turn shape throughout this process. Often times, an athlete will "set up" by aiming at the gate, then as they clear the gate, they will realize that they forgot to turn. Worse yet, they become late because they've thrown their line down the hill as opposed to concentrating on the turn shape to complete the turn.

***** It's important to note that gate clearing is a technique to reduce the overall amount of terrain your racers cover on their way down to the finish.*

*Gate clearing is a product of a proper turn shape...
they must still turn well in order to accelerate out of your turns. *****



4. Outside Hand Clearing

- A. OK, this looks kind of cool, yet you have to make your racers understand that outside hand clearing is not “cross blocking”!



Figure 1.13



Figure 1.14

- B. Let's talk about the differences between Outside Hand Clearing and Cross Blocking.
- C. Cross blocking is when you move your outside hand across your torso (and face) to strike the gate. This can be illustrated in Figures 1.13, 1.14 and 1.15

Cross blocking is vital tool for most racers whom cannot, or do not have their center body mass across the gate at the time of impact. Two elements allow for cross blocking:

- (1). It may become a tactic if the course offers a rhythm change that may force the racer to a new fall-line position.
- (2). More often than not, cross blocking becomes a survival tool for younger racers who have not committed to the inside line. Additionally, it's a “cheap” method to simply slap a gate to look cool.



Figure 1.15

In figures 1.13, 1.14 and 1.15, examine their feet and ask yourself “how far is their body from the gate?” Is this the line you wish your athletes to be on? Additionally, remember the “twisting” covered in the earlier chapter, do you really want your kids to release the energy from their skis without acceleration?

SO...

- D. Outside Hand Clearing is the ability to drive your torso across the line of the gate to literally feel the extension of your body out and down the hill.



Figure 1.16

This will come in time as you bring your racer's on a closer line to the gate, which will force them to use their outside hand to “clear” the gate, as opposed to your inside hand.

Again, this is not reaching over and across their body similar to the cross blocking!! Figure 1.16 highlights the fact that this athlete has crossed over to the inside, he's driving his line down the hill, his hands are up, level and attacking, he's focused on the next aim point... and for this chapter, his outside arm is square to his upper torso. He did not reach across nor twist to fend off the gate. In other words, his torso is on the inside plane of the gate, which allows his outside arm to come up and not across his face or body.

The same can be said in Figure 1.17 from a different angle.



Figure 1.17

5. Let's talk about equipment.

Obviously, gates are made of a very hard plastic, and when combined with some degree of speed, will cause undo pain to the athlete if not properly equipped to handle this onslaught.

A. Shin Guards; a nice chunk of hard plastic, built to run from your ankles to the tops of your knees. Look for good padding on the inside, along with a good Velcro strap. Please size correctly, nothing too big or you will limit your kid's range of motion. You can always "cut" the guard down on your kids to fit better. They won't mind, the more beat up the better.

B. Hand/Pole Guards; personally, I like to see the kids in the full wrap guards, which as you're aware go from the pole, over the hands and connected to the top of the pole. The "half wraps" can always have the potential to grab a gate if their hands are out of position, and on a young skier, hands out of position... go figure.

C. Helmets; this, like the shin guards, are a must for protection. Please consider advising your racer's parents of the addition accoutrements available for their children's happy hat. I would recommend the addition of the face guard.

D. Ladies; as delicate as I can say this, you may wish to consider chest protection.

All of these items can be found at your local ski shop, or online at Reliable, Race Place, Racewerks, Artech or wherever.

*The goal here is that you need to have your racers properly prepared
to take on any slalom course.*
*The mind set that you want your racers to have,
is that they're protected,
so they can concentrate on the line...
rather than simply hitting a gate!*

Conclusion

Obviously this sport is about creating a set of surroundings so that your racers are having fun. Great, you may want to place performance above all, but if they're not having fun, they may not be able to perform.

Part of this fun, is having the ability to teach your young racers to go fast and perform to their abilities. The progression of gate clearing will allow you to hopefully reach each racer, and hopefully surpass their personal goals.

The key is within a mix of various elements. Having fun is paramount... so is listening to their coaches. The mind-set you create for your athletes in this process is fundamental because their inner drive is the balance, which will allow them to continue to strive to become better.

In this regard, their mind-set must possess the drive to become better. One method to achieve this balance, is the conditioning of their inner mind to create the ability to push their comfort levels on the training and race courses.

Pushing one's comfort levels, is just a measure of placing yourself in an element that you are either unfamiliar or unaccustomed to at this level of your development. You're not trying to scare your racers, rather the comfort levels should be viewed as simply something your racers have not yet done, or perfected yet.

The beauty in placing kids outside of their comfort zones, will push their envelope of learning.

Consider it a challenge, kids like to be told something may be unattainable, then stand back and watch as these kids try to reach it. In training, you will need to place these kids outside of their element to truly judge their capabilities.

Remember, this is a sport, and like most sports, well... stuff happens.

So stuff like this...



and this,



**which if you continue to work hard, will sometimes lead to...
this...**



Common sense and eventualities teach us that someone wins the race, and someone does not. The key here is to give you some of the necessary tools, to add to the enjoyment of your young racers. Hopefully, points taken in this paper may assist you so that you can assist your racers reach their goals in this sport, whether that is winning, or not.

Gate clearing is a tactic, which should allow them to take the next step in their continuing development in this sport. The key is to pay attention to their fundamentals, it's what got them to this level, and it will allow you to build on that foundation with your athletes.

Once again... have your kids go fast, have fun with their teammates and coaches and most of all, enjoy their sport!

Coach Bors

11/10/05

