COACHING MANUAL

mightymitesheadcoach@alyeskaskiclub.com

231206

CONTENTS

Alyeska Mighty Mites Mission

The Alyeska Mighty Mites (AMM) is a volunteer-operated ski racing program for children ages 6 – 14. Our program mission is to introduce the fundamentals of alpine ski racing to children of a variety of ability levels and initiate a lifelong love and enjoyment for the sport of skiing.

More information about the Mighty Mites program is located on our website (https://alyeskaskiclub.com/programs/mighty-mites/) and additional information about the history of our leadership is located in the back of this manual.

Program Groups

AMM participants train & compete in two primary age groups that are further divided into 9 general ability groups. This gives participants the ability to be successful in races during the season while learning the basic fundamentals necessary at their current skill level.

Ability Groups are as follows:

- Ages 6 – 9; Chipmunks, Otters, Beavers, Lynx, Tigers
- Ages 10 – 14; Cougars, Rams, Wildcats, Snow Leopards

All returning participants ski in their prior year's animal group until the Grouping race is complete, except for those participants who turned 10 within the current calendar year. Those 10 years old will be moved into the Cougar group until the Grouping race is complete.

New participants who have been through the Resort's Mini Mite or Rippers Program will be placed into the Chipmunks or Cougars group depending on age until the Grouping race is complete.

The Grouping races are held as early in the season as practical depending upon scheduling, holiday and snopack. The Grouping races provide time standards for the year within each group. Following the race(s), participant times are calculated and analyzed to find the natural time breaks between groups. Coaches' input is a critical part of this process.

The Grouping race is the first race of the season for all participants and is often the first race ever for a new athlete. Therefore, it is critical to provide attentive coaching during training and the day of the race to ensure success for all participants. It is also critical we obtain solid race times for all participants to set the ability group's time standard and determine necessary ability group movements. If the participant misses gates, falls, or is interfered with, an assigned coach may direct the participant to take a rerun to obtain an actual race time for grouping (second runs do not get race award placement).

Occasionally an athlete joins the program after the Grouping race, and the Coordinator and Head Coach place them in the appropriate group based on observation. Movement within Groups is not usually done after initial grouping has occurred since Pointed Races build toward end of season awards Participants that change groups become ineligible because they wil not race the entire season within a specific ability group.

Alyeska Ski Club

Since 1970 the Alyeska Ski Club has operated as a non-profit, volunteer focused organization working with parents, families and many other youth programs to provide exciting, challenging and character-building experiences for Alaskans. Serving over 600 athletes, the Alyeska Ski Club offers both competitive and recreational alpine skiing opportunities for youth through Mighty Mites, Devos, Freeskiing, Alpine X and Junior youth programs from ages 6-20 plus a Masters race program.

The Mighty Mite Program shares the use of the Race Training Center with all the ASC families and it's informally known as the RTC. This is the two story building right below the base of Chair 4. Mighty Mites can change, stow gear, and eat lunch in the building during the day. The Masters, UAA Ski Team, Juniors, Freeride. and Devos all share the space so Mighty Mite Groups take turns picking up and vacuuming at the end of each Sunday.

Alyeska Mighty Mites Program Goals

Since 1963, the Alyeska Mighty Mites has been a volunteer-operated, weekend ski racing program for children ages 6-14. In 1967 Mighty Mites was formally incorporated and has operated with volunteer leadership ever since. The goal of our program is to introduce children to all mountain ski skills and etiquette and teach the fundamentals of alpine ski racing.

Organizational Structure

AMM is a non-profit organization with a Board of Directors that consists of no less than 6 and no more than 10. AMM will strive to maintain a diverse Board of Directors that is representative of coaching staff, parents, former AMM participants and other community members who are supportive of the goals of AMM.

Alyeska Mighty Mites Administrative Support:

Kaleen Haines, Executive Director
Alex Wilson, Alpine Director
Schuyler Deeney, Program Coordinator
Suzie McBride, Race Administrator
Gordon Descutner, Head Coach
Patty Wilbanks, Assistant Head Coach

Board of Directors

The Board reviews and approves annual budget proposals and mid- year budget adjustments. They also review and approve major changes to the program elements of AMM as presented by the Program Director or Head Coach. The Board provides oversight and support on contentious issues with participants, parents, coaches, the Alyeska Ski Club, and the resort.

Program Coordinator

This individual provides operational program direction. They handle or direct the various components of the program to include: participant enrollment, attendance, awards, volunteer support, race organization (start lists/timing/results), special event organization, and the Season Awards Program. The Program Coordinator manages relations with the resort, provides family communication, serves as Program Spokesperson, mediates conflicts with various entities/participants, organizes program involvement in championship events (U10 and U14 races), and provides guidance for fundraising efforts.

Head Coach

This individual is on the Board of Directors and provides coaching direction. This position handles recruitment/retention, education, group placement, tasking for course setting/drills, tasking for race course management, and safety direction of coaches. The Head Coach provides coaching communication on upcoming events, and expectations through email messages and coach meetings. The Head Coach coordinates with all Alyeska Ski Club programs and the Alyeska Ski Patrol on operational safety issues to ensure on hill safety for athletes, coaches, and parents.

Coaching Committees

These committees are created as needed by the Board of Directors or Head Coach to address specific issues such as revisions to the program's coaching manual. Coaches are selected for committee work based on their specific experience and availability.

Coach/Athlete Relationship:

The Mighty Mite Program strives to promote self-confidence, a sense of accomplishment, good sportsmanship and a FUN, positive racing experience for children. Many Alyeska Ski Club and Mighty Mite coaches grew up skiing at Alyeska while others became familiar with the mountain through other programs or experiences. All our coaches contribute their experience towards developing a new generation of skiers. Whether a child has an Olympic goal or just wants to have fun or Mighty Mites coaches provide the foundation for a lifelong love of skiing.

Coaching Objectives:

- Inspire participants to compete in ski racing at their highest level of competence
- Connect on a personal level by building meaningful relationships based on trust
- Center coaching on the participants in a team environment
- Provide clear purpose and well planned training and racing
- Strong focus on self-discovery for participants

Athlete Focus

Children participate in ski racing for fun, enjoyment, and competition. To support coaching objectives and to keep the program fun for the participants, employ the following basics:

- Maintain friendly, honest, non-judgmental atmosphere
- Take an interest in participants, remember names, ask questions and listen
- Share your own positive thoughts and feelings
- Reward genuine effort in a positive enthusiastic way
- Model the behavior, skills, and attitudes you are looking for in participants
- Teach group to follow you as the Coach, or a designated group leader
- Teach group to line up below you in rotation
- Be confident and enthusiastic
- Talk about the challenge, not the bad weather and hill conditions
- Have fun and ski a lot, keep participants moving, more miles = more skills

Athlete Attendance Tracking

Coaches will pick up a paper copy of the attendance list for their groups in the AMM Coach Shack before each training morning. Attendance is taken for the morning and afternoon and the sheets shall be brought to the AMM Coach Shack each afternoon and entered into the electronic attendance record. Coaches are responsible for entering their group of athletes. If a Coach is unable to turn in your attendance at the end of the ski day, he or she must provide an e-mail notification with your attendees for the day to the Program Coordinator, Head Coach, or the attendance records person for the season. Attendance is critical as participants earn a point for each session they attend toward their end-of-season awards. Coaches must prioritize this to eliminate the potential to negatively affect an athlete's final season points.

Coach Communications

The Head Coach is responsible for all communications throughout the season, including pre and post season information. Methods of communication are primarily TeamSnap (online team management software) and email. The Head Coach shall manage coach communications to include:

- Preseason request for Coach participation
- Licensing and registration
- Pre-season in-person meeting to discuss program direction and introduce all Coaches
- Daily meetings in the AMM Coaching Shack before and after Training/Race Days (for attendance and discussion of any issues or problems affecting an athlete or the program
- End of the season banquet and final awards event

Face-to-face meetings are a great opportunity to enjoy the social aspects of AMM and are a critical component to the program's success!

Coaching Attendance

Mighty Mite Coaches are volunteers in the program. The Head Coach will manage the Coach Roster and determine the total number of Coaches needed based on projections and actual athlete totals after registration closes. With an upfront Full time (FT) commitment the Alyeska Ski Club provides a Coach ski pass at the start of the season for their participation and assistance throughout the year. The Coach attendance expectation is that Full Time (FT) Coaches attend 75% or more of the total season days of skiing. Full Time Coaches are expected to miss no more than 25% of all season ski days. If FT Coaches anticipate missing more than 25% of the season ski days they will need to discuss their status with the Head Coach.

Part-time/Substitute (PT) Coaches must purchase a pass ahead of the season PT Coaches provide assistance on an as needed/fill in basis for a reimbursement up to $500. If the minimum number of PT days is met (45% of total season days) by the end of the season a PT Coach is issued a reimbursement check from the ASC. The Head Coach request PT Coaches when FT Coaches are absent and assigns them where needed. PT Coaches are welcome to attend any day for training and shadowing but may ne receive credit if all Coach assignments are filled.

If Coaches identify a parent or other skier who might provide assistance in a substitute capacity they are encouraged to put that person in contact with the Head Coach.

Coach Absence and Substitutions

Attendance is monitored Daily and Coaches are responsible for notifying the Head Coach that they will be absent. If a Coach knows they will be absent a week or more in advance of scheduled training/races they must note it on the attendance roster calendar (TeamSnap). For notification less than two days in advance of scheduled training/races the Coach must contact the Head Coach directly via phone call, e-mail, or text so they can work to adjust group assignments to cover your absence. The Head Coach will locate and assign PT/Sub Coaches based on the group level and Coach experience.

Weather cancellations:

We ski in all weather conditions, however, on rare occasions our program may be cancelled due to extreme weather or a resort closure. A TeamSnap email will be sent ASAP notifying AMM parents of any cancellations or changes to the normal schedule. At times AAM may be cancelled after a half-day at the discretion of coaches and the director if weather conditions worsen. If impending weather is a concern we will alert parents prior to loading the lifts that day.

Safety

Safety of athletes and Coaches is our number one priority. A Coach must constantly reinforce the Skier Responsibility Code and adhere to the Alyeska Resort's skier requirements. Coaches are a critical part of teaching skier responsibilities and mountain etiquette so that

athletes ski together in a safe and respectful manner. Young athletes are inexperienced and lack an appreciation of dangerous situations until it's too late and Coaches have the responsibility to maintain control their groups, teach safe ski skills, and provide immediate interventions when necessary. Coaches must take time to remind your group of the various components of the Skier Responsibility Code and discuss safety issues as they present themselves when skiing.

If a Coach has an emergency/injury on the hill they must take the necessary steps to protect the injured skier and the rest of the group. This includes placing your skis in the X fashion in the snow visible to skiers above, moving the group to a safe place on the hill, and contacting Ski Patrol via cell phone at 754-2500, or by sending another Coach/Parent/Participant for assistance. Contact the Program Coordinator and/or Head Coach on cell phones (see TeamSnap Roster) with information on participant and incident. If participant will be transported to Ski Patrol facility the Program Coordinator or the Head Coach will try to meet the injured parties and notify parents. Following minor and major incidents, discuss situation with parents. If unable to do so that day, contact them that evening at home, or arrange for the Program Coordinator or Head Coach to follow up. Parent communication on safety is critical! Any accident or injury requires that the involved Coach completes an ASC accident report form and returns it to ASC administration.

Group Ski Safety:

- Stop/stand on the side of the trail
- Never stand or gather beneath a blind knoll
- Participants should always stop below the group
- Groups should stop with their back to the wind
- Provide Instruction for potential separation

Skier Responsibility Code:

Know The Code. It's Your Responsibility!

1. Always stay in control. You must be able to stop or avoid people or objects.
2. People ahead or downhill of you have the right-of-way. You must avoid them.
3. Stop only where you are visible from above and do not restrict traffic.
4. Look uphill and avoid others before starting downhill or entering a trail.
5. You must prevent runaway equipment.
6. Read and obey all signs, warnings, and hazard markings.
7. Keep off closed trails and out of closed areas.
8. You must know how and be able to load, ride and unload lifts safely. If you need assistance, ask the lift attendant.
9. Do not use lifts or terrain when impaired by alcohol or drugs.

10. If you are involved in a collision or incident, share your contact information with each other and a ski area employee.

Winter sports involve risk of serious injury or death. Your knowledge, decisions and actions contribute to your safety and that of others.

Training Days

A *typical* training day starts at 10:45 (gear on and ready to go) in the Mighty Mite Shack. The day starts with a pre-briefing, verbal training/drill review, and orientation of hill conditions (weather, terrain, lane space). Coaches meet athletes from 1100-1115 and upload the lifts after attendance is taken. Lunches are 30-minutes and taken at the Coach discretion. Skiing ends at 3:30 at the Animal Flags/RTC area. The Coaches post-ski meeting is from 3:30-3:45.

Training is a large part of the AMM Program and a significant percentage of our day consists of free skiing all terrain in all snow conditions, running practice courses (gates), and conducting skill drills. The Head Coach will outline the Training Plan for each training day and may request that Coaches arrive earlier than typical to assist in setting courses and the necessary string lines/safety signs/finish area/grouping. New coaches should shadow experienced coaches to learn about available equipment, storage, and techniques. Coaches should have mobile phone for communications to enable requests for additional equipment, seek assistance in specific areas, or allow the Head Coach to direct changes in Training Plans. In addition, the cell phones are used to communicate lost or tardy athletes.

The Head Coach will arrange for which Groups will have access to the training area & which areas are available for training. This is done to limit the number of participants on the training courses at one time and ensure time for free ski training for all groups. Coaches should be ready to meet their assigned group at the respective animal sign by 11:15 am on Training Days. Coaches should not leave with their groups until cleared by the Head Coach, or their designee, to allow for adjustments in coaching if there are unplanned coaching shortages.

Race Days

A typical race day starts at 9:30 (gear on ready to go) at the shack to allow for time to setup ahead of athlete arrivals. Coaches set up the race course as a team and meet back at the shack in time to meet athletes at the flags. Groups upload, inspect the course, and return to the race start based on their position in the race roster. Skiing continue after the race with a 3:30 return to flags/RTC with awards following shortly after. When reasonable, Coaches should cycle around to the race venue to help with teardown. There is a Coaches debrief from 3:30-3:45 to discuss any DSQ or DNF followed by awards.

The Head Coach will communicate any change to the schedule for Race Days, and will direct the setting of the necessary race courses for the day and any practice courses, if space allows. Coaches will assist with all components of race setup as described in the above section, but Races also include electronic start/finish structures. Additionally race courses will be dyed, if at all possible, to assist new racers in understanding the flow of the course. Races require more support for construction and often

parents will assist but all Coaches need to be available. New Coaches are encouraged to work with veteran Coaches to learn about the AMM process for race course development.

The Program Director will have start lists available for the course(s) in the AMM Coaching Shack for Coaches prior to 10:30 am. Attendance sheets for race days are not required as attendance is recorded through participant check-in and bib pick-up. Coaches are required to meet their groups at 10:30 at the respective animal signs with the same considerations as above. Groups will first inspect the course(s) in a controlled fashion – no skiing through the course. If parents are helping with a group, explain the requirements to slip through the course and not ski. Often parents will provide inaccurate coaching to their children so educating them is important. The Head Coach will provide specific direction if the course inspection is to be done externally due to snow conditions.

Coaches need to estimate the race times of their Ability Group based on the start list and Head Coach race coordination. Families will need an estimate of start times to ensure they're available and if the race will be broken by lunch they will need to know time expectations to meet their children. This is often the most complicated aspect of racing to ensure participants are ready for their run, not standing too long waiting to race, and are adequately hydrated and fed (don't forget potty breaks!). Again, Coaches should carry their FRS Radios on Chanel 4-30 to ensure they can be reached if the race schedule changes or their group is due at the start. If wait time at the start is greater than 15 minutes, take another run!

Groups that are not scheduled to race first can ski practice courses if they've been set, or free ski in the area. Coaches will need to determine if there is time to ski on the upper mountain given the race schedule. If the race plan includes a one-run race the Coaches should plan for an afternoon of free skiing once their participants have raced and had lunch.

AMM Race Rule Guidelines

- Athletes who miss a gate in a GS or Slalom are encouraged to hike to complete the gate if possible and will not be disqualified. However, ***if a racer loses a ski they are not allowed to finish*** and should exit the race course with their equipment for safety reasons.
- Racers who believe they were interfered with should report to their coach, or another available coach. *Coaches should make every effort to watch all racers within their groups run the course*.
- Athletes *may* be disqualified for missing a gate once the Gate Keepers turn in their gate cards after the race, and recalculations can occur due to technical difficulties.
- DQ's will be posted on the Mighty Mite Shack Door after the race but before the final awards announcements. *Coaches are encouraged to review the DQ list for potential discrepancies so these can be discussed with Coordinator, Timing Official, and Head Coach Representatives before Award announcements. It is important for a Coach to provide the athlete specific feedback about a DSQ so that they understand why they were disqualified and get positive encouragement to improve his or her run for the next race.*

- Award announcements will include the top 5 athletes per group with Medals for top 3 finishers (1,2,3 place medals). *Animal Group Coaches are expected to give the awards to the athletes they Coach, or for the Animal group they are assigned.*
- Points are be awarded in pointed races for the first through fifth positions respectively: 10-7-5-4-3. Season trophies are based on the four pointed race finishes.

Awards

Award Ceremonies are held following every race. Awards are given within each ability group for the fastest three girls and fastest three boys, with recognition for the 4th and 5th places as well. Awards are normally held at the end of the day in the Race Training Center, or outside if the weather permits. The Program Director will announce Award Ceremony times on the AMM White Board in the Race Training Center and on the Coaches Race Information sheet posted on the AMM Coaching Shack door. Coaches should be in attendance to give the awards for their respective groups and encourage all the participants.

End of Season Awards are tabulated from all 4 pointed race results and attendance points. Awards are given for the top five boys & girls in each ability group, as well as perfect attendance awards & participation awards.

Special trophies are also provided annually. The Tanaka Award is given to the boy and the girl that the coaches believe exemplify excellence in sportsmanship. The Most Improved Award is also given to a boy and girl that the coaches believe has shown the most improvement for the entire year.

Coaches should remind participants throughout the year about season awards to incite enthusiasm in their positive participation in the program.

Fundamental Skills

AMM has over 60 years of experience teaching race fundamentals. The program structure builds children's skiing capability through seven fundamental skills. Each skill is taught progressively throughout the Animal Groups at Beginner, Intermediate, and Advanced levels. Skills will be revisited at the appropriate level, as needed, to build competence. Evaluation of fundamental skills is made through coaches' observation and results of each race throughout the year. A child who graduates from the program will have strong skiing skills, a love for skiing and a strong base for a future in ski racing if desired.

Ski Drills | Goals, Coaching Points and Progressions

Ski drills are designed to emphasize fundamental movements that are the foundation of ski racing. Initially drills should be set up in such a way that they give the athlete the opportunity to practice specific elements of skiing with a high probability of success. Progressions within the drill give each skier the chance to proceed at a pace commensurate with their ability. Failure to adequately reinforce basic skiing skills will ultimately lead to weaker performance in more competitive environments.

The drill **goal** is both specific and quantifiable and stated in such a way that gives the coach and athlete a clear understanding of the outcome of the exercise.

Coaching points are cues or feedback that the coach uses to elicit the movements required for the perfection of the drill. They pertain directly to the drill and not necessarily to the sport of skiing. Remember that coaching points should be simple and should include kinesthetic feedback as well.

Progressions are a systematic method of progression for each drill. Typically they should be designed in such a way that the skier starts at the easiest and moves sequentially to the hardest. In most cases the final progression is for the athlete to reproduce the skill(s) in a race. An athlete should move on to the next level (i.e. from beginner to intermediate level) of progression once they have mastered the previous drill, although it is common to revisit any progression level regardless of the racers skill level.

Balance

Balance is essential to all sports. A starting point for balance is the Basic Athletic Stance, or stacked position, which allows athletes to move in all directions and adjust position accordingly to maintain their balance.

Basic Athletic Stance: Feet are hip to shoulder width apart. Ankles, knees and hips are flexed/bent. Hands are up and in front/forward. Head is up and looking forward. A well stacked or balanced skier will have their hips aligned vertically above their feet, and their shoulders and head directly above their hips. This position puts the skier in the strongest possible position, as well as in a position that best allows them to respond athletically to the changing forces, snow, and terrain experienced while skiing.

The basic athletic stance is helpful in the teaching of skiing because it is a reference point for the skier to achieve at the crossover point of a turn for straight running and jumping. The skier should always begin a turn in balance. A balanced and centered stance allows the athlete to achieve both a released edge and subtle edging pressure to complete and initiate a turn.

Dynamic Skiing | Athletic Stance: There are differences in technique and movements at the cross-over point based on the turn radius/discipline, however, the concept of moving through the athletic stance at the cross-over point reinforces the athlete's need to establish proper weight and pressure on the ski to initiate the turn. In the longer turns the move through the athletic stance is more apparent; in shorter turns it appears instantaneous or not at all. In addition, the athletic stance is helpful as a reference point at the approach to terrain. It reinforces the need to be balanced before absorbing or taking-off.

Drills & Progression for Balance

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Inside w/boots one foot	Straight run w/ one ski up	Whirlybirds
Inside on toes/ on heels Straight run hops	Alternating skis up/down	Jumping
Straight run w/ one ski up	Skiing on one ski easy terrain	No poles advanced terrain
Traversing	Whirlybirds	Two person 360's with poles Half pipe
No Poles	Skiing backwards	Skiing backwards
	No poles medium terrain	
	Falling leafs	
Coaching Points		
Dynamic stance	Hand position	Skiing in variable snow Mix terrain and speed Importance of poles
For and Aft balance	Keeping weight over feet	
Lateral balance	Good balance/stance	

Dynamic Stance

Parallel Position: The parallel position is a balanced and centered position for a turn. The skis are parallel (tips and tails are equidistant apart) with the appropriate lead of the inside ski and body to accommodate for the pitch of the slope. The skier's body position is characterized by their ankles, knees, hips and shoulders being in a parallel relationship to the skis. The parallel position is helpful in teaching skiing because it is a reference point for the alignment of the body when making an alpine race turn. The proper alignment of the hip relative to the upper and lower body parts is critical to achieve balance, strength and efficiency for alpine racing.

Parallel Position & Dynamic Skiing: The skis and hips become the most reliable evaluation tools for identifying the parallel position during dynamic skiing. This is because individual skiers will have inconsequential variations in body position, the most obvious being the amount of knee angulation used to maintain balance, rhythm and timing while skiing dynamically. These differences can be due to many variables, for example physiological structural variations and canting. An important point relative to knee angulation is that the lower joint rotation is not also rotating the hip from the proper alignment (parallel position).

Dynamic Skiing & Turn Phases: [Will be more in-depth in Turning Fundamental Section]

- Initiation Phase- Emphasizing the use of ankles and knees at the initiation phase of the turn to establish edge angluation and pressure.
- Turning Phase- Emphasizing the coordination of the ankles, knees and hips in the turning phase to increase edge and pressure while anticipating the redirection of the center of mass (C of M).
- Completion Phase- Emphasizing the use of the hips, knees, and ankles to decrease and release edge angle and pressure while moving the C of M toward the crossover point.
- Crossover point- Emphasizing the unweighting of the skis to allow the athlete to change edges for a new turn.

The goal of the fundamental area of dynamic stance is to teach parallel turns. The use of the athletic stance and the parallel position as references for dynamic parallel turns provides the instructor with a simplified approach to their teaching. Emphasize rhythm, balance and control. Remember, keep it simple and have fun.

Drills & Progression for Dynamic Stance

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Inside w/ Ski Boots	Side Slipping medium terrain	Straight run over rolls
Outside w/ Ski Boots	Traversing easy terrain	Side Slipping steep terrain
Outside w/ Ski's Stationary	Alternating lifting legs	Traversing steep terrain
Straight Run slow (chair 7)	Straight Run up/down w/ hips	Flat to steep/Steep to flat
Same with Boots unbuckled	Straight Run w/hops	Straight Run in/out of tucks
Side slipping easy slope	Straight run over rolls	Tucks with Terrain
Coaching Points:	Look for stiff/large boots	Fluid movement over terrain
Parallel body position	Arm position	For/aft balance w/ speed
Ankles/knees/hips flexed	Body position change in slip	For/aft balance w/ terrain
Legs under body		

Turning

Turn Phases and Important Definitions

The US Ski Team uses three phases to describe the components of a turn. These are initiation, turning and completion. In addition, the terms crossover point and transition are used to define key reference points for two or more turns in succession.

Initiation Phase: The first phase (or start) of a turn. This phase is easily identified by the establishment of the new turning edge(s); weight is established on the new turning edge(s). The skier is increasing edge angle and pressure as the center of mass (C of M) moves forward toward the direction of the new turn (i.e. forward and inside the skis). In successive turns, it begins at the point where the C of M passes over the base of support.

Turning Phase: This is the second phase (or middle) of the turn. This phase is typically characterized by the greatest direction change. The skis and the C of M are changing direction. Typically there is a dramatic increase in edge angles and related forces, which are managed through the parallel position.

Completion Phase: The third phase (or end) of the turn. The beginning of this phase is characterized by the end of the direction change and the release of the ski edge(s). This is where the skier responds to the completion of the change in direction. The C of M and skis have been re-directed. There is decreased edge angle and pressure (skis released). In the case of successive turns, the path of the C of M and skis move toward a conversion at the crossover point.

Crossover Point: The point at which the athlete's center of mass passes laterally over the base of support.

Transition Phase: The combination of the completion phase, cross over point and initiation phases.

Pressure is generally described as the ratio of the applied force over the surface area that is applied. For a given set of conditions, the pressure exerted on a flat ski is less than the pressure exerted on a ski that is on edge.

Drills & Progression for Turning

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Wedge turns out of fall line Wedge turns into fall line Wedge turns linked	Ankle turns easy terrain	Parallel turns out of fall line
	Knee turns easy terrain	Parallel turns into fall line
	Step turns out of the fall line	Turns equal weight/edges
Stem christies Christies	Step turns into the fall line	Turns weight dh ski
Ankle turns (chair 7)	Linked step turns	Turns weight uphill ski
Add vertical un-weighting	Parallel turns out of fall line	Transition quickness
	Parallel turns into fall line	Transition smoothness
Coaching Points	Transition part of turn	Edge changes Crossover
Dynamic Stance	Shoulders down the hill	Mix radii of turns
Balance	Arm position	Quiet upper body
Weight skis in the fall line	Weight transfer	
Carving part of turn		

Edging

Carving: the tails of the skis are on a forward path that follows the ski tips. Turns in which the skis travel on an edge with minimal slipping or skidding (PSIA).

Arcing: a pure carved turn. No observable lateral movement of the ski (could be the theoretical turning radius of the ski).

Pivoting: turning the skis about an axis perpendicular to the running surface which results in the skis being displaced at an angle to the skier's direction of travel.

Edge Engagement: the edge angle and pressure required for the ski to hold.

Linking Carved Parallel Turns: The area of carving turns and transitions differs from the basic skiing area in that the focus is on carving from the crossover point throughout the turn. (i.e. carved turns that are linked arc to arc). The assumption is that it can be faster to link completely carved turns in the fall-line. Therefore, the goal is to achieve movements that support this outcome when appropriate.

Transition: The transition is defined as the blend of the completion phase, crossover point, and initiation phase. The method of using the ankles and knees through the transition is emphasized to achieve subtle decreases and increases in edge angles while changing edges. An engaged edge(s) in the initiation phase allows the athlete to develop the new edge angles for carving the skis, as opposed to pivoting/sliding and or skidding, before the ski/skis are engaged.

Initiation Phase: Athlete must emphasize the use of ankles, and knees at the initiation phase of the turn to establish edge angle and pressure to begin a carved turn. To achieve this the athlete must use flexion in the ankles and knees while moving the knees forward and inside. In addition, the athlete must also shift the center of mass (C of M) in a corresponding manner to establish dynamic balance in the parallel position. In order to engage the new edges from the crossover point and carve the top of the turn, the skier must aggressively move forward to engage the tip(s) of the skis.

Turning Phase: Athlete maintains dynamic balance by continuing to move the C of M forward and inside the path of the ski. To achieve this the athlete needs to coordinate the use of the ankles, knees, hips and upper body to react to the increased forces in order to maintain a balanced parallel position on carving skis. In all situations, the athlete needs to adjust edge angles and forward movement of the C of M based on the speed and desired turn shape. At a high edge angle, flexion of the inside leg is necessary for the athlete to manage dynamic balance. Often this gives the appearance of a wide stance.

Completion Phase - At the end of the direction change, the athlete finishes the turn by releasing the edges. To release the edges, the athlete must move the C of M forward and across the base of support. In most cases, the ankles and knees extend to accompany the hips' movement towards an athletic stance at the crossover point. In some cases an athlete may choose to release the edges and decrease the pressure by retracting the legs as he or she moves the C of M forward and across the skis toward the initiation of the new turn.

Crossover Point - There are 2 distinct ways to move through the transition to achieve linked carved parallel turns.

1. Athlete has flexed legs at the crossover point – Athlete is moving through the crossover point and engaging the edge in a flexed position and then extending.
2. Athlete has extended legs at the crossover point – Athlete is moving through the crossover point in an extended position and then engaging the edge.

The skier will not always be able to completely carve a turn based on the given situation (i.e. radius of turn is too tight for the ski; racer's skill level is too low). However, the ski equipment has evolved to make the carving and transitions area important when it comes to making fast turns. Ultimately, tactics will determine whether or not it is appropriate to use a completely carved turn, but the skilled racer must be able to link carved turns when appropriate.

Drills & Progression for Edging

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Wedge Turns	Wedge turns (add terrain)	Wedge Turns
Sideslip Red/Green light	Railroad Turns	Railroad turns
Straight tracks	Hour-Glass	Javelin turns
Straight side slips	Edge sets release	Whirly birds
	Single ski traverse uphill	Backwards skiing
	Uphill turns	Angulation drill
	360's w/ partner	One ski
	Hockey stops red/green light	
Coaching Points	Body Crossover/transition	Edge changes
Dynamic Stance Balance	Pressure in front of boots Weight	
Knee/ Ankle sets/releases	transfer	

Pole Plants

Pole Plant Mechanics: preparation, plant and completion.

Single Pole Plant: the pole on the downhill side of the skis is used to plant.

Double Pole Plant: both poles are used to plant.

Blocking Pole Plant: the pole is planted in an oblique manner to the skis in a blocking fashion to establish unweighting and rotational movement.

Mechanics: Pole plant mechanics are those simple movements that form the basis of a good pole plant. There are three basic movements: 1) The preparation, 2) The plant, and 3) The completion. In the **preparation** phase the hands are in front of the body and the planting wrist is cocked as the arm swings the pole tip forward (in the case of slalom the hand blocks the gate during the preparation phase). The **plant** phase is the actual placement of the pole tip in the snow (or in some cases a tap of the pole tip for balance). The **completion** phase is the forward movement of the hand(s) to lift the tip of the pole out of the snow while keeping the hand(s) in front of the body.

Timing: Timing of the pole plant refers to the actual pattern of execution. There are several examples of how the timing of the pole plant relative to the transition may be used in dynamic skiing. Early in the transition (completion phase) the use of a single pole plant is very common. A properly timed single pole plant can help the athlete release the edge because it helps trigger an upward movement (or retraction) in the completion phase of the turn. In some cases, a properly timed single or double pole plant can provide balance for the skier later in the transition (crossover point). Often, a blocking pole plant is used for balance and rotation in the completion phase of a short radius/slalom turn.

The primary use of the pole plant is to contribute to the timing of turn transitions and to the rhythm and flow of free skiing and gate running. The pole plant may be used as an effective teaching tool to force the athlete into a more upright position on the skis. The pole plant movement is not always necessary on all terrain and in all situations (i.e. not generally used in speed events, fast GS and SL on the flats). The main goal of this area is to incorporate a proper pole plant into dynamic parallel turns. The correct timing and mechanics of the pole plant is a fundamental skill. The pole plant is not used in every discipline or in every situation, however, the use of the pole plant is helpful for timing and balance. In situations where the pole plant is not used, a calm upper body with hands in front can be a substitution.

Drills & Progression for Pole Plants

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Static Pole Plant	Straight run-hockey stop	Linked turns w/ edge sets
Traverse w/ plants	Edge sets w/ plants	Hop turns
Wedge turns w/ plants	Traverse plants w/ bumps	GS turns double pole
Sideslip w/ plant Red/Green	Traverse clap behind back	Single arm plants
		Traverse w/ hand clap
Coaching Points	Hip transition/crossover Hand	
Dynamic Stance Balance	position	
Timing of plant	Pole plant location	Wrist position

Gliding

The goal of this fundamental area is to teach the skier different parameters that affect speed.

Aerodynamics - describes the air resistance (drag) created by the skier's body position.

Pressure Distribution - describes the pressure exerted by the skier's body position in relation to the skis in a turn.

Line - the path the skier takes to get to the desired end point.

Released Skis - a skier balancing on flat skis that have no control from edging. At high speeds released skis will tend to swim (move forward and sideways).

Pressure Distribution - There are 2 key areas to focus on when teaching an athlete to glide, 1) the resistance the athlete creates between the skis and the snow and 2) the resistance the athlete creates in the air (i.e. their aerodynamics). The primary consideration when discussing resistance between the skis and the snow is how pressure is exerted by the skier's body position in relation to the skis in a turn.To minimize ski/snow resistance it is important that the athlete have balanced fore/aft and lateral pressure distribution. Pressure distribution may need to vary depending upon the specific situation. Generally, the athlete needs to avoid excessive pressure on the tips/tails or on the edges.

In a straight glide, pressure should be distributed as evenly as possible along the skis. This is achieved by ensuring the athlete has; 1) Appropriate width of stance, 2) Skis are flat on the snow surface, 3) Appropriate fore/aft balance, 4) Parallel lower legs and 5) Weight is evenly distributed on both skis. Subtle variations in fore/aft position are specific to athlete and conditions. It is important to test individually in a glide track.

In glide turns, pressure should still be distributed as evenly as possible along the skis. This is achieved by ensuring the athlete has; 1) Appropriate width of stance, 2) Parallel lower legs 3) Appropriate fore/aft balance, 4) Use of subtle edging movements (i.e. smooth increase and decrease of edge angle), and 5) Line choice that supports subtle edging throughout the turn.

Aerodynamics - In most cases, a balance between optimizing aerodynamics and maintaining technique needs to be achieved. Therefore, an optimal aerodynamic position will be different for different situations (e.g. high tuck in turns, low tuck in straights). In a straight glide, the athlete should try to reduce wind resistance as much as possible. In this case, optimal aerodynamics are achieved by: 1) Using a low tuck to minimize the surface area of the body presented in the direction of travel, and 2) Optimizing the shape of the body (i.e. hands in front of face, round back, etc.). When turning the athlete may need to move from a low to a high (or break the) tuck in order to achieve optimal pressure distribution for carving the desired line (i.e. avoid unwanted sliding). However, where possible the athlete should still try to maintain a good aerodynamic position.

When it comes to resistance between the skis and the snow, the steeper the pitch and the harder the snow surface, the less impact pressure distribution has on the resistance. Also, equipment can play a key role in both aerodynamics and ski snow resistance (i.e. fast skis and ski preparation, pole bend, etc).

Gliding is a very important skill in alpine ski racing. The ability to find the least amount of resistance, air and snow, is critical for speed. The subtleties that are required are best taught with a timer, as the feedback is real and objective. Be sure to have a timer on hand when working on gliding skills so the athlete improves their feeling for speed.

Drills & Progression for Gliding

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Straight Run / Flat	Add steepness	Add steepness
Ski Same leaning fore and aft	Leapers / easy terrain	Add terrain
Same stepping on flat ski	One ski gliding	High Tuck Turns
Stationary Tuck	Falling leaf	Low Tuck Turns
Tuck		
Coaching Points	Keeping weight over feet Good balance/stance Minimizes movements Tuck=flat chest	Mix terrain and speed
Dynamic stance		Parallel position
Fore and Aft balance		Tuck-elbows/legs parallel
Lateral balance		
Hand position		

Jumping

The goal of this fundamental area is to teach the movements required to maintain balance and snow contact over jumps and terrain changes.

Approach: the phase where the athlete is skiing towards the jump/terrain.

Takeoff: the phase immediately prior to and including the point at which the skier loses snow contact.

Flight: the phase of the jump where the skier has no snow contact.

Landing: the phase beginning just prior to impact where the skis regain contact with the snow and ends with the athlete back in dynamic balance.

Extension/Flexion: the act of increasing and decreasing the angles of the joints in the body.

Jump Shape: the terrain make-up of the approach, takeoff and landing of a jump.

Pre-Jump: the point of a takeoff is such that the athlete leaves the snow before the lip of the jump in an effort to minimize the length of flight by avoiding the lip.

Jump Press: the point of a takeoff is typically at the lip of the jump and the skier absorbs the lip of the jump.

Camel: the act of jumping at takeoff with the intention of increasing the flight to land on the back-side of another subsequent terrain feature.

Jump Phases

Approach: During the approach the athlete prepares by making specific movements based on the type of terrain and their ability. These may include: 1) Assuming a balanced position with weight evenly distributed on both feet (direction change is completed); 2) Aerodynamic upper body to aid in fore/aft balance at speed; 3) Appropriate flexion/ extension in the lower body prior to a jump to allow for absorption or take off as needed; 4) Anticipation/ preparation for the take off; and 5) Hands forward.

Takeoff: During the takeoff the athlete needs to be balanced in order to establish a good position for flight. To achieve this: 1) Athlete must be balanced fore/aft and laterally (i.e. both skis) 2)The center of mass (C of M) needs to move forward in anticipation of the flight (initiated from the hip). 3) Appropriate flexion/extension in the lower body to allow for absorption moves. 4) Hands, hips roll forward relative to the terrain.

Flight: During the flight the athlete needs to be balanced in order to maintain control in the air and prepare for landing. This can be achieved by: 1) Keeping a good aerodynamic position in the air, 2) Maintaining a balanced position such that skis remain parallel to the terrain, 3) Continuing to move the C of M forward to keep tips from lifting, 4) Prior to landing, athlete extends legs in preparation for absorption of landing.

Landing: During the landing phase the athlete needs to be balanced and extended on impact to allow for absorption. This can be achieved by: 1) Anticipating the landing by extending the legs 2) Landing on both feet 3) Absorption on touch down 4) Regaining an aerodynamic position as soon as possible, and 5) Hands and arms in front

Key Points: Jumping

The jump press is the most common type of jump because of its versatility for the speed and jump shapes in FIS racing. The pre-jump is used less often but is a very effective jump technique. This skill must be properly timed, but it can help to minimize flight length particularly if there is a lip on the end of the jump. The technique of riding over a jump and maintaining an aerodynamic position in flight can be used if there is not a long flight due to speed and or terrain (i.e. jump shape) or there is a long outrun and no need to get back to the snow quickly.

Key Points: Terrain

The main movements used to maintain snow contact in terrain are primarily the extension/ flexion of the lower body to aid with absorption. A feeling for subtle movements and a released edge is necessary to maintain balance and increase snow contact in terrain because a pressured or loaded ski at the inappropriate time can lead to imbalance. The combination of properly timed movements and a feeling for subtly on the edge are necessary for both safety and speed. Also, the athlete needs to perform a thorough course inspection so that they can anticipate the terrain features and move effectively through them.

The fundamental area of terrain and jumping is focused on achieving those techniques that are necessary to be both safe and fast when it comes to skiing terrain and jumps. Athletes need to learn how to perform all the jump/terrain techniques so that they can adapt to the given situation. These techniques are chosen by the athlete based on skill and situation (i.e. approach speed, jump shape, etc.).

Drills & Progression for Jumping

[Each level of skill drills should be repeated throughout each group as needed to reinforce proper fundamentals]

Beginner	**Intermediate**	**Advanced**
Straight Run	Add Steeper terrain	More speed
Flat Leapers	Bunny hops	Jumps from a tuck
Terrain Park	Blind Jumps	Popping a jump
	Tricks	Pre-jumping
Coaching Points		
Hands forward	Keep jumps safe	
Quiet upper body	Know / spot landing zone	

Glossary of Terms

Absorption-	Body movements used to maintain ski base and/or engaged edge snow contact through a variety of terrain and conditions.
Aerodynamic-	Describes the air resistance (drag) created by the skier's body position
Aft-	Toward the tails of the skis, behind the bindings.
Alignment-	A: The positioning of the body segments so that the skeleton, joints and muscles remain in balance and in a position of strength, for any given situation (see definition for counterrotation). B: It can also refer to all aspects of ski equipment, which can be mechanically modified, to improve the positioning of the body segments for balance, skeletal strength and movement execution
Angulation-	Creating lateral angles and flexation in the body for optimal balance and control of the ski edge.
Ankle Turns-	Focusing on ankles flexing/angulating to pressure edge
Apex-	A peak in the curved path left by the skier representing the outer most point of a turn.
Arc-	A specific aspect of carving: a fully engaged edge, every point on the length of the ski follows the same path, with no observable lateral movement of the ski(s).
Athletic Stance-	A balanced and centered position. The ankles, knees, hips and shoulders remain in a right angle position to the skis - statically or dynamically. Commonly referred to as the "square" position.
Carved Turn-	Turns in which the skis travel on an edge with minimal lateral slipping or skidding (PSIA). The tail of the ski follows the same path as the tips.
Center-of-Mass-	The point about which the mass of the system (in skiing - the (C of M)
Christie-	Turn lifting the inside ski before the fall line
Counter-Rotation-	The uphill inside foot, knee, hip, hand, and shoulder are ahead Countered Position

Counter-Rotation-	The uphill inside foot, knee, hip, hand, and shoulder are ahead Countered Position
Crossover Point-	A point of crossing where the line of the skis and the line of the C of M intersect. Commonly thought of as a point where the C of M passes laterally over the base of support.
Crossover-	C of M transitioning over skis to new edge and turn.
Drag-	A draw or pull causing a slow-down of motion - air or snow friction, or a combination of both.
Edge Angle-	The degree of lateral tilt of the ski about its longitudinal axis in relation to the supporting surface.
Edge Change-	The changing of one set of edge(s) to the other set of edge(s). Edge Engaged
Edge Release-	Reducing or eliminating the angle of an engaged edge. Associated usually with the completion phase of the turn.
Extension-	Any movement that increases the angle of a joint
Fall Line-	The imaginary line, through any single point on the slope that follows the steepest descent. Every turn shape has a fall-line intersecting it.
Flexion-	Any movement that decreases the angle at a joint.
Fore-	To or Toward the tips of the skis, in front of the bindings.
Glide (gliding)-	Using the least amount of edge resistance (if any) and/or pressure, throughout a continuum of turn shapes and straight runs, to maximize speed while also maintaining the intended direction of travel.
Hip Angulation-	An angle at the hip between the upper and lower body, facilitating the maintenance of lateral balance.
Inclination-	Deviation of the skier's body from its vertical axis, commonly considered to be accomplished by tilting of the entire body to create edge angles.

Initiation-	A term used to describe the first phase of the turn where the skier is managing forces above the fall-line in an effort to establish a platform in which the ski will create a direction change. Commonly thought of as the establishment of a lead change, edge angle, and alignment of all body parts, during the "initiation" of a turn.
Jump Press-	An active downward movement of the lower body through flexion of the legs and hips, and forward movement of the skier's C of M, enabling the racer to align with the angle of the hill and to actively regain the ski/snow purchase.
Knee turns-	Focusing on knees flexing/angulating to pressure edge
Lateral Movements-	Side-to-side body movements used to create edge angles and to maintain body balance while managing or resisting forces.
Line-	The path of the athlete's skis.
Linked Turns-	The act of combining parallel turns in succession with the continuous and fluid movement of the C of M through the crossover point.
Parallel Position-	The skis are parallel (tips and tails are equidistant apart) with the appropriate and aligned lead of the inside of the body to accommodate the pitch of the slope and appropriate counterrotation. The skier's ankles, knees, hips, and shoulders are in a parallel relationship.
Parallel Turn-	The center line of the skis maintain a relatively equal distance throughout a turn made on similar edges, with the athlete remaining in a parallel stance throughout.
Phases of the Turn-	A parallel turn can be broken down into three phases: Initiation, Turning, and Completion/Preparation. Each of these phases link and blend throughout the turn.
Phases of the Turn: Initiation-	The first phase (or start) of the turn –this phase is easily identified by the establishment of the new turning edge or edges. Weight is established on the new turning edge/edges. The skier is increasing edge angle and pressure. The center of mass (C of M) moves toward the new turn (i.e. forward and inside the skis).
Phases of the Turn: Turning-	The second phase (or middle) of a turn –this phase is typically characterized by the greatest direction change. The skis and the C of M are changing direction with increased edge angle and pressure.

Phases of the Turn: Completion-	The third phase (or end) of the turn –The beginning of this phase is characterized by the end of the direction change and the release of the ski edge/edges. The C of M and the skis have been re-directed. There is decreased edge angle and pressure (skis released). The path of the C of M and skis move toward a conversion at the crossover point in the case of two turns in succession
Pivoting-	Turning the skis about an axis perpendicular to the running surface, which results in the skis being displaced at an angle to the skier's direction of travel.
Pole Plant-	The skier's act of placing the tip(s) of the pole(s) in the snow at the appropriate timing in a turn, used for balance in the transition.
Pressure-	In mechanics, ratio of the force acting on a surface to the area of the surface. It can be affected by a skiers increasing edge angle, or force manipulation by the skier through internal and external force applications.
Progression-	A teaching method that is used to break up a complicated motor skill into component pieces, which are learned separately and when combined, will enhance a specific skill or movement pattern. Beginning with the easiest, gradually moving to the most difficult movements (including terrain and snow conditions).
Rotary Movements-	Movements that increase, limit, or decrease rotation of the skis.
Sliding-	Any significant lateral movement that is not in the same longitudinal direction of a carving ski.
Slipping-	Sideways travel down or across the fall-line on an unengaged ski.
Snow Contact-	The skis and edges maintain contact with the snow surface as much as possible.
Square Position-	To describe a stance where the shoulders, hips, knees and ankles remain in a 90 degree alignment to the running surface.
Steering-	The muscular guidance of the skis along the desired path, by both a twisting and angulation action of the lower limbs and body.
Stem Christie-	Turn, beginning in a wedge then sliding inside ski parallel in the fall line
Tactics-	The strategic application of technique and experience to a given turn sequence, terrain, or snow conditions.

Technique-	The manner in which fundamental elements of skiing are executed.
Timing-	The various turn phases in relation to the fall-line, rhythm and set of the gates, speed & terrain conditions, while maintaining dynamic balance and the optimal line.
Transition-	A term used to include the completion, crossover point, and initiation phase of the turn. The transition can be seamless, with the completion of one turn and the initiation of the next becoming a linked continuous movement. Or, it can represent an actual period of time between widely separated turns.
Traverse-	Skiing across a fall-line on an engaged edge or (parallel) edges.
Turn Shape-	The geometry of a turn made by the line of carving skis.
Weight Transfer-	A shifting of weight from one ski to the other, from both skis to one ski, or from one ski to both skis. Commonly thought of as the shifting of the C of M across the base of support (a vertical axis of the skis).
Whirlybird-	360's with skis maintaining contact with the snow. Can be done individually or taken to a higher level with partners holding the ends of each other's poles.

Gate Setting

Kombi Course

Kombi is a fun event for children and is excellent for skill development. There are two versions of Kombi. One blends slalom and GS sections together into one course, and the other blends GS and super G sections together in one course. The USSA ACR describes Kombi as follows:

"The children's Kombi consists of a mixture of standard turns and gates. The event meets developmental needs for children, creating a tactical awareness by blending sections of different gates in a flowing, rhythmical, constantly changing pattern…The course should test the skier's ability to react and adapt to an ever changing rhythm and radius, but allow the competitors smooth transition between the various sections of gates."

- SL/GS format with stubbies and GS gates
- Consists of a mixture of standard turns and gates; Use brushes, stubbies, and paneled gates
- Creates tactical awareness by blending sections of different gates in a flowing, rhythmical, and constantly changing pattern
- Test's skier's ability to react and adapt to ever changing rhythm and radius
- Combinations for SL may be set, but should be with single pole, 4-6m distance
- Course should be set such that a smooth transition between GS and SL sections is possible
- Course should include at least one jump

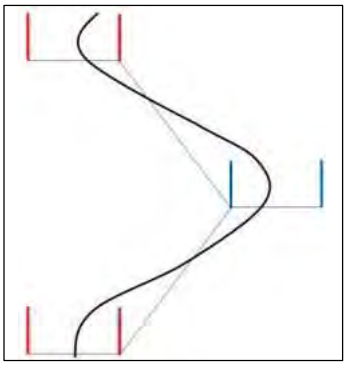
USSA COURSE SETTING

Slalom

Slalom has the least time between gates of the alpine racing disciplines, with the fastest skiers making each turn in less than one second. A single flex pole is used to turn around. Competition courses may be set with or without outside gates, though single pole slalom rules do require outside gates on the first and last turns and in gate combinations. Different gate combinations are hairpins, flushes and delays. They can be used to change the course rhythm and move the course location on the hill. Following are the possible gate configurations for slalom racing.

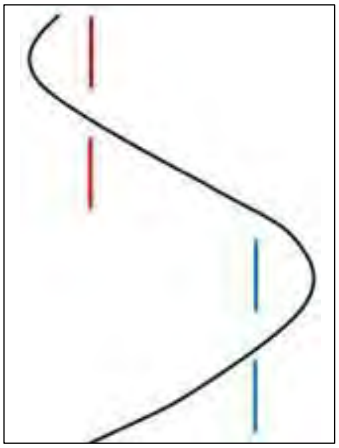
Open gates

These consist of a turning pole and an outside pole set horizontally across the hill four to six meters from the turning pole, or in the case of single-pole slalom, just a turning pole. Open gates make up the majority of the turns on a slalom course. Open gates are generally spaced between 6 and 12 meters apart, depending on the age, developmental phase and ability level of the skiers.



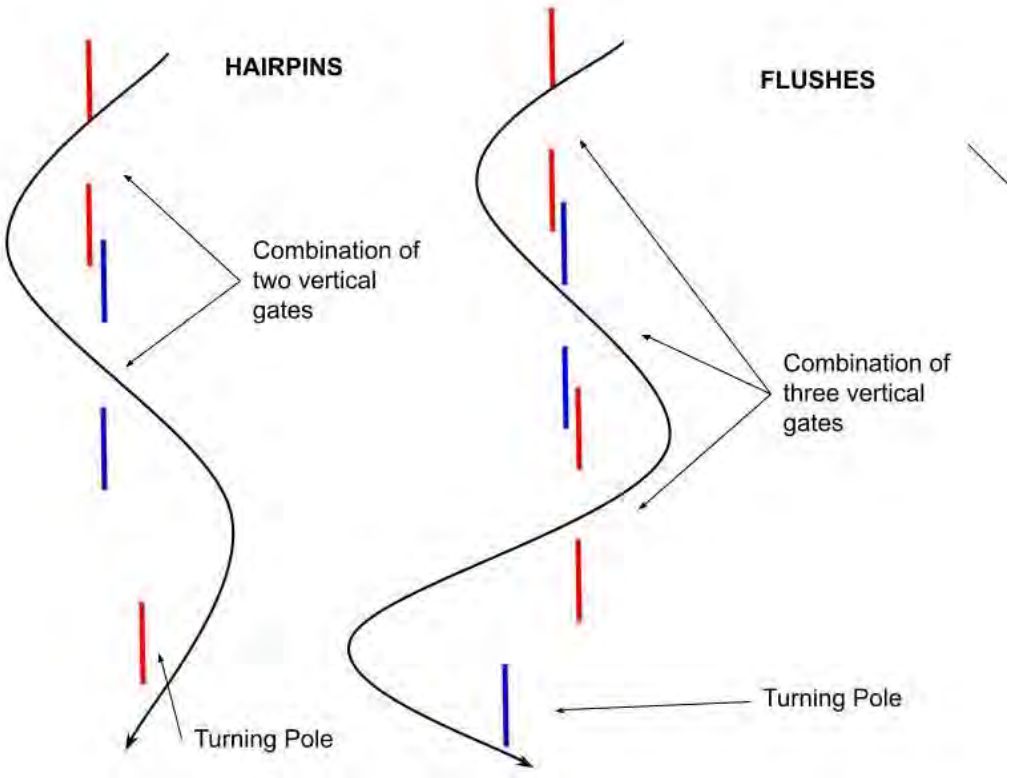
Closed gates

These are when the outside pole is set vertically below the turning pole. These are typically only used in vertical combinations (hairpins and flushes) or as a delay gate, but may be occasionally used within an open gate section where the trail is narrow or has thin snow wide of the turning pole, or at the course setter's discretion.



Hairpins

Hairpins consist of a vertical combination of two closed gates, separated by a distance of ¾ to 1 meter. The skier typically enters the hairpin over the top of the upper gate. Since the distance between poles in a closed gate must be between 4 and 6 meters, hairpins present a rhythm change for the skier. In a typical hairpin that is entered over the top, the skier exits the hairpin on the opposite side from which they entered. This makes hairpins useful to course setters for moving the course across the hill.

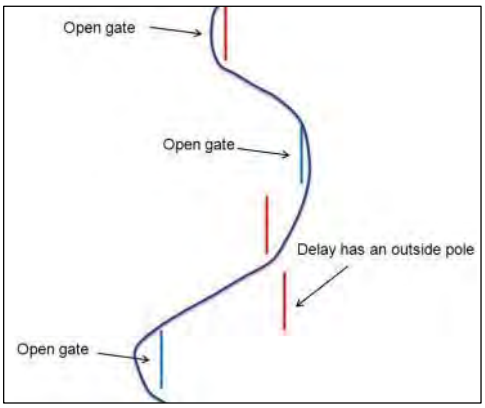


Flushes

Flushes consist of a vertical combination of three or four closed gates, separated by a distance of ¾ to 1 meter. The skier typically enters the flush over the top of the upper gate. Since the distance between poles in a closed gate must be between four and six meters, flushes present a rhythm change for the skier. Since flushes have three or four turns in a straight line, skiers usually gain speed through a flush. In a typical flush that is entered over the top, the skier exits a three-gate flush on the same side that they entered, and in a four-gate flush they would exit on the opposite side from which they entered. Flushes can be used to move the course across the hill if needed.

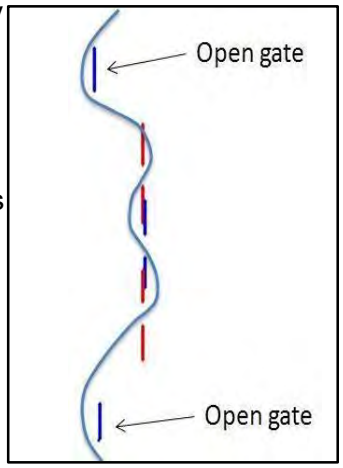
Delays

Delays or delayed gates (aka banana) consist of a closed gate placed in between two open gates where the distance between the two open gates can be extended. Delays are normally used to bring the skier across the hill and to change up the rhythm. The top pole of the closed gate must be at least six meters from the open gate above it (four meters for U10's). The closed gate, called the delay gate, is typically set right along the line of the skier.



Gate combination placement

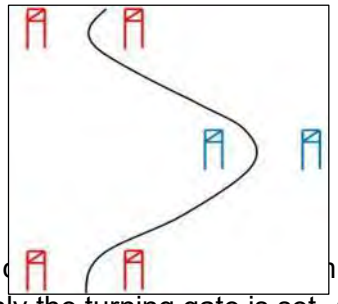
One of the first things the slalom course setter must consider is where they will place the gate combinations. Flushes are usually set on flatter sections of the course. Delays are often set where the trail turns, or to work across a sidehill section, or sometimes near the bottom of a steeper pitch as it transitions into a flatter section. Hairpins may be set at just about any part of the course. However, these gate combinations are not usually set right over abrupt transitions, within the first three to five turns on the course, or within the last three turns on the course.



Hairpins and flushes are usually set down the fall-line. As athletes mature, these combinations may be angled somewhat across the hill, as long as all of the gates that comprise the combination are set along a straight line. Be careful though, since vertical combinations have a shorter distance between turns, setting them too much across the fall-line can be very difficult for the racer. It

Giant Slalom

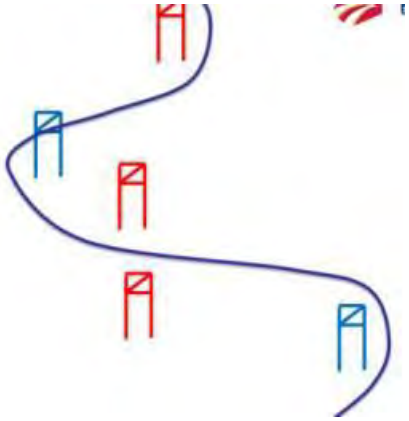
Giant slalom is considered by most to be the most demanding event technically. It requires quick turns at high speeds with constant changes in terrain, turn size and turn shape. Good GS course setting is characterized by flow, rhythm, speed and technical challenge. A well-set GS uses the terrain and challenges the skier through demanding arcs and a variety of tactical choices.



Giant slalom consists mainly of open gates. Each gate consists of two poles c h rectangular flag capable of tearing or breaking away. In a single gate GS, only the turning gate is set. An outside gate is required for the first and last turn and on any delay gates. except for the first and last turn. The distance between open gates is between 15 and 27 meters for U16. Shorter maximum

distances are required for younger age groups (see the ACR). When outside gates are used, they are between six to eight meters from the turning gate.

Delay gates may be set in GS similar to those in a slalom course. The distance between the open gate above the closed gate of the delay (delay gate) must be at least ten meters. Generally, the delay gate will be set roughly 1/3 of the way between the open gate above and the open gate below, and along the racer's line. Like in slalom, a delay can be used to change rhythm, or to move the course across the hill. A delay gate is required for competition sets in USSA races for all ages.



Since hairpins and flushes are not set in G S, the course setter usually varies the rhythm more in open gate sections to move the course around the hill, or uses delays.

The higher speeds of GS make course setting adjustments based on terrain particularly important. Here are some good tips.

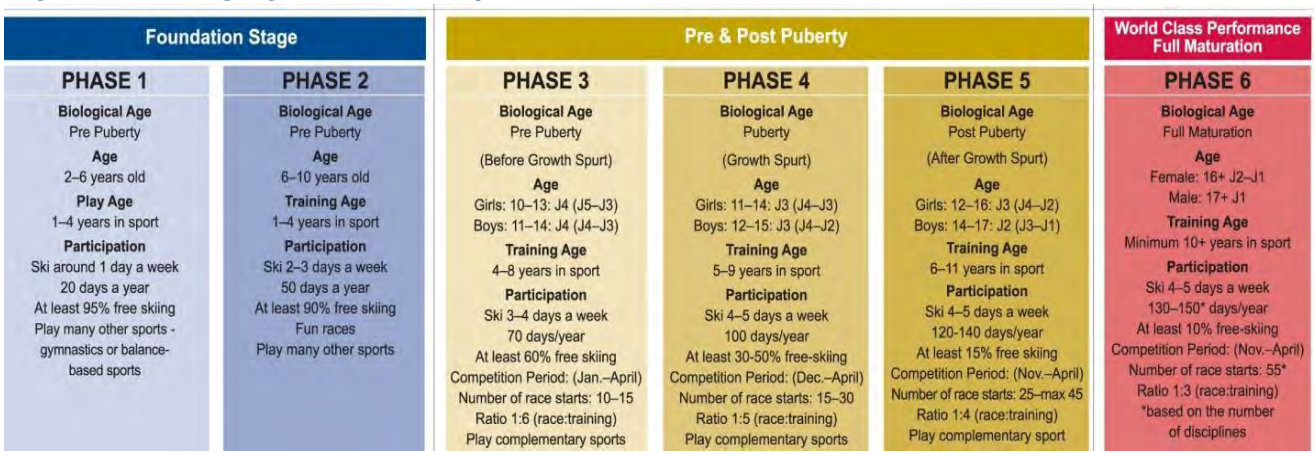
Flat to steep: Control the racer's speed coming into the steep section. You'll want to adjust the offset before the transition, rather than right at it, for best flow. If there is an abrupt knoll, it is generally easier for the skier if the breakover is between gates, rather than right at the gate. As the skill and experience level increases, gates can be set at the transition to test the competitors' abilities, inspection skills and tactical knowledge.

Steep terrain: To adjust for steep terrain, use both greater offset distances and/or tighter vertical distances while maintaining even consistent rhythm. Open gates are primarily used because the difficulty of the course is the steepness, and therefore difficult rhythm changes should be avoided.

Recommendations for USSA Training System Phases of Development

The following are recommendations for coaches for course setting to maximize the development for athletes at different phases in training and in competition. Note that the recommendations within are not a revision of the rules, but rather suggestions for coaches taking into consideration recent evolutions in equipment, course setting, and corresponding technique. We encourage coaches to expose their racers to a variety of different courses and drills, to limit standing around, and to spend as much time as possible on the hill actually skiing.

Alpine Training System Developmental Phases:



PHASE 1

Skiers start following a designated line by skiing around cones, playing follow-the- leader, and exploring the mountain. Racing introduction via NASTAR and/or obstacle courses.

PHASE 2

Skiers in this phase are moving into the optimal window for them to acquire and hone fundamental skiing skills. They are also in an optimal window to develop agility and quickness, and very short duration speed (5 seconds or less). They also have relatively short attention spans and do not have a well-developed anaerobic energy system for sustained high-intensity skiing over a long course. Skiers in this phase are encouraged to use one pair of skis for all events. Recommended disciplines include giant slalom, slalom, Kombi, dual courses, obstacle courses, and skills competition.

PHASE 3

Skiers are in the optimal window for them to hone their fundamental skiing skills. This may be the most important developmental phase of a ski racer. To take maximum advantage of this opportunity, course setting should progressively challenge the skier's technique. Variety is essential. For motor learning to take place, skiers must first demonstrate they can perform the skill, then continue to execute it as the task gets more difficult.

Historic Mighty Mite Leadership

Founders:
Jim & Margaret Walker

Associate Founder:
Jim Tanaka

Honorary Associate Founder:
Jim Branch – Alyeska Resort

Directors:
Jim Walker

Jim Tanaka (until 1978 death)

Sam Hayes

Phil Ramstad

Howard Holtan (until 2007 death)

Steve Walsh

Casey West

Natasha Von Imhof

Karissa Gries

Roberta Carney

Head Coaches:

Don Conrad

Bill Hume

Bud Gibbs

Grant Gibbs

Heather Durtschi

Phil Ramstad

Clint Lentfer

Gordon Descutner