Fundamentals

and Skiing Tactics

Innovation

"Innovation in Alpine Ski Racing may be finding a way to teach the fundamentals better than anyone else." Rolf Gidlow

Raising the Bar

On Skiing Fundamentals

At times we do not recognize the bar needs to be raised.

12 years ago, the Beep Test (Shuttle Run) averages at SMS were

- Men - 10.05
- Women - 7.06

Raising the Bar

On the aerobic Capacity of alpine ski racers

This fall our testing averages were:

- Men - 11.05
- Women - 10.10

What does the Beep Test have to do with ‘Raising the Bar’ on Fundamentals?

What if?

Our skiing fundamentals are so low we have difficulty to recognize it?

Fall Meetings

- Sasha Rearick - Men's Development
- Marjan Cernigoj - Women's Development
- Jesse Hunt - Alpine Director

All have stated our general level of fundamental skills for technique and tactics are behind the general european ski racing populations

We need to raise the bar, but what does that look like?

Technical Statement

Does your club have one?
It starts here.

SMS Alpine Technical Statement
Fall update 2018
- WORKING DRAFT -

SMS teaching progressions are fundamentally based with a philosophy of **simplicity** and **consistency**. The teaching model should be easily understood (**age appropriate vocabulary**) and should not progress too quickly beyond the athlete's skill level.

Coaching Methodology - building off our HPC meetings with Mark Williams, the SMS coaches will work towards this model

1. The coach's primary duty is to create a dynamic learning environment. The athlete should understand what has been designed and how it will be used to develop their skills
2. Task based (or constraint based) training should be used to allow more of a guided discovery approach. (per Sasha Rearick) Be creative to increase the challenge level as ability increases.
3. Athletes need to come to the training session with a plan for technique or tactics and an understanding of this plan
4. Athlete Feedback Loop
    a. Self Reflection, self analysis
    b. Coach Feedback
    c. Peer Interaction
5. Teaching Cues v. Teaching Fundamental Skills
    a. Cues are pointed comments to help athlete refine a task or skill
    b. Fundamentals are the foundations and need detailed explanation and demonstration

Fundamental Skills

Athletic Stance (poles and no poles)
Balance to the outside ski and ski to ski
Clean arc
    turn shape
    timing and rhythm of the turn
Transitions
Pole plant with proper timing
Equipment fundamentals

Skiing Fundamentals

PSIA

- Control the relationship of the center of mass to the base of support to direct pressure along the length of the skis
- Control edge angles through a combination of inclination and angulation
- Control the skis rotation with leg rotation, separate from the upper body
- Control pressure from ski to ski and direct pressure toward the outside ski
- Regulate the magnitude of pressure created through ski/snow contact

Stratton Mountain School

Fundamental skills

- Athletic Stance (poles and no poles)
- Balance to the outside ski
- Clean arc, turn shape, timing and rhythm
- Transitions
- Pole plant with proper timing
- Equipment fundamentals

Free Skiing Fundamentals

Turn Shape

Does the athlete have the fundamental skills that will allow them to create a carved turn shape to match the demands of a race course?

Flat free skiing turn shape leads to several issues. Do your athletes GS free ski turns look like SG or SL like GS?

Video - Steffey and Winters

Common Terms

Rise Line

Fall Line

Apex

Room above the gate

More elevation above the gate

Shape back at the gate

Angle of attack

Taking it deep

Above and Beyond

Pulling radius or tighten down the arc

Strong R/L foot turn

Rise line

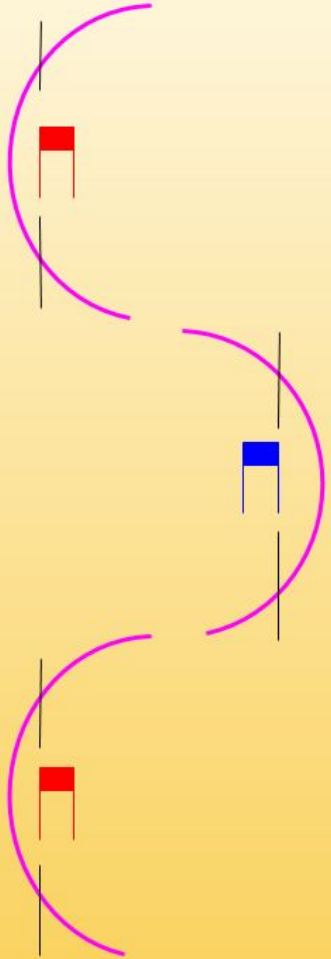
Goal to get athletes to continue to move to and at at times beyond the rise line before before increasing pressure and bringing shape back at the gate

USA v.Europe - how many grooves do you often see in a race course?

Simple Rise Line

Common coaching Phrase:

Be patient to the rise line or move to the rise line



- Apex of the turn

Fall line

Attention to the fall line is critical, where it falls, determines the shape of the turn and where you wrap it around the gate.

Other considerations:

- Pitch
- Transition
- Terrain

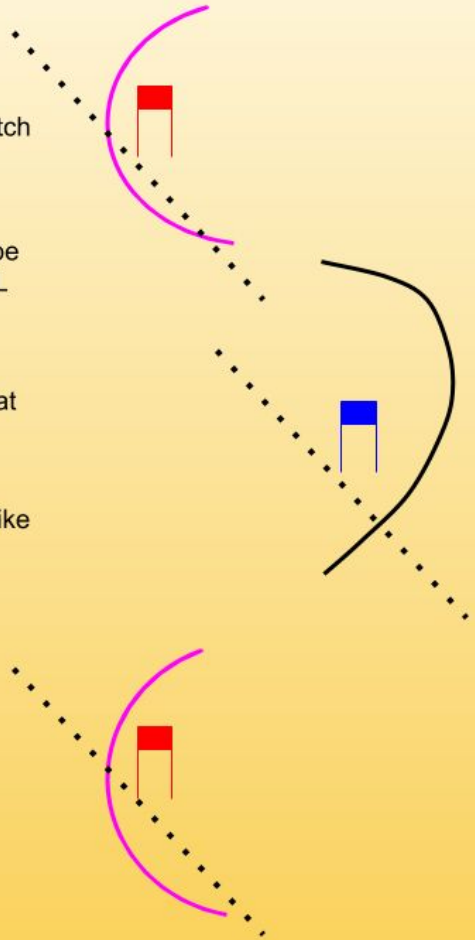
Not so simple Fall Line

Does the Fall Line Match the Rise Line?

Will the Turn Shape be the same for R and L foot turns?

Is max pressure still at the apex?

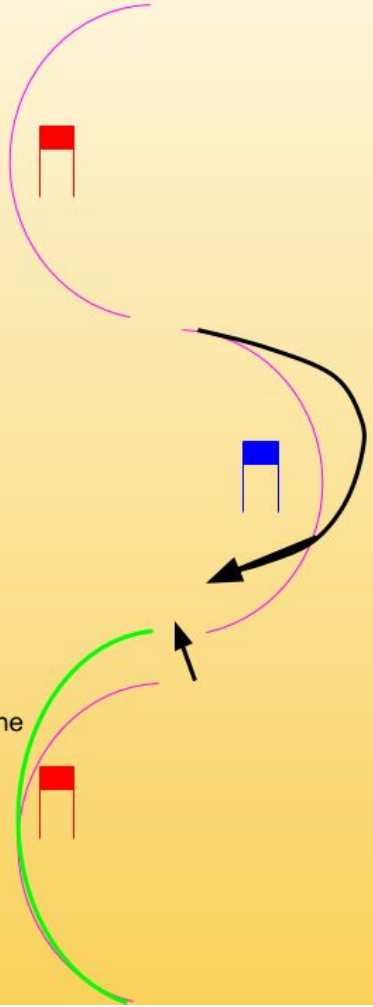
Can you think of hills like this?



Elevation above the gate or direction/shape back at the gate?

These are 2 commonly used terms which have 2 distinctly different applications

Turn Shape or Elevation?



- This is more shape back at the gate.
- If more shape is needed, typically there is a challenge coming that may require more elevation going into the next turn or terrain

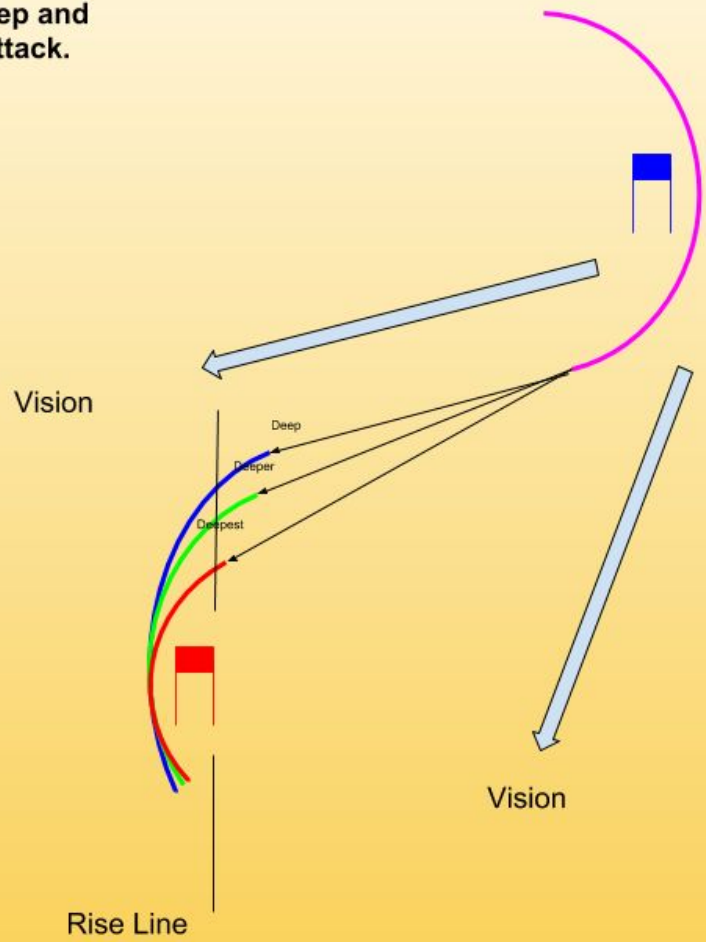
- This is more elevation up the rise line
- If more elevation is needed, the athlete is typically going too direct.

Taking it Deep Angle of Attack Pulling Radius

Who really knows what these terms mean and how they are applied?

Let's take a look...

Taking it Deep and Angle of Attack.

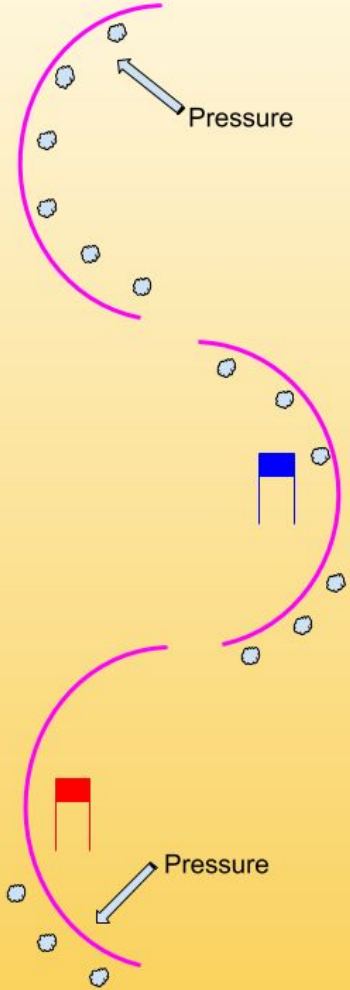


Turn Shape

3 Brush or Apex Drill

Brush Turn Shape
Set the brushes leading into the panel. Teaches athlete to bring shape out and back at the gate.

*Adjust the brushes during training to place the arc in the appropriate place.



Or - set the brushes below the gate. Force athlete to exit the panel with direction.

Problem: Pressure below the gate?

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Video - Brush Apex

Tactics

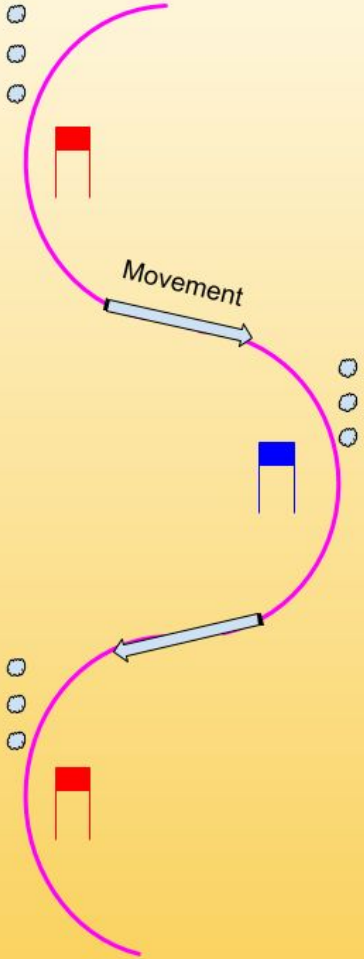
Wall Drill

Wall Drill
From turn completion turn initiation, the athlete is moving toward the top brush.

*Executing fundamental skills!

*Adjust the brushes during training to place the arc in the appropriate place.

*Brushes can go up and in or down and out to change the shape of the turn.



- Move through the transition and toward the wall
- Roll the skis over with ankle flexion
- Bring a clean ARC back to the gate with direction

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Video - Wall Drill Good and Bad Timing

Innovation

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Innovate or Die:
https://www.drjimtaylor.com/4.0/13122-2/

How can you implement teaching fundamental skills in your program while keeping it fun and innovative?

Are fundamentals taught only in free skiing or can you build it into gate training as well?

Kids have a short attention span, where is the biggest bang for your buck?

Course Setting Specifications

USSA and FIS Course Regulations

Giant Slalom

- U10 15m - 22m
- U12 15m - 22m
- U14 15m - 25m
- U16 15m - 27m *and older
- FIS 250-450vm 11-15%

Timing of a GS Turn - 1.3sec to 1.8sec

Slalom

- U10 6m - 10m
- U12 6m - 10m
- U14 7m - 11m
- U16 7m - 11m *and older
- FIS 140-220vm 30-35% (+/- 3)

Timing of a SL Turn - 0.6sec to 0.9sec