



## VARA TECHNICAL STATEMENT

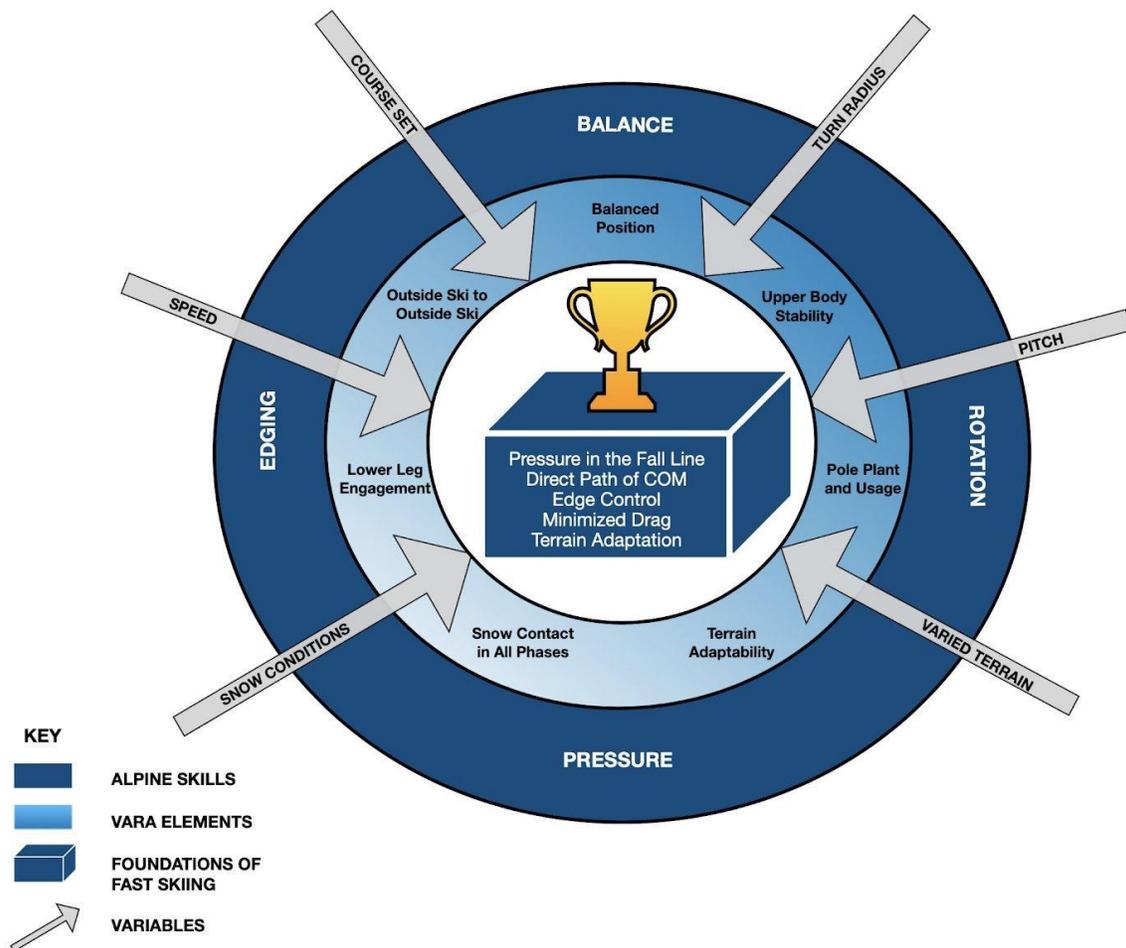
### Purpose

VARA recognizes the importance of building strong technical foundations for the long-term success of VARA skiers. This document is a guide to assist VARA coaches and clubs in teaching the necessary skills that will help athletes reach their full potential.

This technical statement is in alignment with US Ski & Snowboard athlete development principles.

### Objective

The objective of the VARA Technical Statement is to promote consistency in athlete development through a shared platform of technical skill acquisition by providing member clubs and coaches a framework for programming that aligns with the technical principles of US Ski & Snowboard athlete development. The technical statement will guide member clubs in teaching technical skills that are consistent with the mission and goals of VARA.



VARA has recognized certain essential **foundations** which must be mastered to advance ski racing proficiency.

- Pressure in the falline
- Direct path of the center of mass
- Edge control
- Minimized drag
- Terrain adaptation

VARA identifies that teaching technical excellence and skill development includes these **elements**. Mastering these elements will contribute to enhanced performance and speed:

- Balanced position
- Outside ski to outside ski
- Upper body stability the ability to use the legs independently, stable upper body discipline, can separate upper and lower
- Lower leg engagement
- Snow contact in all phases
- Pole plant and usage
- Terrain adaptability

### **VARA Turn Model**

A single turn can be divided into three parts: the initiation, turning, and completion. When linking two turns together, the completion and initiation phases are melded to become the transition phase. This turn description is based on a medium radius, carved turn:

At turn initiation, and for a split second, the skier is square to the skis, hips over the feet, and weight is equally distributed. Weight is quickly transferred to the new outside ski. The shoulders are level with the slope. The skis are tipped and the lower legs are engaged to establish early grip with the snow. In the turning phase the skier maintains pressure on the outside ski while maintaining upper body stability and maximizes edge hold. At the apex the upper body remains square to the fall-line or slightly facing outward. As the skier passes through the turning phase, the body is directed toward the upcoming apex and the legs align underneath the upper body to transition into the next turn. Lower leg engagement and contact with the front of the boot throughout each phase ensures the skier maintains dynamic balance and edge control.

Every turn that a racer makes, and all the parts of the turn, require **skill development** within the following four areas: Balance, Rotation, Edging and Pressure. Please reference the US Ski & Snowboard Pocket Guide for specifics on teaching the following skills.

- **Balance**

An athletic position is a “ready” position which allows the skier to maximize strength, power, and speed. It is the most balanced position. A skier that has a technique that balances the external forces with appropriate internal forces is in balance.

- **Rotation**

Skis are able to do three things: turn, tip and bend. All three things occur at once in order to turn around a gate. What we do to control these actions is the basis of our technical skills. We can turn the skis a number of ways and the most efficient way is through leg rotation, which relies on the stability of the upper body to provide an opposing force to turn against. Through internal and external rotation of the femur inside the hip socket, the skier is able to control the amount of rotation as well as tip the skis on edge.

- **Edging**

A combination of inclination and angulation movements are used to modify edge angles. The athlete uses the feet, ankles and knees to create the proper edge angle to make the desired turns and turn shapes. Variables like pitch, speed, snow conditions, turn radius, terrain and course set will require adjustments to inclination and angulation to control edge angle. Athlete’s must use the ankles and knees to put the ski on edge and enhance grip.

- **Pressure**

The ability of the skis to maintain a consistent or controlled pressure against the snow during the turn is advantageous. In reality, the skis will experience increased pressure throughout the turn, but the skill of being able to adjust where and when the pressure is in the turn is a key to efficient, and fast skiing. Lower leg engagement is critical for managing pressure, edge control, and snow contact in terrain.

- Pressure can be increased by: reducing the turn radius, increasing speed, increasing the ski’s edge angle, extension of the leg(s) (if the skis are on the snow).
- Pressure can be decreased by: increasing the radius of the turn, decreasing speed, decreasing the ski’s edge angle, flexion of the leg(s) (if the skis are on the snow).
- Snow Contact  
Ideally, the skis maintain contact with the snow surface at all times.

- **Pole Usage (pole swing, pole touch, pole plant)**

- Learning an effective pole plant is critical for balance and timing. It is a signal to your body to move to the next turn.
- Pole swing direction will parallel the direction the center-of-mass will be moving through in transition.
- The pole touch can assist balance at the moment of weight transfer and edge change.
- A firm pole plant can stabilize the upper body thereby creating a turning force for the lower body and aid in recovery.
- Sensory awareness is enhanced by the touch of the pole on the snow.

## Summary

Skiing is an incredibly dynamic and fluid sport. Once an athlete has mastered the fundamentals, they can utilize their skill set creatively to express themselves and explore their full potential in all conditions regardless of pitch, snow conditions and course set. Additional variables to consider in teaching to the technical statement are turn radius, speed and varied terrain. As an athlete's stage of development progresses, a coach's decision to add variables while teaching fundamental skills requires much consideration.

VARA encourages its member clubs to motivate athletes to strengthen their skill development with emphasis on balance/athletic stance, edge control, pressure control and rotary movement. Building their proficiency in these areas will assist them in reaching their full ability.

In order for a young skier to have a proficient foundation and succeed in the challenging sport of ski racing they must master the basic skills referenced in this document and have a solid grasp of correct movement patterns. Through this technical statement, VARA is helping coaches and racers understand necessary skills and the most effective way to teach them. VARA believes that a statewide technical statement, which is consistent with the teachings of US Ski & Snowboard is the best approach to helping racers achieve their potential.