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PATENT PENDING

**MSR TEAM'S
WAIST STEERING™
CLINIC**

Snowbasin Ski Area
March 24th, 2005

Modern Ski Racing Progression
(Abridged Version)

Level 1

Introduction

The MSR Team wishes to welcome you to the first ever “Waist Steering” Recreational Racing Clinic.

We are very excited to have you with us today and we are sure you will find this a unique opportunity to hone your racing skills with our excellent staff.

Our core members will be on the hill today, and they are:

- Gary Dranow, USSA Certified Alpine Coach and Author of MSRT, Recreational Racing To Win, Nastar Certified Pacesetter, 6 Handicap
- Tommy Kirchhoff, Co-Author of the MSRT book and founder of the Waist Steering Principles
- Warren Wilkinson, Canadian Certified Level 3 Alpine Coach, World Cup Coach
- Jeffrey Sadis, USSA Level 4 International Coach, World Cup Coach
- Elizabeth “Liz” Dranow, Certified PSIA Instructor, Masters Racer, Nastar Certified Pacesetter and Co-Author of the MSRT Book.

We would like to thank our sponsors for their support, as well as their excellent products and service for our participants. Please patronize our sponsors, and tell them that the MSR Team sent you.

- Holmenkol/Uvex – Jeffrey Sadis will be providing on hill service for waxing and Ski preparation
- www.race-werks.com / SVST Ski Tools, Sun Valley
- Surefoot Park City Resort
- Jan’s Sporting Goods Park City Resort
- Jan’s/Rennstall World Cup Ski Tuning Park City Resort

Get ready to race, get ready to win!

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Preface

Our clinic will be structured around the needs of the group and the existing snow conditions so that we can best enhance each participant’s performance at the Nastar Nationals. While we have ground breaking technology to share with each of you, based on time, quality of snow conditions and each racer’s current ski level it may only be appropriate to cover certain techniques. For this reason we are presenting you this MSRT “Waist Steering” Manual for your review and exploration. We describe the drills in some detail, so that you can recreate these exercises after the end of the clinic. If we do not cover each and every exercise to the level that you desire, please contact Gary Dranow or

Tommy Kirchoff for more information as needed. Again, we will be basing the pace, content and off-course drills to meet the whole group's number one goal: Racing to Win!

MSRT Basics

The principles of the “Waist Steering” progression (also known as The Modern Ski Racing Progression (MSRP)) are very simple to learn and apply. We believe that skiers of all levels can learn to ski using the same techniques used by the best World Cup Skiers in the world.

The key principle to the MSRT is the use of “Waist Steering” to initiate and control our turns. Waist steering, simply put, is the use of the crossing muscles of the abdomen to initiate and continue a direction change in skiing. The Modern Ski Racing Technique focuses on the use of “waist steering” and a specific alignment of the skeleton in each discipline the racer participates in. Though there are subtle differences in how we stand over our skis and use our extremities from slalom to downhill, the basic premise of our technique remains constant. By following our step-by-step progression we introduce each “skill” at the appropriate time to enable the racer to integrate all “skill sets” into a flowing, reliable and FAST technique.

While we promote “waist steering” throughout our progressions, this is not to say that there is no value in other techniques. We do not eliminate any specific technique as an applied tactic during a race. Rather, we believe that a skilled racer should have a wide range of techniques from which he or she can choose, depending on the specific demands of each turn.

The broad topics covered by the MSRT Progression include:

1. Posture/Stance
2. Equipment Utilization
3. Balance
4. Edging
5. Combining techniques
6. Dynamics
7. Tactics

Through the drills presented by our coaches, each of these principles will be explored and ingrained in your skiing and racing in a logical and practical method. Before the drills are described, it is first helpful to get a sense the four types of learning that people use when learning skills like skiing.

The Four Principles of Learning

1. *Visual*: Using the “Mind’s Eye” to capture permanent images of techniques you wish to emulate.
2. *Tactile*: Recognizing properly performed skills by feeling. In other words to associate a feeling with a properly performed skill.

3. Cognitive (Using verbal cues): Our coaches will use specific terms to describe a skill or movement. These verbal cues are tied by you, the racer, to both the visual image you develop in your “Mind’s Eye” and your tactile experience of that verbal cue. An example is when the coach says “Ankle Roll” you will understand what the ankle roll is and how to do it physically.
4. Total Body Awareness (TBA): The result of applying the first three principles in your learning process. The holy grail of our program is for each racer to be an accomplished “Self-Coach”. To be able to recognize on the fly if the racer is in or out of “The Template” at any point in a turn or more importantly – the racecourse. The ultimate realization of the fourth principle of learning is to possess during a race without thought.

Drills and Demonstrations

1. Basic Posture (MSRT Athletic Stance). This is best done on flat terrain. In finding the correct posture, start from the feet, and work up. Stand with your skis parallel, and your feet about hip distance apart. Roll both knees out, until your skis are flat on the snow, and there is space between your thighs. Because the position looks somewhat bowlegged, this is called skiing “cowboy.” Then, tilt the tailbone (‘coccyx’) up and forward. You should be able to hold this position while still being relaxed. Next, round your shoulders slightly, so your chest is concave. Then, ‘stack’ your head (i.e. let your head rest directly on top of the neck – do not drop the head forward), with your chin back, and your neck straight as if you are balancing a book on your head. This is the most powerful anatomical alignment for skiing.

Once you have this stance, stand up tall and then ‘settle’ down so that your shins are pressing against the fronts of your boots. Stay relaxed, allowing your skeleton to support your body, rather than your muscles.



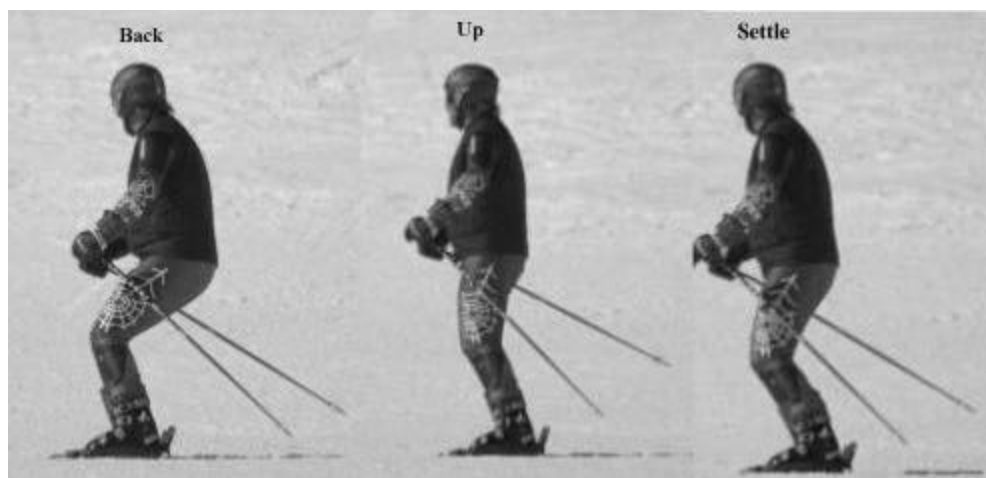
2. Equipment check. Once you can assume the basic stance, you want to make sure that your boots are properly adjusted. The first adjustment to check is to make

sure that you can flex (bend) your boot. When you ‘settle’ into position (with your shins against the fronts of your boots), you should be able to ‘bow’ the shell of the boot when you flex forward. If you can’t do this, loosen your buckles a bit until you can bow the plastic shell of boot.

The other adjustment to look for (and you’ll need someone to help you with this – or check it at home in the mirror) is canting. You want to be able to stand flat on your boots – if your knees are rolling in (‘knock-kneed’) your canting may be off. Also, check the forward lean of your boots (the angle of the leg from the ankle to the knee) – when you are seen from the side, your knees should not be forward of your toes. Any canting and forward lean issues that you observe should be checked out by Surefoot, or your local boot fitting store.



3. *Straight Run, “Back, Up, and Settle”*. This exercise is designed to help you get a ‘feel’ for where your hips are when you ski. Start by standing in the basic athletic stance, and letting your skis run straight. When your skis begin to run, drop your hips back behind your feet. Next, straighten your legs, so your hips are up over your feet, and your legs are extended. Finally, settle forward, until your shins are resting against the fronts of your boots, and you are back in the basic athletic stance. Repeat the ‘back, up, settle’ sequence until you can comfortably feel whether your hips are behind your feet, over your feet, or settled in the athletic position.



4. Ankle Rolls. This exercise is performed on flat terrain, and is designed so that you can get a feeling of using the feet to engage the ski edges without moving other body parts. Start in the basic athletic stance, and let the skis run straight. When the skis begin to run, simply roll the ankles of both feet in one direction. When the skis begin to turn, roll the ankles back so that the skis are flat, and then roll the ankles the other direction. The skis should stay in the fall line, and the turns should be fairly shallow.



5. Finding the crossing muscles. This exercise is done while standing still, and is to help you find the crossing muscles of the abdomen. Start by placing your right hand under the outside of your ribcage on your right side. Place your left hand inside the hipbone on your left side. This will help you find the muscle attachments for the crossing muscles. Contract these muscles by compressing the muscle attachment under the ribcage to the muscle attachment on the front of the hip without moving your hips or shoulders. This muscle contraction is very subtle, and may take some practice to do without moving other body parts. Practice this contraction 10 times before finding the opposite crossing muscles (left hand under left rib cage, and right hand inside the right hip bone) and repeating the exercise.



6. “Screw Down” Turns. This exercise allows you to practice the most essential skill of the MSRP – “waist steering.” This exercise should be completed first on flat terrain, before moving to gradually steeper terrain. This exercise employs the skills of standing up and settling on the skis, rolling the ankles, and using the crossing muscles of the abdomen to initiate the turns. Start in the basic athletic stance and let the skis run straight. When the skis begin to run, stand up and settle three times. The fourth time, after setting on the fronts of your boots, roll both ankles and engage the complementary crossing muscles to engage the skis and initiate the turn. For example, when making a turn to the right, roll both ankles to the right while subtly compressing the muscles from the left rib cage to the right hip. Turn one direction, steering your skis until they come back up the hill (J-turn). Make a single turn the other direction. Make sure that your down hill ski tip is even with the uphill ski tip as you come through the turn – do not let the uphill ski ‘lead’ the downhill ski.



7. Linked “Waist Steering” Turns. When you are comfortable making single turns each direction, begin to link the turns. To transition from one turn to the next, start by making a ‘screw’ turn in one direction, and then come up (extend the legs, and unbend the knees, resulting in the skis becoming flat), and settle down to start the next turn (this ‘up and settle’ movement is called a ‘cross-over’).
8. Stacking over inside knee. Perform this exercise on moderate terrain. The purpose of this exercise is to achieve the proper posture and weight bias by using the uphill edge of the uphill ski to finish the turn. Start with a basic ankle roll turn. Keeping the proper stance, reach down with the inside hand, and push the inside knee to the inside of the turn until you can feel your weight bias shift to the uphill edge of the uphill ski, and complete the turn back up the hill (J-turn). Do

this exercise several times each direction. To link them, simply use the combination of ankle rolls and waist steering in the transition.

9. *Scallop Turns*. To be demonstrated at the clinic, time and conditions permitting. Start a basic waist steering on flat terrain. In an approximately 30 meter radius turn, decrease the radius of the turn by contracting the crossing muscles of the abdomen and then increase the radius of the same turn by relaxing the crossing muscles. Do this three times in the course of one turn before starting a new turn in the other direction. This exercise allows you to explore the range of motion (ROM) that the crossing muscles have, and their ability to move the outside ski through the turn. This exercise also allows you to see the influence of the crossing muscles of the abdomen as you steer or carve the outside ski in varying terrain and conditions.
10. *Linked “Waist Steering” Turns, advanced*. When you are comfortable adding the ‘up and settle’ motion between turns, practice using a ‘cross-through’ motion to initiate the turns. To do a ‘cross-through’, when you are coming through the bottom of the turn, find the inside edge of your uphill ski and ‘stack’ (stand using the skeleton for support) over the inside ski. At the transition, push off the uphill inside edge while you move your hips through (not up, just forward) to the inside of the new turn while starting to roll your ankles and steer with your waist.



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