Telemark Manual

Foreword

Telemarking has expanded in the last couple of decades from being found only in the back country to becoming visible at all ski areas throughout New Zealand. Now telemark skiers are as at home on the groomed piste slopes of the front country as standard alpine skier with the telemarker totally capable of ripping bumps or laying down some great lines on the groomed or the ultimate fresh snow line.

The Telemark division of the NZSIA has grown from its one- and two- stage course formats to a three-level format bringing New Zealand telemark in line to International standards.

There are three reasons candidates take a telemark instructor course:
1) To be a telemark instructor,
2) To get a cross-over qualification for ISIA stamp or card,
3) To improve their telemark technique.

This manual reflects what we have learned over the years both locally and internationally. It is a usable guide for teaching someone to telemark and develop their telemark technique, whether they are a first timer or a seasoned telemarker open to the development of new techniques.

Contents

A: The role of the instructor

This section is about teaching, learning and communicating: covering the role and responsibilities of the instructor, the learning environment, the teaching cycle, styles, and the learning process. As a telemark teacher it is important to remember that movements and skills are not the end results of the lesson; they are the means by which students achieve goals. The determining factor in the success of your lesson is how well you guide the students toward the desired results.

Telemark teaching is a professional occupation. An effective telemark teacher must be passionate about telemarking and the mountain environment, as well as having exceptional communication skills. Being responsible for influencing the behaviour and actions of individuals and groups is no easy task. Telemark instructors maintain a variety of roles to meet the skills required for the job.

The roles of the Telemark Instructor are:
Leader: Usually someone has to be in charge when students are attempting to meet a goal. Students assume that their instructor will provide a sense of leadership, giving direction with a purpose to achieve success. Some examples of effective leadership include: presenting clear and structured information, giving direction during practise time, leading the students effectively on terrain, and planning for meeting or stopping areas. It is also important to be able to devise and communicate strategies to make changes or developments.

Follower: Good instructors know when not to lead and when to be sensitive to the needs and decisions of others.

Organiser: The instructor needs to organise and manage their student or group of students. This includes planning and communicating the lesson content, selecting terrain and meeting areas that consider the environment (weather, snow conditions and crowds), planning and communicating break times, structuring the lesson within the timeframe, organising future meeting times and locations, and constantly being aware of any safety issues that may arise.

Teacher: Telemark instructors are educators. Instructors need to be knowledgeable about the skills and techniques of telemarking and be able to communicate and demonstrate these to students so they can understand and apply the information. The best instructors will continually update their knowledge and skills. The instructor who is an effective teacher will use a variety of modes of communication, provide specific and effective feedback, and ask the student for feedback, on their teaching.

Role model: The instructor sets a standard for imitation and comparison in regards to demonstrating and on-snow behaviour. Instructors must be consistent in following the same rules and expectations in their own actions and attitudes as they would expect from their students. This relates to etiquette on snow as well as enthusiasm, motivation and work ethic.

Goal setter: The instructor must work with the students to negotiate appropriate goals and limits. This is used to plan and structure the students' development with clear and well-communicated pathways.

Counsellor and friend: Effective instructors are approachable. In this atmosphere, the instructor can listen and respond to the needs of each student. The element of friendship exists in a healthy student-instructor relationship and is built on trust, honesty, support and encouragement.

The following chapters will help us determine our students' needs and how we can plan and adapt the lesson to suit both the individual and group.

B: Teaching tips and styles

B.1 The Teaching Cycle

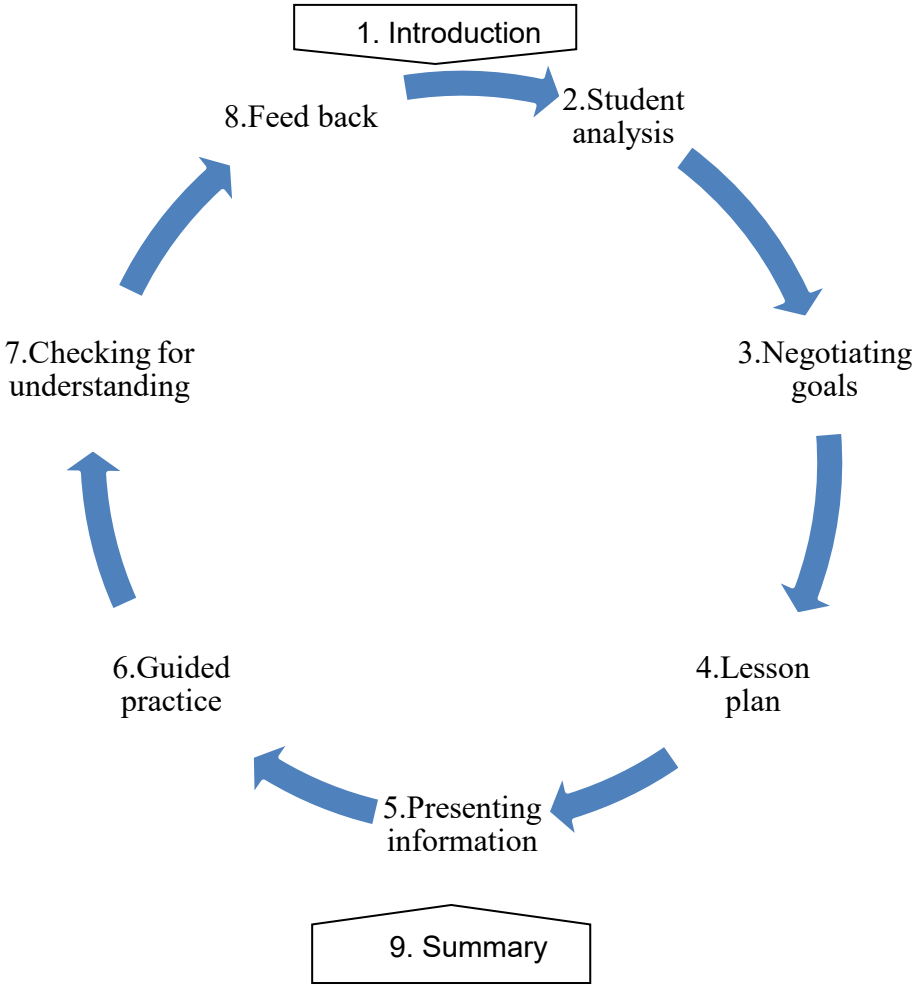
The teaching cycle is the foundation of Snowsports instruction and is a guide to instructing. It builds a structure for presenting information and helps us to deliver information in simple, logical and effective terms.

The teaching cycle is by no means set in stone and as you gain experience as an instructor, you will find yourself changing the order of the cycle to best suit your students.

We can view a teaching cycle in the same way we view a story. Every good story has a beginning, middle and end. In our case the beginning (introduction) and end (summary) are always present.

The middle will take twists and turns. It can be unpredictable, complex or simple and is often determined by the needs of the student.

Below is a diagram of the teaching cycle for Snowsports. We will discuss each aspect of this cycle in detail below.



The teaching cycle

The Lesson

1. Introduction

The most important part of the lesson is the beginning: we introduce ourselves, meet our students and learn about their backgrounds.

As you move around the group collecting tickets, you'll have the chance to talk amongst the group. Try to find out a little about each person's background. Find out how active the members are by asking questions about their past, e.g. favourite sports, hobbies and interests. This will help to give you the vital information on which to base your lesson.

Make sure you introduce yourself, offer some interesting information about your Snowsports background and what you enjoy about the sport. Remember, just as you are making assumptions about your students, they are doing the same to you.

A positive first impression from the instructor is vital. When teaching group lessons, it is important to involve everyone and develop a team spirit. This will aid the speed of their learning and make everyone involved feel comfortable and valued.

2. Student Analysis

Assessing the student's skiing ability will give you the base from which to plan a lesson to help achieve the student's goals. We can do this by a combination of the following:

Verbal

Talk to the students to find out how much experience they've had, when and where, what they achieved and whether or not they've taken a lesson. Try to find out what their skill base is, rather than just where or what they are riding.

By simply talking we can gain an insight based on age, sex, physical make-up and fitness. These assumptions help us to tailor the lesson according to an individual's needs.

Visual

Watching our students ski is the most effective form of analysis. It gives us a foresight into their technical capabilities and helps us to plan the lesson according to the individuals within the group.

To be an effective instructor, we must analyse the strengths and weaknesses in our students' skiing, so we can improve their performance by offering feedback and guidance. Analysis is a skill that is developed through experience. It is difficult when first starting out to pin-point inefficiencies and correct these in a logical order.

Observation
When observing your students there are many ways to watch them. Consider what they are doing or what they may be trying to do, or what specific movement you may be looking for, and then decide the best perspective or vantage point to watch from.

Vantage Points
There are four main vantage points to use:

- go down the hill and watch them come down to you.
- stay where you are and give them a point to ski to and watch them ski away.
- go halfway down the hill and have them ski past you to a predetermined point.
- follow them skiing behind and along-side of them.

Watching the student
There are also different ways to look at the whole picture of the skier:

- look at them from the head down to the snow.
- look at them from their snow up to their head.

Generally, it is best to start with what is happening at the snow and move up the body. Think symptoms and causes.

It is very important to look at the total picture of the skier – regardless of which vantage point and watching methods you choose to use.

Skier analysis is one of the most important jobs of a Snowsports instructor or coach. It is the process of observing your students whilst skiing, and then describing relevant movements they made with their body and what effect it had on the ski performance.

Points to note:
There will often be more than one effect and this can be caused by a combination of movement issues. Our job as an instructor is to prioritise the inefficiencies in our students and address the most obvious first, to deal with the root of the cause.

It is important when planning your lesson, to work with the strong attributes your students bring to the lesson, rather than highlighting the negatives.

A good instructor is quick to pin-point a student's character and strengths and will then use these to create an effective lesson plan to help the student improve their telemarking and increase their enjoyment.

3. Negotiating Goals

We need to set goals in our lesson, so that we have an outcome to work towards and so we can measure our success at the end of the day.

We first need to establish the goals of our students and then combine the information we've gained from analysis (step 2 of the Teaching Cycle), to set realistic, achievable and measurable goals.

We can also set goals that are common to the group and the individual, depending on the similarity of the group's technical ability.

It is often difficult to balance the student's goal with the instructor's goals: e.g. a student who wants to go ski steep and deep (their goal) but cannot yet turn (our goal). This student's goal is not realistic, but it is our job to keep them inspired and interested, while making small steps towards their goal. Remember, we need to keep the lesson safe, fun, interesting and informative.

A seemingly unachievable goal can be broken down into a series of smaller achievable goals, and adapted to the lesson. For example, your student would like to learn how to turn, but first they must learn to be comfortable with the telemark position, moving on skis, straight running and J turns, before the overall goal is achieved.

Impatient students take short-cuts that can be both dangerous and detrimental to the learning process. Many students will come to you with some entrenched habits from years of telemark skiing. They may well be strong skiers but focus on the small steps to make small changes rather than wholesale changes to their skiing.

4. Lesson Planning

You are now ready to plan the structure of the lesson, based on all the information you have gathered. A lesson plan gives you an outline or guide to follow as you develop your students' skill bases. The lesson plan will often need to be re-evaluated and changed based on the student's progression or other external considerations.

To create a lesson that is well-structured and easy for the student to understand we can use the four step plan. This lesson plan is formulated to fix the cause, using either exercises from the progression or movement focuses, or a combination of the two.

Stationary - Introduce a new movement while stationary. Make sure to choose flat terrain with minimal traffic.

Simple - Now try doing that same movement whilst moving very slowing. It is best to do this utilizing a mellow traverse. Beware to choose a low traffic zone.

More Complex - Now it is time to coordinate the new movement within a turn. Try doing a few isolated turns with the addition of the new movement. Focus on the timing of when your student adds the new movement as this is the key to implementing it in our turns.

Situational - Now it is practise time. Have your students play with the new movement pattern whilst exploring different turn sizes and shapes. It may also be fun to challenge your students with new terrain once they are feeling comfortable.

Here are some considerations when planning the lesson:

i) Time management
Now that our goals have been established, we can plan the structure of the lesson. We may have one student or we may have six and we must cater for each and every one. Make sure your lesson progresses in linear steps. Keep it simple and pace it according to the group's needs, not your own. Be flexible enough to change the progression, depending on the individual needs of the group.

If you set strict time-lines for your students, you may set them up for disappointment if these goals are not achieved. Discuss what is achievable within the lesson, rather than when they will achieve it.

ii) Slope Selection
Terrain choice is extremely important in our lessons. The incorrect choice can easily deter our students from learning through fear, or alternatively, it can hinder the progression.

It is essential you use the appropriate terrain that best suits both the level of your students and the exercise you are teaching.

iii) Environment
Make sure you are familiar with your chosen teaching terrain and be aware of how your students may see it. Our most common obstacles in New Zealand are humans, rocks, tussocks and the odd tree! Our students see these obstacles as a deterrent to performing given tasks and may develop bad habits.

The weather also plays a large part within our lessons. Unpleasant weather will add external factors of cold, wind, rain and/or snow, making it difficult to focus on the task at hand. Try to keep your class moving, especially in poor weather conditions, and regularly check to see if your students are okay. A supply of extra gloves, hats and goggles can greatly increase the positive experience your student will have. If it is hot, drinking plenty of water will keep your group hydrated. Also ensure they use sunscreen and wear appropriate eye protection.

5. Presenting Information

When presenting information, make it clear, concise and well-organised. The students must understand why they are being asked to perform a certain task. Use a mixture of teaching styles relative to the lesson. Good demonstrations are vital. Think about learning barriers, which could be the cold, fear, boredom, language difficulties, or self-consciousness.

Here are some considerations when presenting information:

i) Verbal Communication

From the beginning of the lesson, you need to be aware of the way you communicate with the group.

Here are some basic rules which will always apply:

Explain your point clearly and simply.
Recognise that your students will have different backgrounds and perspectives.
Avoid jargon and slang.
Encourage and listen to feedback.

ii) Non Verbal Communication

Non-verbal communication is an aspect of your lesson you must be aware of.

The reaction of your group may be affected by the following:

iii) Smile

If we have a tightly closed mouth and a frown because we are thinking or shy, others may think we don't like them. A smile helps put people at ease and lets them know that we are willing to help them.

iv) Tone of Voice

We can give many different meanings to one word, just by the way we say it. A cold tone of voice will give the opposite message to a friendly one.

v) Eye Contact

Good eye contact shows we are interested. It is natural to look away from others' eyes from time to time. This helps the person feel comfortable. There are cultural differences about eye contact. Awareness of these will help avoid misunderstandings. Sunglasses and hair over the face can be a major barrier to open communication.

vi) Posture
An open posture, with hands away from the mouth, arms and legs uncrossed, leaning slightly forward and smiling, will encourage others to approach us.

vii) Space
Personal space is the physical distance we keep from others when we are interacting. Comfort levels differ in different cultures and between genders. How well we know someone can also influence this.

viii) Teaching Styles
If you, the instructor, understand how your students learn new skills, you can begin to dictate the format of the lesson by using different teaching styles. The teaching style chosen will also relate to the size and base knowledge of the class or student. It is a way for the instructor to present information and provide feedback and encouragement.

ix) Learning Styles
It is vital for instructors to have the knowledge and understanding of how people take in new information. Styles of learning are complex and there are over 50 learning theories.

Remember the phrase Keep It Simple Stupid (KISS). The simpler the information delivered, the easier it will be absorbed.

6. Guided Practice

Perfect practice makes perfect! It is important to guide our students through their entire learning process, including the practice. This will ensure that the student will be more inclined to master the skill and commit it to muscle memory in their early stages of learning.

We do not want to fill our students' heads with valuable information and send them away unaware of the outcome.

As their skills improve, small adjustments will be made. Terrain choice for the practice is the key to success.

Practice should be the main focus in your lesson, i.e. 20% talking and 80% practice. Give positive feedback to encourage your students as they develop new skills.

7. Checking for Understanding

Checking for understanding is important throughout the lesson. Use open questions that require a real answer: - start your questions with 'what' or 'how' rather than 'do' and 'are'!
You are looking for engagement in the answer rather than a random "yes" or "no" answer.

This will help you, as instructor, to understand how your students learn, so that you can teach them in the way most suited to their learning style.

Remember that if you don't check how you will know if they have grasped the skills you are teaching them. Lack of understanding is often a reflection on the instructor, rather than the students.

8. Feedback

Your feedback to your students' should be given straight after they have tried the task that you have set for them. This ensures the feedback is highly relevant as the memories and feeling of the run are still fresh in their mind. However, do not rush into verbal feedback after the first try; allowing your student time to gain experience. Experiencing a task or movement several times gives the student an opportunity for feedback created by self-learning. Note that self-learning is only possible if the situation is safe.

Verbal feedback should be precise, focusing on one particular movement or option at a time. Be specific on which body parts need to be moved, and how to gain the desired outcome.

Make your feedback as positive as possible. Suggest which movement would be a better option rather than focussing on the movement issue.

There are three key points to bear in mind when describing your student's performance to them. These are **Prioritize, Simplify, and Clarify**.

Prioritize: Before describing movements to your students it is a good idea not to overwhelm them by telling them everything you saw. Prioritize which movements to give feedback on focusing on the one that had the biggest impact on their performance.

Simplify: It is important to be able to describe the movements to your students using simple language that they can understand. Remember that it is like teaching or presenting a task: it is not what you say, but what your student hears. An as instructor it is very easy to place judgment on what you saw. Focus on describing what you saw rather than placing a judgement on it.

Clarify: Check for understanding with your students to ensure they understand what you are saying. You can clarify your ideas by showing your students how these movements can affect their performance. You may want to ask your students how they think this movement felt, or how they think it may affect the end result of what they are trying to achieve.

9. Summary

The final section of the Teaching Cycle is to summarise the lesson. Give a specific point for the student to go away with, not a full lecture of everything covered, as well as giving a positive review of what you have been working on during the lesson. This is also an important time to allow you to encourage another lesson to develop progress.

- Review the lesson content.
- Review the goals and successes in reaching them.
- Preview the next learning steps and encourage further development.
- Establish independent practice guidelines for each student.
- Ask them to return for another lesson.

C: Communication Styles

C.1 Teaching Styles

When you understand how your students learn, you can begin to direct the format of the lesson using different teaching styles. The teaching style chosen will also be influenced by the size and base knowledge of the class or student. Each style allows the instructor to present information and provide feedback and encouragement in a different manner.

Here are some of the most common teaching styles used:

i) Command

This is an instructor-orientated style of teaching, where the instructor controls all variables of the learning process, specifying where and how, and delivers all feedback. This style of teaching is most effective during the beginner lesson, where all skills learned are new to the student.

ii) Task / Practice

The Task/Practice style is similar to Command style but, less 'Teacher' orientated. Students are given a task and allowed to practise it individually, at their own speed, and in their chosen location. This allows for independence to develop skills away from the teacher.

iii) Guided Discovery

This is a more student-centred approach to the lesson. The instructor guides the student towards a specific goal or outcome, without providing the answers. The instructor should use questions or clues to lead the student towards the desired goal.

iv) Problem Solving
The Problem Solving style is also a student-centred approach, but the instructor presents the student with a specific problem that may have several solutions. This type of teaching style is used when an instructor wishes to emphasize a variety of solutions to a specific problem. This teaching style promotes exploration, experimentation and versatility.

v) Reciprocal
This student-centred approach pairs individuals together and assigns them a task. Performance of the task, observation and feedback takes place between the individuals. This learning style is most effective when the students have a certain level of knowledge.

The most common mistake made by inexperienced instructors, is to teach according to their own personal communication and learning styles. This leaves some students wondering what the whole point of the lesson was. An instructor who is good will match their style of teaching to best fit the situation, resulting in an informative and fun lesson.

C.2 Learning Styles
Students will learn using visual, audio and kinaesthetic learning styles. You will need to blend all three styles into your lesson to ensure everyone in the group has an equal opportunity to learn.

i)Visual
Visual students learn through observation and visual stimuli. They will pay particular attention to demonstrations and diagrams drawn in the snow. Accurate demonstrations are particularly important to the visual learner.

ii) Audio
These students learn through hearing a clear and concise verbal explanation. This type of learner might ask a lot of questions. They will often be the last ones to practise something because they first must mentally process the information.

iii) Kinaesthetic
Kinaesthetic learners are generally more aware of the mechanics of the body and tend to learn through experimentation. Analogies to similar movement patterns from other sports and day-to-day skills will help these learners. Manipulating body parts into the desired position while stationary will also be helpful.

These students will often be standing still, practising the movement with their eyes closed, feeling which parts move. They are generally the first ones in the group to practise the exercise.

D. Emotion and the lesson

Knowing and understanding the psyche of the student can give a better end-result in meeting the goals of a lesson, or of an individual's success.

D.1 The 4 C's

Concentration, confidence, control and commitment (the "4 C's") are generally considered the main mental qualities that are important for successful performance in most sports.
Concentration - ability to maintain focus
Confidence - believe in one's abilities
Control - ability to maintain emotional control regardless of distraction
Commitment - ability to continue working to agreed goals

By understanding the 4 Cs we can often get a better result when blended into the lesson plan through guided discovery, personal challenge, leadership, transparency as well as movement and feeling.

D.2 Successful Emotional States

The following are emotional states experienced with successful outcome for a telemark lesson:

Happy - Felt I could achieve what I was asked/shown to do.
Calm and nervous - Felt nervous but that was expected, so felt OK.
Anxious but excited - Felt nervous but also excited.
Confident - I remembered how I did it before and felt I could do it again.

D.3 Psychology Skills

Training should aim to improve mental skills (belief), such as self-confidence, motivation, the ability to relax during the lesson, and the ability to concentrate. This usually has three phases:

Education phase - where students learn about the importance of psychological skills and believe how they affect performance.

Acquisition phase - during which students learn about strategies and techniques to improve the specific psychological skills that they require.

Practice phase - during which students develop their psychological skills through repeated practice, simulations and actual competition.

E. Safety on the snow

360' safe

Keeping our students safe is our number one priority as telemark instructors. Students entrust the instructor with their safety in an often hostile and unfamiliar environment.

At New Zealand resorts, we encounter a number of hazards we need to be aware of. These hazards vary depending on the terrain we are skiing.

E.1 Hazards in The Mountain Environment.

Harsh exposure to the sun (sunburn or snow blindness). Ensure that students wear sunscreen and goggles or sunglasses.

The cold. Make certain that students are adequately dressed and check (regularly??) to see if they are still warm enough.

Disorientation (getting lost). Stop and count students often. Have a meeting point in case students get lost. Meeting points are especially important when teaching children!

E.2 Terrain Hazards

Different types of terrain offer a range of hazards to be aware of:

Beginner Slopes

High-traffic zone.
Students in beginner areas often lack speed control or direction.
Flat areas can be dangerous due to the edge-catch potential.
Lift machinery presents a hazard to long hair or loose clothing.
Protective gear, such as knee pads and helmets are recommended.

Intermediate Terrain

Loading and unloading chair lifts and T-bars.
Traffic in these areas tends to move faster.
Grooming and snowmaking machinery.
Natural hazards such as ice, rocks and cliffs.
Adverse weather conditions, including rain, white-out and blizzard.

Advanced Terrain

Avalanche/back country danger.
Natural terrain hazards.
Steeper terrain.
Students riding at higher speeds.
Ungroomed off piste.

E.3 Alpine Responsibility

Just like driving a car, telemarking has a set of rules to ensure all trail users stay safe and in control at all times. These rules are known as the Responsibility Code and are as follows:

The Snow Responsibility Code:

1. Stay in control at all times

Know your ability, start easy, be able to stop and avoid other people. Losing control is the number one cause of falls.

2. People below you have the right of way

The skier or boarder downhill of you has the right of way. Don't forget to look above before entering a trail.

3. Obey all ski area signage

Signs are there for your safety. Keep out of closed areas.

4. Look before you leap

Scope out jumps first. Ensure the area is clear of others and use a spotter on blind jumps.

5. Stop where you can be seen

When stopping, try to move to the side of the trail and make sure you can be seen from above.

6. Don’t lose what you use

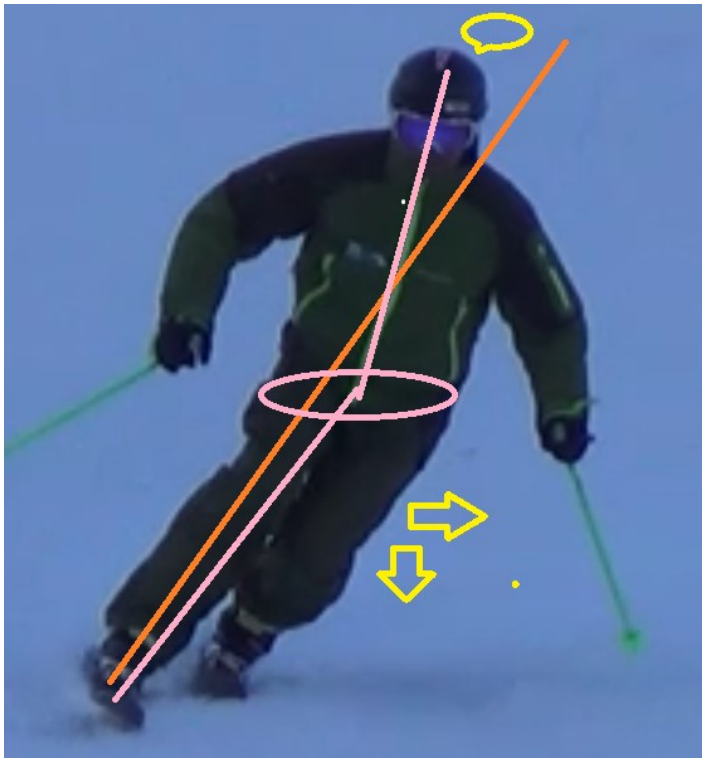
Equipment must be secured while walking or stashing. This goes for rubbish too! Remember to take all your waste with you so it doesn’t become a hazard for others (or the environment).

7. Stay on scene

If you are involved in or witness an accident, remain at the scene and identify yourself to the ski patrol.

8. Respect gets respect

Right from the lift line, to the slopes, and through the car park – treat others as you would want to
be treated.



A. Movement analysis

The instructor is watching their students ski from the beginning to the end of a ski lesson. Students constantly want to know how they look and what they are "doing wrong". Thus, a successful instructor must be skilled in Movement Analysis.

Movement analysis is one of the most important jobs of a Snowsports instructor or coach and is the process of observing your students whilst skiing, and then describing how the relevant movements they have made with their body affects their skis performance. This is generally then compared to their ability to achieve specific on-snow tasks.

A general, but very effective plan for movement analysis involves three basic steps:

i) Observations and descriptions
ii) Cause/Effect
iii) Prescription for Change

We will discuss each of these basic steps in more detail below.

i) Observations and descriptions

- Set tasks suitable to the ability of the student in a safe environment.
- Compliment movements that are working well.
- Make objective statements that describe the student's skiing.

When observing your students there are many ways to watch them. Take into consideration: i) what they are doing, ii) what they may be trying to do, and iii) what specific movement you may be looking for, and then decide the best perspective or vantage point to watch from.

Here are several different vantage points:

- from down the hill and watch them ski down to you.
- stay up the hill, give them a point to ski to and watch them ski away.
- go down the hill a bit and have them ski past you to a predetermined point.
- follow them skiing behind and alongside of them.

There are also different ways to look at the whole picture of the skier.

- from the head down to the snow.
- from the snow up to their head.

It is very important to look at the total picture of the skier – regardless of which vantage point and watching methods you choose to use.

As you watch the skier you should consider the complete profile. This encompasses:

- Who they are (age, sex) ethnicity?
- What they are on (green/blue/black terrain, and snow conditions)?
- What they are doing (turn sizes of small/med/large)?
- What level of skier are they?

After considering the general profile, you need to watch how the skier's movements affect other movements of the body, and how those movements affect the skis performance and resulting turn or outcome on the snow. This may sound like a lot to watch, but with a good understanding of a few key concepts you will be able to draw conclusions quickly after only seeing a short performance from your students. These concepts include the four movements of Telemark skiing (See next chapter).

Describing (giving feedback)
There are three key points to bear in mind as you describe your student's performance to them.

- Prioritize,
- Simplify,
- Clarify.

Do not overwhelm them with a discussion of everything you saw. Prioritise and give feedback on the movements that had the biggest impact on their performance. Please refer to the teaching model feedback section.

ii) Cause and Effect Relationships

- Determine cause and effect relationships in terms of each of the planes of movement
- Identify movements to be changed/developed.
- Explain why things are happening to the student. Be specific and accurate.
- If nothing is wrong, say so.

As you give feedback show your student how a specific movement can affect the ski performance. This is known as Cause and Effect. This can be best explained through Sir Isaac Newton's Third Law of Physics: for action there is an equal and opposite reaction. As we look at cause and effect relationships we want to be able to relate the body movements to the ski performance.

Cause = Body movement
Effect = Effect on the snow from the ski.

Cause/effect chains
For more experienced skiers the cause and effect relationship can be more complicated and you may see a cause/effect chain. This occurs when one movement influences or initiates another movement and the second movement influences the ski performance.

iii) Prescription for Change

- Prioritize movements to be changed and explain to the student using the observed mechanics, looking at what is happening at the snow-level.
- Think symptoms and causes.
- Set a goal with the student.
- Develop an exercise which can help meet that goal.
- Reinforce improvement.

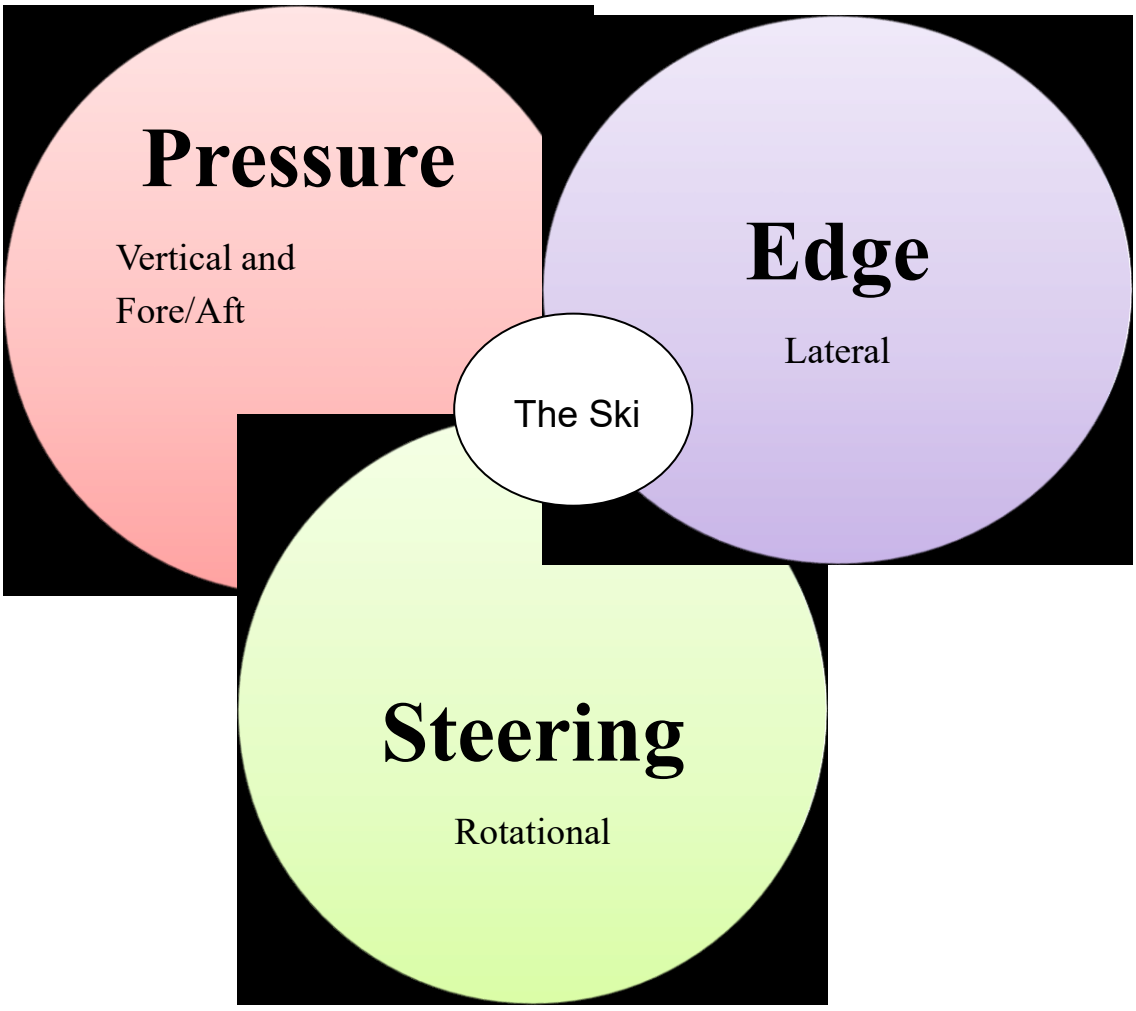
The third step of movement analysis is identifying which movements may need to be worked on. This occurs after the first two steps: observing the skier and then understanding what is going on. One movement at a time then blend them.

B. Four Movements of Telemark Skiing

The base of support is described as the point where the centre of gravity is supported in balance on the snow. This can best be described as where the soles of the feet are closest to the snow.
The body mass or centre of gravity and the base of support move relative to each other in four directions:
Fore and aft (forwards and backwards).
Rotational (twisting around).
Lateral (side to side).
Vertical (up and down).

These four movements provide a simple framework with which to view, analyse and develop telemark skiing skills.
When we combine these four movements with speed, timing, rhythm and precision we create balance and form.

Balance/Form



Balance/Form

To maintain a stable platform and telemark effectively we need to use each of the four movements in the correct proportions to each other. The proportions of each movement will vary according to the snow conditions and terrain we encounter.

Good 'Telemark form' will result as the four movements are developed, blended and controlled. There is always a mix of all movements; some will be less dominant than others. Body mass and gravity further influence the forces effecting all four movements.

There is a balance and synergy in the mix of the four movements. As the telemark skier becomes more proficient and understands how to manipulate the movements they will be able to manage an increasingly greater range of snow conditions while maintaining good form and efficient telemarking.

Tech tip:

- A balanced position is necessary to allow access to all other skills.
- Stance is not 'set' and allows for changes in terrain and turn.
- Weight distribution on each foot is natural and not predetermined.
- Hips are centred between the feet (from a profile view).
- Flexibility is evident in all body joints, especially the ankles.

i) Fore/Aft Movement

Transition or lead change is the movement of changing to our new leading leg/ski.

When making a transition we have three options:

i) Sliding forward
ii) Sliding back
iii) Moving both feet at the same time

Each one of these transition options effect the balance-point of our mass along the length of the ski.

- Moving both feet at the same time maintains our centre-of-mass above the centre of the ski.
- A forward initiated lead change will leave our centre-of-mass weight to the rear of centre.

- A backward initiated lead change will leave our centre-of-mass to the front of centre.

For teaching learners, it is alright to discuss the three options but focus on teaching the lead change forward option only to avoid confusion. The other two transition options are used in situational skiing.

What is fore/aft movement?
The movement of the centre of mass/gravity along the foot and length of the ski. This gives us balance and will add pressure to the skis.

What are we trying to achieve?
In a constantly changing environment, the skier must continually anticipate and react to changes in order to maintain balance. The skier wants to keep balanced because small, subtle movements are the most efficient way of turning and maintaining control. The skier is continually striving for balance.

Balance. The centre of the base of support is defined as stable balance between both feet lengthways. For a telemark skier balance will be between the feet, with feet fore and aft in the telemark position. Accordingly, when the telemarker is centred in a telemark position there should be even distribution of pressure between both feet when stationary- as speed is increased the pressure of the lead ski will increase.

In telemark skiing a very flexible front ankle is required to absorb sudden shocks to the ski caused by inconsistencies in the snow surface. Shocks not absorbed are transmitted higher up the body, with undesirable consequences. The telemark stance is fundamentally designed to compensate for the fore-aft instability inherent in free heel skiing.

How do we achieve this?
The following joints of the body are involved in fore/aft movement: the foot, ankle, knee, where the femur meets the pelvis, and the joints in the spine. All joints are flexed, appropriate to the terrain we are on. The leading ankle should be relaxed to absorb, natural downward pressure over the whole sole of the leading foot and the ball of the back (aft) foot.

ii) Rotational Movement

What is rotational movement?
Rotational movement occurs when the body moves in a circular path around a vertical axis. Body parts can move in the same or opposing directions. Turning the legs in the same direction at the same time to turn the skis.

What are we trying to achieve?
A change in direction of the skis and the body maintaining balance over our base of support. We are attempting to maintain balance over the skis. Skiing using the opposite arm to foot: similar to walking or marching. This movement gives us balance through body symmetry. We are able to control which body parts we rotate to create an effect on the ski. If we concentrate on rotating our legs, we can initiate steering.

Why are we trying to achieve this rotational movement?
To change direction and control the turn shape to control speed and maintain balance.

How do we achieve this?
Rotating the legs causes the ski to steer or turn.

- Rotating upper body
- Rotating upper and lower body parts. Rotational separation.
- Rotating lower body parts
- Rotating the whole body

Rotation of both legs is the preferred rotation method in most situations. Both legs are rotated in the intended direction of the turn to generate the initial rotational force. The hip and lower spine will then follow the direction of the feet. This can be referred to as a “counter rotated” position. This rotational separation generates upper body stability which is largely controlled by the core muscles. These rotational movements are adjusted depending on the amount of friction on the base of support, the shape of the turn, and the forces acting on the body.

Counter rotation can be explained using Newton's Third law of Motion: "for every action there is an equal and opposite reaction". As you force something (your legs) to turn clockwise something else (your body) must receive an equal but opposite torque.

Leg rotation is simply turning the legs to make the skis turn. In normal skiing conditions, the optimal method is to turn both skis because the legs are powerful and the turning forces are translated to the skis very quickly.

iii) Lateral Movement

What is lateral movement?
Lateral movements are achieved by tipping (inclination) and tilting (angulation) the body relative to the base of support, while maintaining balance over the centre of the base of support. These movements occur as the body, or body parts, move sideways from the base of support, or if the base of support moves sideways from the body.

How do we achieve inclination?
Inclination is achieved by tipping the body sideways from the base of support or moving the base of support sideways from the body.

How do we achieve angulation?
Angulation is created as the lower body moves towards the centre of the turn and the upper body moves towards the outside of the turn thus making a 'C' shape with the body.

What are we trying to achieve?
We are trying to tilt the ski on the snow so that they edge, utilising ski design and affecting the performance of the ski. Additionally, we are trying to align the body so that it keeps the ski at that angle and adjusts balance between the feet.

The telemark turn is a parallel turn, with both skis remaining parallel to one another throughout the turn. Both skis are edged and un-edged equally. Modern telemark skiing release and re-engage the edges with one continuous movement that starts at the

initiation, and ends in the completion phase. The lead-change movement is continuous. Although the edge change can occur before, simultaneously with, or after the lead change, the two movements are related, and occur progressively over the course of the entire turn. Indeed, it is the simultaneous lead and edge change that is the hallmark of the accomplished telemark skier. In a series of turns, the feet are shuffling fore and aft, tipping edge to edge.

The inclination and angulation that we make allows our body mass to be in a position above our ski edges enabling them to engage on the snow. Effective lateral movements will result in pressure on the edge of the skis and this is maintained with good balance.

Why do we do this?
Angulation stabilises and aligns the body parts so that inclination can be maintained as the forces pull the mass towards the outside of the turn relative to pitch and conditions.

iv) Vertical Movement

Flexion and extension movements.
In telemark skiing flexion and extension movements of the ankles, knees, and hips are used to regulate pressure and aid in edging and flattening of the ski. The aim is to

regulate the pressures that build up in a turn by progressively flexing or extending joints in order to maintain and recover balance and momentum, facilitate lead change, and to control turn shape.

Flexion and extension is tied to the lead change, with the point of greatest extension occurring when the feet are next to each other during lead change (this can vary depending on situation: see the advanced situational section) and the greatest flexion at the completion of the turn. The ideal is to use a relatively tall stance, long in the torso, using the most flexed position sparingly. This allows for quick transitions, good balance and energy efficiency.

Pressure control for telemark skiers involves many of the same elements used by alpine skiers, but with some important differences. The most obvious difference is in foot-to-foot pressure distribution. Telemarking in powder requires even foot pressure where telemarking on hard pack would require more front foot pressure to maintain good form. Converts to telemark skiing will require some practice time to feel pressure on the ball of the (rear) foot. This sensation is evidence that the inside ski is doing its share of the work to shape the turn.

What are we trying to achieve?
Vertical movement *extension* is used to lengthen and *flexion* shorten the body so that the centre of gravity can move towards and away from the base of support. Flexion and extension of the joints are used to adjust and maintain balance over the centre of the base of support. Telemarkers need to use affective vertical movements to complete a lead change.

What is vertical movement?
Both flexion and extension movements are used to control pressure and to absorb irregularities in the terrain. Flexion secures the balance by lowering the centre of gravity. Extension opens out all joints and aids with the positioning and direction of the centre of gravity.

Why are we trying to achieve this?
Vertical movements continually reposition the body parts so that at any given moment they can most effectively achieve their task through the turn. This also allows the movements to be effectively blended together. The speed of flexion and extension movements has a direct relation to the unweighting of the skis through the lead change phase of the turn.

Vertical movement is used for managing reaction forces or pressure under the foot during a turn and in variable terrain. This movement will help maintain ski/snow contact and pressure throughout a turn. Smooth vertical movements establish flow and rhythm in Telemark skiing.

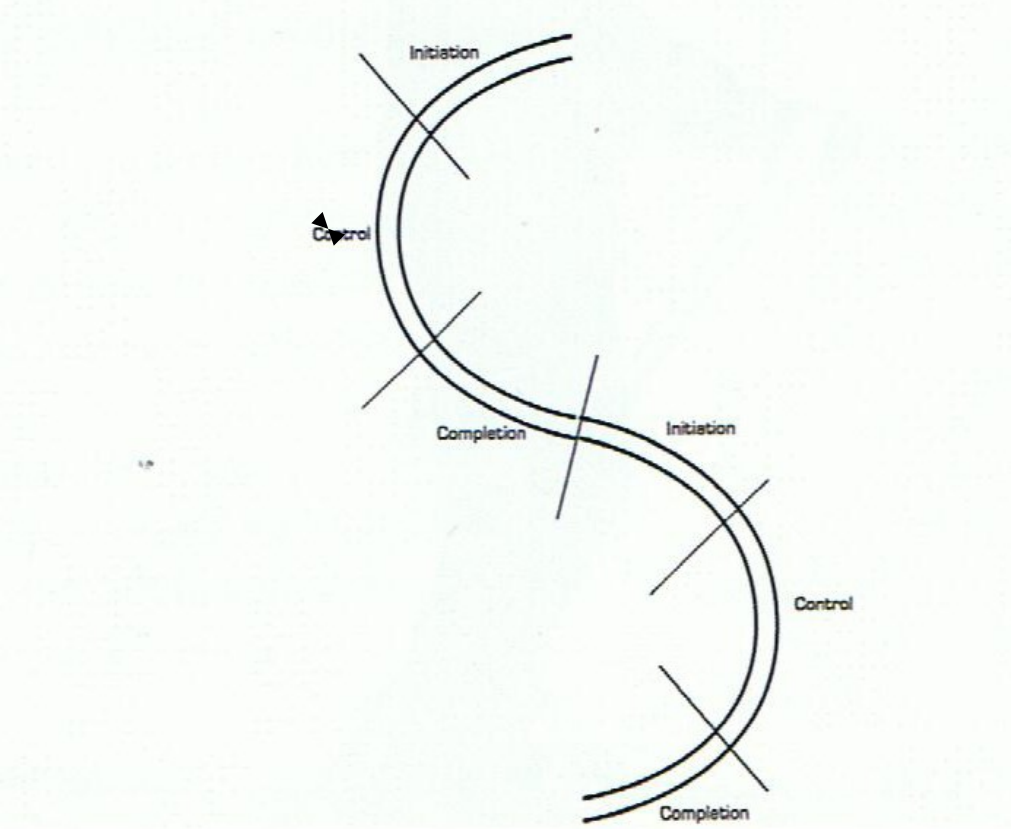
How do we achieve this?
Vertical movements need to be continual, consistent and also controlled to be effective.
The angles of the major body joints need to increase (open out) to create extension and decrease to create flexion. The foot, ankle, knees, hip joints and the spine are used in vertical movements.

Summary of the Four Telemark Movements
When we put all these movements together in varying amounts mixed with speed, timing, rhythm and precision combined and we call it the 'Telemark form'.

Technical Note:
Up to intermediate level and instructor level 2 courses: the telemarker uses about the same amount of each of the four movements.
Advances telemarkers and level 3 instructors: the telemarker will be able to manipulate the proportions of each movement to adjust to the terrain and snow conditions.

C. The Three Phases of a Turn

A three phase model is used to describe the turn and the movements made throughout the turn. This helps us as instructors to break down the parts of the turn so that when we analysed our students we can isolate and describe *cause and effect.*



The three phase turn

D. The Telemark Progression

The Telemark Progression is the set of techniques, tasks and exercises that an instructor uses to develop a student's telemark skills. There are a series of set tasks and skills that make up the framework for the NZSIA Telemark Progression taking the student from the beginner through to an advanced telemarker.

i) Introduction to The Progression

The following sections of the Progression are intended as a guide, there are a selection of exercises and tasks to help you plan your lesson progression. Each section of the progression is subdivided into '*What, Why, When, Where and How'* to help you understand the skills being developed through the task. From there you will use movement analysis to decide which tasks will benefit the skier and when to move on to another step using the principals of The Teaching Cycle. It is vital that we treat each lesson separately and each student individually, catering directly for their goals as a student.

ii) The warm up

What?
A warm up is a fun 'ice breaker' to create both good group dynamics and warm up the body.
The warm up phase can also allow you to begin to analyse your student's ability to move and coordinate.

Why?
This phase warms the joints, muscles and gets the blood flowing which can help to keep injuries at bay. A warm up also relaxes the student.

When?
Warm ups should occur at the start of a lesson. Use this time to check if your students are injured. Assess student balance or any other cues that will help you with shape the lesson.

Where?
Start by walking to a flat spot away from the traffic flow of skiers. The area you choose should be appropriate for your group and lesson plan. Thinks 360 safe

How?
Keep it fun. Do some stretches then put skis on and walk, jump, slide. If the student is a first-timer this can blend into the start of the lesson. This is also a good time to talk about expectations and experience levels.

iii) Beginners - Introduction

What?
There will be two types of telemark beginner: those whom have skied using alpine equipment, and those whom have no previous skiing experience. Both types of students may need to be introduced to the telemark equipment and all will need to learn what a telemark stance is.

Why?
It is important that the student become familiar with the telemark equipment as they may not have used it before. Remember there is a left and right ski for 75mm binding!

When?
At the start of the lesson.

Where?
On flat to easy slopes where you will teach most of the starter lesson. Think safe and practical.

How?
First impressions are important. Use a relaxed and fun approach to the equipment introduction. Ensure everyone is able to fit their gear. Check it is fitting correctly.

iv) Telemark Position

What?
The fundamentals of the telemark position start with the feet:

- Feet should be hip width apart.
- Skis parallel.
- Feet are positioned one in front of the other with a space between front heel and rear foot toe of about half to whole boot length.

- Both knees and both ankles are flexed forward comfortably.
- Rear heal is raised off the ski, ball of the foot weighted.
- The rear femur is not back past the vertical body line.
- Body weight is distributed evenly between the ball of the rear foot and the whole of the front foot to provide the base of support.
- Gaze is forward and directed where you are going.
- Hands are at waist height and shoulder width apart.
- Elbows tucked slightly and in line with the body.

In telemark skiing we use muscular tension more than bone stacking to maintain appropriate telemark form.

Why?
The solid and balanced telemark stance becomes our base of support giving a foundation to deal with the gravitational forces created when speed and angles are increased.

When?
Blend this into the end of your warm up.

Where?
Standing on the flat learner's area away from the flow of skier traffic.

How?
Stand with feet hip width apart and move one foot forward of the other.

Show, tell, correct and mould your students until they get the feeling. Spend time getting the stance correct are the telemark position is fundamental to all aspects of the Telemark Progression.

Exercises
Tele hops: a single hop with a two-footed landing.
Explore the range of movements while stationary to get a feeling of stability prior to sliding.

v) Straight Running

What?
Standing in a Telemark position gliding slowly forward.

Why?
To develop a balanced stance with even weighted feet and comfort and balance while moving in a telemark position.

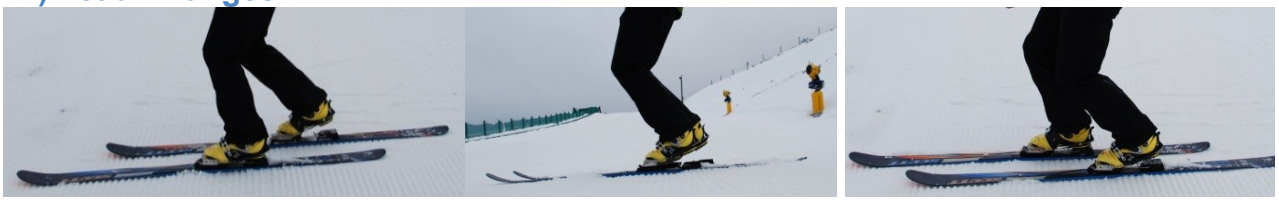
When?
As soon as the students feel comfortable.

Where?
On a gentle slope with a safe run out. We do not teach a wedge stop in telemark skiing. Stand at the bottom of the slope to catch the student if you have to.

How?
Standing in a telemark position and sliding forward down the slope.

Exercises
Explore the range of movement and challenge balance.

vii) Lead Changes



What?
Lead change movements set telemark skiing apart from other snow sport disciplines.
There are three options

1. **Lead change forward initiation: teach this to beginners**
2. **Lead change back initiation. intermediate / advanced**
3. **Lead change moving both feet at the same time. intermediate / advanced**

Why?
Lead change can be executed by advancing one foot in front of the other, resembling walking with a shuffle. The lead change should be a single, smooth, rhythmic movement that incorporates flexion and extension movement to maintain a balanced stance. The highest point of extension will be when the feet pass. Modern telemarking

uses a relatively tall stance (appropriate to the situation). We are striving for a smooth energy-efficient movement. Different snow and slope situations will determine how this movement is executed.

These three movements can change the balance point of your body along the ski (fore/aft) and will alter the pressure on each ski during the transition.

- Forward initiation (where you slide your foot forward) will leave your body slightly to the rear.
- Back initiation (where you slide your foot backwards) will leave your body slightly forward.
- By contrast, moving both feet at the same time (one forward as the other goes back) will keep the body more centred. Each lead change option is used for different snow conditions and situations.

This sequence does not teach a student to stop until they learn to turn. Accordingly, use these gliding exercises on a very gentle slope with a flat run-out or uphill finish. We can also achieve this on a traverse on a slope that will allow for a little edging of the skis on the snow.

When?
The lead change is the next step after the straight run.

Where?
On flat to gentle sloping terrain. Think safe run out!

How?
Slide the aft ski forward in a single motion while moving. We are aiming for even pressure on both feet while on flat snow standing still.

Exercises:
Flat terrain: stationary telemark hops, creeping Indians, deep-knee telemark steps, varied amounts of foot separation, exploring all ranges of movement.
Very gentle slopes: straight gliding, short glide maintaining one lead ski, short glides changing lead skis, no poles, gliding telemark hops, deep-knee telemark steps, hands on head.
Developed rhythm at this point of the progression.

viii) Diagonal Body Position

What?
The diagonal body position used in modern telemark skiing is a simple extension of walking. One foot and opposite hand are advanced simultaneously to keep the body centred and balanced. The resulting twisting action between the upper and lower body is a rotational movement.

Why?
To help students become aware of the interaction between the upper-and lower-body and to prepare body position for turning by combining the diagonal position with the straight gliding telemark position. This position introduces the student to rhythm, the development of flexion and extension, and rotational movements at the same time.

Where?
On flat to gentle sloping terrain.

How?
Slide forward as per straight running and rotate the upper body to look over the leading leg, opposite hand over opposite leg. Do the exercise on both sides then blend with a lead change. Keep hands at hip level and arms relaxed. Perform rhythmic and synchronised changing of lead skis/upper body position. Draw on all previous points of straight gliding exercises. Develop flexion extension.

Exercises
Diagonal striding, waiter pose, opposite hand and forward knee, holding a horizontal ski pole on the lead ski side.

ix) The Telemark 'J' Turn

What?
Rotation is the movement to develop steering and turning. The student will learn to steer the skis in the direction they want to go and come to a stop. Flexion, extension and rotational movement will be used to initiate a smooth turn coming to a stop with the skis across the fall line. This is the first time that we included all the movements of telemark into a single task. And is the development of speed control and stopping.

Why?
The 'J' turn or turning allows speed to be controlled.

When?
As soon as the student is comfortable with a gliding lead change., and blending the newly learn movement and this will blend all together!

Where?
Use the same place as the straight run. Remember slope safety in case the desired turn does not happen as expected.

How?
Introduce rotation of the legs that will lead to steering.
Start with a straight run, do one lead change and steer the skis, rotating both legs simultaneously in the direction you want to go. These actions can be directed by the teacher so the student does not get confused. We initiate the turning movement by moving our toes in the direction we want to turn; these actions will rotate the skis under us. The steering happens at the completion of the lead change for the learner.

x) Beginner Telemark Turns – Linked

What?
This involves steering the skis in the direction we want to go then steering in the opposite direction to link another turn. These turns can be more of a slow wiggle rather than a complete and full turns across the slope. We are still on the learners slope so we have little or no speed and this can develop rhythm with all the newly-learnt movements.

Why?
Turning develops speed control and rhythm, and opens the door to being a real telemark skier. Be patient and develop the rhythm and flow in this stage of the progression to allow what the student has just learned to be expressed and practised.

When?
After we have introduced lead change and the diagonal body position and have completed a 'J' turn.

Where?
On an easy green learners slope with plenty of space to build confidence in your student.

How?
We initiate the 'J' turn movement by turning our toes in the direction we want to move ensuring both skis stay parallel to each other as the skis rotate under us. The steering happens at the completion of the lead change for the learner. Once the 'J' turn has been completed it is time to extend lead change and steer the skis in the other direction using a smooth rhythmic motion.

Exercises
A variation to the 'J' turn is the 'tele wiggle: steering skis a small amount before the next lead change and then repeat. This should only be attempted on an easy slope because the students are just learning to turn.

xi) Medium Radius Intermediate Turns

With and/or without a pole plant.

What?

The turn shape has a medium radius executed without too much ski performance. Turns should be rhythmic and smooth without fast or rushed movements. The pole should be used as a timing tool to develop good rhythm. The turn shape is closed, round and smooth. Lead change will be fluid and completed prior to the control phase of the turn.

With a pole plant. – use the pole touch as the start point for the turn.

Why?

As the student progresses speed and force increase as well. Speed control can be maintained with medium radius turns. The early phase of the turn will develop steering and foot pressure on both skis at a faster pace than in the learner turns.

When?

This is next step from the learner's slope. The round turn shape will build confidence in the student's skiing as speed increases and help develop rhythm.

Where?

On wide open groomed easy blue slopes.

How?

Using the pole tap/plant as the initiation of the turn. Emphasize smooth rhythmic movements with the appropriate amount of each movement.

Start the pole touch with a simple wrist opening and pole tip drop. Then more to an opening of the arm movement.

Technical note: The pole plant is introduced at this level. The pole touch or plant is primary a timing mechanism to help with rhythm. The pole touch can be referred to as the start of turn.

xii) Short Turns

What?

The basic short turn is performed in a narrow 3-4 metre corridor. The tempo of movements is faster than for the medium radius turn. The body takes a direct line in the direction of travel (down the fall line) while the skis move from side to side of this line. The performance of the ski increases and the edge is engaged early to maintain an early control phase. Strong steering and edging with active flexion extension.

Why?

To be able to control speed in narrow and steep terrain. This is also a very important development in the natural progression of a telemarker exploring a greater variety of terrain. In a teaching situation the development of the short turn can be the foundation to more advanced techniques for skiing bumps, powder and crud.

When?

Short turns are introduced when students are starting to explore steeper and more challenging snow conditions and situations. Once the short turn tempo and control have been mastered the student will find the introduction to skiing bumps, crud and powder much easier.

Where?

Start with a blue slope that is wide enough to allow exploring the newly introduced movements. Mark a course with ever decreasing turn radius.

How?
Set a boundary to ski within and a point to ski towards. The body should have little vertical movement and be pointed down the fall line (i.e. is not rotated). The vertical and rotational movements come from the legs extending and retracting, and rotating and moving laterally under the body.

The skis will edge strongly in the control phase and speed is controlled by the edge skidding in the completion phase. Emphasise the faster tempo required to blend the movements. Timing and coordination will be gained as the students become more familiar with the faster movements.

xiii) Jump Turns

What?
Lead changes with the skis un-weighted and above the surface of the snow while rotating the legs/skis toward the fall line. This shortens the distance travelled down the fall line and shortens the turn length.

Why?
To unweight the skis quickly to allow for shorter turn initiations in difficult, crud snow conditions. To shorten turns on steeper slopes.

When?
Where you need to shorten the turn initiation in broken and crud snow. Jump turns are typically used on steep narrow slopes or in crud snow conditions

Where?
On steeper slopes, crud, ungroomed off piste.

How?
Extend fast enough to lift both feet simultaneously above the surface of the snow, lead change and steer the skis into the fall line, land and complete the turn. It is not expected that the skis are jumped into the fall line but merely moved toward the fall line while un-weighted.

xiv Check-Hop Turns

What?
A ‘platform’ is created by a heavy edge set of both skis simultaneously with a pole plant and counter-rotation, directly followed by an extension down the direction of travel and a short un-weighted turn.

Why?
The check-hop turn shortens the turn radius on steep slopes. The skier jumps the skis into the fall line shortening the turn to keep speed down in steep narrow terrain.

How?
Check, hop and turn, and repeat as necessary. With this exaggerated extension and rotational movement, the skis leave the snow surface and are rotated into the fall line, then steered across the slope to a complete stop. The skier flexes on completion to finish the movement. The ‘check’ is done simultaneously with a pole plant and flexion. With this technique, an emphatic and solid pole plant in the fall line below the feet is used to provide additional turning force or blocking. The wrist ‘opens’ the palm to face more downhill, the pole tip strikes the snow at the same moment as the edge set, and the arm/hand follow-through must be immediate. Angulation is much accentuated with a strong counter-rotation movement.

Where?
In steep, narrow terrain. Introduce this technique on groomed, steep blue trails then move to the more challenging slopes.

When?
Used when it is essential to keep slower speed down the fall line in steep narrow chutes without a safe run out.

Exercises:
Duck walk, rebounds, jumping, pole plant blocking, jump turns.
Start with a side slip in a telemark position. Add a solid edge set and a pole plant to create a solid platform to extend from into the fall line.

xv) Telemark Carve

What?
A dynamic turn with strong edge set with even pressure on the snow.

Why?
Dynamic, fun and efficient skiing on groomed slopes of varying pitch.

When?
When you have gained confidence on intermediate terrain and are looking for more speed and performance from your skis.

Where?
Introduce on groomed green trails then develop on steeper pitches. Think safety and be aware of the speed you are traveling on busy trails.

How?
Tip feet and legs creating angulation of the ski edging. Introduce the feeling of edging and letting the ski run by letting the edge of the ski determine the turn radius. Incline at the start of the turn, finishing angulated.

Maintain pressure on the ski as long possible. Keep the skis on the snow with even weight distribution on the skis through the lead change. Stay in the middle of the skis. Refer to ‘Groomed situational skiing’ section.

E. Advanced Situational Telemark Skiing Techniques

Some things can be learnt but not taught. Consequently, there is no set method for skiing difficult conditions. The following are some suggestions that may be effective, but each individual will develop their own style with practice. Some methods are more efficient than others and some are simply a means of getting from top to bottom safely so that one can look for better conditions elsewhere.

With situational skiing we have to understand the complexities of all the four movements that each has on the snow and how this changes when speed and angle of the slope changes. Gravity and centrifugal forces have to be managed in a balance of all movements. Depending on the situations we may need to increase or decrease one or all of the movements. There is always a percentage of each movement in every situation but one or more of the movements will be more dominant.

i)Groomed Piste

Groomed -balance feet
The centre of mass should be balanced between two weighted feet.

Groomed -lead change speed/size
For the higher speed and steeper slopes, the lead change will be earlier and have a greater length. Try using a shorter compact stance for a more efficient, fast lead change.

Groomed - lead change timing
The rate of the lead change should match the size of the turn. Short turns will have a faster lead change and slower longer turns will have a slower lead change. It is all about rhythm.

Groomed -balance flexion
Progressive edging maintains smoothness in and out of the turn. At speed you will need to flex one leg and extend the other; this will help move the body down the hill to down and into the next turn.

Groomed - balance stance
Allow for a little more pressure on the front foot at the end of the turn. This lets you have a higher edge angle.

Groomed - pressure flex patterns
Tip feet and legs creating angulation. Incline at the start of the turn and finish angulated

Groomed -pressure weight distribution
The outside foot is dominant and stronger due to stacking. This is biomechanically stronger and can handle increased pressure.

Groomed - pressure management
Maintain pressure on the ski as much as possible. Keep the skis on the snow. Keep even weight distribution on each ski through the lead change. Maintain the base of support between the skis.

Groomed -edging centre of mass
Move the centre of mass to the apex of the next turn to tip skis on their edge early.

Groomed - edge tipping
Tip feet and legs creating angulation. Incline at the start of the turn and finish angulated

Groomed - edge – ski design
Side load the ski to load the ski to create an arc. Progressive edge engaging and release of the ski edge.

Groomed - posture and core
Flex and extend your joints proportionately to maintain balance. Head, arms and neck should be relaxed. The back should be rounded and the elbow in front of the spine. Let your ankles be your guide to further movements.

Groomed –rotation upper body
Use your feet and legs to turn leaving your upper body face the direction of travel. Let the skis do the moving.

Groomed - rotary parallel
Keep both skis at the same edge and move both skis to the new edge at the same time. Keep a wide stance: this keeps the skis in parallel.

Groomed – rotation leg rotation
Progressively guide the skis in the turn. Let the ski be guided not forced: don't push the steering.

i) Powder

Powder- pressure release
Vary to maintain pressure and allow the edges to flatten to control line and speed

Powder - lead change active retraction
Flex both legs during the lead/edge change.

Powder- pressure equal weight
Equal weighting ensures your skis at the same level in the snow and allows them to float evenly.

Powder- balance centred stance
Being centred allows balancing steering flexion and edging- be supple and rhythmic.

Powder -balance flexion extension
Flex and extend each leg individually to maintain balance to cope with varying snow conditions.

Powder - balance narrow stance
Feel the snow with your feet. If skiing with narrow stance you can ski the sense of one platform.

Powder - edging core movement
With increasing snow resistance your core will move to the inside of the turn in the later part of the turn.

Powder- edging ski design
Don't over edge in soft snow: slide the ski. Wide skis allow the skier to float and steer easily.

Powder- edging low angles
Maintain the core movement down the hill. Turn as far as the snow will allow. Edging is not needed but both edges need to be released at the same time.

Powder- rotation constant platform
Keep pressure on each ski tip evenly with a consistently moving platform. A narrow stance at slow speed will aid steering.

Powder- rotary release and rebound
Actively turn the skis at the point when they have rebounded up from the pressure of the snow. Upper body is in the direction of travel and the legs do the turning.
Powder- rotary simultaneous steering
Steer both feet: extend and turn. Some upper body rotation can help guide the skis to the new turn.

Powder- lead change different rates
Use slower gradual, smooth lead changes for powder cruising. Use faster lead change for higher speeds, shorter turns and with the use of fatter skis

Powder- lead change short turns
Perform lead and edge change at the same time. Shorter turns and a faster lead change give you a stable base.

Powder – lead change scissoring
Gentle effective flexion – extension along with scissoring of the skis will help maintain pressure under the ski to build a platform for the next turn.

iii) Bumps, Crud and Steeps

Bumps, crud, steep - lead change speed and size
Keep your lead change short and maintain rhythm while not getting too low. Don't use too much flexion.

Bumps, crud, steep - lead change versatility
Mix it up in the crud and challenging snow. Lead change forward, back or at the same time, or even change in the air. Change your style to suit the conditions.

Bumps, crud, steep - lead change short turns
Fast and continuous lead change while maintaining a fast, yet rhythmic flexion-extension and rotation.

Bumps, crud, steep - lead change back pedal
Increase in the speed of extension combined with a back pedal while getting above the difficult snow to present the ski for the next turn.

Bumps, crud, steep - pressure transition
Keep equal pressure up, to and into the transition. This gives plenty of options and allows for a solid platform.

Bumps, crud, steep - balance posture and core
Lead with the core. Look where you are going. Lower body does the moving.

Bumps, crud, steep - balance feet and legs
Keep your inside hip forward to allow for easier edge-engagement and release.

Bumps, crud, steep - edging low angle
Lower, flatter skis with a wide stance can help with steering and pivoting of the ski. Use the shapes and mounts in the terrain to help steering.

Bumps, crud, steep - edging centre of mass
Keep your hips and centre-of-mass over the skis. Don't get left behind.

Bumps, crud, steep - edging release
Let the core drive you down the hill. Keep the momentum and flow going, and quickly more from edge-to-edge.

Bumps, crud, steep - rotary upper body
Turn your legs from the lower body. Keep your body down the fall line. Use a blocking pole plant can keep your body from rotating and let the legs continue rotating.

Bumps, crud, steep - Rotary inside Ski
Steering the skis to each bump or hump. Be sure to steer the inside/aft ski to keep skis in parallel.

Bumps, crud, steep - Rotary leg steering
Actively steer legs under a stable quiet upper body. Minimise steering in the edge change.

iv) Ice

Ice - pressure weight distribution
Be aware of over pressure of the lead ski at the end of the turn: this can create chatter. Avoid sudden shifts in weight distribution as this can cause a loss of edge grip.

Ice - balance legs
Legs dominate the body and counters the legs: angulation.

Ice - balance progressive movements
Use continual and subtle pressure, and allow smooth edge- and lead-changes. Use a smooth and flowing rhythm.

Ice - balance wide stance
A wide stance and platform lets you hook up the edges early and gives you better balance if everything goes wrong.

Ice - balance feet and legs
Let the lower leg muscles initiate and maintain balance, rather than moving the upper body. Keep your upper body centred.

Ice - edge progressive tipping
Use continual and subtle movements without too much edge pressure. Be gentle and follow the edge.

Ice - edging centre of mass
Diagonal to the finish of the turn to have the centre of mass to be ready for the next turn.

Ice - edging inclination & angulation
Tip early. Incline at the start of the turn and angulate to the end of the turn. Keep momentum going. No static position.

Ice - rotary upper body
Keep the body in the fall line direction and let the feet and the legs do the turning. Your body will be facing the new turn, or the end of the turn.

Ice - rotary equal tipping
Tip or edge both skis equally at the same time throughout the turn maintaining a wide track and consistent edging.

Ice - rotary subtle shaping
Allow the skis to release and engage without any upper body rotary movement. Rotate the legs and add forward pressure to the skis.

Ice- lead changed consistent rate
Keep smooth and gentle with even muscular tension, to not break the edge. Apply even pressure on the edges.

Ice - lead changes turn-size
Keep lead change even.

Ice- lead change timing
Make the lead change smooth and flatten both skis as the feet pass, keeping the body in alignment.

Ice – long leg short leg
Maintain pressure. Extend inside leg at the same time as flexing the new outside leg. This keeps even contact and pressure.

G. Credits

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