Alpine Level I Study Guide

Alpine Level I Study Guide

Professional Ski Instructors of America Education Foundation

CREDITS

Education Director
Linda J. Crockett

Technical Editor
Weems Westfeldt

Cover Illustration/Design Standards
Lee Reedy Creative

Graphic Design/Pre-press Production
Ken Grasman

Digital Photo Design
Boulder Media Group

Photography
Scott Markewitz

Still Images
Rodnunsky Arts, Ltd.

Copyright 1996 by the Professional Ski Instructors of America Education Foundation

All rights reserved. No part of this work may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the Professional Ski Instructors of America Education Foundation. The American Teaching System and Center Line are registered trademarks of the Professional Ski Instructors of America Education Foundation.

ISBN 1-882409-09-4

Table of Contents

Acknowledgments 6

Study Guide Organization 7

Skier Level 1

Step 1 Introduction and Equipment Orientation 9

Step 2 Walking, Stepping, and Sliding 17

Step 3 Climbing 27

Step 4 Straight Run 37

Skier Level 2

Step 5 Gliding and Braking Wedge 45

Step 6 Wedge Traverse and Stop 55

Step 7 First Wedge Turns 63

Step 8 Riding the Lift 73

Skier Level 3

Step 9 Linking Wedge Turns in the Fall Line 81

Step 10 Varying Wedge Turn Shape 93

Skier Level 4

Step 11 Providing Mileage and Guidance 103

Step 12 Introducing Matching and Skidding 109

Step 13 Methodical Approach to Matching and Skidding . . 117

Acknowledgments

The PSIA Steering Committee developed the concept of presenting the American Teaching System alpine information as an assortment of materials. The pieces of the system manual, study guides, video, and handbook work synergistically to produce a complete picture of an effective alpine lesson.

- The *Alpine Manual* covers the American Teaching System, the role of PSIA in the ski industry, and a variety of subjects that contribute to the working knowledge of ski instruction.
- The study guides available for Level I, II, and III instructors contain the step-by-step procedures for conducting a ski lesson. They are written to be useful for the instructor who teaches, or is preparing for certification, at that level.
- The *Alpine References* video runs parallel to the content in the manual and study guides. It provides moving images of the skiing discussed in the ATS publications and was the source of most of the photos.
- The *Alpine Handbook*—a pocket-sized guide—contains exercises and drills that can be used with any level of class to develop improved learning and skills acquisition.

The study guides were co-authored by David Mannetter and Nancy Oakes of the PSIA Alpine Demonstration Team. These individuals drew upon insights, ideas, and their personal experiences to describe how to present an excellent ski lesson. Reading the study guides is like taking a private lesson with one of these accomplished skiers. David and Nancy set a fine example of teamwork in producing the study guides.

Pat Butowick, a ski instructor at Heavenly Ski Resort and a technical writer/editor, developed the study questions relating to each chapter of the study guides. She painstakingly distilled the key points to provide a valuable tool for study and discussion. In true PSIA spirit, Pat always provided what was required, plus a little extra.

Weems Westfeldt, a former member of the PSIA Alpine Demonstration Team, and currently a trainer with the ski schools of Aspen, served as technical editor for the study guides as well as the manual. Weems worked 25 hours a day to accomplish this task.

Bill Grout, senior executive editor for *SKIING* Magazine, read through the study guides and constantly challenged us to provide technical information in skier-friendly terms.

The PSIA Alpine Demonstration Team developed the core of ideas presented in this edition. The team is instrumental in PSIA's educational process and provides a constant source of creative energy.

The PSIA Board of Directors supported the project both in encouragement and funding.

The review panel for this publication consisted of the following individuals, who offered valuable advice:

Jack Copeland
Johanna Hall
Megan Harvey
Glen Peterson, Ph.D.
Sue Spencer
Calvin Yamamoto

PSIA instructors are also acknowledged, because it is you who can take the words on these pages and transform them into memorable experiences for your students.

Linda J. Crockett
PSIA Education Director

Study Guide Organization

This study guide contains suggested steps for teaching novice through beginning wedge christie lessons. It begins with the first moment of the first lesson for "never-evers," giving step-by-step guidance for helping your students acquire the skills they need.

The book has 13 steps in all—each building on the successes of the previous step—moving from simpler to more complex activities. These steps cover ski lessons up through the introduction of Level 4 lessons.

The sections "talk" you through the skills and exercises students need to learn so they can balance, glide, stop, and ultimately *turn* on skis. It discusses both *what* to teach and *how* to teach it. Sample progressions and progression options are provided. These are followed by a technical summary of skill development for each level.

Following the concepts, you will find questions and answers for checking your understanding. Plus, notes pages are interspersed for listing your own progressions and other pertinent information from your ski school training.

The *Alpine Level I Study Guide* corresponds with the *Alpine Manual*. You can refer to the manual whenever you need background information about the Skiing Model, which is the basis for the concepts and progressions in this book. The following list describes where you should look in the manual to find specific information that supports this study guide.

Level 1 Skier: see Chapter 4, Phase One-Beginning
- Steps 1-6: see Chapter 4, The Skiing Model, Level 1, see also Chapter 5, Ski Equipment

Level 2 Skier:
- Steps 7-8: see Chapter 4, The Skiing Model, Level 2, (Wedge Turn; Balancing, Rotary, Edge-control, and Pressure-control Movements)

Level 3 Skier:
- Steps 9-11: see Chapter 4, The Skiing Model, Level 3, (Wedge Turn; Balancing, Rotary, Edge-control and Pressure-control Movements)

Level 4 Skier:
- Steps 12-13: see Chapter 4, The Skiing Model, Levels 3 and 4, (Wedge Christie; Balancing, Rotary, Edge-control and Pressure-control Movements)

Good luck in your ski teaching career, and remember: the guest always comes first. If you keep that in mind, the rest follows naturally.

Note: As you work with any of the materials in the American Teaching System, you may come across unfamiliar ski terminology. Please refer to the glossary and/or text of the *Alpine Manual* for explanation of these concepts. Ski instructors use terms in a variety of ways, so in any technical discussion always state what you mean and ask others to do the same. While the use of ski terminology is an effective way to communicate with other instructors, you will want to develop non-technical translations of these terms for students.

Skier Level 1

Step 1: Introduction and Equipment Orientation

Terrain

Ideal beginner terrain is a very gentle slope which ends on a flat section, or better still, has a "counter-slope," to stop the skier. The hill should be flat enough that the skier will stop on the flat section or counter-slope without having to do anything other than stand with weight distributed equally over the feet. If and when more challenge is desired, have student climb higher up the slope.

Lesson Outcome

The students learn key facts about the mountain environment and become familiar with the basic functions of their ski equipment.

Getting to Know the Group and Establishing Rapport

At the ski school meeting area sign, get to know your class and help them to feel comfortable with you.

1. Introduce yourself to the group. Establish eye contact and call each person by name. This makes everyone feel special.
2. Assess the students' needs and abilities by asking questions. For example, ask what other sports they enjoy so that you can gauge their athletic abilities. Ask where they live so you can understand the environment they come from. Ask what their expectations are. Make sure you're not the only one doing the talking. Real conversation eases tension and helps you learn about your students.
3. Help the members of the group get to know each other by introducing them to each other and encouraging conversation. Developing trust and rapport within the group is crucial in creating a comfortable learning environment. Simply learning your students' names will help to show them that you care about them, and promotes trust. Try to create an environment of mutual support and enthusiasm to help individuals become more comfortable with each other. Encourage the students to ask questions when they are confused.

The Mountain Environment

- Describe the importance of both eye and skin protection while making sure everyone has sunglasses or goggles and sunscreen.
- Let your students know where the nearest drinking water is and explain the importance of proper hydration. For example, higher elevations and sunny, spring weather can be dehydrating, causing headaches and fatigue.
- Relate pertinent information regarding ski clothing, gloves, hats, or headbands. For instance, blue jeans are inappropriate ski attire for a cold, snowy day (especially in New England or in the Northwest). Wearing mittens or gloves, even when the weather is warm, protects the hands from potential abrasions—especially when the snow is icy, corn-like, or machine-made. Obviously, when it is snowing, a ski hat surpasses no hat or a headband. Likewise, goggles are better than sunglasses in harsh conditions. Remember, these people are newcomers to the sport, and what is obvious to you may be totally foreign to them.

Ski Equipment

- Show your students how to carry their ski equipment. More often than not, first-time skiers will be overwhelmed with the amount of gear that is required. While their skis are off, show them how the ski brakes click together, then place the skis on one shoulder with the tips forward and the poles in the other hand.
- Explain the basic functions of skis, ski boots, bindings, and poles. Most first-timers use rental equipment. This is actually an advantage: If the equipment doesn't suit their needs, they can replace it quickly.

Skis

A ski possesses a tip, a tail, a midsection where the bindings are mounted, a low-friction, plastic base, and two metal edges. The base promotes sliding; the edges facilitate turning, braking, and stopping. (Keep your explanations simple. Describing sidecut and

camber is too much information for the beginning student).

Assess the length of your students' skis. At beginning levels, skis should be chest to head high. Skis that are too long or too short will impede proper learning and create frustration. If the skis are an inappropriate length, send the student back to the rental shop at the end of the lesson.

Boots

Well-fitting ski boots are critical to the newcomer's success. Boots should be neither so tight that the feet fall asleep nor so loose that the foot is swimming inside. Explain that the proper fit should feel like a firm, comfortable handshake. A sock that is wrinkled inside the boot or one that is too thick and bulky can create misery. Check to make sure the students' boots are on the correct feet! Make sure the boot tongue is lined up over the instep so the boot flexes properly and comfortably. Then help adjust and secure the buckles.

Finally, have your students practice walking in their boots while checking for functional ankle bend. If they cannot flex their ankles or walk comfortably, suggest that they try another model at the end of the lesson.

Bindings

Show the students how to step into and out of their bindings. Show them how to clean the snow from the bottoms of their boots while leaning on one ski pole for balance. Make sure they understand that the bindings must also be clear of excess snow in order to function properly. If the rental shop has adjusted the bindings for left and right boots, make sure the student matches the appropriate boot to ski.

Ski Poles

Finally, show your students how to grip their ski poles. Demonstrate how to put on the pole straps by putting the hand up through the bottom of the loop and grasping strap and grip together in the palm of the hand. Explain that ski poles are not used for braking or turning but as balancing aids and for propelling oneself across flat terrain.

Ask questions to check for understanding of basic equipment functions. Pace the lesson according to your students' needs and physical abilities. You'll help these newcomers enjoy the sport right from the start if you express friendliness, patience, and empathy.

Questions: Introduction and Equipment Orientation

1. There are many ways to gauge the athletic abilities of students you've never seen ski. What way is specifically mentioned in the Introduction and Equipment Orientation section of this workbook?

   _____

2. Fill in the blank:
   The altitude and sunny, spring weather can be dehydrating, which can cause your students to experience

   _____.

3. Fill in the blanks:
   You would want to tell a novice skier that a ski's edges can be used for _____ and

   _____.

4. List the parts of a ski.

   _____

   _____

   _____

   _____

   _____

5. Choose the best answer:
   About how long should a ski be for a beginning skier?
   A. Arms length above the head.
   B. Anywhere from chest to the head high.
   C. 6 to 10" (15 to 25 cm) above your head.
   D. None of the above.

6. Fill in the blanks (one or more words per blank).
   To properly grip a ski pole, put your hand up through the bottom of the _____ and

   then grasp the _____ and _____ together in the palm of the hand.

7. Name two acceptable uses for ski poles that you might tell your novice students during their first ski lesson.

   _____

   _____

8. Fill in the blanks:

_____ are better than _____ for protecting the eyes in harsh conditions.

9. True or False:
Ski boots should feel fairly snug, like a firm handshake. _____

Answers: Introduction and Equipment Orientation

1. One way of gauging the athletic abilities of students you've never seen ski is to *ask them what other sports they enjoy.*

2. The altitude and sunny, spring weather can be dehydrating and can cause *headaches* and/or *fatigue*.

3. You would want to tell a novice skier that a ski's edges promote *turning* and facilitate *slowing down* and *stopping*.

4. The parts of a ski are:
   Tips
   Tail
   Midsection for bindings
   Base
   Metal edges on both sides of the base

5. B. Skis for beginners should be chest to head high.

6. To properly grip a ski pole, put your hand up through the bottom of the *loop of the pole strap* and then grasp the *strap* and *pole grip* together in the palm of the hand.

7. At the novice level, ski poles can be used to balance and to propel the student around on flat terrain. *Students should not use their poles to stop themselves.*

8. *Goggles* are better than *sunglasses* for protecting the eyes in harsh conditions.

9. *True.* Ski boots *should* feel fairly snug, like a firm handshake.

Notes

Step 2: Walking, Stepping, and Sliding

Lesson Outcome

Students learn to control their skis while walking, stepping, and sliding on flat terrain.

The Athletic Stance

Once the students are familiar with their equipment and have their skis on, explain how to balance on skis. Describe and demonstrate the balanced athletic stance. This is a fairly tall stance in which the weight is balanced equally over both feet, with the ankles, knees, hips, and spine bent forward slightly. The upper body is upright but relaxed, the hands are comfortably ahead within the peripheral vision. The hips and upper body are centered over the feet. Viewed from the side, the head and shoulders appear to be "stacked" over the hips and feet. Photo 1 shows an athletic stance when standing still and while moving.

Class Arrangement and Handling

Define the boundaries of the practice area so the group is protected from other skier traffic. Explain to your students that they will be walking in a small circle within the practice area. This circular class format provides your students the opportunity to interact with each other, and it allows you to give them individual feedback. This format works particularly well with larger groups. If you stand in the center of the circle, you have the best vantage point for observing your students.

Photo 1. Athletic Stance

Keep your instructions clear and simple. Avoid talking too much and overloading your students with too much information. Instead, keep them moving and doing.

Walking

Now your students are ready to walk slowly on skis across flat terrain.

1. Begin walking very slowly. Call the names of the students in the order in which you would like them to follow you.
2. For now, allow your students to lift their skis off the snow with each step if they wish. Encourage small steps and show the similarity to walking movements without skis. (It may be helpful to describe skis as "extra-long feet"). Have them hold their poles lightly underneath the grips and allow the arms to swing the ski poles forward naturally. The right arm should move forward with the left foot in a natural "cross-lateral" walking motion.

   Note: Small children may not yet have the motor skill development for this movement pattern (refer to *American Teaching System: Children's Development*, PSIA, 1994).

3. Lead the group in a circle with each member a ski length apart.
4. Once the circle is established, you can walk to the center. This

gives you an optimal viewpoint for observing the movements and providing individual feedback.

Make corrections immediately (see Table 1).

- Encourage a fairly tall stance with the skis a hip-width apart, the torso, hips, knees, and ankles slightly flexed, and even weight distribution over both skis.
- The upper body should be stable so the legs and feet can be active.

  Arm and upper body movements should not be exaggerated, as this disrupts balance.

If necessary, show the group improper body postures. It is often helpful to show students what their posture looks like. Often, how they look is very different from a movement may feel to them. Such a demonstration, when contrasted with a demonstration of correct posture, can be very helpful in anchoring the proper sensations.

Table 1

Improper Body Postures	
Posture	Result
Over-flexed hips	Student's weight too far back, over the tails of the skis
Over-flexed ankles and torso	Student's weight too far forward, over the tips of the skis
Skis too close together	Student has lateral balancing problems
Low body position	Muscles become fatigued

Stepping to Turn Around

Now that your students have formed a circle, have them turn and walk in the opposite direction. For the sake of simplicity, show them the star step. See photo 2 for the movements of the star step. The star step is so-named because the tracks left in the snow by the skis resemble a star with many points.

1. Lift either ski and point your toes or the tip of the lifted ski in the direction you wish to go.
2. Set that foot and ski down.
3. Follow with the other foot and ski.
4. Point out to your students that because their feet are "extra-long," they will have to move the lead ski slightly away from the one on which they are standing to avoid pinning themselves to the ground.
5. Repeat steps 1-3 until you have turned 180 degrees and are facing in the opposite direction.

Sliding

As your students begin to walk in the opposite direction around the circle, ask them to slide their feet instead of lifting them. Now pole use becomes more important. Show your students how to slide one ski forward, then the other, while coordinating the use of their poles to propel themselves forward.

As the group becomes more comfortable with walking and sliding from ski to ski, have them practice gliding on both skis while pushing with their poles. Photo 3 shows sliding with a pole push.

Progression Options

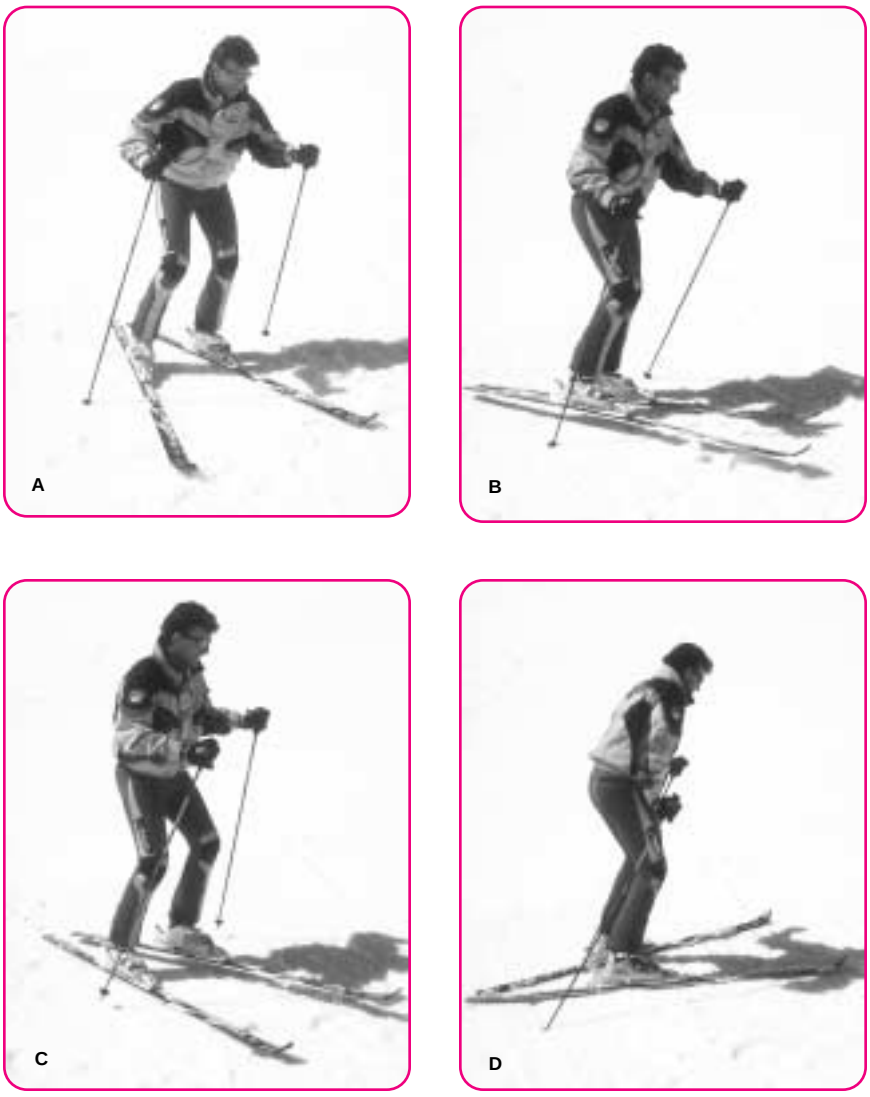
- Practice scooter turns, walking, stepping, and sliding with one ski off and one ski on. Switch feet.
- Practice sliding with no poles.
- Stand with both skis on, pick up one ski and balance on the other. Switch legs.
- Balance on one ski and turn the lifted ski sideways. Switch legs.
- Emphasize foot sensitivity.

Describe the sensations your students should be feeling in their feet.

Draw a foot in the snow and explain that the students should feel their weight over the entire foot, instead of only on the ball or the heel. Focusing on the arch ensures equal distribution over the whole foot.

Practice rolling the ankles and knees in toward each other, tipping the skis up on their inside edges to anchor the feeling of pressure on the arches and big toes. Then roll

Photo 2. Star Step



the knees and ankles away from each other so that the skis tip up on the outside edges while feeling more pressure on the little toe and outside of the feet. As you are rolling the ankles and knees, discuss pressure spots on the ankle and leg.

Develop increased foot and ankle awareness by tipping both knees and ankles to the right, then to the left.

Practice feeling the entire foot so that the skis remain flat on the snow. Foster this solid foot platform by gently hopping up and down by flexing and extending the ankles, knees, and hips.

Technical Aspects of Skill Development

Balancing Movements

Your students have learned to balance fore and aft on their skis by establishing a fairly tall stance with a slight flex in the ankles, knees, hips, and spine. They've also learned to center the hips and upper body over the feet and skis.

Rotary Movements

The most obvious rotary movement in this progression occurs when the student changes directions by opening the ski tips or ski tails. Opening the ski tips requires an outward rotation of the leg and foot, while opening the tails requires an inward rotation. Also, balancing on one ski while turning the lifted ski back and forth utilizes both outward and inward rotation. Walking in a circle is a more subtle rotary movement, depending on the size of the circle, and can utilize full body rotation. Walking in a small circle requires more leg rotation than full body rotation, yet utilizes both to a degree. Maintaining a flat ski while walking requires control of the inward or outward rotation of the leg.

Photo 3. Sliding with a Pole Push

Edge-control Movements

Maintaining a flat ski requires edge-control movements through inward or outward control of the leg. Much of the fine-tuning for sustaining a flat ski comes from the foot and ankle. Maintaining a flat ski while stepping side to side requires lateral edge-control movements of the leg and ankle.

Pressure-control Movements

Distributing weight equally over both soles of the feet and the entire ski is a pressure-control movement. Feeling more pressure on contact points like the arch and big toe is also a pressure-control movement. Walking on skis requires shifting weight from one ski to the other ski for moving forward, while stepping requires shifting weight laterally from ski to ski for moving sideways.

Questions: Walking, Stepping, and Sliding

1. Circle one or more of the following which describe(s) the natural athletic stance.
   A. Fairly tall
   B. Fairly low
   C. Slight flex in the ankles, knees, and hips—spine straight
   D. Slight flex in the ankles, knees, hips, and spine
   E. Hips and upper body centered over the feet and skis
   F. Hips and upper body slightly countered to the skis

2. Choose the best answer:
   Where should you place your weight when walking straight ahead on skis?
   A. Ball of foot
   B. Whole foot
   C. Heel of foot

3. Define cross-lateral movement and give an example of it.

   _____

   _____

   _____

4. Choose the best answer:
   In the circle formation, where is the best place to stand to observe the movements of your students?
   A. In the center of the circle
   B. Outside the circle
   C. Within the circle

5. True or false:
   One cause of lateral balancing problems (for the student just learning to ski) is over-flexed ankles, coupled with an over-flexed torso.

6. True or false:
   Walking in a low position on skis can cause the muscles to fatigue.

7. What is the star step? What is its purpose?
   Give a detailed description of how to perform it.

   _____

   _____

   _____

8. After you've shown your students how to walk by lifting their skis, what might you logically have them try next while walking.

_____

_____

9. True or false:
Your students will need to use their poles to slide across flat terrain.

10. What is a scooter turn?

_____

_____

11. Describe the exercise given in the Walking, Stepping, and Sliding progression for helping students feel a solid foot platform.

_____

_____

12. True or false:
Walking in a small circle requires both leg and full body rotation movements.

13. Circle the best choice:
When you first open your ski tips to change directions while walking, you rotate your leg (outward) / (inward).

14. Choose one or more of the following:
Much of the fine-tuning for sustaining a flat ski comes from what part(s) of the body?
   A. The foot
   B. The leg
   C. The ankle
   D. The spine

Answers: Walking, Stepping, and Sliding

1. A, D, & E. The natural athletic stance is a *fairly tall stance* with *ankles, knees, hips, and spine slightly flexed.* The *hips and upper body are centered over the feet and skis.*

2. B. When walking straight ahead on skis, you should place most of your weight on the *entire foot,* instead of only on the ball or the heel.

3. Cross-lateral movements are where opposite sides of the body move at the same time. One example of a cross-lateral movement is walking. When you walk, the right foot and ski move forward as the left hand and pole move forward, and the left foot and ski move forward as the right hand and pole move forward.

4. A. *The center of the circle* is the best place to stand to observe the movements of your students.

5. *False.* One cause of lateral balancing problems for a student just learning to ski is standing with the skis too close together. The skis can catch and cause the skier to fall over. Over-flexing the ankles and torso pulls the skier's weight over the tips and forebody of the skis.

6. *True.* Walking or standing in a low position on skis can cause the muscles to fatigue more rapidly than walking in a fairly tall position.

7. The star step is so named because the tracks left in the snow by the skis resemble a star with many points. It is a method of turning around while walking.

8. After you've shown your students how to walk by lifting their skis, you might want to have them try *sliding* while walking.

9. *False.* However, it will be easier if they push against their poles to slide across flat terrain.

10. A scooter turn is a method for changing directions by walking, stepping, and sliding with one ski off and one ski on.

11. There are a number of effective ways to help your students feel a solid foot platform. The Walking, Stepping, and Sliding progression in this workbook contains the following exercise:

    To help your students feel the entire foot so that their skis remain flat on the snow, have them gently hop up and down by flexing and extending the ankles, knees, and hips.

12. True. Making any kind of direction change requires a rotary movement. Although walking in a small circle requires more leg rotation than full body rotation, it does involve both to a degree.

13. Opening the ski tips to begin to change directions while walking requires *an outward rotation* of the leg.

14. A & C. Much of the fine-tuning for sustaining a flat ski comes from the *foot* and *ankle.*

Notes

Step 3: Climbing

Once the group is comfortable with walking, stepping, and sliding on flat terrain, it is time to climb a small incline. There are a variety of ways to climb on skis. The most common is the sidestep.

Lesson Outcome

The students learn to climb up and down a small slope on skis.

Class Arrangement and Handling

First, define the boundaries of your practice area so that it's as far away as possible from other groups and skier traffic. Next, identify slope aspect for your students. Describe the fall line as the line a ball would follow if it rolled down the hill. Have your students place their skis perpendicular to the fall line the nearby slope.

If your class is small (2-5 students), arrange the students in a vertical line with all student facing the same direction; if your class is large (6 or more students), divide the class into two vertical lines facing each other with enough room for you to sidestep between them.

Arranging large classes into two facing lines creates an environment in which everyone feels included and provides everyone with a good view of your demonstrations. The format also allows students to learn from watching each other.

Note: From the time your class moves onto a slope, you need to describe skiing in relation to the fall line. In maneuvers not involving a turn, it is sometimes enough to refer to the uphill or downhill ski. The American Teaching System materials use the following convention for describing linked turns:

The ski on the outside of the turn is referred to as the outside ski (it is the outside/downhill ski).

The ski on the inside of the turn is referred to as the inside ski (it is the inside/uphill ski).

Sidestepping

Your students are now ready to sidestep, starting on flat terrain and then moving onto the nearby gentle slope. Have them try the following steps.

1. Lift the ski closest to the slope and move it laterally in the direction of the slope.
2. Set the ski down and step on it.
3. Lift the other ski and place it next to the first ski.
4. Repeat until they have sidestepped a few steps up the slope.
5. Sidestep back down the slope.

You will probably have to explain and demonstrate how to make the uphill edges of the skis bite into the snow to prevent the skis from slipping sideways back down the hill. Talk about pointing the knees up the hill without changing the direction that the skis are pointing or that the body is facing.

Some students may better understand the idea of tipping their ankles into the hill, while for others kicking snow up the hill with the uphill edge of the ski may be a clearer explanation. The more ways you can describe the same maneuver, the easier it will be for you to reach everyone in the class. Instead of insisting that all your students understand what you say, it is up to you to find the words that communicate with each person.

Hints for Sidestepping

As students practice sidestepping, encourage small, slow steps so they use the appropriate movements. When their skis slip backwards or forwards, check their stance, making sure that their weight is evenly distributed over their skis. They should feel more pressure on the outside of their foot and little toe in the uphill boot. Similarly, they should feel contact with their arch and big toe in their downhill boot.

If their skis scissor or separate, advise them to take smaller steps and roll both knees uphill to provide the correct edge angle to keep the skis from slipping.

At first, students may rely on their ski poles to help support them. Explain that they should use their poles to maintain balance rather than support their bodies. Encourage a fairly tall stance allowing their legs to support their bodies. Sidestepping is shown in photo 4.

Photo 4. Sidestepping

Bullfighter Turn

After your group has sidestepped back down to the flats, have them spread out so that everyone can see you demonstrate while they practice the bullfighter turn at the same time. The bullfighter turn is shown in photo 5. Have your students imagine themselves practicing on a slope. Orient them to an imaginary fall line. Then show them the following sequence.

1. Put the palms of their hands on the very tops of their ski pole grips.
2. Raise their poles and point them straight out in front of their bodies so that they are level and held at arm's length.
3. Turn their shoulders and arms so that their poles point straight down the imaginary fall line.
4. While bending slightly at the waist, place their poles in the snow so that their elbows are locked straight and there are two or three feet between the pole points.
5. Step their skis around so that they face straight down the imaginary hill.

Practice this a couple of times on the flat before sidestepping up again and attempting it on the hill.

Getting Up From a Fall

At some point in the lesson, you should teach the class how to get up after falling.

1. From a seated position on the snow, demonstrate how to align the skis perpendicular to the fall line by pulling the feet and skis around until they are downhill from the body.
2. Show your students how to place their poles uphill and use them to push and pull their bodies up over their feet and skis.
3. If any students have trouble, suggest removing the uphill ski. Explain that it is easier to put a ski back on while standing and balancing on the downhill ski. It is often easier to get up from a fall on a gentle slope instead of on the flats.

Hints For Improving the Sidestep and Integrating it with Other Maneuvers

- Consider integrating sidestepping and the bullfighter turns with the straight run progression given in the next step.
- Repetition and exploration of movements anchor the sensations of skiing.
- Also, keeping the eyes up and forward fosters a proper skiing stance and allows your students to pay attention to what they feel in their feet.

Progression Options

- In extreme cases, when one or more members of the group are having great difficulty controlling their skis in a sidestep, have them practice sidestepping movements without skis. Likewise, if they are having trouble with one side, have them practice with one ski off and one ski on. Take the ski off on the

Photo 5. Bullfighter Turn

A

B

C

side that is causing the most trouble. If they have difficulty coordinating pole use with stepping movements, have them sidestep without ski poles.

- Explore herringbone steps or "V-steps" by pointing the tips out in a "V" and rolling both ankles inward. The herringbone is shown in photo 6. Begin on flat terrain, then move to a gradual incline and step straight up the fall line. Show the students how to spread their ski tips about two to three feet apart from one another by pointing the knees outward. At the same time, have them roll their knees and ankles inward so that both skis roll onto their inside edges. Lift one ski up and forward. Set the ski back down and lift the other ski up and forward, placing the tail of the ski ahead of the binding of the weighted ski. Repeating this process will allow your students to V-step forward and eventually up a gentle slope. Exaggerate your movements to make them easier to see.

Some students may feel more comfortable and in control with the herringbone step than the sidestep. Try, however, to promote both ways of stepping so the student develops more options and a full range of movement patterns. Developing sidestepping movements is a prerequisite for introducing traversing and sideslipping. Likewise, developing the movements of the herringbone step is a prerequisite for introducing skating on flat terrain.

Photo 6. Herringbone

A

B

C

Technical Aspects of Skill Development

Balancing Movements

Establish a fairly tall stance with a slight flex in the ankles, knees, hips, and spine. Center the hips and upper body over the feet and skis. Center your weight evenly over the entire uphill edges of the skis.

Rotary Movements

Sidestepping uses rotary movements, since the action of tipping the knees laterally requires inward and outward rotation of the legs. As you sidestep, your uphill leg rotates outward and your downhill leg rotates inward. In the herringbone step, both legs rotate outward, then inward.

Edge-control Movements

Herringbone and sidestepping require skiers to maintain an edged ski. Maintaining an edged ski requires inward or outward control of the leg. Rolling the knees and ankles slightly uphill promotes a greater edge angle. Much of the fine-tuning for sustaining an edged ski comes from the foot and ankle. Developing edge-control movements while stepping keeps the skis from slipping sideways allowing you to move continually and competently up a gentle slope.

Pressure-control Movements

Balancing on an edged ski to step laterally up a slope requires pressure-control movements. Feeling inward pressure over the downhill arch allows you to stand solidly on your downhill ski, so that you can lift the other ski up and place it on the uphill edge. Feeling the outside of the uphill foot and the little toe helps you to balance on the uphill edge of the uphill ski, so that you can lift the downhill ski and place it next to the uphill ski. Adjusting pressure on contact points like the arch and big toe are pressure control movements. If either one of your skis slides backwards, you are standing too much on the tail. Likewise, if your ski slides forward, you are over-pressuring the tip.

Questions: Climbing

1. What class arrangement might work best when teaching the sidestep to a large group of students?
   A. A circle with the instructor in the center and the students around the outside
   B. Micro-teaching
   C. A vertical line with everyone facing the same direction
   D. Two vertical lines facing one another

2. True or false:
   The sidestepping lesson is a good time to introduce the concept of the fall line.

3. List two ways to tell your students to angle their knees into the hill to prevent their skis from slipping while sidestepping.

   _____

   _____

4. True or false:
   Students who have sidestepped up the hill for the first time should sidestep back down it unless they know a technique for turning around.

5. Fill in the missing step in the following description of the bullfighter turn:
   1. Stand perpendicular to the fall line.
   2. Put the palms of your hands on the tops of your ski pole grips.
   3. Raise your poles and point them straight out in front of your body so that they are level and held at arm's length.
   4. _____

      _____

      _____
   5. Step your skis around so that they face straight down the hill.

6. Choose one or more of the following:
   When sidestepping, you should feel more pressure on:

   A. The outside and little toe of the downhill foot
   B. The arch and big toe of the downhill foot
   C. The outside and little toe of the uphill foot
   D. The arch and big toe of the uphill foot

7. Choose one or more of the following:
   What would you do for a students whose skis separate in the sidestep?
   A. Encourage a fairly tall stance, allowing their legs to support their bodies
   B. Have them take smaller steps and roll both knees uphill
   C. Have them direct their knees inward in an “A” frame

8. Circle the correct choice:
   You should use your poles (to support your body) / (to maintain balance) in the sidestep.

9. Fill in the blank:
   Skiers who have trouble getting back up after they fall should take off the _____ ski.

10. Circle the best choices:
    To use a herringbone to move up the hill:
    1. Face your body (uphill) / (slightly to the right, if you intend to step to the right first or slightly to the left, if you intend to step to the left first).
    2. Spread your ski tips about (1 to 2) / (2 to 3) feet apart by pointing the knees (inward) / (outward).
    3. Roll your ankles (inward) / (outward) so that both skis roll onto their (inner) / (outer) edges.
    4. Lift one ski up and forward.
    5. Set that ski back down on the snow.
    6. Lift your other ski up and forward, placing its (tip) / (tail) ahead of the binding section of the weighted ski.
    7. Repeat this process to move up the slope.

Answers: Climbing

1. D. When teaching the sidestep to a large group of students, try dividing them into two lines. Have the lines face each other leaving enough room between them for demonstrations and providing assistance from the middle.

   Note: Terrain, class composition, and area policy (to name just a few factors) all affect the definition of a "large class." Additionally, even with a large class, there may be good reasons for using some other class arrangement. Consult your area trainer or supervisor, if in doubt.

2. *True.* The sidestep lesson is a good time to introduce the concept of the fall line, since your students will be placing their skis across the fall line to sidestep.

3. There are many ways to describe how to angle your knees into the hill to keep your skis from slipping while you sidestep. You could use any (or all) of the following descriptions:

   - Point your knees up the hill.
   - Roll your ankles into the hill.
   - Kick snow up the hill with the edge of your ski.

   Note: Be sure to point out to your students that they should not change the position of either their skis or body while angling their knees into the hill.

4. *True.* If you have not yet shown your students what to do once they've reached the top, you should have them sidestep back down the hill the first time they sidestep up it. Sidestepping back down also anchors this technique for your students.

5. To perform the bullfighter turn:
   1. Stand perpendicular to the fall line.
   2. Put the palms of your hands on the tops of your ski pole grips.
   3. Raise your poles and point them straight out in front of your body so that they are level and held at arm's length.
   4. *Turn your shoulders and arms so that your poles point straight down the fall line. While bending slightly at the waist, place your poles in the snow beneath you so that your elbows are locked straight and there are two or three feet between the pole points.*
   5. Step your skis around so that they face straight down the hill.

6. B & C. In sidestepping, you should feel more pressure on the *arch and big toe of the downhill foot* and on the *outside and little toe of the uphill foot*.

7. B. Have students whose skis separate in the sidestep take smaller steps and roll both knees uphill so that their skis will be edged enough not to slip.

8. In the sidestep, you should use your poles to *maintain balance* rather than support your body.

9. Skiers who are having trouble getting up after a fall should take off the *uphill* ski since it is easier to put a ski back on while standing and balancing on the downhill ski.

10. To use a herringbone to move up the hill:
    1. Face your body *uphill*.
    2. Spread your ski tips about *2 to 3 feet* apart by pointing the knees *outward*.
    3. Roll your ankles *inward* so that both skis roll onto their *inner* edges.
    4. Lift one ski up and forward.
    5. Set that ski back down on the snow.
    6. Lift the other ski up and forward, placing its *tail* ahead of binding section of the weighted ski.
    7. Repeat this process to move up the slope.

Notes

Step 4: Straight Run

Terrain

An ideal beginner slope should be very gentle with flat terrain at the bottom. Beyond the flat terrain, there should be a slight uphill, or counter-slope (which is also called a runout). This runout allows the students to come to a stop without having to do anything but stand on their skis and glide.

Lesson Outcome

The student descends a small incline while maintaining flat skis and a balanced, upright position.

By this time, new skiers should have a fairly sense feel for balancing while they move themselves around on the snow (i.e., dynamic balance). They are now ready for their first straight runs, where they will experience sliding with the help of gravity for the first time!

Class Arrangement and Handling

Assemble the group in two lines facing each other, about two ski lengths apart. Call the students out one at a time (alternating from each line) to practice straight-running after you've demonstrated it yourself. As they try it, you should stand at the bottom and provide simple and brief corrections, tailoring your remarks to individual needs.

Straight Run

Explain that the first descent is brief and the speed is slow to eliminate any concerns about stopping. First, climb only a short distance so that they do not build too much speed. Assure them that the gentle terrain and flat area will stop their forward movement. Before sending the first student down the hill, review the bullfighter turn with another demonstration.

The first run is an exhilarating moment in the student's development. Share in their excitement and eagerness to try the next straight run. As each student finishes, have that student step out of the way and begin climbing back uphill while the next student is getting ready. Plan on demonstrating at least once for every two or three students, so that everyone has a fresh and clear

Table 2

Straight Run	
Problem	Solution
Student over-flexes the hips and adopts a "seated" position.	Advise the student to stand centered with hips over feet. Feeling the ankle flex into the tongue of the boot, with the weight over the balls of the feet promotes a centered stance. Focusing on these foot and ankle sensations inside the boot eliminates the problem of sitting back.
Student has trouble keeping skis straight and tracking parallel (the skis separate).	Suggest that the student distribute the weight equally over both skis and over the soles of both feet.
Student leans back and to one side; the tip of the other ski lifts off the snow.	A stable upper body centered over the feet provides even pressure over both skis and eliminates this problem. Advise the student to keep the upper body facing the fall line. Have the student pick a distant object down the fall line to use as a target to look at.

image in their mind of what they are trying to do. If your group is fairly athletic and seems to be catching on quickly, one or two runs are enough. If they seem more tentative, give them more chances to practice.

See Table 2 for some common problems your students may have in the straight run and suggestions for correcting them.

While still working on straight runs, introduce the following progression options for enhancing skill development. Before executing a new exercise, however, practice basic movements from a stationary position on flat terrain. Provide clear instructions and a visual demonstration with each new task.

Progression Options

1. First ask your students to lift up one ski and then the other while sliding. This will help them find their balance from foot to foot and ski to ski. This is shown in photo 7.
2. Next run, ask them to exaggerate extending and flexing their legs. Leaning slightly forward and slightly backward in a run will help them find "center" of their feet and skis.
3. As a final straight-run exercise, have the students step out of the fall line. Ask them to lift one foot and point the tip slightly to the side from where both skis were pointing. This is the same movement as star stepping, but performed while in motion. Repeat the process of pointing and stepping until they are facing across the hill or have come to a stop.

Photo 7. Balancing Exercise

A

B

C

Since there is so much activity in this progression, watch for signs of fatigue. Have anyone who looks tired simply watch for a few runs. If the whole group looks tired, it is time for a juice break to revitalize and provide energy for success.

Alternate between demonstrating and providing immediate, concise feedback. The straight run progression is exciting and fun for the newcomers. Be cautious about giving too much instruction, as it may cause frustration. Your enthusiasm can provide enough motivation. Keep an eye on the movements of everyone in your group. When you have eight or more students, watching everyone and giving feedback becomes more challenging. If you miss a person's run, try to catch it the next time. Praise and congratulate the students when the movements are correct. Offer brief and simple corrections to promote success. Provide equal amounts of praise and instruction to everyone in the group so that everyone feels included.

More Progression Options

- Straight run in a low stance.
- Straight run in a tall stance.
- Straight run without poles.
- Exploring both a tall and low stance in a straight run.
- Focusing on hand positioning both arms and hands even, forward, and away from the torso.
- From a stationary position on flat

terrain, practice balancing on one ski. Pick the tail of the ski off the snow, pick up the tip, then pick up the whole ski. Switch skis.
- Repeat the one-legged balancing exercise while moving in a straight run. Pick up the tail, then pick up the tip. Switch skis.
- Practice balancing on one ski, then switch skis in the same straight run.
- Practice stepping sideways during a straight run. Step to the opposite side during the next run.
- Practice stepping out of the fall line and turning to a stop.
- From a stationary position on flat terrain, practice hopping from both skis. Focus on initiating the jumping action with the ankles.
- Practice hopping while moving in a straight run. See how many times you can hop during a straight run.

Note: Older class members may quickly lose interest in hopping.

Technical Aspects of Skill Development

Balancing Movements

Establish a fairly tall stance with slight flex in the ankles, knees, hips, and spine. The student's weight must be centered evenly over both skis, so that the skis track in a straight direction. Targeting the upper body toward a distant object helps center the hips and torso over the feet and skis. Feeling weight evenly distributed over the sole of the foot also promotes a centered stance.

Rotary Movements

Maintaining an even track while straight running requires control of both the inward or outward rotation of the legs, so the skis do not turn. Keeping the body square with the fall line controls rotary movements, so the skis run flat and straight.

Edge-control Movements

Maintaining flat skis requires edge-control movements. Foot and ankle relationship to alignment within the boot promotes flat skis so that they run straight. Again, keeping the body square to the fall line maintains flat skis.

Pressure-control Movements

Feeling even pressure underneath the entire sole of each foot promotes equal weight distribution. Targeting the body toward a distant object helps center the hips and torso between the feet and skis, also promoting even weight distribution over the skis so that they run flat and straight.

Questions: Straight Run

1. Choose the best answer:
   What type of terrain would be best for your group's first straight run?
   A. A gentle slope
   B. A gentle slope which leads to a flat area that is at least 5 feet in length
   C. A gentle slope which leads to a flat area of 10 or more feet
   D. A gentle slope which leads to a flat are which leads to a slope which goes slightly uphill
   E. None of the above

2. Define dynamic balance.

   _____

3. Choose the best answer:
   About how often should you demonstrate the straight run when you first show it to an average group of students?
   A. Once
   B. Once for every student
   C. Once for every three to four students
   D. Once for every eight to nine students
   E. None of the above

4. Choose one or more of the following:
   A desirable body position for a straight run is:
   A. Fairly tall
   B. Fairly low
   C. With ankles, knees, and hips slightly flexed and the spine straight
   D. With ankles, knees, hips, and spine slightly flexed
   E. With hips and upper body centered over the feet and skis
   F. With hips and upper body slightly countered to the skis

5. True or false:
   To correct a squatted body position in a straight run, have the student look at a distant object that is directly down the fall line.

6. True or false:
   For the straight run, feeling weight evenly distributed over the soles of both feet promotes a centered stance.

7. Fill in the blanks:
   A fairly athletic group should only have to practice the straight run

   _____ or _____ time(s).

8. What does the Straight Run progression recommend you have your students do to find the center of balance of their skis?

_____

9. Choose one or more of the following which can help your students keep their skis flat on the snow in a straight run.
   A. Controlling the inward and outward rotation of the legs
   B. Keeping the body square with the fall line
   C. Feeling even weight distribution under the soles of the feet with a slight amount of pressure on the boot's tongue
   D. Targeting the body toward an object that is some distance down the fall line

10. Where should the skier's weight be to help both skis to track together in a straight run?

_____

Answers: Straight Run

1. D. Ideally, the skier trying out a straight run for the first time will come to a gradual stop automatically (and effortlessly) when the terrain changes from *a gentle slope to a flat area to a slope which goes slightly uphill*.

2. Dynamic balance is balancing while moving.

3. C. You should demonstrate the straight run *once for every three or four* students in an average class.

   Note: Due to differences in class size, length of lessons, ability levels, and other area and situation-specific considerations, the number of times suggested in the Straight Run progression for demonstrating the straight run may not be appropriate for your class. Use your judgement and check with your area supervisor or trainer, if in doubt.

4. A, D, & E. The skier should be in a *fairly tall stance* with *ankles, knees, hips, and spine slightly flexed* and with the *hips and upper body centered over the feet and skis*.

5. *False.* Looking down the fall line at a distant object stabilizes the upper body. To correct a squatted body position in a straight run, have the student stand centered with hips over feet and ask the student to feel the ankle flex into the tongue of the boot with the weight distributed over the balls of the feet.

6. *True.* For the straight run, feeling even pressure under the entire length of the soles of both feet equally on both feet promotes a centered stance. Telling the student to stand centered with hips over feet also promotes a centered stance. For over-flexed hips and a squatted/seated position, feeling the ankle flex into the tongue of the boot and the weight distributed over the balls of the feet equally over both feet will promote a centered stance.

7. A fairly athletic group should only have to practice the straight run *one or two* times.

8. One way for your students to find the center of balance on their skis is to first lean slightly forward and then slightly backward. They will find their balance between these two stances.

9. A, B, C, & D. It is necessary to control the *inward and outward rotation of the legs* to keep the skis flat on the snow. *Keeping the body square with the fall line* controls rotary movements so that the skis run flat and straight. *Distributing the weight evenly over the soles of the feet with a slight amount of pressure on the boot's tongue* promotes even foot and ankle alignment in the boot, which in turn helps keep the skis flat. *Targeting the body toward an object some distance down the fall line* promotes even weight distribution over the skis so that they run flat and straight.

10. In a straight run, the skier's weight should be *equally distributed over both skis* to help both skis track together.

Notes

Skier Level 2

Step 5: Gliding and Braking Wedge

Terrain

As with any new maneuver at this level, introduce the wedge on flat terrain.

Lesson Outcome

The students learn to glide down a small incline with their skis in a wedge, and they learn to control their speed and stop by varying the size of the wedge. The gliding wedge is depicted in photo 8.

Class Arrangement and Handling

Continue to use the two-line class management style outlined in the straight run progression.

Preparing for a Wedge (Tails-out Method)

1. Show your students how to step the tail of one ski out to the side from a basic stance to a wedge position, while leaving the tip in the same place on the snow.
2. Ask them to do the same thing with the other foot and ski.
3. Now, from the basic athletic stance with the skis parallel, show them how to "brush" the tails of both skis out to form a wedge. Make sure they maintain a tall stance and stable upper body as they do this. Tell them to apply pressure to the inside cuff of the boot and arch of the foot while brushing the tails out.
4. As they begin to show some proficiency with stepping and brushing the skis into a wedge, have them hop and push the tails out, then hop and pull the skis to the parallel position. Once they are comfortable with this, have them hop in and out of a wedge without pausing between the two moves. (This is just like jumping jacks without the arm movements.) Keep practicing so the students anchor the feeling of hopping both skis simultaneously.
5. Before proceeding, check their understanding of the movements necessary for changing their skis from a flat, parallel position to a wedge.

Photo 8. Gliding Wedge

Alternative Preparation for the Wedge (Tips-in Method)

1. Have the student pick up one ski and turn it inward.
2. Ask them to do the same thing with the other foot and ski.
3. Starting from a very wide stance, with skis parallel and flat on the snow, have them hop up and turn both ski tips inward to form a wedge.
5. Once they are comfortable doing this, have them hop in and out of the wedge without pausing between the two moves.

Now the students are ready to start sliding in a wedge.

Gliding Wedge

1. Demonstrate a narrow, gliding wedge from a fairly tall stance with the feet slightly wider than hip-width apart. Demonstrate the difference between a narrow wedge and wide wedge and encourage the narrow wedge for gliding.
2. Briefly review correct ski pole use. Explain how to hold the hands in front so they are visible within the peripheral vision. Show them how to hold their poles with the baskets angled toward the tails of their skis.
3. Finally, have your class practice wedging the skis while moving. Again, until the students become more confident in their ability, it is critical to practice for only a short distance so they do not build too much speed.

Provide simple corrections while the students practice the gliding wedge (Table 3).

Table 3

Problems with a Wedge	
Problem	Solution
Trouble maintaining a wedge	Encourage a balanced stance by keeping the hips and torso centered between the feet and skis. Maintaining symmetry in the wedge requires pushing both feet equally.
One or both skis separate and track in an uncontrollable manner or the student travels to left or right rather than gliding directly down the fall line.	Keep the upper body facing downhill or targeted toward a distant landmark (tree, lift tower, etc.) that is in line with the fall line. Also, encourage pushing equally against both tails while keeping the ski tips turning toward each other, about three to four inches apart. This will prevent one ski from traveling in front of the other.
Wedge widens because the ski tips are too far apart, causing the skis to separate.	Keep the ski tips closer together. Again, emphasize pushing or brushing the tails apart. Encourage turning the tips toward each other.

Gliding Wedge Movement Options

After the students have experienced gliding in a wedge for two runs, have them combine the straight run and the gliding wedge. Have them start down the slope with the skis parallel, then push them out to a wedge to finish the run. If the students are fairly athletic, have them try hopping from parallel position into the wedge.

Spend two to three more runs exploring these options if the group looks like they are up for it. If at any time during the progression some students need to rest, suggest that they sit out for a couple of laps. Just be careful not to forget them.

Next, show your students how to vary the size of the wedge—use a wider wedge for slowing down and stopping. Assign a numerical value to various wedge sizes. For example, 1 is a narrow, gliding wedge; 2 is a medium-size wedge; and 3 is a larger, braking wedge. While sliding down the beginner slope, have them practice changing wedge sizes. Have them push open the tails of their skis into a progressively wider wedge. Explain that the wedge size changes according to the distance between the tails, while the ski tips stay relatively the same distance apart.

Have them practice flexing the legs as they push open the tails. Tell them to exert pressure on the inside of the arch and the inside cuff of the boot. Then, before coming to a stop, have them stand up tall again. Standing up, or "relaxing tall," will reduce the size of the wedge. Repeating these rising and sinking movements during the same run provides the sensations of speeding up and slowing down.

Braking Wedge

Now teach your students the braking wedge so they learn to stop.

Set your poles in the snow and ask your students to make a big enough wedge to stop between the poles. Be sure to leave a couple of ski-lengths between the poles so that your students do not run into them.

Before moving on to the next step check their understanding of gliding versus braking wedge movements, as well as their understanding of slowing down and stopping. The purpose is to anchor the sensation of brushing the skis smoothly over the snow surface from a centered stance. Pay atten-

tion to what each individual is feeling so that you can customize feedback to that person's sensations. Some students may feel what it means to brush the edges; others may require more straightforward concepts, such as "point the toes in, push the heels out." If students connect with the term "pushing," make sure that they are pushing from a centered stance, rather than from the back seat. Promote a forward and centered stance by encouraging them to feel more pressure under the balls of their feet and on the shin against the tongue of the boot. The more ways you say the same thing, the sooner you will reach all of your students.

Progression Options

- Practice gliding in a wedge from a tall stance.
- Practice gliding in a wedge from a low stance. Feel how the lower, centered stance decreases the speed.
- Explore extension and flexion in a gliding wedge.
- Practice wedging without poles.
- Practice wedge change-ups. Ski in a narrow wedge, then stand up to allow the skis to run flat and parallel; then wedge again.
- From a stationary position on flat terrain, practice hopping from flat and parallel skis to a wedge position. Focus on hopping tails into a wedge while keeping the upper body centered between the feet. Hop back to a parallel.
- Focus on hopping tips in from a wide stance parallel while keeping the upper body centered between the feet. Hop back to a parallel.
- Practice wedge hops while moving in a straight run. See how often a student can hop during a straight run. (Once again, your older class members may quickly lose interest in hopping).
- Practice a braking wedge and use the poles to push and generate momentum.
- Practice a gliding wedge, to a braking wedge, then stop.
- Hold poles vertically by their pole shafts and frame the direction or object for targeting. Framing a direction promotes a stable upper body and proper body alignment.

Technical Aspects of Skill Development

Balancing Movements

Establish a fairly tall stance with a slight flex in the ankles, knees, hips, and spine. Center the hips and upper body over the feet and skis. Center the student's weight evenly over both skis, so that the skis run straight in a gliding or braking wedge. Targeting the upper body toward a distant object helps center the hips and torso over the feet and skis. Feeling weight evenly distributed over the inside arches of the feet also promotes a centered stance.

Rotary Movements

By pointing the toes in and pushing the heels out, a simultaneous inward rotation occurs in both legs. Rolling the knees and ankles inward is a rotary movement (and an edging movement). This rolling ankle movement occurs inside a rigid boot that is connected to the ski and directly affects the ski, twisting it inward. Pushing the tails further out while pointing the tips inward for a braking wedge increases the inward rotation of the legs.

Edge-control Movements

Exploring different wedge sizes and edge angles, stationary or moving, uses edge-control movements. Brushing the skis across the snow promotes soft and continuous edging movements, while digging-in with the edges encourages harsher, abrupt edging movements. Pushing the tails out while pointing the tips in increases edge angle and promotes slowing. Feeling increased pressure on contact points—arches, big toes, and the insides of the ankles—also increases edge angle. This increased pressure should be evenly distributed so that the edge-control movements are even and the skis move straight in a gliding or braking wedge.

Pressure-control Movements

Feeling even pressure on contact points arch, big toe and the inside of the ankle when creating a wedge is a pressure-control movement. Pushing both skis equally in a wedge requires pressure control. Feeling this even pressure promotes equal weight distribution between the skis so that the skis travel straight in a gliding or braking mode. Targeting the body toward a distant object promotes

even weight distribution over the skis so that they run straight. Pushing the tails out in a braking wedge increases the edge angle and therefore the pressure to the skis.

Questions: Gliding and Braking Wedge

1. Choose the best answer:
   How far apart should your ski tips be in a gliding or braking wedge?
   A. Touching
   B. 3 to 4 inches
   C. 11 to 12 inches

2. Choose one of the following:
   For the gliding wedge, what class arrangement affords your students the best view of your demonstrations as well as of each other and creates a comfortable learning atmosphere?
   A. Two vertical lines facing one another with the instructor between them
   B. A vertical line with everyone facing the instructor
   C. Semicircular, with the instructor at the radius
   D. A circle with the instructor in the center and the students around the outside

3. True or false:
   You should teach the gliding and braking wedge on the same type of terrain as the straight run.

4. Circle the correct choice:
   In the gliding wedge, your skis should be (slightly less than hip width apart)
   (slightly wider than hip width apart).

5. Where should the tips of your ski poles point when you are skiing in a gliding wedge?

   _____

6. Choose the best answer:
   Where should you hold your hands when skiing in a gliding wedge?
   A. Slightly in front of your body and waist high
   B. Directly to the sides of your body and waist high
   C. Slightly in front of your body and just high enough for you to see them out of the corner of your eye

7. True or false:
   An unbalanced stance in a wedge with the hips and torso not being centered between the skis can result in one or both skis separating or in difficulty in keeping the skis in a wedge.

8. Choose one or more of the following:
   For students who try to travel directly down the fall line in a wedge, but travel to one side instead:
   A. They look at a target slightly downhill and to the other side
   B. They keep their upper bodies facing downhill
   C. They push equally against the tails of both skis while keeping their ski tips pointed toward each other about 3 to 4 inches apart
   D. They push equally against the tails of both skis while allowing their ski tips to move to about 11 to 12 inches apart

9. Choose one or more of the following:
When increasing the size of the wedge, the ski tips:
   A. Stay about the same distance from each other
   B. Move out at a constant rate
   C. Move out to about 11 to 12 inches apart

10. True or false:
Sink or flex the legs to reduce the size of the wedge.

11. True or false.
Wedging from a lower, centered stance decreases the skier's speed.

12. What is a wedge change-up?

_____

13. True or false:
Framing a direction by looking through ski poles which you are holding vertically in front of you promotes a stable upper body and proper body alignment.

14. Fill in the blank with one or more words:
For the skis to run straight in a gliding or braking wedge, the student's weight should be _____ evenly over both skis.

15. Circle the best choice:
Pushing the tails of the skis out while pointing the tips inward for a braking wedge increases the (inward) / (outward) rotation of the legs.

16. Circle the best choices:
Pushing the tails out in a braking wedge (increases) / (decreases) the edge angle which (increases) / (decreases) the pressure to the skis.

Answers: Gliding and Braking Wedge

1. B. Your ski tips should be fairly close together with *three to four inches between them* in a gliding or braking wedge.

2. A. Assembling the group in two lines which face each other (for large groups) affords your students the best view of your wedge demonstrations and of each other and also creates a comfortable learning atmosphere.

3. True. You should teach the gliding and braking wedge on the same type of terrain as the straight run (a gentle slope that leads to a flat area that leads to an area that goes slightly uphill).

4. In the gliding wedge, your skis should be *slightly wider than hip width apart.*

5. Your ski pole tips should point *toward the tails of your skis* when you are skiing in a gliding wedge.

6. C. When you are skiing in a gliding wedge, you should hold your hands *slightly in front of your body, just high enough for you to see them in your peripheral vision.*

7. *True.* Students who have trouble maintaining a wedge position, or who have one or both skis separate and track in an uncontrollable manner while trying to wedge, may not have their hips and torsos centered between their feet and skis. Maintaining symmetry in the wedge position requires pushing both feet out equally so that the tails displace and the tips point inward.

8. B & C. When students try to use a wedge to travel directly down the fall line, but travel to one side instead, you can suggest that they do either of the following:

   Keep their upper bodies facing downhill.

   Push equally against the tails of both skis while keeping the ski tips pointed toward each other about 3 to 4 inches apart.

9. A. When increasing the size of the wedge, the tips *stay about the same distance from each other*.

10. *False.* To reduce the size of the wedge, stand up or "relax tall."

    Sinking or flexing the legs while opening the tails and exerting more pressure on the inside arches and cuffs of the boot will increase the size of the wedge.

11. *True.* Wedging from a lower, centered stance should decrease the skier's speed.

12. A wedge change-up is where you move your skis into a wedge, then bring them parallel, then wedge them again.

13. *True.* Framing a direction with your ski poles does promote a stable upper body and proper body alignment.

14. For the skis to run straight in a gliding or braking wedge, the student's weight should be *centered evenly* over both skis.

15. Pushing the tails out while pointing the tips inward for a braking wedge increases the *inward* rotation of the legs.

16. Pushing the tails out in a braking wedge *increases* the edge angle which *increases* the pressure to the skis.

Notes

Step 6: Wedge Traverse and Stop

Note: The wedge traverse builds control and confidence if your beginner terrain is challenging (for example, if it slopes in different directions, with more than one fall line). Introducing it at this point is critical if the slope served by your beginner lift (because this is where the students will be skiing shortly) is steeper than the slope you've been using so far. The wedge traverse is shown in photo 9.

Photo 9. Wedge Traverse

Terrain

Slowing down and stopping is a continual concern for the student especially the more timid student. Keep working on the same terrain you did in the straight run and wedge progressions. Stay on the lower sections of the slope for this exercise, even though you probably climbed a little higher for practicing the braking wedge and gliding wedge. Students may be slightly spread out and working at their own paces within the boundary that you established earlier.

Lesson Outcome

The students keep their skis in a wedge while traversing a gentle slope. They learn to control speed and stop by varying the size of the wedge. They learn the terminology of "downhill" and "uphill" ski.

Class Arrangement and Handling

Organize the group in a revolving line format. Instead of practicing from two groups, establish one group where some of the group are sidestepping into the traverse area, while others are moving along the flats to the sidestep area. The revolving line format keeps the group moving, while allowing them to observe each other. Provide simple corrections to each student during the traverse.

Wedge Traverse

1. From a stationary position on the slope, demonstrate a tall stance with the upper body centered over the feet and skis.
2. Spread the tails of your skis and point the tips inward to form a wedge.
3. Make sure your students understand the difference between the downhill and uphill ski. Explain that while the students are traversing, they should feel more of their weight over the uphill edge of the downhill ski. Demonstrate that the downhill ski can be tipped higher on edge than the uphill ski by pointing or rolling the downhill knee uphill. Show how the knee controls the edge angle of the ski when you move it from side to side.
4. Pick a target a tree, for example that is slightly downhill of the direction of travel. Demonstrate how to align the body by pointing the head, shoulders, upper body, and hips toward the target. Then show how the uphill hip, knee, foot, and ski are slightly ahead of their downhill counterparts.
5. Demonstrate a traversing wedge while using the flat runout to slow down and stop. Provide simple corrections while the students practice traversing in a gliding wedge (see Table 4). Most students will have a "good" and "bad" side; practice so both sides develop symmetry.

Stopping: Wedge Change-up in a Traverse

Practice slowing down and stopping in a wedge traverse using a wedge change-up, going from a narrow gliding wedge to a larger, braking wedge. Explain that the downhill ski continues to hold most of the weight. Describing what the students should feel inside their boots as skis slow down and stop to anchor those sensations.

Stopping: Stepping the Skis Uphill from a Parallel Traverse

Before moving on, show the students another option for coming to a stop from a traverse: taking parallel steps uphill until they stop.

Table 4

Wedge Traverse	
Problem	Solution
Trouble maintaining weight on the downhill ski.	Roll the downhill knee inward, creating a greater edge angle and therefore a better platform for holding the skier's weight. Align the upper body over the feet rather than into the hill.
Trouble maintaining a wedge while traversing.	Make sure that the uphill ski, boot, knee, hip, and shoulder are slightly ahead of the downhill side, ensuring the correct body alignment for a successful traverse in a gliding wedge.

1. Lift the uphill ski and point the tip a little more uphill. Use a small step.
2. Step onto the uphill ski; step the downhill ski close to it.
3. Repeat the process until the skis are pointing directly across the fall line. Once the skis are perpendicular to the hill, the student will come to a stop.
4. Use the bullfighter turn to get moving again.
5. Try this maneuver in both directions.

Slowing down and stopping in a wedge traverse and stepping the skis in a parallel traverse are great maneuvers to establish in a student's repertoire. Once your students have correctly established the fundamental movement patterns, these alternatives provide great options for reducing speed and stopping. Also, these traversing methods are more comforting than slowing down and stopping in the fall line. When the student progresses to a steeper slope, the wedge traverse is a less intimidating option. Stepping the skis from a traverse quickly controls speed and also helps the skier avoid obstacles. Build students' confidence by reviewing all the options for reducing speed and stopping.

Progression Options

- Explore flexion and extension movements while traversing in a gliding wedge.
- Practice wedge change-ups while traversing. Explore various wedge sizes from narrow to wide, while weighting the downhill ski and maintaining a traverse.
- Create different edge angles while exploring various wedge sizes. Experience the difference between brushing the skis against the snow and making the skis bite into the snow, feeling a platform build underneath the ski.
- Practice traversing in a wide wedge, using the poles to push and generate momentum. Use a wide wedge to a stop.
- Practice traversing in a narrow wedge with more weight on the downhill ski.
- Practice traversing in an open parallel stance with more weight on the downhill ski. Step the skis uphill to a stop.
- Practice a parallel traverse.

Technical Aspects of Skill Development

Balancing Movements

A fairly tall stance with a slight flex in the ankles, knees, hips, and spine provides efficient muscular and skeletal support. The hips and torso are balanced fore and aft over the feet and skis even in a wedge. Moving the uphill ski, knee, hip, shoulder, arm and hand slightly ahead of their downhill counterparts creates a powerfully balanced, countered stance.

Rotary Movements

By pointing the toes in and/or pushing the heels out, a simultaneous inward rotation occurs in the legs. Varying the wedge sizes causes some inward leg rotation.

Edge-control Movements

Exploring different wedge sizes and edge angles uses edge control movements. Scraping (brushing) the edges across the snow can be performed aggressively or in a more refined, subtle manner.

Pressure-control Movements

Pressure-control movements include continued application of pressure at various contact points (such as the arch and big toe), as well as the shifting of more weight to the downhill from the uphill ski while traversing. This creates a platform that combines edge control with pressure control movements as the edge angle is increased and more weight is added to the ski.

Questions: Wedge Traverse and Stop

1. Choose the best answer:
   In the wedge traverse your upper body:
   A. Should be over your feet and should face in the direction of travel
   B. Should be over your feet and should face slightly downhill from the direction of travel
   C. Should angle slightly into the hill and should face in the direction of travel
   D. Should angle slightly into the hill and should face slightly downhill from the direction of travel

2. True or false:
   In the wedge traverse your uphill ski, knee, hip, shoulder, arm, and hand should be slightly ahead of your downhill ski, knee, hip, shoulder, arm, and hand.

3. Choose the best answer:
   In the wedge traverse your weight should be:
   A. Evenly distributed over the inside edges of both skis
   B. More on the inside edge of your uphill ski
   C. More on the inside edge of your downhill ski

4. Circle the best choice out of the three given:
   In a wedge traverse, the edge angle of the downhill ski should be (less than) / (greater than) / (the same as) that of the uphill ski.

5. Choose one or more of the following:
   To help a skier who has trouble maintaining a wedge while traversing you could:
   A. Make sure the skier's head and upper body are facing in the direction of travel
   B. Make sure the skier's head and upper body are facing slightly downhill from the direction of travel
   C. Have the skier lean slightly into the hill
   D. Have the skier lean slightly back

6. The Wedge Traverse and Stop progression in this study guide mentions two ways to come to a stop from a wedge traverse. Describe one of these.

   _____

   _____

7. True or false:
   In a wedge traverse, the upper body should be centered over the feet and skis.

8. Choose one or more of the following that will result in an increased edge angle in a wedge traverse:
   A. Increasing the size of your wedge
   B. Decreasing the size of your wedge
   C. Tipping the uphill knee into the hill
   D. Tipping the downhill knee into the hill

9. True or false:
A higher edge angle in the wedge traverse decreases pressure on the skis.

Answers: Wedge Traverse and Stop

1. B. In the wedge traverse your upper body should be over your feet and should face slightly downhill from the direction of travel.

2. *True.* In the wedge traverse your uphill ski, knee, hip, shoulder, arm, and hand should be slightly ahead of their downhill counterparts.

3. C. In the wedge traverse your weight should be more on the inside edge of your *downhill* ski (with your upper body centered over your feet and skis).

4. When wedge traversing, your weight should be over the inside edge of your downhill ski and the edge angle of the downhill ski should be *greater* than that of the uphill ski.

5. B. To help a skier who has trouble maintaining a wedge while traversing, you can reinforce the correct body alignment by *making sure that the skier's the head and upper body are facing forward and slightly downhill*.

   You can also ensure the correct body alignment by making sure that the skier's uphill ski, boot, knee, hip, and shoulder are slightly ahead of their downhill counterparts

6. Two ways to come to a stop from a wedge traverse that were described in the Wedge Traverse and Stop progression are:
   - Increasing the size of the wedge
   - Taking parallel steps uphill

7. *True.* In the wedge traverse the upper body should be centered over the feet and skis.

8. A & D.
   If you *increase the size of your wedge* your skis will edge more because of the way the body is put together: since the leg is attached at the hip joint, as the feet move further from the mid-line of the body, a natural increase of edge angle will occur.
   By *tipping your downhill knee further inward* in a wedge traverse, you increase the edge angle of the downhill ski.

9. *False.* A higher edge angle in the wedge traverse *increases* pressure on the ski because there is less surface area of the ski in contact with the snow.

Notes

Step 7: First Wedge Turns

Lesson Outcome

The students keep their skis in a wedge while changing direction on gentle terrain. They learn to link wedge turns together.

Introducing the First Wedge Turn

When introducing the first wedge turn, avoid complicated or wordy instructions. Teach it either by demonstrating it or with progressions that help your students discover it for themselves.

Turning Toward a Landmark

1. Ask the students to point their skis in one direction.
2. Pick out a distant landmark like a tree or lift tower that is across the slope or on the horizon so there is no risk of running into it. See photo 10 for an example of this concept.
3. Tell the students to start moving in a gliding wedge, then turn toward the target.

Following a Line Drawn in the Snow

1. With your pole tip start drawing a line in the snow straight down the fall line.
2. Then curve the line so it eventually points across the hill.
3. Have your students follow the line while in a wedge.

Photo 10. Turning Toward a Landmark

With this, you don't even need to mention the word "turn." The students will discover for themselves that they can turn their skis with their feet and legs. Work on one turn at time, and give your group plenty of time to learn to turn in one direction before starting to turn in the other direction.

The Fan

1. Demonstrate how to turn from the fall line by skiing away from the group.
   a. Show a centered stance with appropriate flex in the ankles, knees, hips, and upper torso.
   b. Point the tips of the skis inward to form a wedge.
   c. Explain where you are going to turn and look a distant target that is slightly down the fall line from where you are going to turn.
   d. As you begin turning your skis out of the fall line, point your shoulders, torso and hips toward the target. Explain that the purpose of targeting is to keep the upper body stable so the legs and feet can turn the skis.
   e. Turn your skis in the intended direction with your legs and feet, while maintaining the same size wedge.
2. Next, demonstrate how it's done by skiing toward the group. Make sure the turn occurs gradually and smoothly. As the skis turn out of the fall line, show how the downhill ankle and knee gradually flex inward so that the edge angle of the outside/downhill ski increases.
3. Organize the group into two lines and have the students practice by alternating from each line.

Keep the group moving while offering simple, individualized tips (Table 5). As with everything you have taught so far, provide specific feedback as soon as all members of the group have tried the maneuver. Keep your comments positive: most people respond better to positive reinforcement than to negative feedback.

Table 5

Common Problems with the Wedge Turn	
Problem	Solution
Inside ski runs straight during turn.	Suggest that the student keep the body centered over the feet and skis. Emphasize the value of turning both legs while maintaining a stable upper body pointed toward a target. Flatten the inside ski to the slope. Keep the ankles and knees of the inside leg flexed.
Excessive turning with the whole body.	Reinforce the importance of targeting the upper body and feeling tension in the stomach muscles. Focus on the inside hip and point it in the direction of the turn. This focus helps "separate" the body so that the legs can turn efficiently underneath a stable upper body.
Turning too sharply and quickly.	Reinforce the importance of being patient. Suggest counting "1-2-3 and turn" to students who are rushing their turns.

4. Demonstrate how to turn the skis uphill in a wedge position (and have your students practice it). Turning uphill also anchors a slowing-down sensation while providing another option for stopping. Remember, your students, especially the more tentative students, are extremely concerned about controlling their speed. Turning uphill is a good option. Draw a line on the snow that fish-hooks uphill and have your students turn on it. You can also stand above where you would like the students to turn and cue them into turning towards you. If you taught them a wedge traverse, you can introduce their first turn by turning uphill from a traverse, using the same tactics.
5. Have your students practice turning across the fall line while exaggerating extension and flexion. This anchors the sensation of flattening the downhill ski. This extension, coupled with turning both legs and feet, steers the skis into the fall line and initiates the turn.
   a. While moving, extend and straighten both legs slightly.
   b. Turn both legs and feet in a small wedge so the skis move from across the slope to enter the fall line.
   c. Continue steering or guiding the skis by turning the legs and feet throughout the turn.
   d. Complete the turn with flexion while bending the outside/downhill knee inward.
6. Develop turn symmetry by practicing turns while maintaining the same size wedge both in the fall line and across the fall line. When students can turn in each direction, they are ready to start linking turns.
7. To link turns:
   a. Let your students start in the fall line.
   b. Start by drawing a line that represents two turns, going in each direction without interruption.
   c. For the first attempt, let them simply follow the line.
   d. Then, demonstrate two or more linked turns with a extension prior to initiating the turn so that the movements continue from one turn to the next. In photo 11, you can see the extension that occurs at turn initiation.

Photo 11. Extension at Turn Initiation

Extending the legs—slightly straightening them between turns—maks it easier to start the next turn.

Progression Options

- Explore extension and flexion movements while practicing a wedge turn. Extend the legs to start the turn and flex the legs to complete it.
- Practice turning around a ski pole or glove. Use the pole or glove as a target for the upper body.
- Encourage a stable upper body and "separate" it from the lower body by turning without poles. Instead of holding your poles, place your hands on your hips and point your hips toward a ski pole or glove which marks the direction of the new turn.
- Establish different turn shapes and degrees of turning by turning in the fall line and turning across the fall line. Use a ski pole or glove to determine where to turn.
- Hold the poles vertically by their shafts to "frame" where to turn. Framing the new direction promotes a stable upper body and proper body alignment for initiating the turn.
- Often, exploring both correct and incorrect movements can help the students anchor sensations for the appropriate turning movements. The students can experience the difference between forcing a turn with inefficient movements and allowing the turn to happen with the correct movements.

  For example, have your students practice turning very quickly so that they feel they must throw their entire bodies into the turn, which disrupts their balance. Also, have them practice stepping their skis around the turn, abruptly moving their weight from ski to ski, thus disrupting their balance and requiring more strength and energy.

  After this kind of exploration, have them practice turning with the correct movements. Check that the students understand the relationship between gradual rising and sinking movements, continuous turning of the legs and rolling the ankle and knee to increase and reduce the edge angle.

Technical Aspects of Skill Development

Balancing Movements

A fairly tall stance with a slight flex in the ankles, knees, hips, and spine provides efficient muscular and skeletal support. The hips and torso must be centered over the feet and skis so that the other skills can be developed. A countered (or anticipated) position is created when the upper body (head, shoulders, torso, and arms) points toward an object or in a specific direction, causing a slight separation or twist from the lower body (legs and feet). Pointing the inside hip in the intended direction facilitates this countered position.

Rotary Movements

By pointing the toes in and pushing the heels out, an inward rotation occurs in both legs. Maintaining a wedge position requires control of rotary movements. More importantly, a rotary movement facilitates a change in direction either by turning the entire body (full rotation) or simultaneously turning both legs in a desired direction from a countered position. Rolling the outside knee inward at the turn completion requires a greater

inward rotation of the outside leg. This rolling action works in conjunction with edging movements.

Edge-control Movements

Exploring different wedge sizes and edge angles uses edge control movements. Increasing or reducing the edge angle of the downhill ski when completing a turn determines the degree of edge penetration and pressure. Extension and flexion help reduce or increase edge angle.

Pressure-control Movements

Pressuring movements include continued feelings of more pressure at various contact points (such as the arch and big toe), more weight on outside/downhill ski at turn completion, as well as equal weight distribution over both feet and skis at turn initiation. This change in weight distribution couples with the movements of extending the legs or rising to start the turn, while flexing the legs or sinking to complete the turn. Extension and flexion are pressure-control movements.

Questions: First Wedge Turns

1. Describe two ways mentioned in the First Wedge Turns progression for "sneaking" your students into turning without actually demonstrating a turn or describing the mechanics or sensations of turning.

2. True or false:
   Wedge turns made toward a distant target enable the legs and feet to turn the skis under a stable upper body.

3. Choose one or more of the following which could help correct the problem of turning excessively with the whole body when making wedge turns:
   A. Keep the ankle and knee of the inside leg flexed
   B. Target the upper body toward a distant object and feel some tension in the stomach muscles
   C. Point the inside hip in the direction of the turn
   D. Feel the weight distributed equally between both feet, over the soles of both feet

4. Choose one or more of the following:
   To correct the problem of turning too sharply and quickly:
   A. Suggest that the student keep the body centered over the feet and skis
   B. Emphasize the value of turning both legs
   C. Suggest counting "1-2-3 and turn"

5. Circle the best choice:
   Turning (uphill) / (downhill) anchors a sensation of slowing down while providing another option for stopping.

6. True or false:
   To begin a new wedge turn, you should combine the movements of turning your legs to steer the skis in the new direction with sinking.

7. Choose one or more of the following:
   Placing your hands on your hips and pointing your hips toward a ski pole or ski glove which marks the direction of the new turn:
   A. Anchors the feeling of extending and flexing
   B. Encourages a stable upper body
   C. Promotes the separation of the upper and lower body

8. Circle the best choice:
   (Flex) / (Extend) the legs to start a turn and (flex) / (extend) the legs to complete the turn.

9. True or false:
   In wedge turns, a fairly tall stance with a slight flex in the ankles, knees, hips, and spine provides an efficient use of the body.

10. True or false:
    Pointing the inside hip in the intended direction of a turn facilitates a slightly countered position.

11. Circle the best choice:
    By pointing the toes in and pushing the heels out, both legs rotate (inward) / (outward) at the same time.

12. Circle the best choice:
    Rising and sinking in a turn are (rotary) / (pressure-control) movements.

Answers: First Wedge Turns

1. Two methods described in the First Wedge Turns progression for "sneaking" your students into turning without actually demonstrating a turn or describing the mechanics or sensations of turning are:
   a. Telling them to turn toward a landmark that is in the desired direction (across the slope or horizon so that there no risk of the student hitting the object).
   b. Drawing a line on the snow and having them follow it. With this method, you do not even mention the word turn.
      - Start by drawing the line straight down the fall line.
      - Then draw it so that it gradually points across the hill.

2. Targeting the body toward a distant object while turning provides stability, enabling the legs and feet to turn the skis underneath a stable body. The legs and feet (lower body) turn more than the upper body.

3. B & C. To correct the problem of turning excessively with the whole body (in wedge turns):

   - Target the upper body and feel some tension in the stomach muscles.

   - Focus on the inside hip and point it in the direction of the turn. This focus helps "separate" the body so that the legs can turn efficiently underneath a stable upper body.

4. C. To correct the problem of turning too sharply and quickly, suggest counting *1-2-3 and turn*. Simply reinforcing the importance of being patient can help also.

5. Turning *uphill* anchors a slowing down sensation while providing another option for stopping.

6. *False.* To begin a new wedge turn, you should combine the movements of turning your legs to steer the skis in a new direction with *rising* or *extending*, not sinking (flexing).

7. B & C. Placing your hands on your hips and pointing your hips toward a ski pole or ski glove which marks the direction of the new turn encourages a stable upper body as well as upper and lower body separation.

8. *Extend* the legs to start a turn and *flex* the legs to complete the turn.

9. *True.* In wedge turns, a fairly tall stance with a slight flex in the ankles, knees, hips, and spine provides a muscular and skeletal (therefore more efficient) use of the body.

10. *True.* Pointing the inside hip in the intended direction of a turn facilitates a slightly countered position. A countered position promotes simultaneous leg rotation and turning the skis in an intended direction.

11. By pointing the toes in and pushing the heels out a simultaneous *inward* rotation occurs in the legs.

12. Rising (extension) and sinking (flexion) in a turn are pressure-control movements.

Notes

Step 8: Riding the Lift

Note: This section contains general guidelines for riding the lift. Because of differences in terrain, lifts, and lesson content from area to area, policies may differ. If in doubt, check with your supervisor or trainer.

Lesson Outcome

Students learn to ride the lift and develop the confidence to ride it by themselves.

After the students practice turning in both directions and stopping in a wedge, they are ready to ride the lift. Make sure that they can handle the new terrain that the lift services. Review operations and safety considerations for loading, riding, and unloading the lift. Riding the lift for the first time is intimidating for many people and for some, it is frightening. You need not rush the process of getting on the lift. Talk your group through your ski area's loading procedures. Have your students watch other students load the lift while you highlight the key steps.

General Procedures for Riding the Chairlift

Describe chairlift riding procedures for your students. As stated, the actual procedure will vary from area to area.

Explain how to:

1. Go through the lift line, waiting area, and loading area.
2. Take the pole straps off the wrists before reaching the loading area.
3. Wait at the designated spot in the waiting area until the lift has safely passed before moving into the loading area.
4. Proceed quickly to the loading sign in the loading area once it is their turn. Tell them to "chase" the chair that has just been loaded. Point out that the timing of the loading procedure is quick, so it is important to be ready.
5. Carry the ski poles in the correct hand, according to ski area operations. Usually, they should carry their poles in the outside hand when there is a center pole on the chairlift, and the inside hand when there are outside poles on the chairlift. For a chairlift that has poles on the outside of the chair, instruct your students to put their poles in the hand nearest their partners while looking away from their partners over the opposite shoulder.
6. Grab hold of the chairlift pole with their free hand and quickly sit down once the chair arrives.
7. Keep their skis running straight until they are off the ground.
8. Pull the safety bar or foot rest down (if available) and avoid swinging the chair.
9. Look for the lift shack at the top of the hill to let them know they are nearing the top.
10. Look for the unloading sign at the top. Lift the safety bar, if present. Once their feet touch the ground, they should stand up near the sign, leaning forward at the same time. Don't push on chair, as it may swing backwards. Explain that the sensation is similar to getting up from a deep, soft sofa.
11. Do not wedge on the unloading ramp as you may catch the tail of your lift partners' skis. Wedge to slow down only when well clear of partner.
12. Regroup after unloading at an agreed-upon landmark or place (far right or far left).

Simulate Riding the Chair

Simulate the experience of unloading by skiing over a small bump. If a bench or chair is in the area, practice sitting down and standing up with skis on while holding the poles with one hand. Show students how to push themselves out of the chair with one arm, while reaching forward with the opposite arm, which is carrying their poles. Explain that the goal of unloading is to stand and pull themselves up and forward over their feet.

Considerations for Chair and Surface Lifts

Explain to the group that if they drop something, they should leave it. The lift operator will retrieve it and promptly send it up to them. Advise the group to be aware of any loose clothing or equipment so that it does not catch on the lift.

After careful explanations and practice simulations of loading and unloading, you can check the group's understanding by asking

questions. Organize the group for the first ride. It is a good idea advise the lift operator that the group is riding the lift for the first time. Be patient and review whatever is necessary. Provide clear and simple instructions for your class.

General Procedures for Riding Surface Lifts

Describe general procedures for riding rope tows, t-bars, or any other surface lift.

1. Explain to your students that they must use their legs and feet to support themselves, rather than leaning or sitting on the lift. Advise them to maintain flat skis and to distribute their weight evenly over both skis while keeping them parallel and in the track. Explain that if they should fall they should let go, quickly move out of the track, and wait for instructions.
2. Take off your skis so you can walk beside students and help stabilize them for the first few yards.
3. When unloading a surface lift, the student simply lets go and slides forward. Once they are sliding in balance, they should make a wedge and move off the unloading ramp.
4. As with the chair, they should regroup at an agreed-upon landmark or place after unloading.

Technical Aspects of Skill Development

Balancing Movements

A fairly tall stance with a slight flex in the ankles, knees, hips, and spine is needed for riding surface lifts and unloading from chair lifts. The upper body is centered over the feet and skis at unloading.

Rotary Movements

On surface lifts maintaining a parallel relationship of the skis requires rotary control movements so that the skis do not separate and travel out of the track.

Edge-control Movements

Maintaining a flat ski on surface lifts requires edge control.

Pressure-control Movements

Distributing weight evenly over both skis is a pressure-control movement.

Questions: Riding the Lift

1. Choose one or more of the following:
   Typically, what skills should your students have before riding the beginner's lift for the first time?
   A. Stopping in a wedge
   B. Turning in both directions
   C. Linking wedge turns
   D. Wedge christie

2. Circle the best choices:
   Ski poles are usually carried in the (inside) / (outside) hand when there is a center chairlift pole and in the (inside) / (outside) hand when the chairlift's structural poles are located on the outside.

3. Circle the best choices:
   You are getting ready to load a chairlift that has structural poles located on both sides. You put your ski poles in the correct hand, and then you look (toward) / (away) from your partner over the shoulder (nearest your partner) / (furthest away from your partner).

4. Fill in the blank:
   When unloading from a chairlift, stand up and lean _____ at the same time.

5. Your wedge turn students have unloaded from the chairlift for the first time and are standing in balance on the unloading ramp. What does the Riding the Lift section of this study guide suggest they do to slow down?

   _____

6. Fill in the blank:
   In a typical class, some students may feel excited, enthusiastic even
   impatient about their first chairlift ride. You can expect a number of others to feel _____.

7. What rotary control movement does a skier use when riding up a surface lift?

   _____

8. What edge-control movement does a skier use when riding up a surface lift?

   _____

Answers: Riding the Lift

Note: Because of differences in terrain, lifts, lesson level content and other area-specific considerations, you may need to handle certain parts of the lift-loading lesson differently from the way they are outlined in the Riding the Lift progression. Check with your area supervisor or trainer, if in doubt.

1. A & B. After your students have practiced *stopping in a wedge* and *turning in both directions*, they should be ready to ride the beginner's lift.

2. Poles are usually carried in the *outside* hand when there is a center chairlift pole and in the *inside* hand when the chairlift's structural poles are on the outside of the chair.

3. Once you have put your poles in the inside hand when getting ready to load a chairlift with poles located on the outside, you usually look *away* from your partner over the shoulder *furthest away from your partner* (to the outside of the chairlift).

4. When unloading from a chairlift, stand up and lean *forward* at the same time.

5. The Riding the Lift section of this study guide suggests that wedge turn students *make a wedge* to slow down once off the unloading ramp and well clear of lift partners.

   Note: This may not be appropriate at your area. If in doubt, check with your supervisor or trainer.

6. While some of your class may feel excited, enthusiastic even impatient about the prospect of their first chairlift ride, you can definitely expect at least a part of the class to feel *apprehensive* and/or *afraid*.

7. When riding a surface lift, the skiers need to keep their skis parallel so they do not separate or travel out of the track. *Maintaining a parallel relationship of the skis requires rotary control movements*.

8. Students need to keep their skis flat when riding up a surface lift. Maintaining a flat ski requires edge control.

Notes

Skier Level 3

Step 9: Linking Wedge Turns in the Fall Line

Terrain

A gentle slope serviced by a beginner lift.

Lesson Outcome

The students learn to link turns together with gradual direction changes while maintaining a wedge position. This progression also integrates and explains the follow-me and call-down methods of class handling.

Note: Handle the first run off the lift with a little caution and a lot of empathy. Even the easiest beginner run may seem steep and frightening to your students, especially when it is new to them. People tend to forget what they have learned when they are frightened.

Review Wedge Turns

Review the movements for wedge turns. These include a continuous turning of the legs underneath a quiet body, a gradual rising and sinking motion, and rolling the ankles and knees to reduce or increase the edge angle and weight to the outside ski. Through repetition and exploring each movement in linked turns, students increase their understanding of the timing and coordination of movements necessary for rhythmic, round turns.

Moving Downslope: The Follow-me Format

The follow-me approach is effective in helping the group move down the mountain comfortably, and it teaches the students to learn good turn-shape tactics and control.

1. Organize the students in a line up-slope. Explain that they will be following your lead down the slope.
2. Invite the person either at the bottom or the top of the line to follow you, then have the next person follow that person, and so on.
3. Keep rotating the group so that everyone gets a chance to follow right behind you.
4. Explain that it's safer for the students to stop below, rather than above, the group after practicing a maneuver. When stopping, pick a spot with ample room to line up without presenting a hazard to themselves or other skier traffic.
5. If the trail is somewhat steep, have your group traverse the trail using the wedge change-up (described in Wedge Traverse and Stop section) for control. When you reach the edge of the trail, use a bullfighter turn to turn around, then go back across the hill with wedge change-ups. Repeat this process as often as necessary to get to the less intimidating part of the slope. This process will help your students with their confidence because they will realize that they have control of their skis.

Linking Wedge Turns in the Fall Line Using the Follow-me Format

Once you have reached appropriate terrain, relate briefly the task the group will be practicing—to turn the skis with the legs in a wedge position while following the tracks of the person ahead. Have your students follow you down the fall line to a designated stopping area while you make six to eight turns. Look over your shoulder occasionally, making sure everyone is following successfully. Usually, some are able to follow your tracks while others are not. Encourage them to turn their legs and feet to control their skis and their speed and to make direction changes. Also, check that your students are balancing in a centered stance on their skis while maintaining a consistent wedge.

Linking Wedge Turns: the Call-down Format

Next, use the call-down format to have students practice the same task of counting while exaggerating their rising and sinking movements.

1. First, define a corridor in the fall line about two to three ski lengths wide. Mark the outside dimensions with ski poles or lines drawn in the snow.
2. Explain that the task is to ski within the boundaries of the corridor.
3. Demonstrate the task.
4. Call each student by name or rotate students from the top (or bottom) of the group.

Table 6

Problems with Turn Shaping	
Problem	Solution
Turning too short to follow the tracks and losing speed.	Emphasize the importance of smooth, gradual movements. Suggest that they breathe deeply to help them relax. Tell students to inhale as they turn the tips of their skis into the fall line and exhale as they turn their tips out of the fall line. Finally, suggest that they "separate" their upper bodies from their lower bodies. Help them achieve this kind of alignment by targeting their upper bodies toward an object slightly to the right of the fall line for a right turn, and toward another object slightly left of the fall line for a turn to the left.
Not turning enough and gaining speed.	Suggest that students turn their legs in the new direction as soon as the ski tips cross the fall line. If necessary, have the student stand on one ski, lift the other ski off the snow, and turn it in the air. This exercise helps anchor the sensation of turning the skis with the legs and feet.

Note: Each student performs the task alone. A student can feel intimidated about skiing in front of others and being openly analyzed, so be sensitive to this.

The call-down format allows you the opportunity to observe each individual's skiing and then provide feedback once they stop. To keep the pace moving, offer feedback to one student while observing the next student ski. If you have trouble doing both things at the same time, you may be talking too much.

Reinforce your students' success when they perform the task correctly with comments such as: "Yes, that's great," or "Yes, feel the rhythm as you rise and sink." When the student does not accomplish the task, address the solution: "Try re-centering your hips and torso over your feet to help you

Photo 12. Flexion and Extension in a Wedge Turn

A

B

C

rise into the turn," or "feel the balls of your feet to balance forward."

The call-down format encourages students to choose their own path, which is often easier than following behind someone. The downside of the method is that some students must stand around while others perform, so make sure that they are standing in a warm spot in the sun and/or sheltered from the wind.

The call-down approach to class handling works well when alternated with the follow-me format. The call-down format provides you with a great opportunity to observe the progress of both the group and its individual members. The follow-me method provides a good learning environment for the students continual visual demonstration and specific guidelines for skiing down the slope.

Controlling Speed

Skiers have two options for controlling speed during a turn.

1. Braking by pushing the tails of the skis out.
2. Turning uphill by continuing to turn the legs while shifting the weight from both skis to the outside/downhill ski—called "shaping" the turn (Table 6).

   Reducing speed with the first method is effective when emergency speed reduction is necessary. But using this method alone disrupts rhythm and momentum to the next turn. To create continuous rhythm from turn to turn, emphasize the second method.

Extending and Flexing in the Turn

Focus on establishing rhythm while extending and flexing in the turn. Flexion and extension in a wedge turn can be seen in photo 12. Have your class follow you as you ski down to a designated stopping area while making turns in the fall line.

1. Have them count "up-2-3" as they rise and guide their ski tips into the fall line.
2. Have them count "down-2-3" as they move out of the fall line.

Make sure that each student fully understands and feels the range of leg movements while turning. The legs extend as they turn the skis into the fall line and flex as they turn the skis out of the fall line.

Turn the skis continuously. Understanding the idea of continuous leg motion helps your students link rhythmic wedge turns and provides them with information about the fundamentals for future development. Once they can perform these continuous movements, they will experience the wonderful sensation of maintaining a constant speed and fluidity from turn to turn.

Table 7 shows solutions to common problems your students may experience performing the task of turning within a corridor using extension and flexion.

Weight Distribution

Next, help the student understand and feel the subtle changes of weight distribution that occur in the turn. Using both the follow-me and call-down formats, practice turns while focusing on feeling the weight changes.

1. Draw a diagram in the snow, showing the weight distribution changes throughout a turn.
2. Explain that the movements of extending and turning the ski tips into the fall line coincide with equally weighting both skis.
3. As they flex and complete the turn, they should feel more of their weight move gradually over the outside/downhill ski.
4. Rolling the outside knee inwards while turning the ski tips out of the fall line facilitates a weight shift to the outside ski.
5. Discuss the pressure points of the feet being over the big toe and inside arch of the foot when the skis are in a wedge. They should also feel contact on the inside shaft of the leg against the inside of the boot. When the outside knee rolls inward, the pressure on the arch and shaft of the leg increases.
6. Steer the tip of the inside ski by turning the inside leg. This action keeps the skis from crossing.

Combining Movements

A simple diagram drawn on the snow helps illustrate how a combination of movements from the outside leg and ski shape a round arc on the snow. The inside leg also turns and complements the turning movements of the outside leg. This

Table 7

Problems Turning within a Corridor (Once extension and flexion have been introduced)	
Problem	Solution
Student cannot stay within the corridor.	Chances are the student is stiff-legged, with no up and down motion, or locked into a squatting position. Encourage a centered stance. This broadens the student's potential range of motion. Then emphasize a rising motion to start the turn. Rise and turn the ski tips into the fall line.
Turn shape is elongated or square instead of round	Suggest constant steering of the skis by turning the legs as they rise and sink.
Turn shape is angular and movements abrupt.	Review the importance of patiently rounding out the turns.

is a good time to reinforce the differences between the outside and inside leg or ski. Explain that, when turning, the outside ski is the furthest ski from the turn. The ski the closest to the turn is the inside ski. These are tough concepts to understand at first, so be patient if the light bulb does not come on quickly. If necessary, reintroduce them at another time.

Rhythmic wedge turns require continuous turning of the legs and gradual rising (extension) and sinking (flexion) movements as well as rolling the ankle and knee for increasing or reducing the edge angle and weight to the outside ski. Discovering the rhythm, subtle timing, and coordination of these movements is the key to performance. Focusing and repeating one movement at a time helps develop understanding. Once students experience the sensations of the movements, they can apply the combination and timing of movements for linking rhythmic wedge turns.

It is unrealistic to cover all of this information in one run, so pick any of the previously mentioned topics and teach it for two runs, with a lift ride in between. The students then have time to digest the information and apply it. Small doses of information with lots of ski and practice time are the quickest routes toward success.

Progression Options

- Explore different turn shapes, from Z-shapes to square shapes to rounded, C-shapes. Use a glove or ski pole as a marker to define the shape of the turn.
- Encourage a stable upper body by skiing without poles. Place the hands on the hips and turn.
- Practice turning around a ski pole or glove that you have placed down the fall line. Use the pole or glove as a target for the upper body.
- Explore both correct and incorrect movements to help students anchor the correct movements. Help them experience the difference between forcing a turn with inefficient movements and allowing the turn to happen with the correct movements. For example, practice turning very quickly so that students feel that they must throw their entire body into the turn, thus disrupting their balance. Also, practice stepping the skis around the turn abruptly, moving the weight from ski to ski. After this kind of exploration, practice turning with the correct movements.

  Check that the students understand the relationship between gradual extension and flexion, continuous turning of the legs and rolling the ankle and knee for increasing and reducing edge angle.
- From a wedge, have the students press their weight onto one ski while gliding. Encourage them to have the patience to wait for the ski to turn. While they may feel uncomfortable with the speed

that results from this very gradual turn, they will learn that the design of the ski will eventually cause them to turn. Because they will go a bit faster in this activity, select terrain that is extremely flat. If at any time they feel they are losing control, tell them to make a bigger wedge with both feet and legs to slow down.

- On very flat terrain, practice steering the skis from a very small wedge, with very little turn-to-turn deviation. Describe how they might steer their car with their feet on the steering wheel: twist both feet first in one direction, then the other.

Technical Aspects of Skill Development

Balancing Movements

A fairly tall stance with a slight flex in the ankles, knees, hips, and spine allows for more efficient use of the body. The hips and torso must be centered over the feet and skis to allow the correct muscular activity. Developing turning of the legs that is somewhat independent of the upper body will enhance balance and allow stronger turning of the legs and feet. This independence, though slight at this stage, is important for continued development in skiing proficiency.

Rotary Movements

By pointing the toes in and pushing the heels out, a simultaneous, inward rotation occurs in the legs. Maintaining a wedge position requires control of rotary movements. More importantly, rotary movements facilitate a change in direction. This direction change can be the result of turning the entire body (full rotation) or of turning both legs in the desired direction without allowing the upper body to follow. Both are examples of rotary movements, but the second is the more efficient and desirable. Turning the legs and feet independently of the upper body is often called steering, especially when the outside ski is actively edged as well. Tipping the outside knee inward at the turn completion requires a greater inward rotation of the outside leg. The flexion during the second half of the turn will increase the range of motion to allow continued turning of the legs.

Edge-control Movements

Exploring different wedge sizes and edge angles uses edge control movements. Rolling the inside knee into or away from the turn during completion increases or reduces the edge angle. Increasing edge angle increases turning power because the curve along the edge becomes more fully engaged in the turn. Flexion helps the knee to tip.

Pressure-control Movements

The inward tipping of the knee increases pressure on the ski by reducing surface area. As the student moves more weight to the outside ski during a turn, pressure is also increased. Flexion and extension help to control the pressure that is naturally generated while skiing. Extension can reduce pressure by flattening the skis and releasing edge angles, especially if the outside knee is rolled down the hill after completion of the turn. Extension also facilitates equal distribution of weight over both feet at turn initiation. Flexion that takes place during the second half of the turn helps absorb some of the pressure that is generated as the edge angle of the ski is increased.

Questions: Linking Wedge Turns in the Fall Line

1. Choose one or more of the following:
   Movements for wedge turns include:
   A. Continuous turning of the legs underneath a quiet body
   B. A gradual rising and sinking motion
   C. Rolling the ankles and knees to reduce or increase the edge angle

2. Choose the best answer:
   When your students ski down to you in the call-down format, they should stop:
   A. Below the group
   B. Next to the group
   C. Above to the group

3. Prior to having the group ski down the hill in the follow-me format, it is a good idea to tell them where you plan to stop. To do this, you could call their attention to a _____ near the destination.

4. Choose the best answer:
   You have just taken your students to a new hill to teach them to link fall-line wedge turns. The hill is somewhat steep for this maneuver, but is perfect further down. What does the progression on Linking Wedge Turns in the Fall Line suggest doing to get your students to the perfect terrain?
   A. Have them make broad, sweeping turns
   B. Have them make a series of linked hockey stops, using the bullfighter turn to change directions
   C. Have them take their skis off and walk
   D. Have them make a series of traverses first in one direction and then the other, using wedge change-ups during the traverse and the bullfighter turn to change directions at the end of each traverse

5. Circle the best choice:
   Students who turn and cut short of your turning tracks while trying to follow you down the slope in linked wedge turns down the fall line are (underturning) / (overturning).

6. Choose one or more of the following.
   To help students who turn and cut short of your turning tracks while trying to follow you down the slope in linked wedge turns down the fall line, you could have them:
   A. Stand on one ski and turn the lifted ski in the air
   B. Turn their legs in the new direction as soon as their ski tips cross the fall line
   C. Inhale as they turn the tips of their skis into the fall line and exhale as they turn their tips out of the fall line
   D. Target the upper body toward an object slightly to the right of the fall line for a right turn, and toward another object slightly left of the fall line for a left turn
   E. Exercise patience and make gradual movements

7. True or false:
   One way to help your students establish rhythm while rising and sinking in the turn is to have them count "up-2-3" as they rise and guide their ski tips into the fall-line and "down-2-3" once in the fall-line.

8. Each of the following statements applies to one of two formats: the call-down format or the follow-me format. Write the name of the correct format after to each statement.

   The downside of this format is that the group stands around for a short while, so make sure that they are standing in a warm and comfortable spot.

   _____

   This format allows you a better opportunity to observe and critique the individual's skiing movements.

   _____

   This format provides a continual visual demonstration and a specific guideline for skiing down a slope.

   _____

9. Choose the best answer:
   To help a student who is trying to link fall-line wedge turns within a described corridor, but who turns outside that corridor:
   A. Encourage patience in the turn
   B. Encourage the student to distribute the weight equally over both feet, rather than shift the weight abruptly from foot to foot
   C. Encourage the student to be centered on the skis and have the student use more up and down motion in the turn

10. Circle the best choice:
    Some students who start to build up too much speed in the fall line rely totally on pushing their skis' tails out to slow down. This disrupts their rhythm and momentum. To create a continuous rhythm from turn to turn, the students could:
    A. Continuously turn their legs while shifting their weight from the inside to the outside ski
    B. Continuously turn their legs while shifting their weight from both skis to the outside ski
    C. Shift their weight from both skis to the outside ski after turning their legs to complete the turn

11. Circle the best choices:
    In fall-line wedge turns, the legs (flex) / (extend) as they turn the skis into the fall line and (flex) / (extend) as they turn the skis out of the fall line.

12. Choose the best answer:
    As you enter the completion phase of your wedge turn:
    A. You should feel more of your weight gradually move over the outside or downhill ski
    B. You should feel your weight move evenly over both skis
    C. You should feel more of your weight gradually move over the inside or uphill ski

13. Circle the best choice:
    While completing a wedge turn, roll the (inside) / (outside) knee inward while turning the ski tips out of the fall line.

14. Circle the best choice:
When turning, the outside ski is (closest to) / (furthest from) the turn.

15. Fill in the blank:
Steering the tip of the inside ski by turning the inside leg can keep the skis from _____ .

16. Choose one or more of the following:
Having your students make a wedge turn with their hands on their hips:
A. Encourages a stable upper body
B. Is desirable only if they actually use their hips to make the skis turn
C. Neither of the above

17. Choose one or more of the following:
During the completion phase of a wedge turn, the following lead(s) to an increase in pressure to the downhill ski:
A. Tipping the downhill knee inward
B. The weight moving to the outside ski
C. Sinking (flexion) to complete the turn

18. Circle the best choice:
(Flexion) / (Extension) facilitates an equal distribution of weight over both feet at turn initiation.

Answers: Linking Wedge Turns in the Fall Line

1. A, B, & C. Movements for wedge turns include a *continuous turning of the legs underneath a quiet body*, a *gradual rising and sinking motion*, and *rolling the ankles and knees to reduce or increase the edge angle* and weight to the outside ski.

2. A. When your students ski down to you in the call down format, they should stop *below the group*.

3. When having the group ski down the hill in the follow-me format, it is a good idea to describe a *landmark* near the spot you plan to stop.

4. D. If you have just taken your students to a new hill to teach them to link fall-line wedge turns, but have found that part of the hill too steep, the progression for Linking Wedge Turns in the Fall Line suggests that you have your students do the following:
   1. Traverse the hill using wedge change-ups.
   2. Use a bullfighter turn to turn around
   3. Traverse back in the other direction using wedge change-ups.
   4. Repeat #1-3 until they've reached the appropriate terrain.

   Note: The above suggestion is not appropriate for all types of terrain or even all classes at this level. If in doubt, ask your area trainer or supervisor.

5. Students who turn and cut short of your turning tracks while trying to follow you down the slope in linked wedge turns down the fall line are *overturning*, which causes a loss of momentum.

6. C, D, & E. There are a number of ways to help students who turn and cut short of your turning tracks while trying to follow you down the slope in linked wedge turns down the fall line. Several of these are to:

   - Suggest that they breathe deeply to help them relax.

   Tell them to inhale as they turn the tips of their skis into the fall line and exhale as they turn their tips out of the fall line.

   - Suggest that they "separate" their upper bodies from their lower bodies.

   Help them achieve this kind of alignment by *targeting their upper bodies* toward an object slightly to the right of the fall line for a right turn, and toward another object slightly left of the fall line for a left turn.

   - Emphasize the importance of patience and gradual movements.

7. *True.* One way to help your students establish rhythm while rising and sinking in the turn is to have them count "up-2-3" as they rise and guide their ski tips into the fall line and "down-2-3" once in the fall line.

   The rising and sinking movements combine with continuous turning of the legs.

8. The downside of the *call-down* format is that the group stands around for a short while, so make sure that they are standing in a warm and comfortable spot.
The *call-down* format affords you a good opportunity to observe and critique an individual's skiing movements.
The *follow-me* method provides a continual visual demonstration and a specific guideline for skiing down a slope.

9. C. To help a student who is trying to link fall-line wedge turns within a described corridor, but who turns outside that corridor, *encourage a centered stance and more up and down motion in the turn*.

10. B. To create a continuous rhythm from turn to turn, students who rely totally upon pushing their tails out to control the speed which builds up in the fall line could turn their legs continuously *while shifting their weight from both skis to the outside ski*.

11. In fall-line wedge turns, the legs *extend* as they turn the skis into the fall line and *flex* as they turn the skis out of the fall line.
The legs turn the skis continuously while flexing and extending.

12. C. As you begin to complete your wedge turn, you should feel more of your weight gradually move over the outside or downhill ski

13. While completing a wedge turn, roll the *outside* knee inward while turning the ski tips out of the fall line to facilitate a weight shift to the outside ski.

14. When turning, the outside ski is *furthest* from the turn, while the inside ski is closest to the turn.

15. In wedge turns, steer the tip of the inside ski by turning the inside leg to keep the skis from *crossing*.

16. A. Having your wedge turn students place their hands on their hips encourages a stable upper body. Don't let them use their hips to make the skis turn, as this will contribute to problems in the future.

17. A & B. During a wedge turn, the inward tipping of the knee will increase *pressure* on the ski by reducing surface area. As the student moves more weight to the outside ski during a turn, *pressure* is also increased.

    The sinking that takes place during the second half of the turn will help to absorb some of the pressure that is generated as the edge angle of the ski is increased.

18. *Extension* facilitates an equal distribution of weight over both feet at turn initiation.

Notes

Step 10: Varying Wedge Turn Shape

Lesson Outcome

The student learns a variety of turn shapes, from slight direction changes on gentle terrain to complete turns across the fall line as the terrain steepens. This gives the student the ability to turn on demand and vary the degree of direction change.

Overview

Varying turn shapes further explores the rhythm, timing, and coordination of the key movements necessary for making linked wedge turns. This progression helps develop the key movements of

- continuous turning of the legs.
- gradual rising and sinking movements.
- rolling the ankle and knee to reduce or increase the edge angle and weight to the outside ski.

Turn Shapes

Briefly clarify what turn shapes are by drawing diagrams in the snow illustrating the possibilities:

- Z, or angular shapes
- J, or square shapes
- C, or half-moon shapes
- S-shapes or linked C-shapes

Ultimately, the goal in skiing is to link many S-shaped turns together. These S-shaped turns can also have a variety of shapes. For example, the S-shapes can be perfectly symmetrical, squat or elongated, or short or scalloped. Explain to the students that they can combine the key movements for turning in different ways to create different shapes of turns.

Using the Clock to Turn

This is designed to create an awareness of the fall line and the relationship between turns in the fall line and across the fall line. Using a gentle slope with a consistent fall line, compare the slope to the face of a clock. Directly down the fall line is 12:00. Perpendicular to the right of 12:00 is 3:00, and perpendicular to the left is 9:00. Help the students orient themselves to skiing across the fall line by pointing their skis to 3:00 to turn right and 9:00 to turn left.

Using the follow-me format, have your class practice linking six to eight turns together. Discuss the sensations of slowing both the speed and timing of movements. Don't belabor it, but help the skiers understand the relationship between speed and timing. Next, practice turning toward 12:30 to turn right, and 11:30 to turn left. Turning in the fall line promotes a sense of maintaining a gentle speed, while generating a quick rhythm.

Turn Completion with Garlands

Use wedge garlands (across the slope) to further develop the sensations of continually turning the legs. Garlands are short, scalloped turns that emphasize the beginning and end of the turn, without a middle. Explain that you are going to focus on the bottom part, or end, of the garland. Emphasize the importance of maintaining a stable upper body. The hips and torso are one unit and are centered over the feet and skis.

Demonstrate a few garlands while moving toward the group and then away from the group. Then make gradual direction changes by turning your ski tips left and right. Be sure to maintain a narrow wedge, with the feet about 18 inches apart.

Have the group practice garlands following you across a trail that has little or no skier traffic. Make five or six passes across the trail, while isolating different wedge turning sensations. Start with one movement and gradually build the intensity by integrating another movement:

1. Integrate the wedge garland exercises with fall-line wedge turn on gentle terrain to help expand awareness of the movements.
2. Have the class practice garlands while feeling the movements of both feet and legs. Emphasize the continuity of movements while using both legs to turn the ski tips. Discuss the shapes of the arcs the skis are making on the snow. These shapes are mostly shallow semicircles. Check for understanding, making sure that each individual is aware of foot and leg turning and the turn shape this movement creates.
3. Anchor foot and leg turning sensations by practicing the stationary exercise of standing

on one foot and turning the other foot and ski in the air. Pick up the downhill ski and turn it back and forth while discussing the sensations. Discuss the contact points of the foot inside the boot. Try to generate an individual awareness of a sensation that is turning the ski. For some students, feeling the big toe and little toe turning the ski is an obvious sensation. Others might feel the arch and still others might feel the leg and ankle. Try to identify the individual's sensations and use that feeling as a personal cue.

4. During the next set of garlands, focus on the bottom part of the garland and feel the contact points of the downhill foot.

Using Leg and Foot Turning in Fall-Line Turns

Next, practice wedge turns on gentle terrain with gradual direction changes in the fall line while focusing on the sensations of leg and foot turning. Target the body toward 12:00 while guiding the ski tips toward 1:00 to turn right and 11:00 to turn left. Discuss the shapes made by this type of turn. Gradual direction changes also make semicircular shapes, similar to the wedge garland shapes.

Refining Turn Completion with Garlands

Again, have your class practice garlands.

1. Integrate the action of tipping the knee inward with the leg turning movement. Pay attention to the performance of the downhill leg. Focus on the bottom of the turn, emphasizing the action of rolling the downhill knee inward while turning the leg and foot. Describe how the pressure to the contact points of the downhill foot and leg increases. Describe the use of the ski as a tool that is brushing or sculpting curved arcs along the snowy surface. The downhill foot, ankle, knee, and leg control this inscribing or sculpting action, making semicircular arcs on the snow. Encourage a rhythm with cues like "roll and turn, roll and turn."
2. Repeat another pass of garlands, exaggerating the sinking action that complements the rolling movements of the downhill ankle, knee, and leg. This action increases the skis' capabilities of directional changes. Compare the shapes created by the different movements. Simply turning the leg and foot in the garland turn creates a series of shallow semicircular shapes. Increasing the intensity of the movements makes a series of deeper, curved shapes that are more C-shaped. Check to see if your students understand how different shapes are achieved in the garland turns.

Turn Initiation with Garlands

Once the students are aware of the movements that shape the bottom part of the turn in linked garlands, explore the movements that begin at the top of the garlands. Continue to focus on the action of the downhill leg.

Start from a stationary position.

1. Position the skis in a wedge, while bending the knees forward and slightly inward.
2. Practice the extension and flexion while flattening and edging the downhill ski. Increase the edge angle of the ski while bending the legs and rolling the downhill knee inward. Then, flatten the downhill ski by extending the legs and pointing the downhill knee outward. Integrate the flexing and extending actions that flatten and edge the ski while practicing garlands. Continue focusing on the turn beginning during extension and flattening the skis in the garland format. Develop both sides. The idea is to repeat the strong sensation of flattening the downhill ski and releasing the edge angle, while aligning the hips to facilitate a turning movement of the legs.

Coordinating Turn Initiation and Completion Movements

Coordinate extension and edge release to guide the ski tips into the fall line with the flexing movements described previously. Focus on the turning and rolling action of the downhill leg and knee that flatten the ski, then guide it into the fall line and finally, along with increased edge angle and further guidance, shape the turn. Turn

completion is shown in photo 13. Practice these movements while making wedge turns across the fall line.

1. Using both legs to turn, target the inside hip (or right side of the hips) toward 2:00 and turn right.
2. Target the left side of the hips toward 10:00 and turn left.
3. Target the hips and torso a little less and turn the skis a little more.
4. Compare the deeper, rounder, more completed S-shaped turns to the wedge turns made in the fall line.

Photo 13. Turn Completion

Coordinating Leg Turning Action with Proper Weight Distribution

Next, coordinate the timing of weight distribution with the rolling and turning action of the legs by having your students practice pedal-wedge turns. “Pedal” wedges are much like pedaling a bike. Pressing on the ski while guiding it helps it turn. Transferring weight from one foot to the other should be like pressing first on one pedal and then the other. The movements should be smooth and progressive.

Emphasize equal weight distribution between both feet and skis, while aligning the hips toward the clock target to begin the turn. Then, while rolling the outside knee inward to complete the turn, concentrate on feeling the weight progressively increase to the outside ski. Try to establish a rhythm between equalizing the weight and pressuring the outside ski. The students will eventually feel this continuous rhythm. When the students feel comfortable, slightly increase the speed. With increased speed, the student should feel a definite weight change from one ski to the other. Point out the similarity of pedaling action with riding a bicycle. Identify how quickly the skis track across the fall line, with the increase of pressure to the outside ski. The student will feel an obvious sense of control.

You can introduce pedal wedge turns to your students either by having them turn across the fall line or by having them make garland wedges. Soften the intensity of this pedal movement and combine it with leg turning action,

creating a rounder, S-shaped turn that has a beginning, a middle, and an end.

Putting the Movements Together

Finally, play with different turn shapes from gradual directional changes to turns across the fall line.

1. Increase or decrease the intensity of the rising and sinking movements to help shape the turn and add rhythm for linking turns with continuous motion.
2. Ski on steeper terrain and increase both the leg turning movements, and flexion and extension, so the skis travel across the fall line, controlling the student's speed.
3. Explore the obvious weight change with the pedal-wedge turns so the student can turn on demand.
4. You can incorporate the garland tactics and pedal turn exercises of this progression when teaching fall-line wedge turns. Wedge garlands are great for developing and repeating turn initiation and completion movements. On a busy slope, you can integrate garland tasks with fall-line skiing, instead. For both fall-line skiing and garlands, caution your students to look up the hill for oncoming traffic before performing a task.

Progression Options

- Explore different turn shapes in the fall line—from Z-shapes to square shapes to C- and round shapes. Use a ski glove or ski pole as a marker to determine the shape of the turn.
- Make round wedge turns with and without a traverse. Vary the length of traverse to suit terrain.
- Add a numerical count: 1-2 for turns closer to the fall line, 1-2-3-4 for turns crossing the fall line and 1-2-3-4-5 for turns traversing the fall line.
- Have students visualize where each turn starts and finishes to build confidence and accuracy.

Technical Aspects of Skill Development

Balancing Movements

A fairly tall stance with a slight flex in the ankles, knees, hips, and spine allows efficient use of the body. The hips and torso must be centered over the feet and skis to allow the correct muscular activity. Flexion and extension as well as some separation of upper and lower body decrease rigid positioning and help create the fluid rhythms necessary in dynamic balance.

Rotary Movements

Establishing and maintaining a wedge requires inward rotation of both legs. Varying turn shapes from gradual direction changes to turning across the fall line increases the intensity of the leg turning movement. Flexion allows a greater range of motion in the legs so that the outside knee can be moved inward during turn completion. Extension reduces the inward turning of the legs.

Edge-control Movements

Exploring different turn shapes requires active edging movements that come from increasing the inward tipping of the outside leg. As edge angle is increased, ski-snow interaction increases. Again, the movement is enhanced by flexion of the legs: the more the turn comes across the fall line, the greater the flexion. Extension also becomes more important at this stage because the edges need to be released to successfully begin a new turn. During extension, the outside knee is actively rolled downhill and toward the new turn, which flattens the ski and guides it toward the new turn.

Pressure-control Movements

During gradual direction changes, weight is more equally distributed over both feet. As the skis are turned more and more out of the fall line, edge angles increase, resulting in greater pressure on the outside ski. Flexion is used to help control this increase. The more the skis are turned out of the fall line, the more the weight shifts to the outside ski. The extension not only reduces edge angles, but contributes to an equalization of pressure over both skis to begin the new turn.

Questions: Varying Wedge Turn Shape

1. Skis can make a number of different shapes in the snow. Name three turn shapes and give a brief description of each.

   _____

   _____

   _____

2. A garland is:
   A. A series of direction changes that do not lead the skier to cross the fall line
   B. A series of direction changes that initially do not cross the fall line but end up doing so
   C. Sliding in a direction across the fall line.

3. Using the clock analogy, straight down the fall line would be 12:00. To have your students make a very gradual direction change just to the right of the fall line, have them target the body toward

   _____ o'clock and guide their ski tips toward _____ o'clock.

4. Circle the best choice:
   Simply turning the leg and foot in the garland wedge turn makes a series of
   (deeply curved, "C" shaped turns) / (shallow semi-circular turns).

5. True or false.
   If you increase the speed of pedal wedge turns, you should feel your weight equalize between your skis.

6. Choose one or more of the following:
   Pedal wedge turns can be introduced using:
   A. Garlands
   B. Wedge turns across the fall line
   C. Neither of the above

7. True or false:
   Increasing or decreasing the intensity of rising and sinking movements throughout the turn helps shape the turn and adds rhythm for linking turns together with continuous motion.

8. Choose one of the following:
   Which of the following is *not* a part of the garland?
   A. Beginning of the turn
   B. Middle of the turn
   C. End of the turn

9. Circle the best choice:
   (Flexion) / (Extension) allows a greater range of motion in the legs.

10. True or false:
    The more the turn comes across the fall line, the less flexion you should use to complete it.

11. Circle the best choice:
    During extension, the outside knee is actively rolled (uphill) / (downhill) toward the new turn, which flattens the ski and guides it toward the new turn.

12. Fill in the blank:
    As skis are turned more and more out of the fall line, edge angles increase, resulting in greater

    _____ on the outside ski.

13. Circle the best choice:
    Extension (increases) / (reduces) edge angles.

Answers: Varying Wedge Turn Shape

1. Some of the turn shapes which skis can make in the snow are: “Z” or angular shapes, “J” or square shapes, “C” or half-moon shapes, and “S” shapes. “S” shapes also vary: they can be squat and elongated, or short and scalloped.

2. A. A garland is *a series of direction changes that do not lead the skier to cross the fall line*. They are short, scalloped turns which emphasize the beginning and end of the turn, without the middle part.

3. Using the clock analogy, straight down the fall line would be 12:00. To have your students make a very gradual direction change just to the right of the fall line, have them target the body toward *12* o’clock and guide their ski tips toward somewhere around *1:00*. (3 o’clock would be straight across the fall line, which would not result in a gradual turn).

4. Simply turning the leg and foot in the garland wedge turn makes a series of *shallow semicircular* shapes. Increasing the application and intensity of the movements makes a series of deeper curved shapes that are more “C” shaped.

5. *False.* If you increase the speed of pedal wedge turns, you should feel *a definite weight change from one ski to the other*.

6. A & B. Two of the many possible ways of introducing pedal wedge turns are through *fall-line wedge turns* or *wedge garlands*.

7. *True.* Increasing or decreasing the intensity of rising and sinking movements throughout the turn helps shape the turn and adds rhythm for linking turns together with continuous motion.

8. B. Garlands are short, scalloped turns which emphasize the beginning and end of the turn, *without a middle part.*

9. Using *flexion* during turn completion allows a greater range of motion in the legs so that the outside knee can be tipped or rolled inward.

10. *False.* The more the turn comes across the fall line, the *greater* the flexion.

11. During extension, the outside knee is actively rolled *downhill* toward the new turn, which flattens the ski and guides it toward the new turn.

12. As skis are turned more and more out of the fall line, edge angles increase, resulting in greater *pressure* on the outside ski. You use flexion to help control this increase.

13. Extension *reduces* edge angles. It also contributes to an equalization of pressure over both skis to begin the new turn.

Notes

Skier Level 4

Step 11: Providing Mileage and Guidance

Lesson Outcome

Students anchor the ability to link wedge turns through guided practice time. Spend the first run linking round wedge turns to allow your group to warm up. This is the time to give plenty of positive reinforcement and to correct any errors. Common errors include: Leaning inside during the turn; rotating (twisting the upper body to make the skis turn); using too large a wedge (resulting in the inside foot being anchored in the snow sometimes referred to as "edge-lock" of the inside ski); leading the turn with the outside foot and ski instead of the inside.

Correct errors by explaining what they are doing now (without dwelling on the errors), describing what they should do instead, demonstrating the correct movement, and giving them the opportunity to try it. Sometimes it is helpful to use a demonstration to show students what they look like, and then to demonstrate the appropriate movements. This can help them understand that what you are asking for is different from what they are doing. Once your students have attempted the task, give them an evaluation of their performance, followed by practice time and more feedback. This process will take at least one run, and, quite possibly, two or more.

In most group lessons, it is not uncommon to have a bit of a mixture of student abilities. Even if you start out with a group that is perfectly matched in its abilities, you may end up with slightly different levels in your lesson because everyone learns at a different rate. Ask your ski school trainer how you should deal with slow students and/or a split in their group at this point.

With that in mind, an important goal for students who are getting ready to learn wedge christies is plenty of mileage, with positive reinforcement and corrections where necessary. The secondary goal for your students is matching and skidding, which in most cases is very attainable.

When the group can make good wedge turns in both directions, introduce/review the concept of flexion and extension. They may have these movements in their skiing without knowing why or how, or even being aware of it.

1. Encourage them to extend to start the new turn by "relaxing tall" on both feet or by slightly straightening their knees and ankles.
2. As they start to extend, have them steer their skis by pointing their knees and ankles toward the new turn.
3. As the skis come into the fall line, tell your students to start flexing by gradually bending their knees and ankles. They should feel steady pressure against the tongue of the outside boot, and they should be trying to lower their hips toward the arches of their feet. At this level, students should be trying to actively pressure the outside ski a little more than the inside ski. As they continue to flex on the outside ski, ski design will interact with the snow to help them finish the turn.
4. During these practice segments, you should select a meeting place for your group, and give them the chance to choose their own line/rhythm to practice in. Keep an eye on all of them, giving plenty of encouragement and, if necessary, corrections.

Note: The value of demonstrations and feedback/reinforcement cannot be overstated at this (or any) stage. Use a variety of communication styles. Both your statements and your actions convey information to students.

Questions: Providing Mileage and Guidance

1. Name two important goals for a beginning wedge christie lesson.

   _____

   _____

2. Circle the best choice:
   In wedge turns, once you've begun extending into the turn, the (inside) / (outside) foot should be slightly ahead of the other foot.

3. Fill in the blanks:
   Extend into a new wedge turn by slightly straightening your _____ and _____.

4. Circle the best choice:
   During the completion phase of a wedge turn, you should feel more pressure on the (front) / (back) of the outside boot.

5. True or false:
   Beginning wedge christie students should be trying to actively pressure the outside ski a little more than the inside ski.

6. Fill in the blank:
   Using too large a wedge can result in the inside ski being anchored in the snow.

   This is sometimes referred to as _____.

Answers: Providing Mileage and Guidance

1. Two important goals for a beginning wedge christie lesson are:
   - mileage (with positive reinforcement and corrections when necessary)
   - matching and skidding

2. In wedge turns, you should lead with the *inside* foot.

3. Extend into a new wedge turn by slightly straightening your *knees* and *ankles*.

4. You should feel pressure against *the front (the tongue)* of your outside boot and should be trying to lower your hips toward the arches of your feet as you flex to complete your wedge turn.

5. *True.* Beginning wedge christie students should be trying to actively pressure the outside ski a little more than the inside ski.

6. Using too large a wedge can result in the inside ski being anchored in the snow. This is sometimes referred to as *edge-lock*.

Notes

Step 12: Introducing Matching and Skidding

Lesson Outcome

This section introduces the concepts of matching and skidding. Matching the skis means to move them toward a parallel relationship. Skidding is the result of skis moving forward and sideways simultaneously. Students are introduced to parallel skiing movements through spontaneous matching of the skis from a narrow wedge. Your group is now ready to start working on matching their skis in a wedge christie. A wedge-christie turn is depicted in photo 14. At this stage, the matching should generally occur somewhere in the bottom third of the turn. Learning to match is dependent upon having good mechanics in the wedge turn, which is why you need to follow the steps outlined above before you introduce matching.

Spontaneous Matching

The simplest approach—and therefore the one you should start with—is to ask your students to ski with a slightly smaller wedge. This causes their speed to increase a little bit, and, in many cases, this is all they need to allow their skis to match spontaneously. A spontaneous match is one that occurs without your students making any mechanical changes in their movements. The rule that applies is: if you take something away from your students, you must give them something to replace it. By asking

Photo 14. Wedge-christie Turn

them to ski with a smaller wedge, you may be taking away the feeling of control from some of your students. Replace this perceived loss with a finished turn shape that allows them to slow down at the end of the turn.

A finished turn is more rounded in the bottom arc of the turn and brings the skier farther across the fall line than an unfinished turn shape. In a more finished turn, skiers will be moving a little faster during the turn itself, but will slow down again as the turn is finished.

Using the Terrain

Your choice of terrain can also enhance your students' chance of experiencing a spontaneous match. A run that has terrain rolls in it is perfect. Time your demonstration

so that the second half of your turn happens on the downhill side of the roll. Ask your students to try the same thing that you just showed them. Call them down one at a time so that you can watch each of them and provide feedback when they are finished. As they make the second half of their turn on the downhill side of the roll, there is less friction on their skis, resulting in greater speed.

Because of the increased force from increased speed, the inside ski matches the outside ski and both skis skid. The skidding helps control the turn because it maintains enough friction to limit the acceleration of the skis. Once everyone has tried the maneuver over the rolling terrain, lead them through a practice segment. It is important that they turn *where* you turn (as opposed to *when* you turn) because you are choosing the terrain that maximizes their chances of spontaneous matching.

Questions: Introducing Matching and Skidding

1. Circle the best choice:
   For beginning wedge christie students, matching should generally occur somewhere in the (top) / (middle) / (bottom) of the turn.

2. Define a spontaneous match.

   _____

   _____

3. Choose the best answer:
   Which of the following can help beginning wedge christie students match their skis:
   A. Increased speed
   B. Smaller wedge
   C. Terrain rolls
   D. All of the above
   E. A & B

4. True or false:
   Skidding maintains enough friction to limit acceleration of the skis.

5. Choose one or more of the following:
   To help your beginning wedge christie students slow down during the finish of their turns, have them:
   A. Perform a check maneuver by simultaneously pressuring the heels of both feet
   B. Use turn shape
   C. Ski more squarely to their skis
   D. Assume a more countered position
   E. Use rotary push-off

Answers: Introducing Matching and Skidding

1. For beginning wedge christie students, matching should generally occur somewhere in the *bottom third* of the turn.

2. A *spontaneous match* occurs when the skis come into a parallel relationship without the skier having made a mechanical change in his/her movements.

3. D. An easy way to get your beginning wedge christie students to match their skis is to have them ski with a slightly *smaller* wedge. The *increased speed* which results from skiing with a slightly smaller wedge can lead to a spontaneous matching of the skis. Having your beginning wedge christie students make the second half of their turns on the downhill side of a *terrain roll* can also help them achieve a spontaneous match. There will be less friction on their skis, which, combined with a little more speed, will help their skis match and skid.

4. *True.* Skidding creates more friction and will slow the skis down.

5. B. To help your beginning wedge christie students slow down during the finish of their turns, have them use the *shape of the turn* itself to slow down.

Notes

Step 13: Methodical Approach to Matching and Skidding

Lesson Outcome

Students learn to match their skis in the last third of the turn and to skid forward and diagonally for speed control. Students learn to make wedge turns that end with parallel skis, use traversing, uphill christies, sideslipping, and garlands. They also explore movements for slipping forward and laterally to develop speed control, which increases confidence.

Matching in a Traverse

If some of your students were unable to achieve a spontaneous matching, try a more methodical approach. Standing still at the side of the trail, show them how to point their inside knee in the same direction as the outside knee. This movement will flatten and steer the inside ski and allow it to match the outside ski. If they flex as they point the inside knee, the finish of the turn turn becomes easier still. Now apply the same movements while gliding on easy terrain. In the beginning, avoid skiing into the fall line. Start with a traverse that allows your group to experience the movements without actually turning.

1. Move to the side of the trail.
2. Start gliding in the traverse with the ankles, knees, and hips flexed.
3. Open into a wedge with a slight extension.
4. Flex with most of the pressure on the outside/downhill ski.
5. While flexing, point the inside knee up the hill in the same direction as the outside knee. The inside ski matches the outside ski quite easily.
6. Repeat the movement three or four times during the traverse (as much as the width of the run allows).
7. Stop at the other side of the trail.
8. Try the same exercise going in the opposite direction.

Once the students can perform this movement comfortably and competently, demonstrate a complete turn in which you actively point the inside knee uphill during the last third of the turn. Emphasize that most of the pressure remains on the outside foot and ski. After having all the members of your class execute a turn or two (while you provide positive reinforcement), have them practice this movement while skiing for one or more runs.

Matching Through Uphill Christies

Uphill christies are very important because they

- isolate many of the movements that characterize the completion of a parallel turn.
- provide another option for slowing down and stopping.
- help students refine their balance so they begin to stand more consistently over the "sweet spot" of the ski.
- help students understand and apply their knowledge of how the interaction of edge angle and pressure on the ski causes it to grip and turn.

Perform this exercise for uphill christies.

1. Move your class to the side of a shallow trail (ideally, one without a lot of traffic).
2. From a static position, have your students flex the knees and ankles (use about 1/3 of the available flexion), primarily concentrating on the downhill leg.
3. Students should flex their legs by moving the ankle forward and in an inward, diagonal direction. Have your students stand so that they feel a bit of pressure on the front of the shin.
4. Ask your students to notice the sensation of weight, or pressure, on the bottoms of their feet.

   Where do they feel most of the pressure? If it is more toward the heel, show them how to move the hips slightly forward until they feel equal pressure along the entire bottom of the foot (ball, arch, and heel). If they feel more pressure on the front, ask them to move their hips slightly back toward the heel without losing shin contact against the tongue of the boot.
5. Once you have reinforced the correct stance, have students practice moving in and out of that stance to anchor the feelings before sliding across the hill.

   The inside leg should mirror the activity of the outside leg,

with slight pressure on the little toe side of the inside/uphill foot. The focal point of balance and pressure should be on the outside foot and ski. As in wedge turns, the legs should move independently of the upper body.

6. Now your students are ready to perform an uphill christie while skiing across the slope. Explain that when they flex their legs and apply pressure on the front, inner part of the ski boot, the tips of the skis begin to bite into the snow and begin to turn. (They should twist or guide their ski tips while flexing).
7. Demonstrate this maneuver, first toward your group, and then away from them.
8. Give your class ample opportunity to practice these movements, while coaching them to improve their performance in the process. When your students can successfully execute uphill christies, ask them to apply the same uphill christie movement to the bottom part (last third) of their turns. On appropriate terrain, link a series of wedge-christie turns. Use the uphill christie movement to accomplish the matching and skidding portion of the turn. The students quickly find that the skis will make the last bit of the turn for them!

Matching Through Sideslipping

To further develop matching, teach the group to sideslip forward and diagonally across the hill.

1. From a static position, ask them to face their hips and shoulders slightly down the hill.
2. Have them place both poles in the snow uphill and to either side of their bodies.
3. Show them how to push with their poles so the skis slid laterally across the snow surface.
4. Have them practice this activity on both sides. Emphasize how much easier it is to make the skis slip when they relax their knees and ankles. By pointing the knees and ankles slightly downhill, the students will soon find that they don't even have to push on their poles to execute this maneuver.

Combining the Forward Sideslip and Uphill Christie

To enhance edging and pressure-control skills, you can combine the forward sideslip with the uphill christie in a simple garland progression.

1. From a shallow traverse (one that is just steep enough to allow the skier to glide across the hill), have your students roll both feet and knees into the hill while lightly pressuring the front of the downhill boot.
2. Once the tips of their skis have climbed the hill a little, have your students roll their knees and ankles slightly downhill to initiate a forward sideslip.
3. Roll both knees and feet back into the hill for another uphill christie.
4. Repeat in the opposite direction.
5. Gradually work these activities more down the hill (similar to a fan progression) to continue building on this theme. Let the comfort level of your group dictate how close to the fall line you take this activity.

This progression refines your students' ability to use edging and guiding movements. These activities are also an important step because they begin to bridge the gap between beginning and intermediate skiing!

Matching Through Hockey Slides

Continue to refine these movements by teaching your students to make hockey slides. Hockey slides, like the uphill christie, require a simultaneous tipping of the legs and feet. They also require that you steer your skis more actively by twisting your legs and feet. Hockey slides are useful for controlling speed in rough terrain and in confined areas such as the bottom of the chairlift. Try a fan progression to introduce these to your group.

Demonstrate the hockey slides and have your students practice them.

1. From a shallow traverse, quickly flex the legs while twisting the feet and legs in the intended turn direction. As in the diagonal sideslip, the skis begin to skid somewhat sideways down the hill.
2. While the skis are skidding, gradually tip the legs (knees, ankles, feet) into the hill. This

engages the edges progressively and slows you.
3. Work the exercise progressively closer to the fall line. In other words, with each successful repetition, point the skis a little more directly toward the fall line. Again, let the comfort level of your group be your guide.
4. Repeat this progression in the opposite direction.

Wedge Parallel Garlands

The wedge parallel garland is a wonderfully playful exercise for anchoring the timing of wedge and parallel movements in preparation for beginning wedge christies. The idea is to steer the skis into the fall line in a wedge and the back out of the fall line (in the original direction) in a parallel relationship of the skis. The skis never cross the fall line to make a complete turn. Demonstrate the wedge parallel garland and then have your students practice it.

1. As you open your skis into a wedge by extending, steer them slightly toward the fall line.
2. Just as the tips enter the fall line, before they face downhill, steer the skis back up the hill. Flex, point, and twist the inside knee uphill so the skis match.
3. Repeat these steps while developing a rhythm with both the up-and-down motion as well and the opening-and-closing movements.
4. Repeat in the opposite direction. After the group has performed a series of wedge parallel garlands in both directions, they are ready to link turns incorporating these movements. Provide a good visual demonstration and lots of mileage so the movements are firmly entrenched in the students' "muscle memory."
5. Begin the turn by brushing opening the tails of the skis to a wedge while extending with the legs.
6. Continue extension as you guide your ski tips into the fall line.
7. Steer your skis out of the fall line and into the new direction with a flexing movement, developing more pressure on the outside ski. With the increase of pressure on the outside ski, the inside legs moves more freely.
8. Roll or point the inside knee back up the hill while twisting the inside foot and leg into a parallel relationship as you steer your skis across the fall line.
9. Repeat the sequence in the opposite direction, linking all the movements together for a succession of turns.

Introduce these exercises into the lesson to help develop parallel movements and to improved wedge-christie turns. Tactically, it is best to have your student sample these exercises, rather than attempt to perform them perfectly. Incorporate these exercises into your lesson to help the student perform more confidently on challenging terrain and snow.

For example, uphill christies are perfect for controlling speed on steeper terrain. Wedge parallel garlands can be used effectively on a steeper face to maintain your students' confidence while keeping them from moving into the fall line. Traversing or slipping forward is especially helpful for getting down bumpy or rough terrain. Hockey slides are essential for making a quick move to avoid an obstacle or to negotiate a steep, difficult run. Developing and maintaining confidence at this level is critical. Maintaining the students' interest is also crucial. These exercise can be used tactically for moving off groomed terrain and to introduce students to more challenging terrain. More importantly, they are prerequisites for bridging the gap between beginning and intermediate phases. This can lead to small successes and long-term rewards.

Progression Options

- Play with the thumper traverse. Tap the inside ski while traversing to promote matching.
- Make linked wedge turns using a narrow wedge while tapping the inside ski during the last third of the turn. Do the same with wedge-christie turns.
- Practice matching the skis across a shallow traverse to enhance matching.
- Practice traversing on the downhill ski.
- Practice slipping forward while flexing and extending.
- Practice wedge parallel garlands while steering deeper into the fall line.
- Focus on releasing and weighting the downhill ski in a wedge parallel garland. Repeat in the

other direction.
- Focus on releasing and weighting the downhill ski in a forward sideslip traverse. Repeat in the other direction.

Technical Aspects of Skill Development

Balancing Movements

At this level, balance is actively focused on the outside ski during the second half of the turn. This represents a higher level of skill acquisition than before.

Rotary Movements

Prior to this lesson, students learned to steer with both legs to guide their skis in wedge turns. In this lesson, they learn to steer the inside leg much more actively than before, which contributes to the ability to match the inside ski to the outside ski. The action of pointing the inside knee uphill, or toward the center of the turn, involves external leg rotation. As students learn to refine this movement, it becomes increasingly important.

Edge-control Movements

The act of pointing the knee also contributes to a release of the edge of the inside ski, which assists inside leg steering (external rotation of the leg). This is a much more refined edging movement than these students have employed prior to this stage.

Pressure-control Movements

By standing and balancing more on the outside ski during a wedge-christie turn, students are learning to refine pressure control from foot to foot. Pointing the inside knee to steer that leg and ski to the inside of the turn flattens that ski, resulting in reduced friction between the ski and snow and less pressure on the inside ski.

Questions: Methodical Approach to Matching and Skidding

1. Choose the best answer:
   To help beginning wedge christie students match their skis, you could show them how to point their inside knee:
   A. In the same direction their outside knee is pointing as they begin their turn
   B. In the same direction their outside knee is pointing as they end their turn
   C. In the opposite direction the outside knee is pointing as they begin their turn
   D. In the opposite direction the outside knee is pointing as they end their turn

2. Choose one or more of the following:
   For a beginning wedge christie student, pointing the inside knee toward the center of the turn:
   A. Facilitates inside leg steering
   B. Is an example of counter-rotation
   C. Involves an external rotation of the leg
   D. Releases the edge

3. True or false:
   To match and skid at the beginning wedge christie level, you should be balanced over the outside ski during the first half of the turn.

4. Describe how to make a beginning wedge-christie turn from a traverse.

   _____

   _____

   _____

   _____

5. Choose one or more of the following:
   Which of the following is/are appropriate for teaching matching during a beginning wedge christie lesson?
   A. Thousand steps
   B. Wedge parallel garlands
   C. Leapers

6. The text describes several benefits to learning the uphill christie. Name two of these.

   _____

   _____

7. Circle the best choice:
   During an uphill christie, the focal point of balance and pressure should be on the (inside) / (outside) foot and ski.

8. Choose one or more of the following:
During the uphill christie, feeling contact on the front of the boot:
   A. Should only occur at the end of the christie
   B. Always moves your weight onto the ball of your foot
   C. Helps keep the body from rocking fore and aft over the feet

9. What can you do with your knees and ankles to make sideslipping easier?

_____

_____

10. True or false:
To enhance edging and pressure control skills, you could combine the forward sideslip with the uphill christie.

11. Circle the best choice:
(Hockey slides) / (Uphill christies) require more active steering of the skis.

12. Choose the best answer:
Which of the following exercises can help you anchor the timing of wedge and parallel movements in preparation for beginning wedge christies:
   A. Uphill christies
   B. Wedge parallel garlands
   C. Hockey slides

13. Circle the best choice:
During a wedge-christie turn, (increased) / (decreased) pressure on the outside ski during the last third of the turn allows the inside ski to move more freely.

14. Circle the best choice:
Traversing or slipping forward is especially helpful for (getting down bumpy terrain) / (making quick moves to avoid obstacles).

15. True or false:
Hockey slides are especially helpful for controlling speed on rough terrain and in confined areas.

16. What is a thumper traverse?

_____

_____

17. Circle the best choice:
Standing and balancing more on the outside ski during a wedge-christie turn involves a (rotary) / (pressure-control) movement.

18. Circle the best choice:
When the inside ski flattens in a wedge-christie turn, pressure on that ski (increases) / (decreases).

Answers: Methodical Approach to Matching and Skidding

1. B. To help beginning wedge christie students match their skis, you could show them *how to point their inside knee in the same direction the outside knee is pointing as they finish their turn.*

   Pointing the inside knee in the same direction as the outside knee in the bottom third of the turn *flattens* the inside ski and allows it to match the outside ski.

2. A, C, & D. For a beginning wedge christie student, the action of pointing the inside knee toward the center of the turn *facilitates inside leg steering,* involves *an external rotation of the leg,* and contributes to the *release of the edge* of that ski.

3. *False.* To match and skid at the beginning wedge christie level, you should be balanced over the outside ski during the *second* half of the turn.

4. To make a wedge-christie turn from a traverse:
   1. Glide in a traverse with skis parallel and knees and ankles flexed.
   2. Open your skis into a wedge with a slight extension.
   3. Flex with most of the weight (pressure) on the outside (downhill) ski.
   4. Point the inside knee up the hill in the same direction the outside knee is pointing.

5. B. There are many exercises you could use to help your wedge christie students learn to match their skis. One of these is *wedge parallel garlands* (a series of incomplete turns across the hill which never cross the fall line).

6. Uphill christies can help beginning wedge christie students:
   - more fully utilize the design of the skis in the turn.
   - learn another option for slowing down and stopping.
   - refine their balance so that they will begin to stand more consistently over the "sweet spot" of the ski.
   - understand and apply their knowledge of how the interaction of edge angle and pressure on the ski can cause the ski to grip and turn in the snow.
   - learn the movements for completing beginning wedge-christie turns.
   - control speed on steeper terrain.

7. *Outside.* The focal point of balance and pressure should be on the *outside foot and ski*. Just as in wedge turns, the legs should move independently of the upper body.

8. C. During the uphill christie, feeling contact on the front of the boot helps keep the body from rocking fore and aft over the feet.

9. To make sideslipping easier
   - relax your knees and ankles
   - point your knees and ankles slightly downhill

10. *True.* Combining the forward sideslip with the uphill christie will enhance edging and pressure-control skills.

11. *Hockey slides.* While both hockey slides and uphill christies require a simultaneous tipping of both the feet and legs, *hockey slides* require that you steer your skis more actively by *twisting* your feet and legs.

12. B. The *wedge parallel garland* can help you anchor the timing of wedge and parallel movements in preparation for beginning wedge christies.

13. *Increased.* With the *increase* of pressure on the outside ski during a wedge-christie turn, the inside leg can move more freely.

14. Traversing or slipping forward is especially helpful for getting down bumpy terrain.

15. *True.* Hockey slides are useful for controlling speed on rough terrain and in confined areas. They are also useful for avoiding obstacles or negotiating steep, difficult runs.

16. A thumper traverse is an exercise in which you tap the inside ski while traversing. It promotes matching.

17. *Pressure control.* Skiers learn to refine *pressure control* from foot to foot by standing and balancing more on the outside ski during a wedge-christie turn.

18. *Decreases.* When the inside ski flattens in a wedge-christie turn, pressure on that ski is *decreased*. As the inside knee is pointed to steer the inside leg into the turn, the inside ski flattens, resulting in less friction between that ski's edge and the snow.

Notes