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Drills and Exercises

Technical Free Skiing and Gate Training

Every athlete deserves a CERTIFIED coach.








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Canada

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Introduction

In the process of skill development from the entry level to high performance, coaches are challenged to find a variety of methods to break performance into isolated skills in order to help athletes reach peak performance overall. The use of exercises and drills in a gate training or non-gate training environment provides the coach with effective tools to improve specific skills that require improvement, but more importantly, coaches must constantly reflect upon how the isolated skill improvement relates to the final form.

The number of exercises and drills is limited only by the imagination of the coach. All the tools described in this handbook can be modified for any skier/ski racer needs by manipulating any of the following variables:

- Terrain (smooth, bumps, gradient of piste)
- Speed
- Turn shape and size (one quarter, one half, three quarters, full, slalom, giant slalom)
- Variation of exercise or drill by adding or deleting variables (equipment, terrain changes, snow conditions etc.)
- Combinations of drills and exercises

By utilizing imagination and having a specific goal in mind, the coach can assist all ski racers in their adaptation and refinement of skills through the environment of free ski exercises and the use of drill courses in a gate training environment. It is also imperative that the coach recognizes and provides the athletes with enough time on task in order for the athletes' to acquire and consolidate new information regarding the prescribed drills or exercises.

The coach must understand some important facts about skill development using drills and exercises:

- Drills must match the growth and development and skill level of the skier/ski racer (AIM 2)
- The athlete must be physically and cognitively involved in the learning process.
Explanations, demonstrations and feedback should be clear and informative enough to set the wheels of **self-regulated learning** in motion (Coaching & Learning module)

Exercises and drills have one major purpose in mind: to isolate skills that need to be patterned, adapted and refined, then practised in the overall performance to measure success. Using exercises and drills in gate training and non-gate training environments allows the ski racers time to focus on the task and when the task is completed, the coach and the ski racers can reflect upon how the improvements impact the ski racers' overall performance. Coaches should also recognize the value of these drills and exercises as an integral part of a warm up protocol and encourage their athletes to use them at the athletes' discretion.

With this in mind ... ensure that exercises and drills are performed correctly then tested to see if the overall performance has improved.

“Perfect Practice Makes Perfect

How to use this Handbook

This handbook is built in three sections. The two first one covers exercises and drills. The last section is about guidelines for basic course setting. In each section you will find a quick reference guide. The guide is designed to help find exercises and drills in a free ski environment and in gate training for the appropriate level of skill:

- Entry Level (U8, U10, U12)
- Development Level (U14, U16)
- Performance Level (U18, U21)
- High Performance (U21, Senior)

ENTRY LEVEL – Skier Essentials Learn to Train Stages

The goal of setting gate drills at this stage of development should be to familiarize young ski racers with gates and to provide a variety of environments that are fun and challenging yet provide ample opportunity for a high success rate in skill development. It is imperative that the coach remembers growth and maturation limitations at this level when choosing terrain, distances and speed when setting courses. Foam type stubbies, brushes and solid poles are recommended at this level for all gate training activities.

DEVELOPMENT LEVEL - Learn to Train —————> Learn to Race Stages

The goal of setting gate drills at this stage of development should be to test the ski racers' ability to transfer skills acquired in a predominantly free ski environment to gate training. Although free ski drills and exercises should still be emphasized, the ski racers should be challenged to adapt and refine their ski racing skills in an environment oriented more toward tactics and strategic planning.

A variety of gate types is very useful at this level: solid poles, foam stubbies, flex trainers.

PERFORMANCE LEVEL - Learn to Race —————> Train to Race Stages

The goal of setting gate drills at this stage of development is not only to assist the athletes in their abilities to refine and vary their skill development in the technical components of ski racing but in tactics and strategies as well. To that end, gate training should be designed to challenge the athletes to adapt and refine existing skills in tactics and strategies within a more competition-oriented environment. Therefore, the coach must employ more variety in his/her course design, (i.e. short drill courses, full length and competition length race simulation courses, rhythm and change of rhythm courses.)

HIGH PERFORMANCE LEVEL – Train to Race and Train to Win Stages

The goal of setting gate drills and full courses at this level of development is to promote an environment that approximates competition as closely as possible. Gate training must test the elite athletes' physical, technical, tactical and mental management skills. Athletes should perform as close to their optimal performance state as possible so they are challenged to become more innovative in their skill development.

Each ability section consists of a list of suggested drills and exercises that can help the coach select a drill or exercise that matches as closely as possible to the isolated skill that requires improvement. This is the **whole - part - whole** concept that coaches can use to enhance skill development. The following are the areas of skill development that the drills and exercises in this handbook are intended to improve:

- Technical elements
- Tactical approach
- Global movements and general form
- Ski racing biomechanics

Technical Free Skiing
Drills and Exercises

Quick Reference Guide - Technical Free Skiing

Entry Level .. Skier Essentials - Learn to Train Stages

In general, all exercises and drills listed are to be taught in the most likely successful environment: smooth terrain, flat to moderate (unless otherwise indicated). Skier/ski racers should be allowed many attempts, and appropriate time on each exercise to develop proficiency (but not boredom!). All drills and exercises can be simplified for the entry level by keeping the environment in their favour: positive, simple, and with clear basic objectives!

Global Movements Thousand steps Hoppsving Hands-all-over Fall line skating Rollerblade Boots undone Banana turn Horizontal Pole Variety of terrain and conditions Hip lift Posture Exercise Victory pose Terrain Garden Obstacle Course	Lateral stability Inside ski turns One-ski skiing Wide-to-narrow Hands-all-over Fall line skating Hoppsving Spaghetti Legs Figure 8 skating	Forward/backward movements Too far Hands-all-over No poles Backwards skiing Linked 360's Children's spiess Fall line skating Hoppsving Posture Exercise
Vertical movements Hoppsving Toes to Sky Jump turns Crud skiing / Powder skiing Bumps	Line/External Focus Follow the Leader Shadow Drill Draw a line Follow the line	Stability/ Mobility Inside ski turns Fall line skating Powerplow Children's spiess Rollerblade
Coordinated movements Norwegian pole plant Children's spiess Obstacle course Charleston Synchronized skiing Thousand steps Bump skiing Spaghetti Legs Backwards skiing Pierre's drill	Coordinated movements .. (continued) Linked 360's Powerplow Banana turn Fall line skating Outside boot touch Outside ski only Figure 8 skating Hockey stop	
Force/Impulse Fall Line Skating Rollerblade Spaghetti Legs Pole pinch Line drill Tuck Turns	Force/Impulse (continued) Banana turn Powerplow Tuck turns Rollerblade Outside boot touch Outside ski Only	Separation/Coiling skills Norwegian pole plant Children's spiess Braquage Hockey stops with pole touch

Quick Reference Guide - Technical Free Skiing

Development Level ... Learn to Train - Learn to Race Stages

Exercises, drills and the final form should fill a large percentage of on-snow time for this level of ski racer. As with the entry level, the environment should facilitate success as much as possible. All exercises and drills should be trained with a high level of proficiency, and sufficient time should be allocated for this proficiency to develop. Once the ski racer has reached a high level of success in an exercise or drill, the difficulty of the task can be increased by manipulation of the terrain or applying the newly acquired skills to the overall performance in order to measure success.

Global Movements Thousand steps Hoppsving Step-step arc Vrenni's drill Hit-hit-hit Hands-all-over Fall line skating Rollerblade Bumps Banana turn Horizontal pole Varied terrain / conditions Hip lift Victory pose Posture exercise	Lateral Mobility Vrenni's drill Inside ski turns One-ski skiing Wide-to-narrow Hands-all-over Fall line skating Step-step arc Hoppsving Horizontal pole Figure 8 skating Edge to Edge	Fore-Aft Movement Too far Hands-all-over Snow blades Backwards skiing Linked 360's Spiess Fall line skating Hoppsving Obstacle course Hip lift Victory pose Posture exercise No Poles Handle Bar
Vertical Movement Hoppsving Toes-to-sky Jump turns Crud skiing / powder skiing Spiess Edge to Edge	Line/Anticipation/External Focus Follow the leader Line in the snow Shadow Drill Draw a line	Upper Body Rotational Stability Inside Ski Turns Spiess Power Plow Handcuff Tuck Turns Handle Bar No Poles
Coordinated movements Vrenni's drill Norwegian pole plant Children's spiess Spiess Charleston Texas two-step Synchronized skiing Fall line skating Bumps Thousand steps Spaghetti legs Backwards skiing, Pierre's drill Linked 360's 360's in air	Mobility/Agility Glenn's drill Inside ski turns Step-step arc Fall line skating Powerplow Jump turns Edge to Edge	Leg Mobility Power plow Step-step-arc Spiess Children's Spiess Rollerblade Glenn's drill Snow blades
Coordinated movements (cont'd) Norwegian Pole Plant Edge to Edge Spiess Fall Line Skating 360's in the Air	Force/Impulse Tuck Turns GS Free Skiing Rollerblade Edge to Edge	Separation skills/Use of poles Spiess Norwegian pole plant Hockey stops

Quick Reference Guide - Technical Free Skiing

Performance Level ... Learn to Race - Train to Race Stages

At this level of development, the goal of all exercise and drills should be focussed at the highest degree of proficiency. All tasks should be performed with all possible variations and degree of difficulty. All exercises and drills should be allocated sufficient time to train, however, the result of the tasks should be tested back into the overall performance as soon as possible. The most important consideration in these stages is the question of need for the ski racers' performance to be broken down into drills and exercises as most training at this level will be conducted in a gate training environment.

Coordinated Global Movements Thousand steps Hoppsving Step-step arc Vrenni's drill Hit-hit-hit Hands-all-over Fall line skating Rollerblade Spiess Hip lift Posture exercise Victory pose All terrain / all conditions	Lateral Mobility Vrenni's drill One Ski skiing Inside ski turns Hands-all-over Fall line skating Step-step arc Hoppsving All terrain / all conditions Edge to Edge Outside ski to outside ski	Fore-Aft Movements Hands-all-over Spiess Fall line skating Hoppsving One ski skiing Hip lift Victory pose Posture exercise No Poles Handle Bar Snow Blades
Vertical Movements Hoppsving Jump turns Spiess Bumps Excessive movement All terrain / all conditions	Line/Anticipation Draw a line Shadow Drill Follow the Leader	Coordinated Global Movements Vrenni's drill Norwegian pole plant Spiess Fall line skating Thousand steps 360's in air Backwards skiing, Pierre's drill One ski skiing One ski skiing in drills Hit-hit-hit All terrain / All Conditions Edge to Edge Air time

Impulse Glenn's drill Inside ski turn Step-step arc Fall line skating Powerplow Jump turns Tuck turns Rollerblade Edge to Edge Side slip Hit-hit-hit Rollerblade Step-step arc Pole pinch Tuck turns Handcuff Fall line skating Power plow	Rotational Movements Glenn's drill Step-step arc Spiess Tuck turns Rollerblade Powerplow Banana turn	Force/Impulse Edge to Edge Rollerblade Powerplow Tuck turns Banana turn Outside ski to outside ski
Stability/Mobility Edge to Edge Norwegian Pole Plant Powder/Crud skiing Spiess Inside Ski Turns Banana Turns Norwegian Pole Plant Texas Two Step Step-Step Arc Synchronized Skiing Edge to Edge	Stability/Mobility (continued) Handcuff Tuck Turns Handle Bar No Poles Spiess Inside Ski Turns	

Thousand Steps

Description

Skier performs active lateral and forward steps off of a stable outside ski through the entire arc while maintaining upper body stability with shoulders and elbows ahead of the kneecaps.

Focus

- Alignment of the skeleton
- Forward movement from a stable outside ski
- Active forward/backward, vertical and lateral movements

Terrain

Flat to moderate

Turn Shape

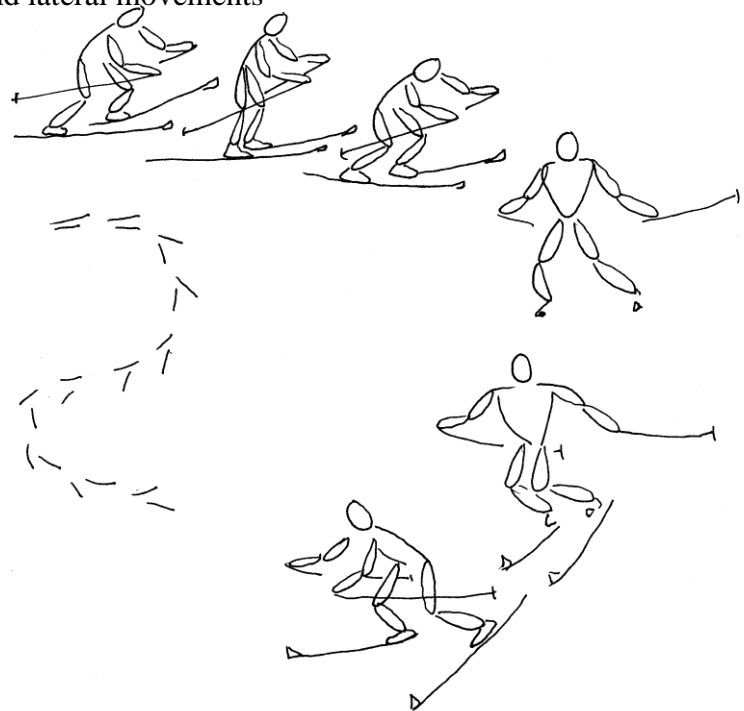
Open slalom to fully completed GS

Variations

Horizontal pole
Hands-all-over positions

Notes

Ensure the skier completes arc
Ensure the skier steps forward and up the hill.
Encourage the skier to move the C of M ahead of the base of support (alignment)
Ensure the skier disciplines upper body to eliminate rotation of shoulders
Ensure the skier recognizes that the outside ski provides further stability



Hoppsving

Description

Skier performs small two-footed hops, off centre of skis, around entire arc of the turn, while maintaining upper body stability in an athletic position. Skier should remain stable over the outside ski even though hops are performed off of both skis.

Focus

- Maintain alignment with all joints available
- Vertical movements

Terrain

Flat to moderate

Turn Shape

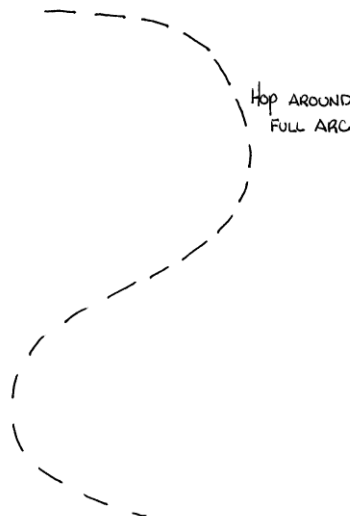
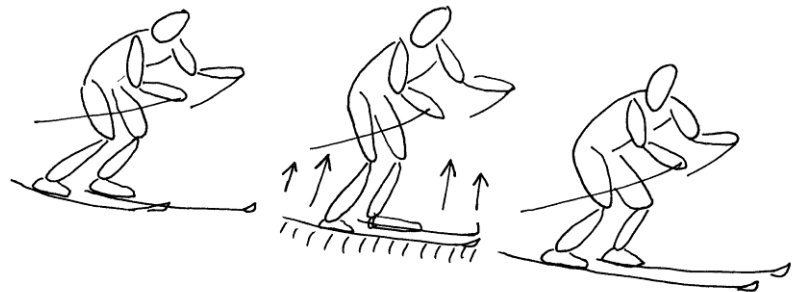
Open Slalom to tight G.S.

Variations

Horizontal pole

Uneven terrain

Terrain changes



Notes

Ensure the skier moves off the balls of the feet (internal focus)

Encourage the skier to use this drill as part of warm up protocol.

Encourage the skier to maintain a stable and disciplined upper body.

Hands-all-over Basic

Description

This drill has several variations. Each variation challenges the skier to maintain upper body stability and dynamic leg mobility while performing fall line turns

Focus

- Alignment and width of feet/skis.

Terrain

All variations require flat to moderate terrain

Turn Shape

Slalom to moderate GS

Variations

Hands on hips
Cossack Position
Hands behind head
Hands above head

Notes

Encourage the skiers to utilize this drill as part of their warm-up protocol.
Encourage the skiers to maintain alignment and adjust width of skis accordingly

Hands-all-over Basic Variation

Description

Without poles, the skier places hands on hips, with fingertips firmly placed upon the hip flexors. Skier performs fall line turns attempting to place as little pressure as possible on fingertips. Skiers should remain focussed on standing tall and using all leg joints to turn the skis.

Focus

- Upper-lower body separation
- Lateral and forward/backward movements
- Both legs working together
- Leg rotation skills

Turn Shape

Slalom

Terrain

Flat to moderate

Notes:

Ensure skiers have no pressure on finger tips

Upper body and hips should remain square to fall line (stability)

Skis must be directed across hill to control speed



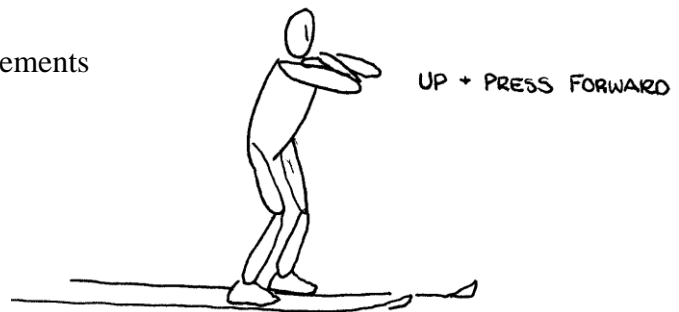
Hands-all-over Cossack Variation

Description

Without ski poles, the skier crosses arms over chest. The skier, with arms crossed, raises elbows up to shoulder height and presses them forward (as would a Russian dancer) while performing fall line turns.

Focus

- Disciplined upper body position
- Isolate core muscles
- Adjustments to forward/backward movements
- Active legs
- Upper body/ lower body separation

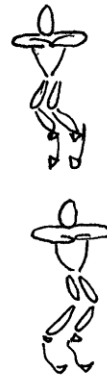


Terrain

Flat to moderate

Turn Shape

Slalom



Notes

Ensure the skier keeps elbows up and pressed forward at all times

Ensure the skier does not rotate into the turn with upper body. The feet and legs start the turn.

Hands-all-over Hands Behind Head Variation

Description

Skier intertwines fingers behind neck, and with a 1/2 crunchie move with core, performs fall line turns.

Focus

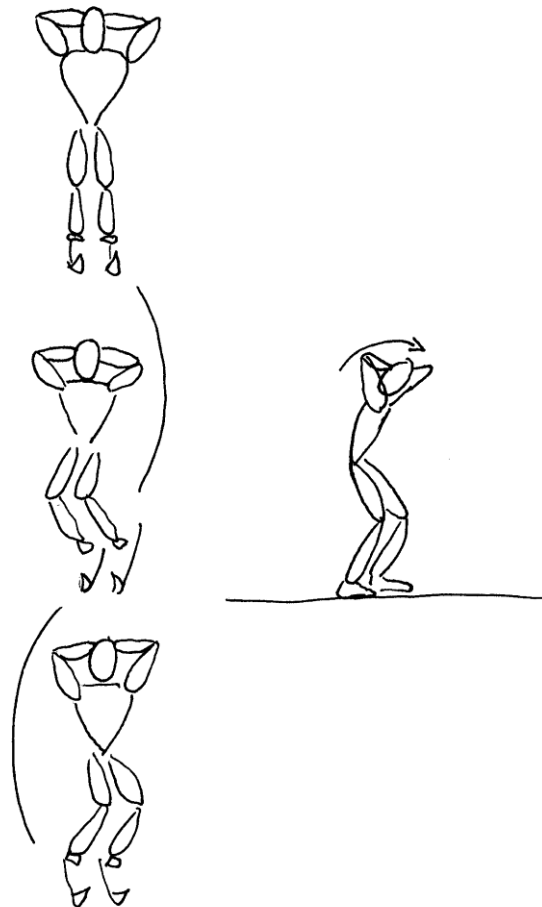
- Upper / lower body separation
- Upper body stability
- Adjustments to overall movements

Terrain

Flat to moderate

Turn Shape

Slalom



Notes

Encourage the skier to focus on lateral mobility with the legs (use of all joints).

Horizontal Pole

Description

Holding a full length bamboo at eye level, with elbows outstretched, the skier performs turns with focus on keeping the pole level throughout the arc. The coach may request the skier to hold pole so that the inside of the pole is higher than the outside end.

Focus

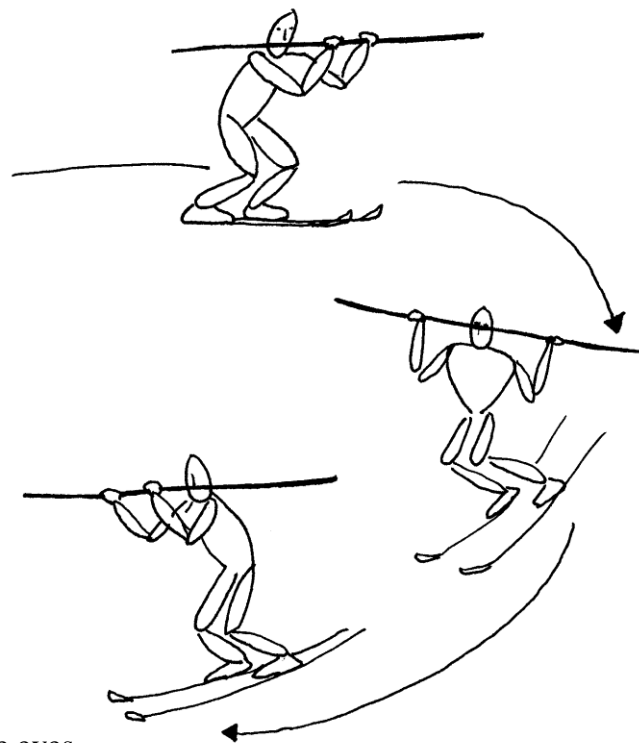
- Stability over the outside ski
- Overall alignment throughout the turn

Terrain

Moderate to steep

Turn Shape

Slalom and GS



Notes

Ensure the skier keeps the pole level with the eyes.
Ensure the skier keeps elbows extended and ahead.

Handle Bar (18 inch curved bar fitted with ski handles at each end)

Description

The skier holds the handle bar trying to maintain a forward hand and arm position at chest level.

Focus

- Use core muscles for upper/lower body separation (internal focus)
- Consistent arm and hand home position
- Upper body discipline/stability

Terrain

Flat to steep

Turn Shape

Slalom and GS

Variations

Terrain changes

Uneven terrain

Notes

Encourages the skier to maintain rotational stability

Encourages the skier to maintain upper body, arms and hands discipline

No Poles

Description

The skier maintains arms in front of the upper body with elbows in front of the core at chest level. Skier should endeavour to maintain hands at a consistent width.

Focus

- Disciplined arms and hands position
- Upper body rotational stability
- Isolate the core muscles for upper/lower body separation (internal focus)
- Movement and stability

Terrain

Flat to steep

Turn Shape

Slalom and Giant Slalom turns

Variations

Terrain changes

Uneven terrain

Giant Slalom Drill Courses

Notes

Encourage upper body stability

Encourage consistent arm and hand width

Encourage initiating movements with the feet and legs

Hip Lift

Description

Skier removes ski poles from wrist, placing poles together, brings them behind back placing them just under the bum. The skier performs turns, poles are lifted and pulled forward on the bum to "lift" hips and place the skier's weight more. Upper body ahead of the base of support.

Focus

- Alignment (use of all available joints)
- Adjust forward/backward movement (cognitive cue)
- Vertical movement (cognitive cue)

Terrain

Flat to steep

Turn shape

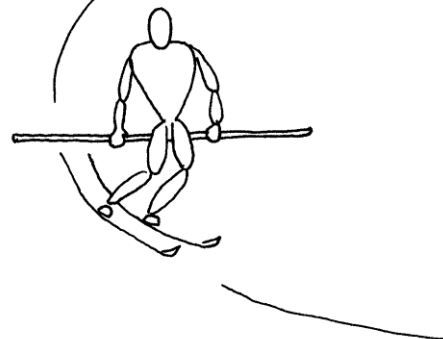
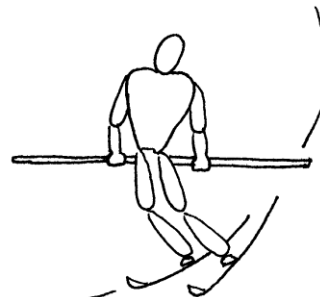
Slalom to tight GS

Variations

Add hop in between turns

Notes

Encourage "tall" sensation ... "lifting" with the poles



Posture Exercise

Description

Skier removes ski poles from wrists and takes poles together, placing them behind back. Skier hooks elbows around poles to bring shoulders back and chest up. Turns are performed with emphasis on aligned posture and general form on the skis

Focus

- Upper body discipline
- Adjusting forward/backward movements
- Alignment of all available joints

Terrain

Flat to moderate

Turn Shape

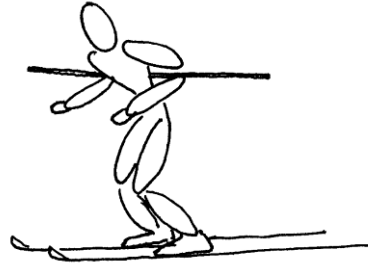
Slalom

Variations

Add hop in between turns
Utilize with "draw a line" exercise
In shallow bumps
Over terrain changes

Notes

Do not use if skier has history of shoulder problems
Ensure weight is on balls of feet
Encourage the skier to initiate movements with the feet and legs



Victory Exercise

Description

Skier removes ski poles from wrists and holds them together as wide as possible (outside shoulder width). Bringing poles above head in a victory pose the skier performs turns. Emphasis upon reaching high above head weight on balls of feet, and hip, knee and ankle alignment (use of all joints).

Focus

- Adjusting global movements
- Alignment with all available joints
- Upper / lower body separation (core strength)

Terrain

Flat to moderate

Turn Shape

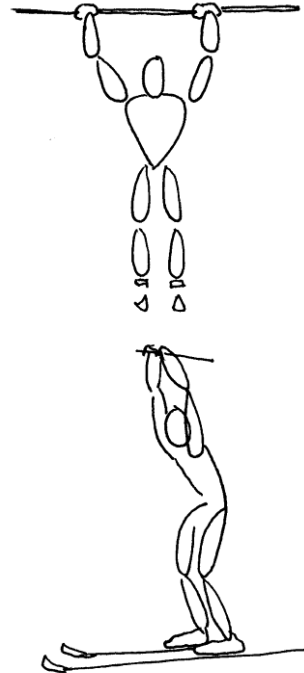
Slalom

Variations

Lifting uphill hand higher than downhill hand to promote lateral mobility over outside ski

Notes

Ensure the skier maintains stability and alignment while adjusting global movements
Encourage the skier to be aware of core muscles (internal focus)



Goal Post (Window)

Description

Skier holds ski poles with baskets pointing to the sky. With arms wider than shoulder width, at shoulder height, the skier visually "frames" a specific external point or cue within the poles and skis down the fall line towards that point without allowing it to disappear from within the frame.

Objectives/Focus

- Upper / lower body separation
- Visualize a point between poles (external cue)

Terrain

Flat to steep

Turn Shape

Slalom

Variations

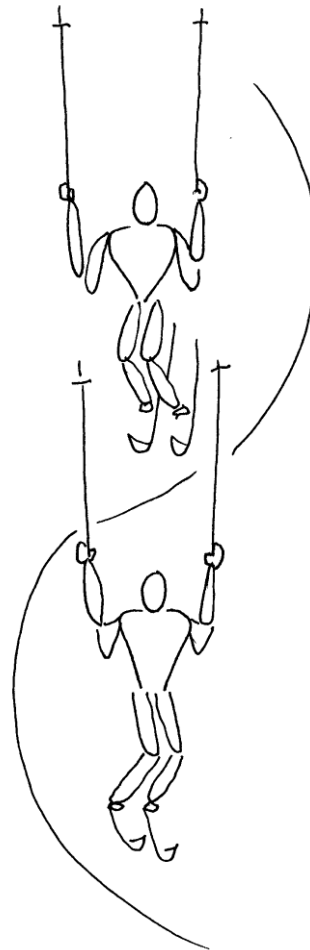
Vary width of feet and skis, narrow to wide

Vary terrain.

Notes

Ensure the skier keeps hands up to shoulder height

Encourage the skier to maintain external focus of attention



Fall line Skating

Description

The skier skates, in a hockey-like fashion, straight down the fall line.

Focus

- Stability on the outside ski
- Global movements from a working "loaded" ski (impulse)
- Centre of Mass in the line of travel

Terrain

Flat to moderate

Turn Shape

No turn shape

Variations

With horizontal pole

With hands-all-over positions

Notes

If skier has difficulty with this drill on flat terrain, check cuff alignment/canting of boots

Encourage skiers to maintain global movements and general form

Encourage skiers to move centre of mass in the line of travel

Rollerblade (Railway)

Description

With a natural width of stance edge both skis by rolling both ankles and knees forward and inside. Drill is executed patiently a

Focus

- Leg joint mobility/alignment (use of all joints)
-
- Separation skills (upper body stability)
-
-
- Carving on the outside ski

Terrain

Flat to moderate

Turn Shape

GS, and open Slalom

Variation

Hands-all-over positions
With horizontal pole
Without ski poles

Notes

Encourage the skier to leave clean tracks (carving)
Encourage the skier to find the "sweet spot" of the ski

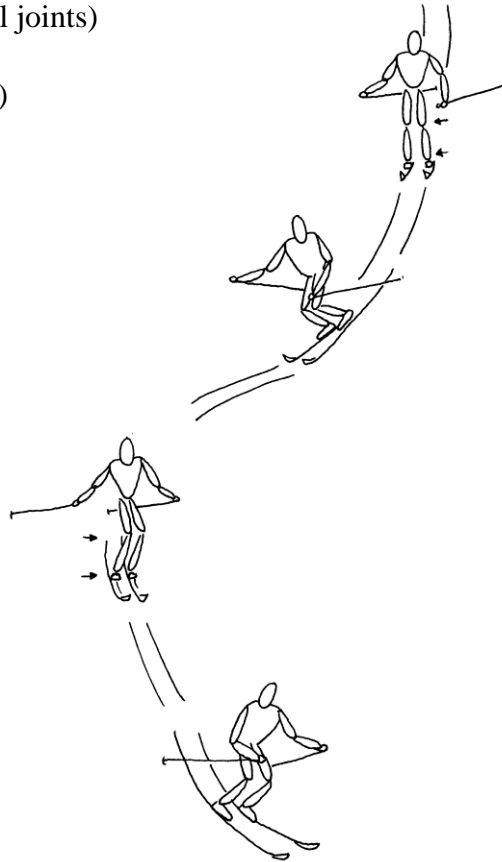


Figure 8 Skating

Description

Skier performs large figure 8 design, on a variety of terrain, using skating and poling action of legs and arms. .

Focus

- Coordinated body movements
- Movement from a working outside ski

Terrain

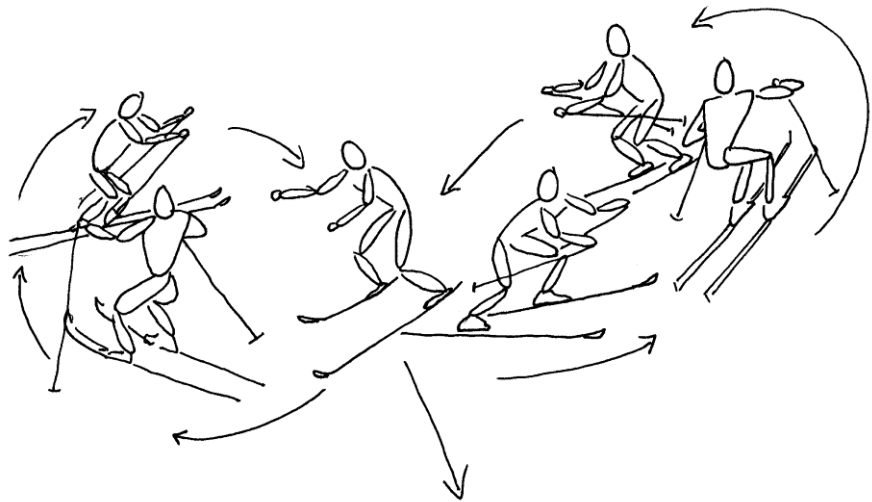
Flat to moderate

Turn Shape

Tight and open figure 8

Variations

With horizontal pole
With hands-all-over positions
Without poles
With overhead arms



Notes

Encourage the skier to coordinate movement of the arms and the legs
Encourage the skier to maintain alignment and upper body stability

Hit-Hit-Hit

Description

During the execution phase of the turn, the skier performs a lateral "hit" to both ski edges using both knees/ankles, while maintaining alignment in all joints with stability in the upper body. A pole touch may be added to each lateral hit to enhance upper body stability.

Focus

- Alignment (use of all joints) and form
- Force/Impulse
- Lateral mobility

Terrain

Flat to moderate

Turn shape

Open slalom or tight GS

Variations

With horizontal pole

No poles

Hands all over positions

Add hop in between turns

Add pole touch to each lateral hit

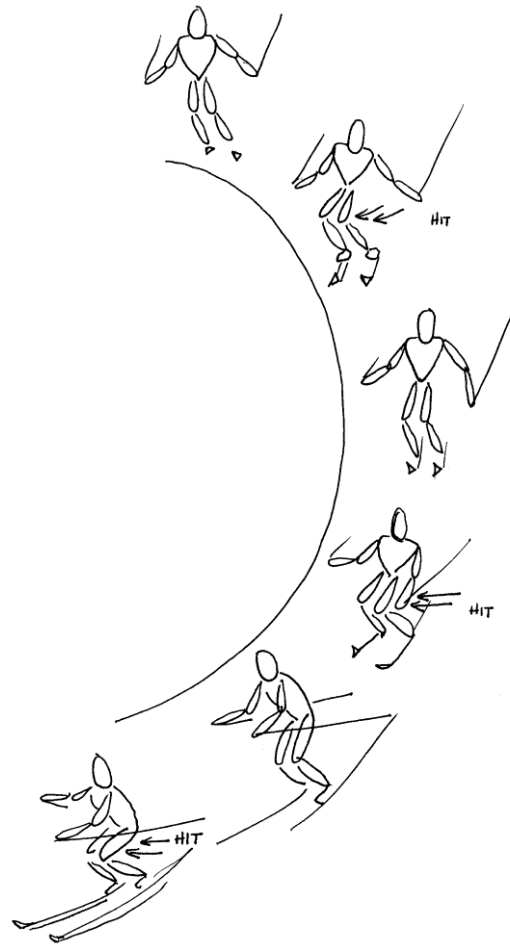
Notes

Terrain is an important factor!

Encourage the skier to maintain upper body stability

Encourage the skier to use leg joint lateral mobility

Maintain general form



Step-Step-Arc

Description

Skier makes two forward and uphill steps across hill. As the second step is made the skier steers the ski into the fall line completes a full arc. At the end of the arc the skier again performs the two strongly balanced steps (forward and uphill) off of the downhill ski and repeats the exercise.

Focus

- Coordinated movements
- Alignment and general form
- Linking and rhythm
- Centre of mass moves in the line of travel
- Movement from a working outside ski (impulse)

Terrain

Flat to steep

Turn shape

Fully completed GS arc

Variations

With horizontal pole

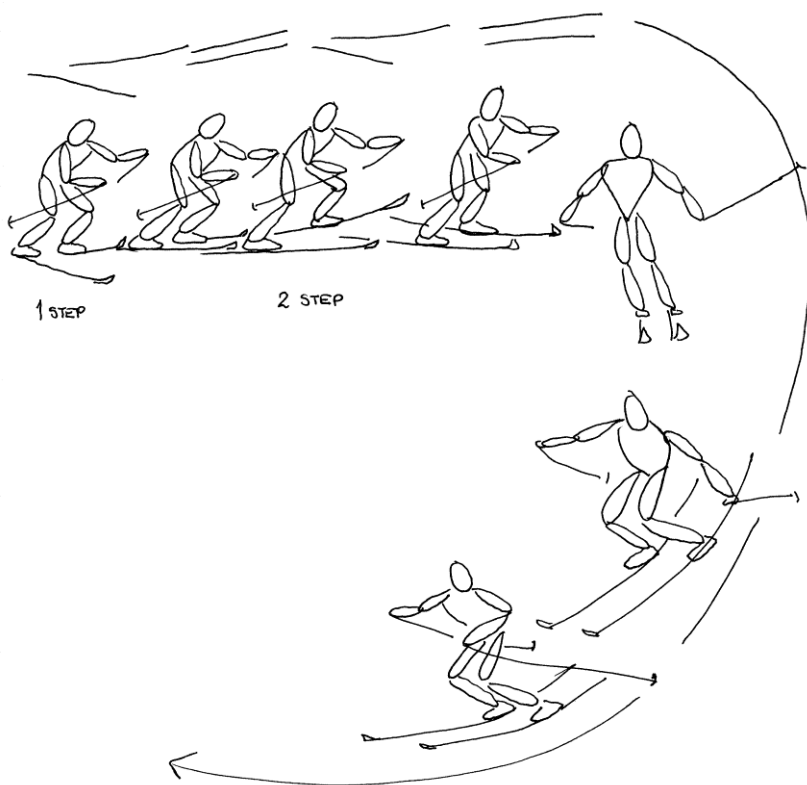
With hands all over positions

With excessive slow speed

Notes

Ensure the skier completes the arc to control the speed

Encourage the skier to maintain rhythm and pulse



Vrenni's Drill

Description

On flat to moderate terrain, with speed, the skier lifts right ski off of the snow and performs three (3) slalom shaped arcs on the left ski, immediately the skier puts both skis on the snow and repeats the 3 arcs, then picks the left ski off the snow and performs 3 arcs with the right ski, etc.

Focus

- Use of pole (upper body stability)
- Coordinated movements
- Cognitive cues
- Anticipation/decision making

Terrain

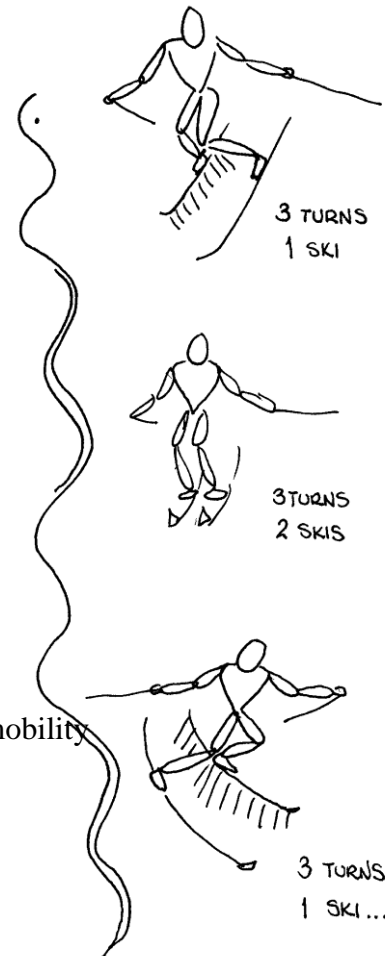
Flat to moderate

Turn Shape

Slalom

Notes

Challenge the skier to maintain upper body stability/lower body mobility
Encourage the skier to look forward and think ahead



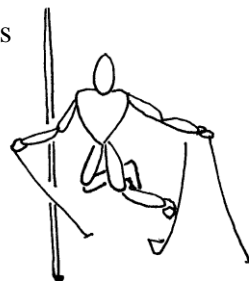
One Ski Skiing

Description

Skier performs a variety of turn shapes, at various speeds, in various conditions on one ski. Coach may choose to use the one-ski skiing as a variation to many other exercises and gate drills.

Focus

- Adjustments to lateral, forward/backward, vertical movements
- Alignment and general form
- Rhythm and linking (mobility)
- Decision making (turn shape, speed, conditions)
-



Terrain

Flat to moderate

Turn Shape

Slalom and GS

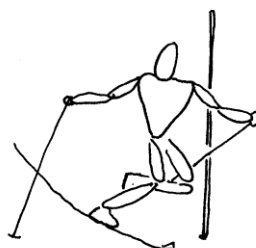


Variations

In all terrain

In bumps

With excessive vertical movement



Notes

Encourage the skier to recognize how a pole touch/plant enhances upper body stability

Encourage the skier to look forward and think ahead (anticipation training)

Inside Ski Turns

Description

Skier performs turns lifting the outside ski off the snow at the start of the turn: turn is performed on the inside ski.

Focus

- Pole touch/planting skills
- Coordinated movements
- Anticipation (looking forward and thinking ahead)
- Upper body stability/lower body mobility

Terrain

Flat to moderate

Turn Shape

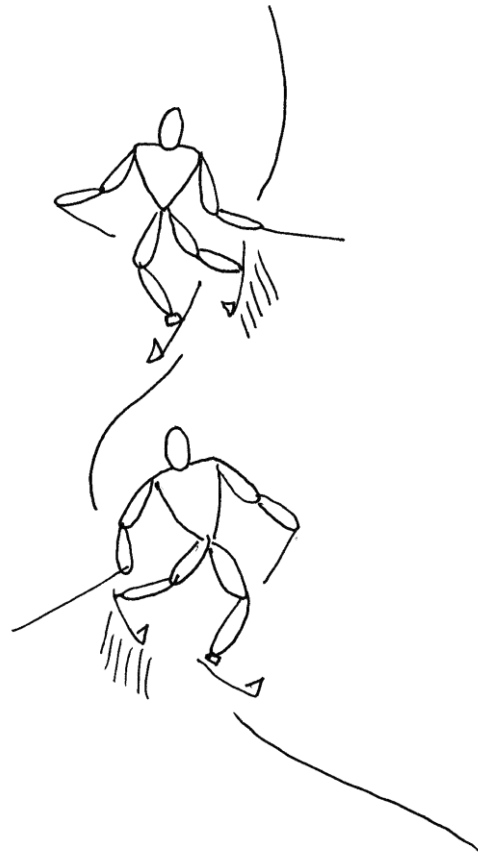
Open slalom, tight GS

Variations

Without poles
Charleston
With horizontal pole
With hands-all-over positions

Notes

Encourage the skier to maintain alignment and form
Encourage the skier to recognize how a pole touch/plant enhances stability
Encourage the skier to link the turns with rhythm.



Wide to Narrow to Wide to Natural

Description

Skier performs turns starting out with a very wide stance and gradually bringing the stance in as narrow as possible, then changes the width of stance to a natural/athletic position.

Focus

- Decision making
- Maintain alignment and form
- Stability and mobility

Terrain

Moderate to steep

Turn Shape

Slalom and GS

Variations

With horizontal pole

With hands-all-over positions

No poles

Variety of speeds

Notes

Ensure the skier exaggerates the width of stance (wide to narrow) several times

Ensure the skier maintains upper body stability

Encourage skier to be aware of differences in stability and mobility with the changes in width of stance (cognitive engagement)

Too Far

Description

Skier performs turns rocking as far forward and as far back as possible. Slowly, the movement is less excessive until the skier finds stability through the skeleton and musculature.

Focus

- Adjustments to forward/backward movements
- Stability with mobility
- Ski reaction to adjustments in movement (cognitive engagement)



Terrain

Flat

Turn shape

Slalom and GS

Variation

Loosened boots

In shallow bumps

With hands-all-over positions

Notes

Ensure the skier exaggerates the movements

Encourage the skier to find the "sweet spot" of the ski

Encourage the skier to recognize where the C of M is in relation to the base of support (cognition)

Backwards Skiing (Pierre's drill)

Description

Facing up the hill the skier performs linked, parallel turns.

Focus

- Spatial awareness
- Decision making
- Coordinate movements

Terrain

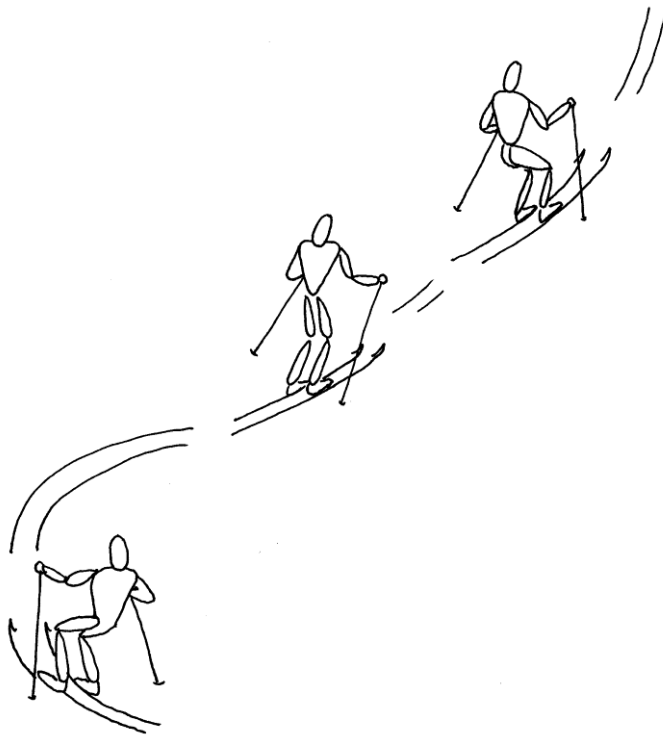
Flat to moderate

Turn shape

Open slalom to tight GS

Variation

Hands all over positions
Uneven terrain
Excessive up and down



Notes

Encourage the skier to maintain focus.
Safety is a priority.
Encourage the skier

Linked 360's

Description

With adequate speed, on smooth / consistent conditions, the skier spins fully completed 360 degree circles.. The skier should alternate direction of spin every 3-4 360's.

Focus

- Spatial awareness
- Coordinated movements

Terrain

Moderate

Variations

Without poles
Loosened boots

Notes

Encourage the skier to perform 360's in both directions
Encourage thinking ahead (cognitive engagement)

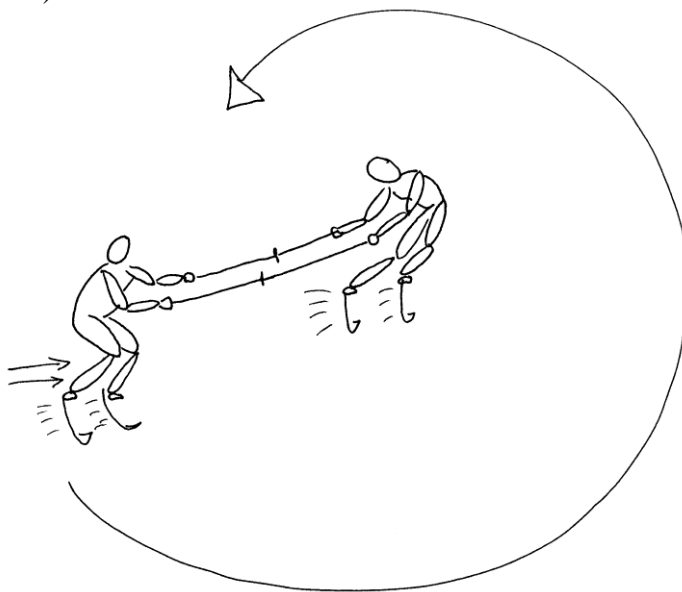
Spin Around

Description

This drill requires two skiers. Ski poles are attached as follows: straps of one pole are wound about the basket of the other, creating a long pole with a link. Task will require two of these "long poles" per two skiers. In a safe environment, on consistent moderate - steep terrain, the skiers each hold an end of the long pole in each hand. One skier begins down the hill and as the "long pole" becomes taut, the skier offers resistance in order to pull the other skier in a circular fashion. The skiers together will begin creating a revolving 360 down the slope, using resistance with their skis to help each other through circular motion. Skiers should change directions after five or six revolutions.

Focus

- Thinking ahead (anticipation)
- Coordinated movements
- Resistance



Terrain

Open and consistent slope: moderate to steep

Notes

Safety is priority. Do not have skiers perform this task on crowded slopes or on narrow terrain!

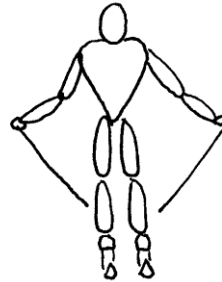
Hockey Stop

Description

From a stand still position, skier travels directly down the fall line. Once speed is established, the skier turns both skis perpendicular to the direction of travel and strongly sets both edges.

Focus

- Separation/coiling (upper body stability)
- Lower body mobility
- Pole touch/plant
- Upper body rotational awareness



Terrain

Medium to steep

Variations

Without ski poles
With horizontal pole
With window drill



Notes

Ensure the skier commits to a full stop and with weight over the outside ski
Encourage the skier to bring skis perpendicular to the line of travel
Encourage the skier to keep the upper body facing the fall line
Encourage the skier to use lower body mobility
Encourage the skier to use a pole touch/plant to enhance stability

Children's Spiess

Description

Without skis, skier performs small jumps turning the feet perpendicular to the line of travel. At the same time the upper body and hips are square to the fall line, stabilized by a pole plant.

Focus

- Turning of the lower leg
- Upper / lower body separation
- Use of pole touch/plant



Terrain

Flat to moderate



Notes

Ensure the skier uses the lower body joints

Ensure the skier maintains upper body stability (facing downhill)

Ensure the skier is aware of the use of the pole for added stability

Sequence into Spiess exercise with skis when skiers are successful without skis



Spiess

Description

Skier performs small jump and turns the skis perpendicular to the line of travel while keeping hips, shoulders facing down the fall line. Upper body is stabilized with a pole touch/plant.

Focus

- Pole touch/plant (stability)
- Upper / lower body separation
- Jump with lower body (use of all joints)

Terrain

Flat to moderate

Turn Shape

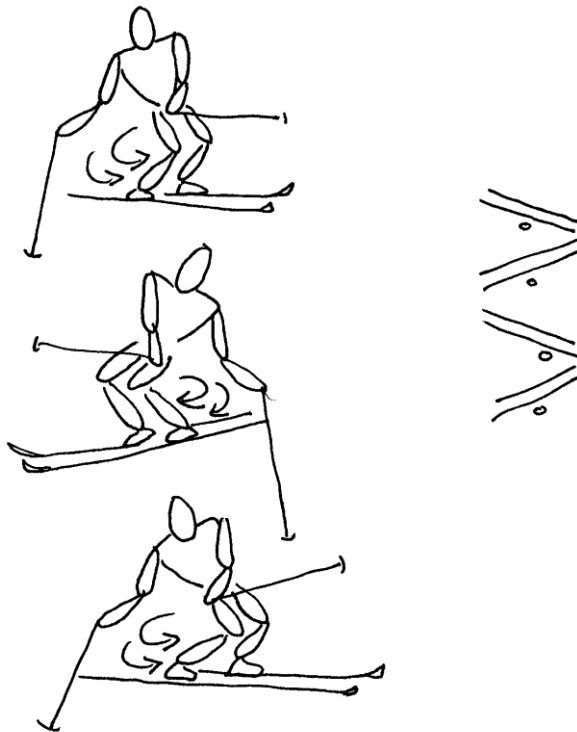
Skis must come perpendicular to line of travel

Variations

Sequence from Children's Spiess

Notes

Ensure the skier is using all joints available when jumping
Ensure the skier recognizes the benefits of using a pole touch/plant
Encourage the skier to use all joints for efficient vertical movement
Coach should watch for boot malfunction.



Edge to Edge

Description

Skier performs a small jump with skis in a slight wedge and lands on the inside edge of the outside ski. The skier repeats the movement to the other ski.

Focus

- Overall coordinated movements
- Use of pole touch/plant (upper body stability)
- Jump with the lower body
- Apply force and impulse

Terrain

Flat to moderate

Turn Shape

Skier lands on edged ski with force and impulse

Variations

Children's edge to edge

Notes

Encourage the skier to use a pole touch/plant to aid upper body stability

Encourage disciplined upper body

Encourage the skier to use leg joints to jump from ski to ski (use of all available joints)

Encourage the skier to recognize how the ski reacts to the applied force by jumping (impulse)

Coach should look for boot interference with jumping

Toes to sky

Description

Skier starts the turn with both arms reaching high above the head. As turn progresses the skier comes down with arms and touches the outside of the downhill boot with the downhill hand to complete the turn. The action is then repeated.

Focus

- Vertical movement with legs
- Stability on the outside ski

Terrain

Flat to moderate

Turn Size

Open slalom and tight GS

Variations

Add a jump in between arcs

Notes

Encourage the skier to maintain rhythm and linking
Exaggerate the movements until the movements are consolidated.

Jump Turns

Description

Skier tries to bring both skis off the snow by jumping from a flexed position at the end of the turn.

Focus

- Vertical movement
- Jump with the legs (use of all joints)

Terrain

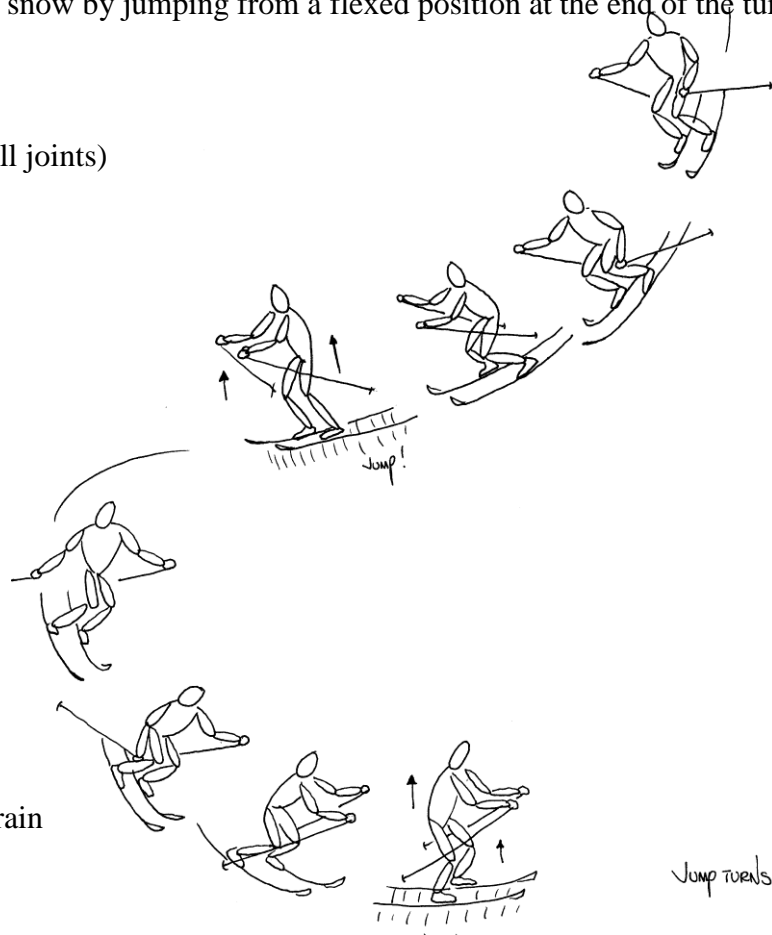
Flat to moderate

Turn Shape

Slalom to GS

Variations

With horizontal pole
With Hands-all-over positions
In shallow bumps and changing terrain
Without poles



Notes

Ensure the skier performs vertical movement with the legs
Encourage the skier to try to maintain rhythm in movements
Encourage the skier to think ahead (cognitive engagement)
Encourage the skier to move his/her C of M in the line of travel
Coach should look for boot interference

Airplane

Description

Skier holds arms out at shoulder level and performs turns "flying" with the outside arm (wing) reaching down the hill over the outside ski. Inside arm (wing) is kept high to create a "pinching" sensation at the waist over the outside ski.

Focus

- Lateral movement
- Apply force to the outside ski
- Upper body stability

Terrain

Flat to medium

Turn shape

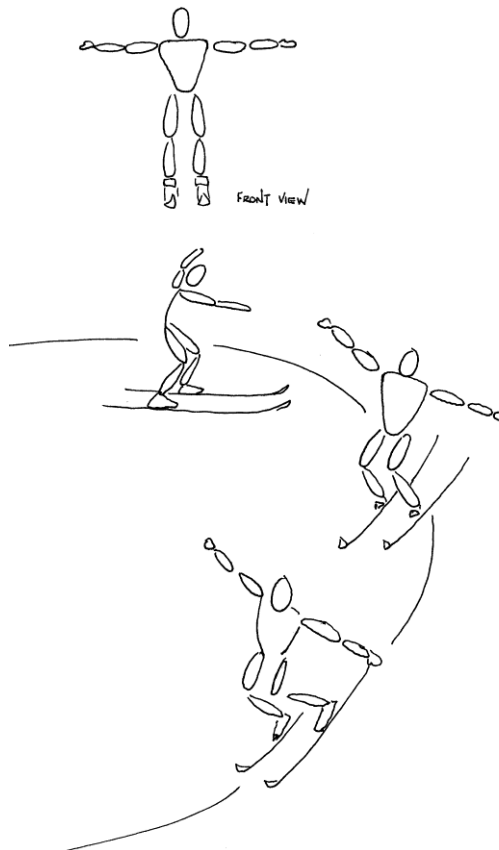
Slalom to GS

Variations

See pole pinch exercise

Notes

Encourage skier to be aware of the lateral movement with the hips



Norwegian Pole Plant

Description

In fall line turns, both poles are planted to the outside of turn, utilizing both arms. Shoulders and hips facing down the fall line. Both poles should hit at the same time at a distance from the body that will help facilitate lateral movement over the outside ski.

Focus

- Well timed coordinated movements
- Upper / lower body separation/coiling
- Pole touch/plant
- Apply force to the outside ski

Terrain

Moderate to steep

Turn Shape

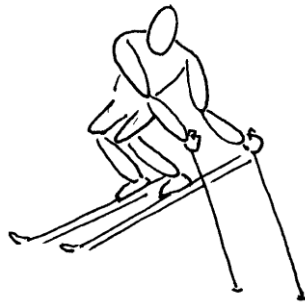
Slalom

Variations

Add hop in between turns
One ski

Notes

Progress from Hockey stop drill
Ensure the skier reaches with both arms to set the pole touch/plant down the hill
Encourage the skier to work with rhythm and pulse
Encourage the skier to be aware of the stabilizing effect on the outside ski



Charleston

Description

A variation of inside ski turns, the Charleston is a fall line version where the skier quickly hops from inside ski to inside ski in a dance fashion with quiet arms and quiet upper body.

Focus

- Coordinated movements
- Lateral mobility
- Rhythm and linking
- Upper body stability

Terrain

Flat to moderate

Turn Shape

Shallow Slalom

Variations

With horizontal pole

With hands-all-over positions

Notes

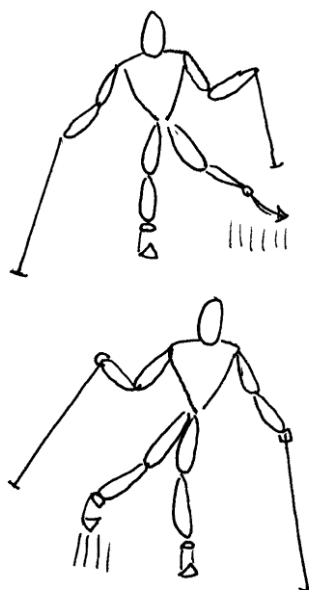
Encourage quick light action in switching inside feet

Encourage upper body discipline

Encourage the skier to maintain alignment

Encourage the skier to look forward and think ahead (cognitive cues)

Coach should allow the skier to play with this drill



Spaghetti Legs

Description

Skier performs this drill by bringing the knees together (knock kneed) and apart (bowlegged) to design an hourglass track in the snow.

Focus

- Lateral mobility
- Upper body stability
- Coordinated leg movements

Terrain

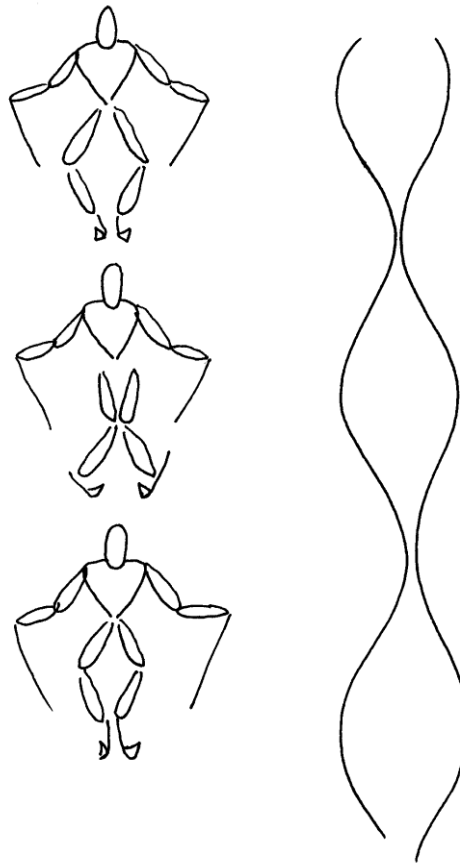
Flat

Variations

Across side hill

Notes

Allow skier to play with this exercise
Encourage "clean" track (as little spray as possible)
Encourage the skier on the outcome (hourglass track)



Glenn's Drill

Description

In linked, completed turns, the skier steps uphill ski out at the top of the turn in a plow position. Skier sets the new edge, balances on the edge and moves body outside over the new ski. The skier drives both skis into the fall line and completes the turn. Skier repeats movement. Speed is controlled by turn shape.

Focus

- Independent legs
- Alignment and mobility
- Apply force to the outside ski

Terrain

Flat to moderate

Turn Shape

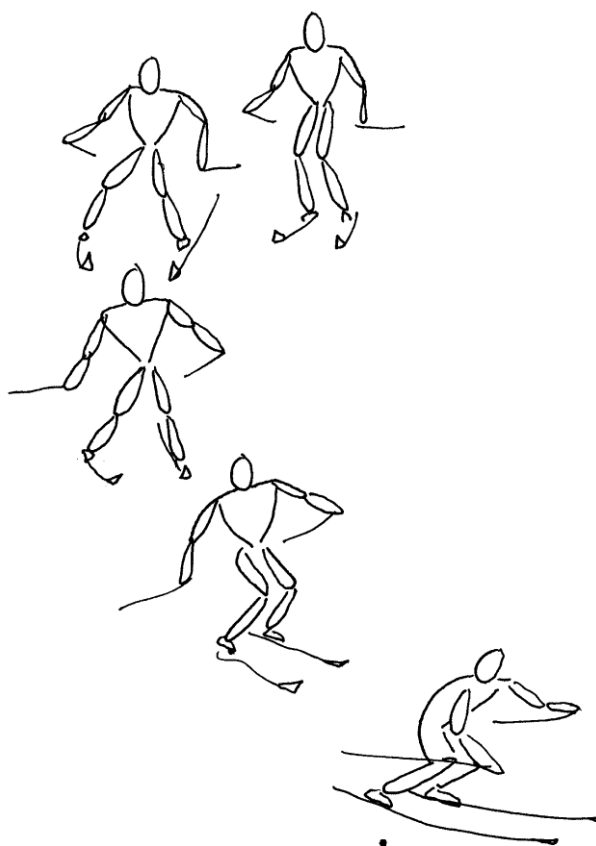
Fully completed GS

Variations

With horizontal pole
With "pole pinch"
Without poles

Notes

Ensure the skier is aligned and stable
Encourage the skier to deliberately shift weight from one ski to the other
Encourage the skier to work on lateral mobility



Power Plow

Description

With skis in a wedge position, the skier alternates shifting weight from the left to right ski, The skier focuses on being stable on a well edged ski to perform fall line - fully completed size arcs. .

Focus

- Independent leg mobility
- Stability from the outside ski
- Upper/lower body separation skills
- Upper body moves in the line of travel

Terrain

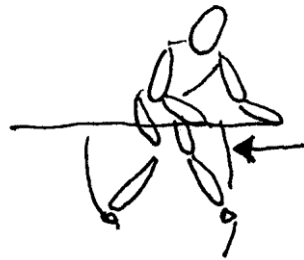
Flat to medium

Turn Shape

Slalom

Variations

Without ski poles
With horizontal pole
With hands-all-over positions



Notes

Ensure skier is weighting the outside ski with lateral mobility
Encourage disciplined upper body and use of the pole (touch/plant

Slip

Side Slip

Description

Skier steers both skis across the fall line, with the upper body facing in the line of travel and the arms are held forward. Skier executes the task by releasing and setting the edges of the skis by using the ankles and knees.

Focus

- Left/right side symmetry
- Upper / lower body separation
- Lateral ankles/knee movement

Terrain

Fall line moderate to steep

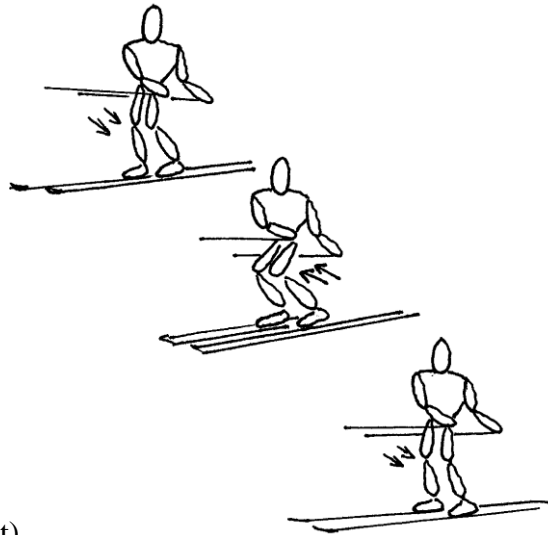
Variations

Diagonal side slip

Within gates

Without poles

With pole plant (plant is set when edges are set)



Notes

Ensure the skier is utilizing his/her ankles and knees

Ensure the skier maintains upper body stability

Introduce use of the pole when skier sets the edges (coordinated movements)

Pole Pinch

Description

Skier places a full length bamboo pole behind the neck and rests arms and hands, shoulder width, over the pole. As the skier executes the drill he/she should strive to be mobile in the lower body with upper body stability.

Focus

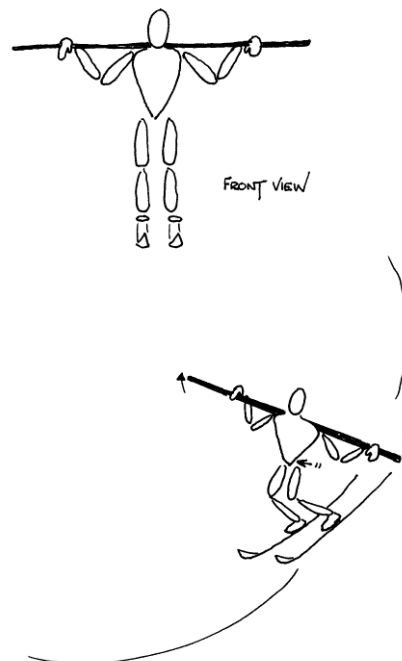
- Separation skills
- Aligned position over the outside ski

Terrain

Moderate

Turn Shape

GS



Variation

Add vertical hop in between arcs

Notes

Encourage skiers to make natural rhythmical movements

Encourage skiers to be aware of the position of the bamboo pole during execution of turns

Draw a Line

Description

Coach, with a bamboo pole or ski poles, snow plows down fall line dragging the pole in between his/her legs. A line inside of a corridor is drawn in the snow. Skiers perform turns using the line as a focus point.

Focus

- Upper/ lower body separation
- Use of the pole touch/plant
-
- Looking forward/anticipation
- Rhythm and linking

Terrain

Moderate

Turn Shape

Slalom, GS, back to the fall line.

Variations

With horizontal pole
With hands-all-over positions
With overhead pole
Without poles
With one ski
With snow blades

Notes

Encourage use of the pole
Encourage skier to set and maintain rhythm
Ensure skier is looking forward and thinking ahead



Tuck Turns

Description

Skier performs long arc turns in a tuck position. Body should be in position that does not interfere with the movement of the legs

Focus

- Symmetry in leg movements
- Upper body stability (rotational movements)
- Hands/arms/upper body position in tuck

Terrain

Flat to moderate

Turn Shape

GS and Super-G

Variations

Without poles

Notes

Encourage the skier to direct the skis with his/her legs
Ensure the skier maintains alignment over the outside ski

Banana Turn (Highest Mark)

Description

From a stop, the skier straight runs down the fall line for speed and then directs the skis across the fall line and uphill as far as possible.

Focus

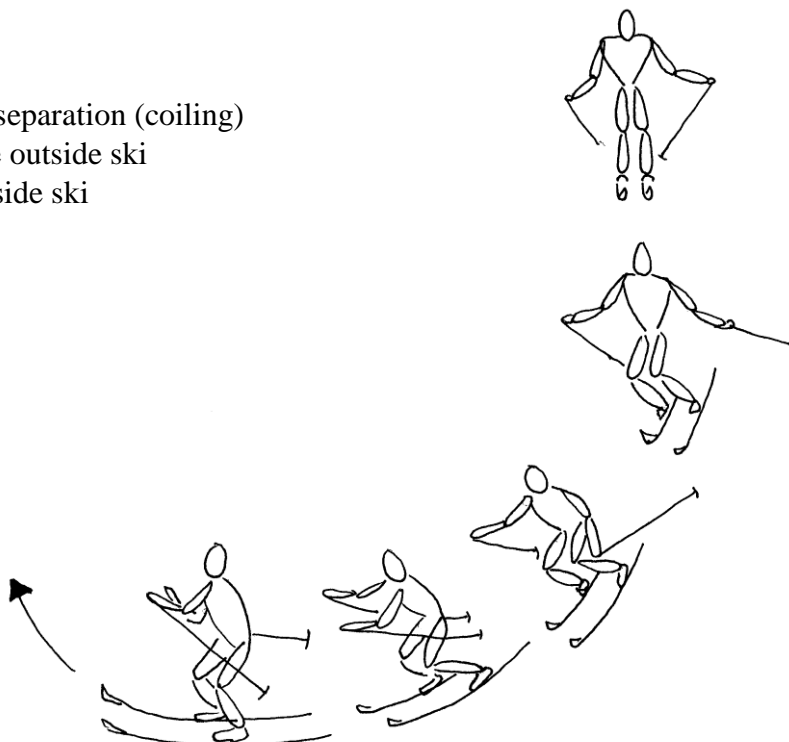
- Upper/lower body separation (coiling)
- Alignment over the outside ski
- Carving on the outside ski

Terrain

Moderate to steep

Turn Shape

Fully completed GS



Variations

"Highest Mark" as a competition with skiers: who can leave the cleanest/ highest track

Without ski poles

With one ski

With hands-all-over-positions

Notes

Encourage rotational stability in the upper body

Ensure that the skier carves with the outside ski

Encourage the skier to carve the skis as far uphill until stopped

Outside Boot Touch

Description

Without ski poles the skier performs turns by reaching with the outside hand and touching the downhill (outside) ski boot. This task is designed to encourage the skier to use lateral mobility. Skier should return to a fully extended position between the turns.

Focus

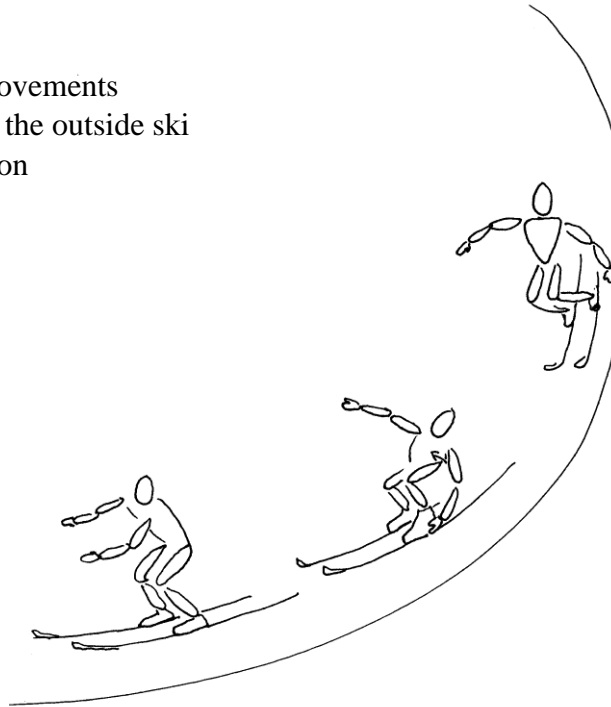
- Rhythmical coordinated movements
- Alignment and stability on the outside ski
- Upper/lower body separation

Terrain

Flat to moderate

Turn shape

Open slalom to tight GS



Variations

Have skier fully extend with both hands reaching above head in between turns
Have skiers use both hands to touch boots.

Notes

Ensure the skier bends laterally in all lower body joints.
Encourage the skier to perform movements with rhythm and pulse

Outside Ski Only

Description

Skier performs this task by lifting the inside ski off the snow throughout the turn, performing the entire turn on the outside ski.

Focus

- Coordinated movements
- Stability on one ski
- Use of the pole
- Alignment

Terrain

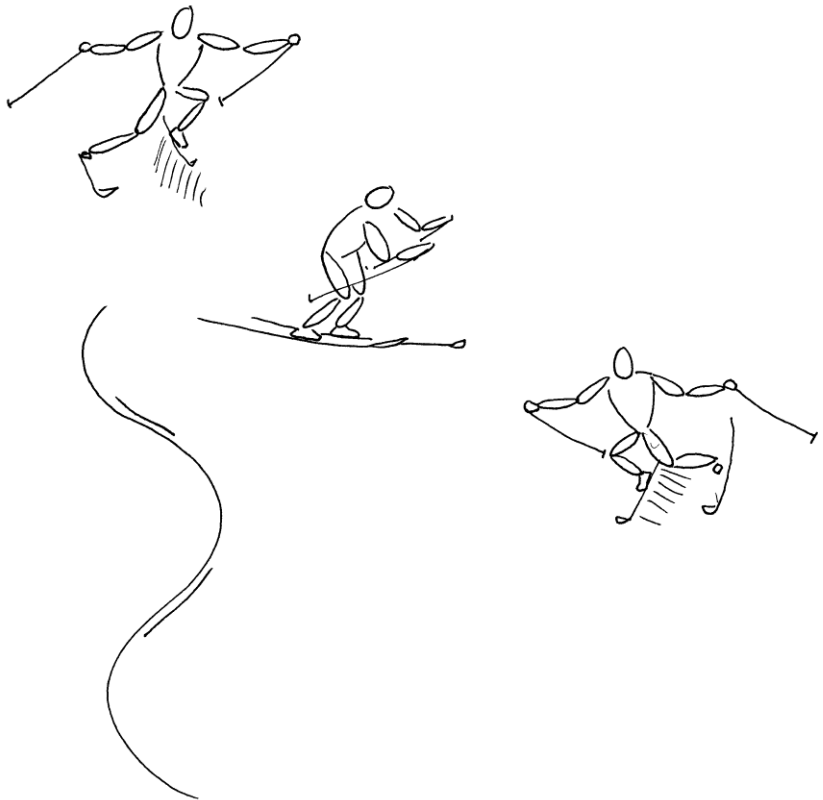
Flat to steep

Turn Shape

GS

Variations

Without ski poles
With horizontal bamboo pole
With overhead pole
In varied terrain and conditions



Notes

Ensure the skier keeps the inside ski off the snow throughout the turn
Encourage the skier to anticipate the required movements
Encourage the skier to perform with rhythm and linking

Roller Knees (Hands on Knees)

Description

Without ski poles, skier performs turns by placing hands on the downhill side of both knees and guiding the knees laterally into the hill. As the skier completes the turn, the skier extends in the legs, and places hands on the downhill side of both knees into the new turn.

Focus

- Directing the knees with the hands
- Coordinated movements
- Alignment over the outside ski
- Vertical movement in the transition phase

Terrain

Flat to moderate

Turn shape

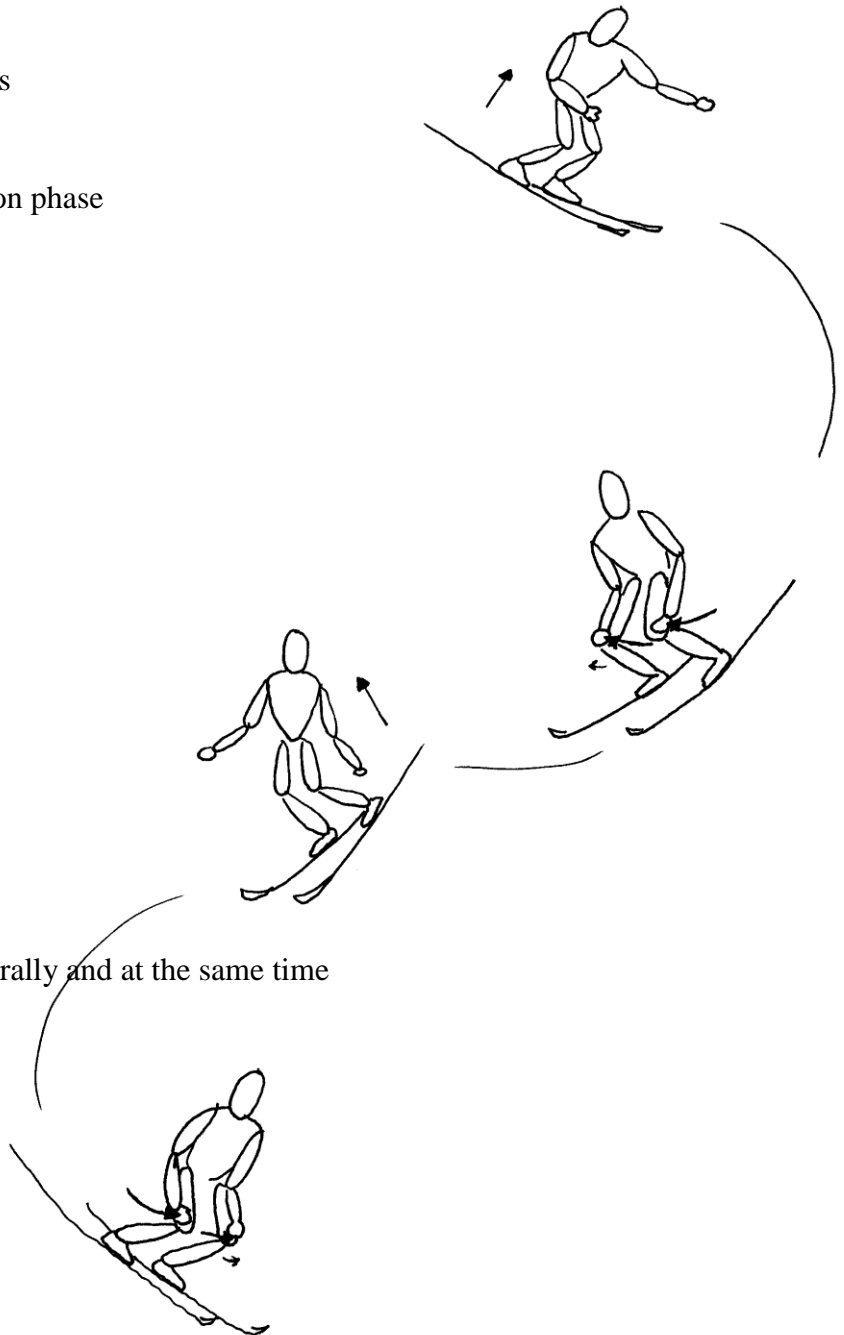
Slalom to GS

Variations

Vary turn shape

Notes

Ensure the skier moves his/her knees laterally and at the same time
Encourage the skier maintain separation



Two on a Bamboo

Description

This task requires two skiers and two long bamboo poles. Skiers, without ski poles, grab the ends of the bamboo poles. Both skiers face down hill, one in front of the other. The downhill skier begins to straight run down the fall line, the uphill skier controls the speed for both by performing heavy "hockey stops".

Focus

- Agility in the legs
- Stability in the upper body
- Upper / lower separation
- Skis across the fall line (impulse)

Terrain

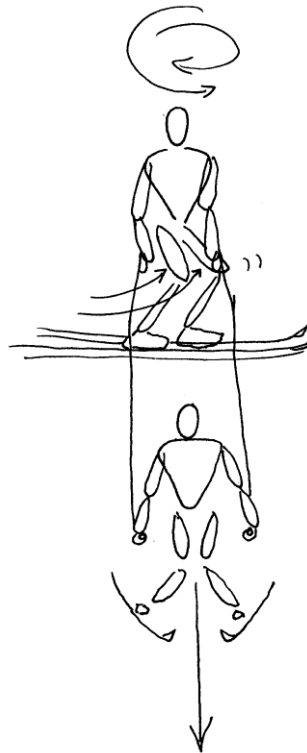
Moderate

Turn Shape

Slalom

Notes

Encourage lower body agility
Encourage the skier to impulse the outside ski



Synchronized Skiing

Description

In pairs, or more, skiers perform turns in various formations as one.

Focus

- Coordinated body movements
- Anticipation (looking forward and thinking ahead)
- Rhythm and linking
- Shifting focus (internal – external)

Terrain

Flat to moderate

Turn shape

Slalom to GS

Variations

Side by side

V- formation

Behind one another

Square

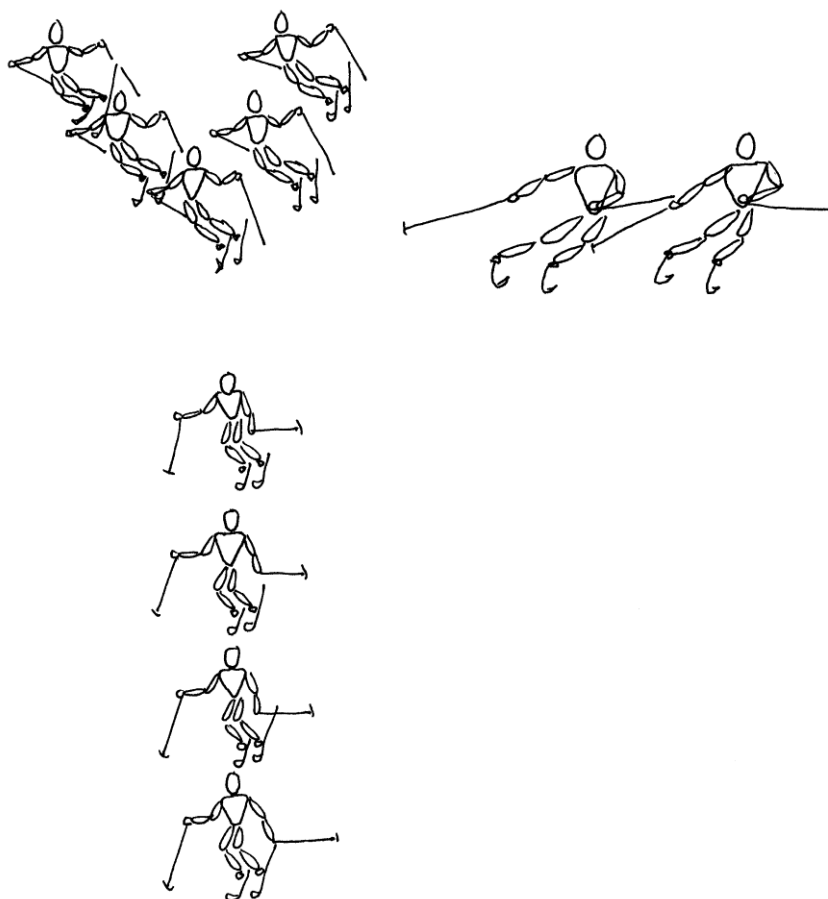
Diamond

Notes

Safety protocol

Encourage the skiers to work together

Encourage the skiers to look forward and anticipate the movements



Chase

Description

Pair skiers up and have them play chase. Emphasis is on figure-8 movements, skating, quick turns, etc. Focus is NOT straight running down the hill!

Focus

- Agility training
- Looking forward and thinking ahead
- Anticipation (cognitive engagement)

Terrain

Flat

Variations

Without poles
On Snow Blades
On one ski
Varied terrain / conditions

Notes

Ensure that skiers are clear on objective of game
Choose a safe slope that is not crowded, and provides enough width for the task

Thousand Turns

Description

Coach skis down and chooses a location to stand. Skiers compete with one another to see who can perform the most turns in the distance to the coach.

Focus

- Looking forward (
- Lower body agility/mobility
- External cue (the coach)
- Upper body stability

Terrain

Moderate to steep

Turn Shape

Designated by coach

Variations

One ski

Designate number of turns

Inside ski only

Notes

Choose slope with adequate width.

Encourage skiers to execute model turns (sloppy turns do not count)

Encourage focus/concentration from start to finish

Encourage upper/lower body separation

Bump Skiing

Description

Skiers perform Slalom or GS turns in bump terrain.

Focus

- Looking forward/thinking ahead
- Cognitive cues
- Line choice
- Use of the poles (touch/plant)

Terrain

Shallow to steep bumps

Turn shape

Slalom to GS

Variations

Without ski poles

Use markers, brushes or dye for external cues

Notes

Encourage bump skiing: relate to ruts and rough courses

Ensure the skier maintains ski/snow contact

All Conditions

Description

Challenge skiers to ski in a variety of conditions: heavy snow, windblown crust, powder, ice, chop, as many variations in conditions as possible.

Focus

- Versatility/agility
- Technical elements
- Speed management (tactical approach)

Terrain

All

Turn Shape

Slalom to GS (elite)

Variations

Without ski poles

Notes

Emphasise fun and variety

Safety priority: Ensure the athletic, cognitive and motor skill levels of the skier are appropriate

All Terrain

Description

Challenge skiers to ski all terrain: steep, flat, side hill, bumps, jumps, half-pipe, terrain garden, drop offs, ski cross track, etc.

Focus

- Upper body stability/lower body mobility
- Rhythm and linking
- Technical elements
- Speed management (tactical approach)

Terrain

ALL!

Turn Shape

All

Variations

As skiers develop and progress challenge all exercises by changing the terrain!

Notes

Ensure that all terrain/all conditions are a large part of your development program.

Safety is priority: Ensure the athletic, motor and cognitive skill levels of the skier are appropriate

Follow the leader

Description

Skier follows coach or each other in an attempt to pattern the leaders line, speed and turn shape.

Focus

- Looking forward and thinking ahead
- Anticipation (cognitive cues)
- Versatility/agility

Terrain

Flat to moderate

Turn Shape

Slalom and GS

Variations

One on one. In group, maximum of three

Notes

Safety is priority.

Change the leader.

Ensure skiers' skill levels are matched

Shadow Drill

Description

Use environmental aids to compel the skier to adjust line and turn shape.

Focus

- Cognitive engagement (external cues)
- Looking forward/anticipation
- Line interpretation and speed management.

Terrain

All

Turn Shape

Slalom and GS

Variations

.
According to your creativity.

Notes

Promotes decision making.
Ensure the skiers understand the task

Snow Blade Drill

Description

Use short shape skis to promote versatility and adaptation training.

Focus

- Versatility/agility
- Upper body stability/lower body mobility
- Speed management (turn shape/line)

Terrain

All

Turn Shape

Slalom and GS

Variations

Vary the length of the skis from snow blades to 160 cm.

Notes

Ensure safety protocols are in place
Ensure the skill level of the skier is appropriate
Ensure skiers manage speed.

Gate Training

Drills and Exercises

Quick Reference Guide - Gate Training

Entry Level .. Skier Essentials - Learn to Train Stages

In general, all exercises and drills listed are to be taught in the most likely successful environment: smooth terrain, flat to moderate (unless otherwise indicated). Participants should be allowed many attempts, and appropriate time on each exercise to develop proficiency (but not boredom!). All drills and exercises can be simplified for the entry level by keeping the environment in their favour: positive, simple, and with clear basic objectives!

Stability Turn Shape Course Vertical movement Obstacle Course Sideslip Drill Agility Training Drill Forward – Backward Movement Drill Modified GS Course Picket Fence Drill	Lateral Movements Obstacle Course Sideslip Drill Agility Training Drill	Forward/backward Movements Forward - Backward Movement Drill Turn Shape Course Obstacle Course Modified GS Course Sideslip Drill Picket Fence Drill Agility Training Drill
Vertical Movements Vertical Movement Training Course Agility Training Drill Obstacle Course	Line/Anticipation Turn Shape Course Obstacle Course Modified GS Course Agility Training Drill	Force/Impulse Turn Shape Course Vertical Movement training Course Obstacle Course Modified GS Course Sideslip Drill Picket Fence Drill Agility Training Drill
Mobility Turn Shape Course Vertical Movement training Course Obstacle Course Modified GS Course Sideslip Drill Picket Fence Drill Agility Training Drill	Agility Turn Shape Course Obstacle Course Modified GS Course Picket Fence Drill Agility Training Drill	
Tactics Turn Shape Course Obstacle Course Modified GS Course Picket Fence Drill Agility Training Drill		

Quick Reference Guide - Gate Training

Development Level .. Learn to Train - Learn to Race Stages

Exercises and drills should fill a large percentage of on-snow time for this level of skier. As with the entry level, the environment should facilitate success. All exercises and drills should be trained with a high level of proficiency, and sufficient time should be allocated for this proficiency to develop. Once the participant has reached a high level of success in an exercise or drill, the difficulty of the task can be increased by manipulation of the terrain.

Stability Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward-backward movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Handle Bar Drill Hairpin Drill	Lateral Movements Lateral Movement Drill GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Super G Training Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill	Forward/backward Movements Forward-backward movement Drill GS Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill
Vertical Movement Vertical Movement GS Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill	Line /Anticipation GS Line Drill Warm-up Course GS Super G Training Turn Shape Drill GS & SL Corridor Sets Mark Sharp Drill	Force/Impulse Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward- Backward movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Hairpin Drill

Mobility Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward - Backward movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Hairpin Drill	Agility Warm-up Course GS Warm-up Course SL Impossible Flush SL Picket Fence Combination Drill SL	
1	Tactics Warm-up Course GS GS Line Drill Super G Training Three & Three SL Turn Shape Drill GS & SL GS into SL Drill Hair pin Drill Start and Finish Drill Race Simulation Drill GS& SL Horizontal gate in hinged gates SL Combination Drill SL	

Quick Reference Guide - Gate Training

Performance Level - Learn to Race - Train to Race Stages

At this level of development, the goal of all exercises and drills should be focussed at the highest degree of proficiency. All tasks should be performed with all possible variations and degree of difficulty. All exercises and drills should be allocated sufficient time to train, however, the result of the tasks should be tested back into overall performance as soon as possible.

Stability Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward - Backward Movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Handle Bar Drill Hairpin Drill	Lateral Movement Lateral Movement Drill GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Super G Training Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill	Forward/backward Movement Forward - Backward Movement Drill GS Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill
Vertical Movement Vertical Movement GS Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Defined Corridors SL Warm-up Course SL GS into SL Drill Hairpin Drill	Line/Anticipation GS Line Drill Warm-up Course GS Super G Training Turn Shape Drill Corridor Sets Combination Drill SL Mark Sharp Drill SL	Force/Impulse Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward - Backward Movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Hairpin Drill

Mobility Warm-up Course GS GS Line Drill Three & Three SL Turn Shape Drill GS & SL Corridor Sets GS & SL Forward - Backward Movement Drill GS Lateral Movement Drill GS Super G Training Defined Corridors SL Warm-up Course SL Vertical Movement GS GS into SL Drill Handle bar Drill Hairpin Drill	Agility Warm-up Course GS Warm-up Course SL GS into SL Drill Impossible Flush SL Picket Fence Combination Drill SL	
	Tactics Warm-up Course GS GS Line Drill Super G Training Three & Three SL Turn Shape Drill GS & SL GS into SL Drill Hairpin Drill Start and Finish Drill Mark Sharp Drill Race Simulation Training GS & SL Horizontal Gate in Hinged Gates SL	

Description

This drill is to introduce the turn shapes for entry level skills. 10-12 stubbies or foam markers will be sufficient introduction. This drill is intended to promote the turn shape required in gate training.

Focus

- Patterning of turn shape
- Looking forward and anticipation (external cues)

Terrain

Flat to Medium groomed terrain

Variations

Use brushes or stubbies
Set ¼ turns, ½ turns, full turns

Turn Shape

Quarter, half to full turns

Notes

Encourage the skier to ski as naturally as possible.
Set short training courses, 10 – 15 gates maximum.
Flex trainers can be used after the shape has been established.
Encourage the ski racers to look forward



Vertical Movement Training Course (Skier Essentials - Learn to Train)

Description

This drill is to encourage vertical movement. The goal of this type of set is to promote movement in between the brushes, stubbies or gates. Set the stubbies 6-8 meters with ½ turn offset to start.

Focus

- Vertical movement
- Looking forward (external cues)
- Use of the pole (touch/plant)

Terrain

Flat to Moderate

Variations

Stubbies, brushes or gates

Use dye markers (external cue) in between gates

Turn Shape

half turns

Notes

Ensure the vertical distance is appropriate for the ski equipment

Ensure the skier understands the task

Encourage the skier to look forward (one to two gates)

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Description

This drill should consist of a ten gate corridor. The distance is important to allow the skier time to recover from one turn to another allowing for forward/backward adjustments. Set two stubbies to design the turn shape to start.

Focus

- C of M moves in the line of travel
- Turn shape
- Looking forward (anticipation)

Terrain

Moderate to flat.

Turn Shape

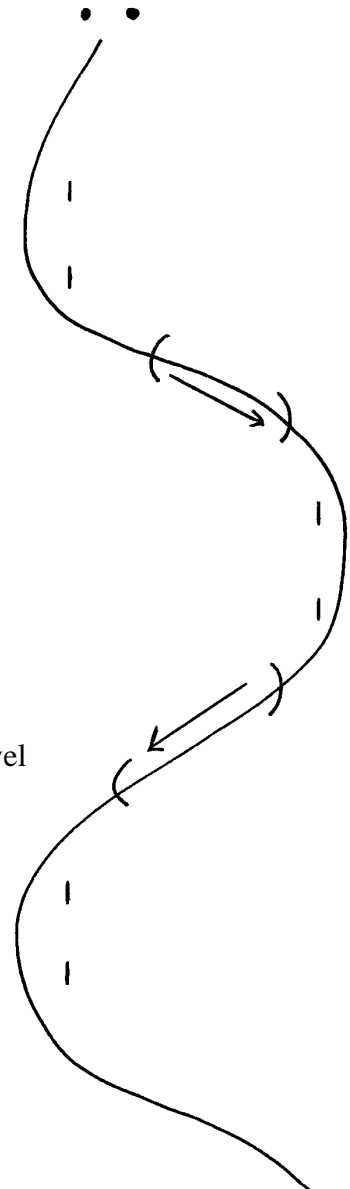
Quarter to half turns.

Variations

Stubbies to GS gates.

Notes

Encourage the ski racer to move the C of M forward and in the line of travel
Encourage the ski racer to carve the outside ski
Encourage the ski racer to link the turns with rhythm and pulse



Description

The obstacle course that you set can serve many purposes. It can be used as an excellent warm-up activity or for skill acquisition and versatility.

Focus

- Anticipation
- Agility/mobility
- Athleticism

Terrain

Flat, groomed

Variations

Set a variety of obstacles.

Turn Shape

All

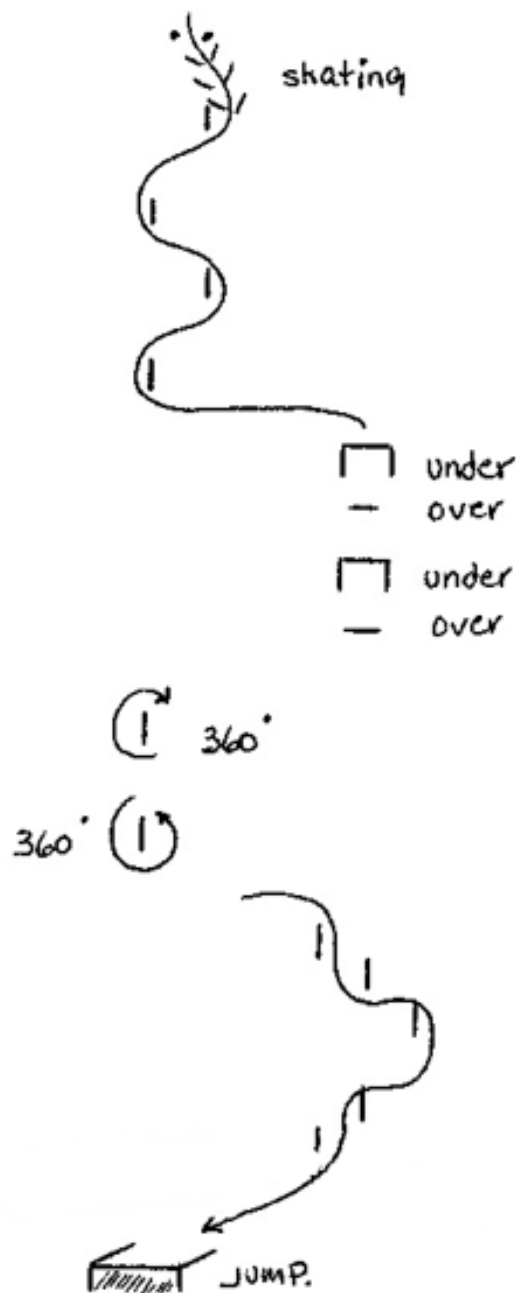
Notes

Can be used for FUN warm up activities

Promotes versatility and agility training

Encourage ski racers to look forward and think ahead to manage speed

Set to accommodate ski racer skill level



Description

This drill is to simulate a short GS course for this level. Set 10-12 normal flagged GS gates.

Focus:

- Anticipation
- Race preparation routine
- Mental training.
- Intensity level

Terrain

Medium to Flat

Variations

Use hand timing

Turn Shape

Half turns

Notes

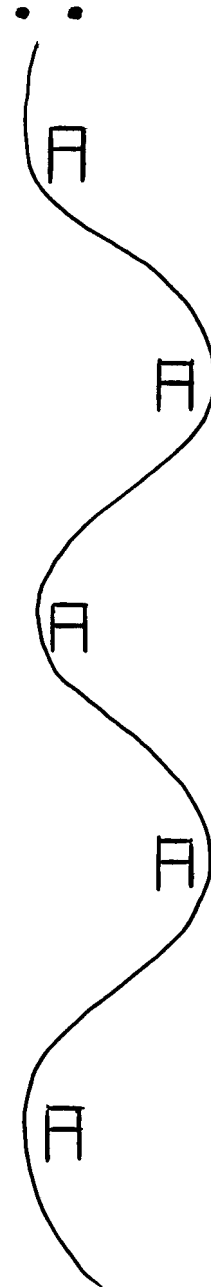
Introduction to gate training/race simulation

Ensure ski racer intensity level is appropriate

Encourage ski racers to look forward (panels as external cues)

Encourage mental preparation before each performance

Adjust and modify the set according to ski racer response to training



Description

These drills are used to develop upper body rotational stability and forward/backward movements. Set the drills on groomed terrain. Give the skier a corridor to sideslip through. Forwards, backwards, diagonal etc.

Focus

- Adjust forward/backward movements.
- Upper and lower body separation.
- Lower body mobility
- Look forward (anticipation)

Terrain

Medium to steep groomed

Variations

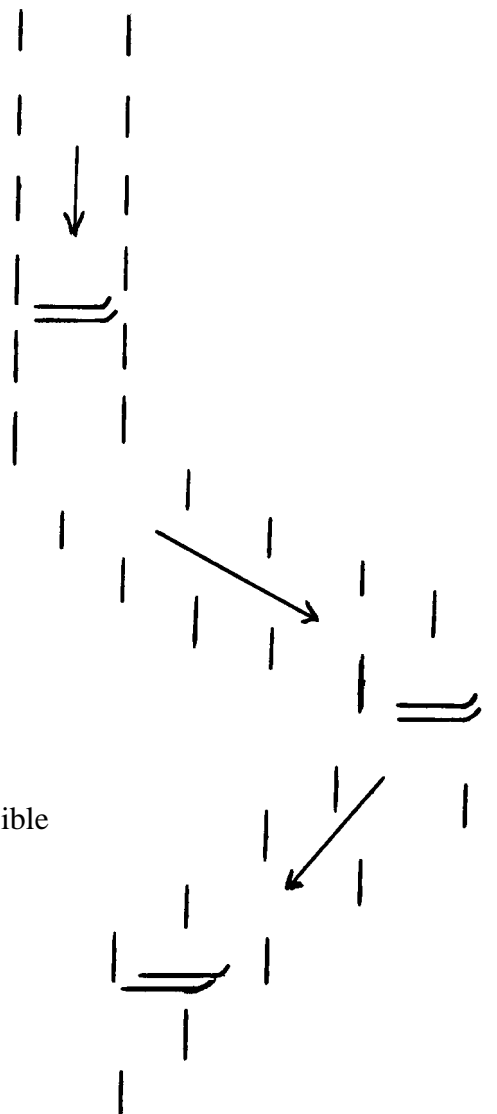
Forward, backward, diagonal and rotational slipping.
Use either stubbies or bamboo gates.

Turn Shape

Forwards/backwards/diagonal

Notes

Encourage ski racers to stay in the corridor as much as possible
Set to allow the ski racers to manage their speed
Encourage the ski racers to look for external cues
Encourage the ski racers to make movements as needed



Picket Fence Drill (short turns) (Skier Essentials - Learn to Train)

Description

This drill consists of setting as many gates as the training hill will allow. The gates are set directly down the fall line with a vertical distance between gates that is appropriate for the skill level of the ski racers.

Focus

- Lower body mobility/agility
- Use of the pole (upper body stability)
- Upper / lower body separation skills
- Looking forward (anticipation)

Terrain

Moderate fall line

Turn Shape

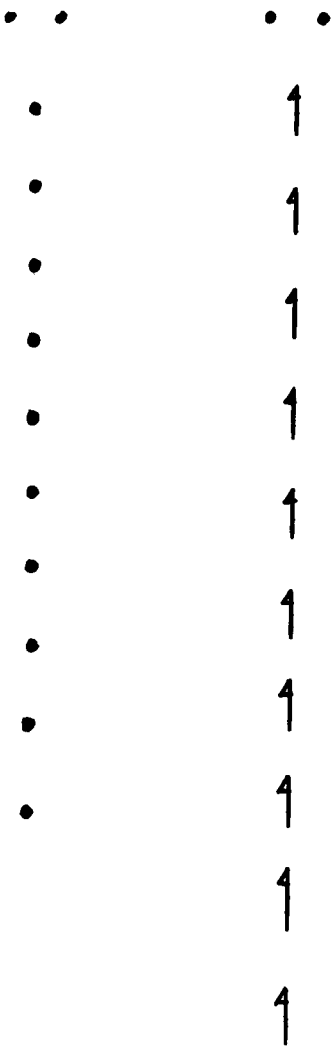
Short turns

Variations

Stubbies, brushes, flex gates or markers.
Vary the vertical distances to promote adaptation

Notes

Encourage the ski racers to maintain external focus (brushes, stubbies, gates) from start to finish
Ensure that the ski racers understand that the goal is to perform linked turns across the hill, as opposed to running straight at the gates
Ensure that the ski racers utilize a pole touch/plant to stabilize the upper body.



Description

Set using your imagination, a fun agility course utilizing jumps, short and long turns that encourage agility and mobility.

Focus

- External focus of attention
- Agility/mobility

Terrain

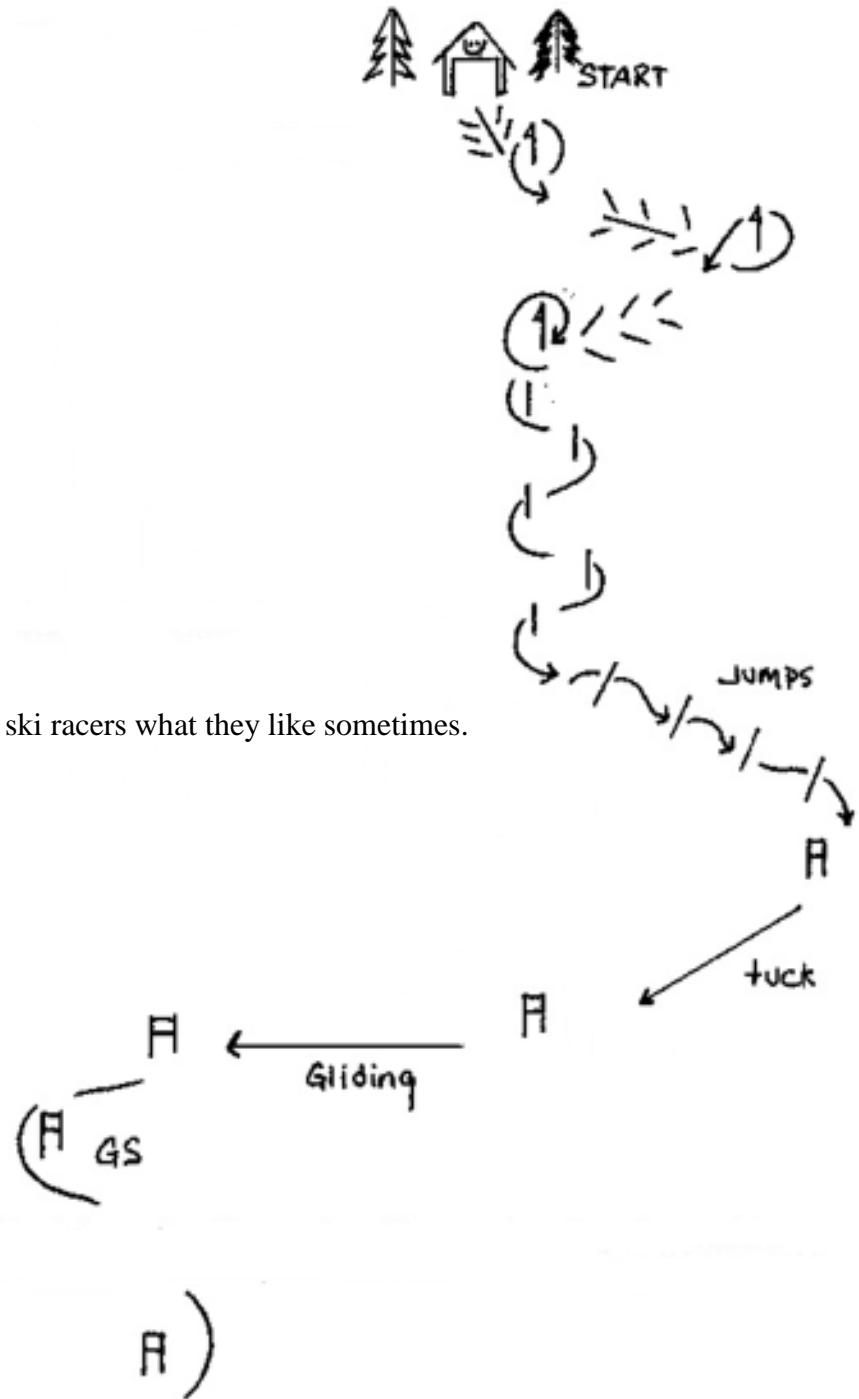
Flat to Moderate.
Terrain garden

Turn Shape

Use the full spectrum

Variations

Use your imagination and ask the ski racers what they like sometimes.



Notes

The training course should include a variety of indicators (brushes, stubbies, markers, dye lines etc.)

Description

An often overlooked skill at any level is the ability to perform a good start and finish. Strength limitations play a big factor in these skills. It is very important to pattern good start and finish basics.

Focus

- Internal mental preparation at the start
- External focus during performance
- Physical effort out of the start and to finish

Terrain

Flat to moderate

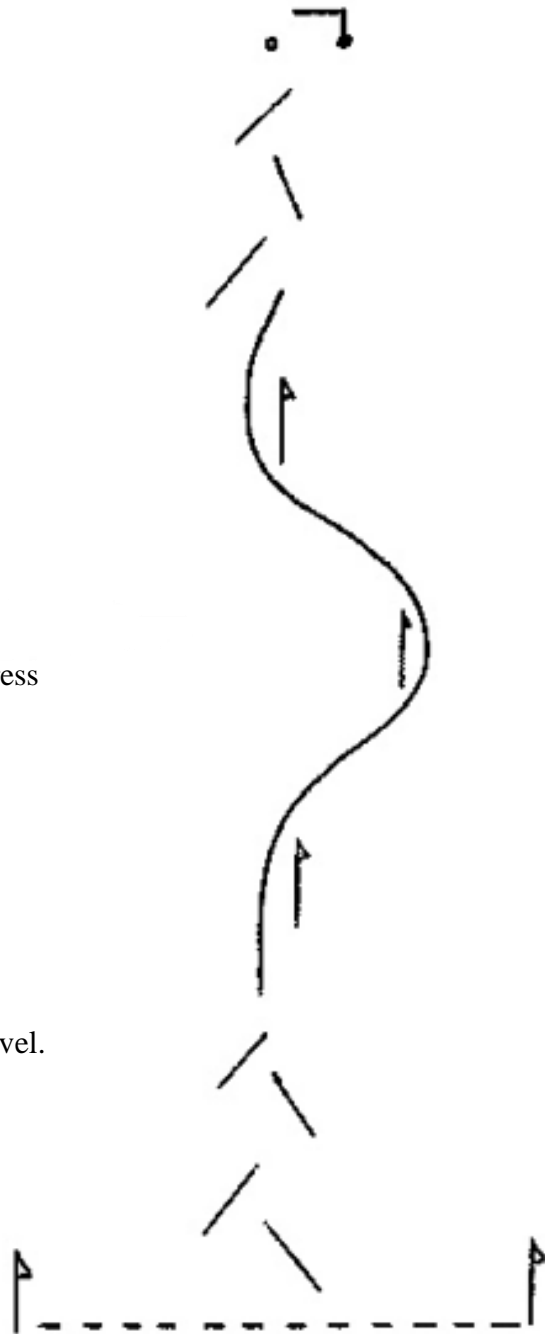
Turn Shape

Variations

Change the terrain to match strength and skill levels.
Use timing or stop watch to measure success and progress

Notes

These skills can be developed and maintained at any level.
Can be very effective as an alternate plan when lifts are not working or terrain is unavailable.
Encourage ski racers to prepare mentally at the start



Description

For Giant Slalom warm up, set a series of 10-12 gates that promote rhythm and confidence. The drill course should promote activation and should be very accommodating with a high success finish rate.

Focus

- Looking forward/ anticipation
- Linking turns with rhythm
- Coordinated movements

Terrain

Moderate to flat

Turn Shape

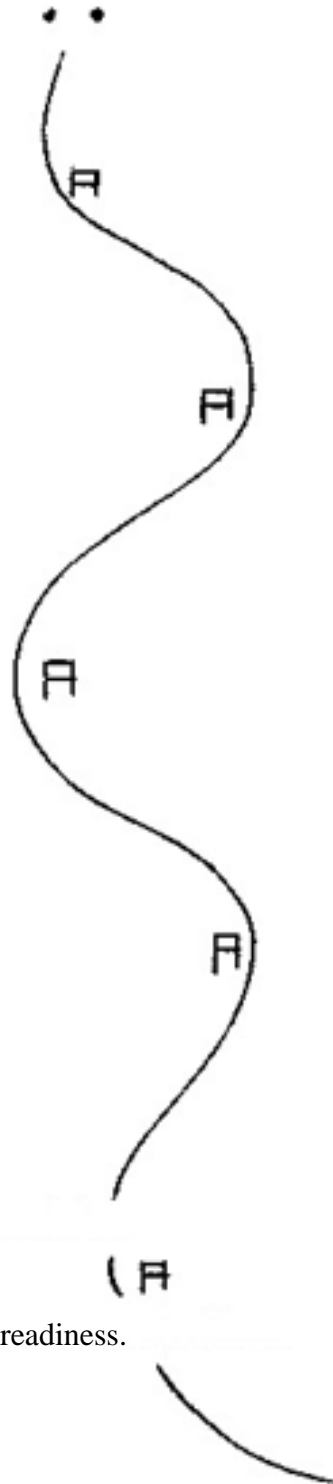
Halfturns

Variations

Flex trainers
Short durations

Notes

Ensure set allows ski racer to discover consistent rhythm
Ensure safety.
Ensure attainable finish rate.
Allow the ski racer to begin training at his/her own state of readiness.



Description

A young ski racer's interpretation of line is often too direct. This drill will help ski racers develop an awareness of running too straight or direct at the gate. Place a marker, brush or stubby beside the gate (1 to 2 feet). This indicator will help the ski racers leave room for natural movement inside the arc rather than “pinching” the gate with the upper body.

Focus

- Natural movement inside the arc
- Stability on the outside ski
- Looking forward/ anticipation

Terrain

Medium

Turn Shape

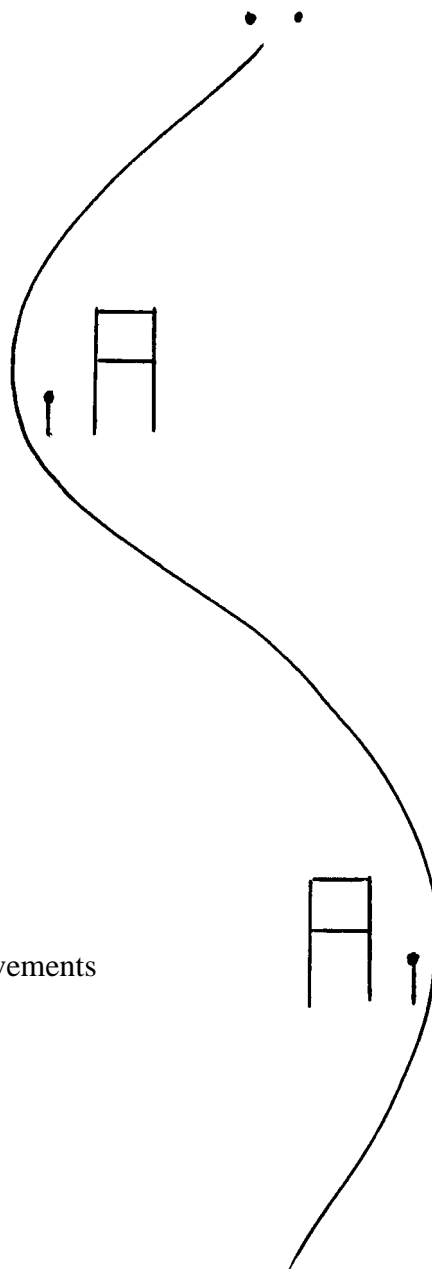
Half to three quarter turns.

Variations

None

Notes

Ensure the indicator is not too close to the panel
Encourage the ski racer to link turns with coordinated movements



Forward/Backward Movement Drill (GS) Race)

(Learn to Train - Learn to

Description

The drill consists of 10-12 gates, set in a corridor. The distance is important to allow the skier time to prepare for the next turn. The vertical distance for this drill should be appropriate for the ski racers' skill level and equipment.

Focus

- Linked turns with movement.
- Centre of mass in the line of travel
- Stability on the outside ski

Terrain

Moderate to steep

Turn Shape

Half to three quarter turns.

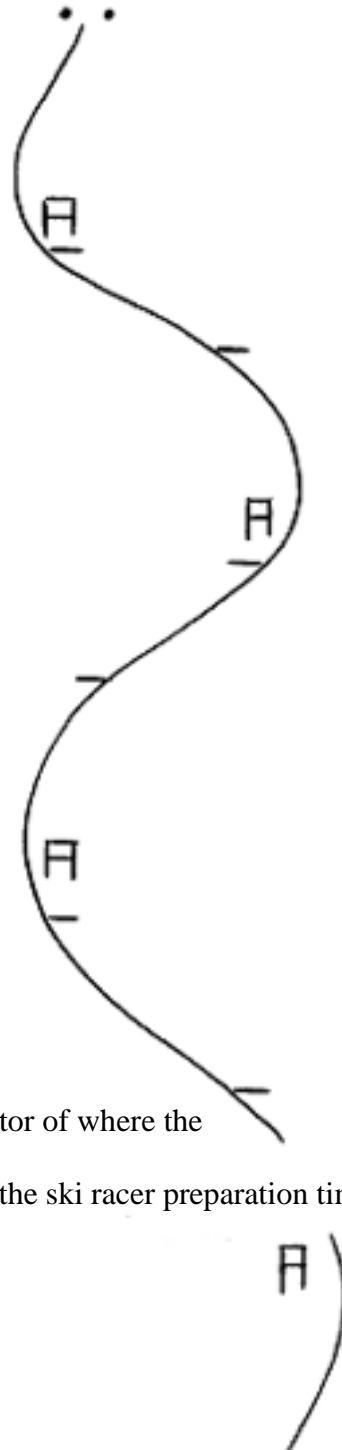
Variations

Flex trainers, brushes or stubbies.

Notes

Coach could use dye marks across the line of travel as an indicator of where the movement to the next gate should occur

Ensure that there is enough distance between the gates to allow the ski racer preparation time.



Description

This drill is designed to promote lateral mobility. The goal is to set the gates longer in vertical distance to allow the ski racer time to test his/her lateral mobility. The panels should be set according to the ski racer's skill level and equipment.

Focus

- Lateral mobility.
- Linking turns with rhythm.
- Looking forward/anticipation

Terrain

moderate

Turn Shape

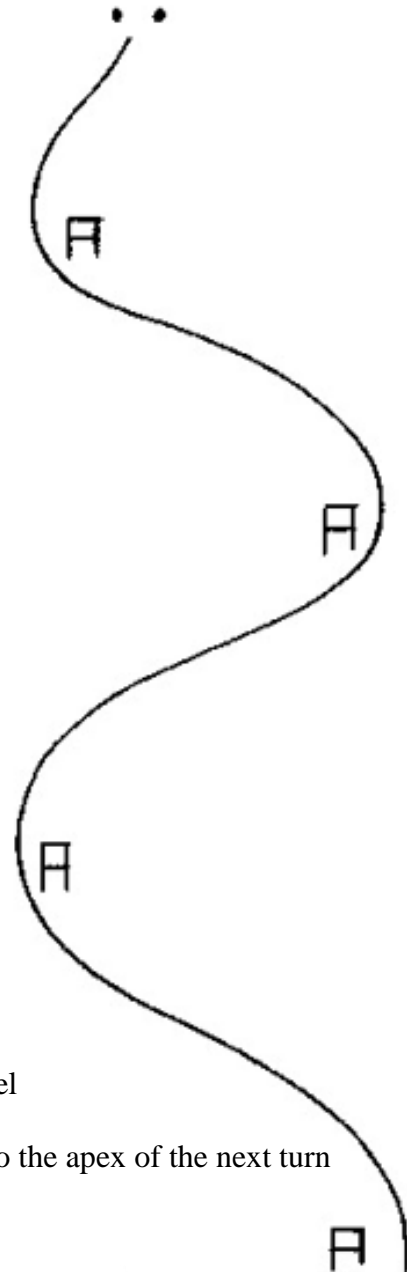
Half to three quarter turns.

Variations

Stubbies or flex trainers.
Can be set on all terrain

Notes

Ensure the ski racer allows room for lateral movement at the panel
Encourage the ski racer to carve on the outside ski
Encourage the ski racer to move the C of M in the line of travel to the apex of the next turn



Description

Two gates are set vertical with one another down the fall line, at a desired distance between the gates. The next two gates are set, depending on the steepness of the terrain, with an appropriate offset and vertical distance. The pattern is repeated with the end effect being a corridor set. This drill is designed to assist the ski racer with his/her interpretation of the appropriate GS turn shape.

Focus

- Turn shape
- Carving in fall line
- Line interpretation
- Looking forward/anticipation (external focus)

Terrain

Moderate to flat.

Turn Shape

Long / shallow arcs, half turns, progress turn shape.

Variations

Change the length and width of the corridor.

Can use stubbies.

Can use normal GS gates.

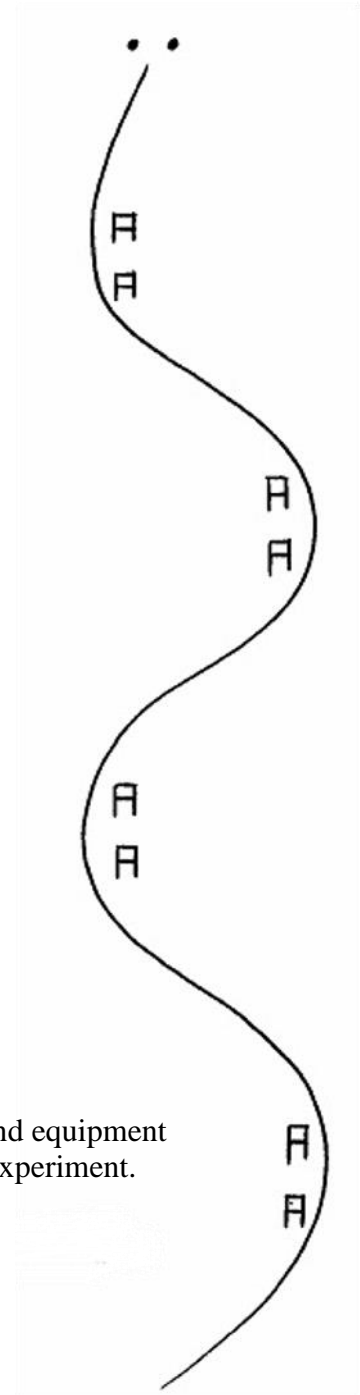
Vary the turn shape

Notes

Encourage carving on the outside ski in the fall line

Ensure the vertical and offset distances are appropriate for the skill level and equipment

Do not progress this drill too quickly. Allow the ski racer enough time to experiment.



Vertical Movement Drill (GS) (Learn to Train - Learn to Race)

Description

Set a GS corridor type set. Place a stubbie or use dye markings across the line of travel at the completion of the turn. As the skier completes the turn, a strong vertical spring upward is required to jump the obstacle or the dye marking.

Focus

- Stability (carving on the outside ski)
- Vertical movement
- External focus (stubby or dye marking)
- Looking forward/anticipation

Terrain

Flat - moderate

Turn Shape

Half to three quarter turns turns.

Variations

Progress terrain.

Vary the turn shape

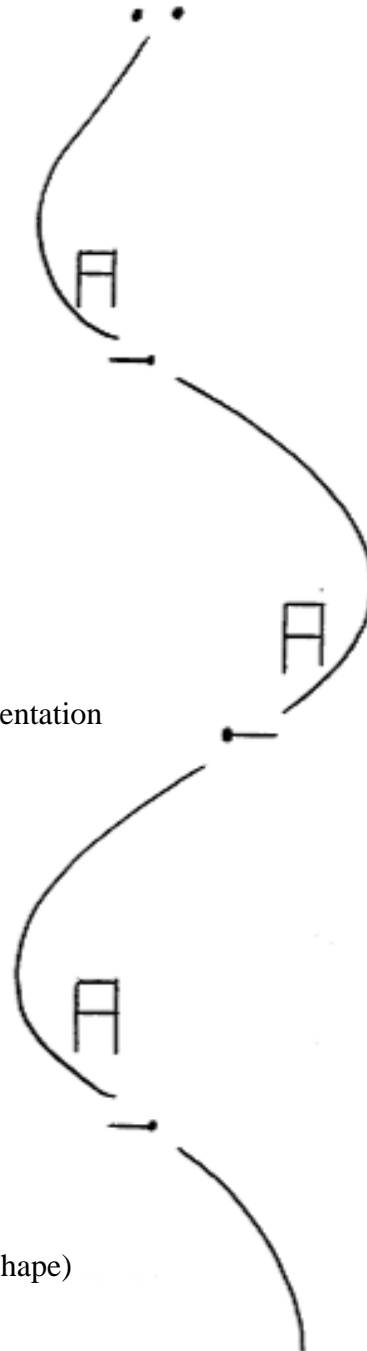
Vary the position of the stubby or dye markings for experimentation

Notes

Encourage vertical mobility (use of all leg joints)

Ensure ski racer to carve on the outside ski

Encourage the ski racer to direct the skis back to gate (turn shape)



Description

As with the Slalom corridor, the set should have consistency in the vertical and horizontal distances. Sequence from long shallow arcs to full GS shape.. Skier performs turns with emphasis on symmetry from side to side.

Focus

- Left/ Right turn symmetry
- Linking turns with rhythm
- Looking forward/anticipation (external cues)

Terrain

Flat to steep

Turn Shape

Quarter, half, three quarter to full turns.

Variations

Without poles

Using stubby gates

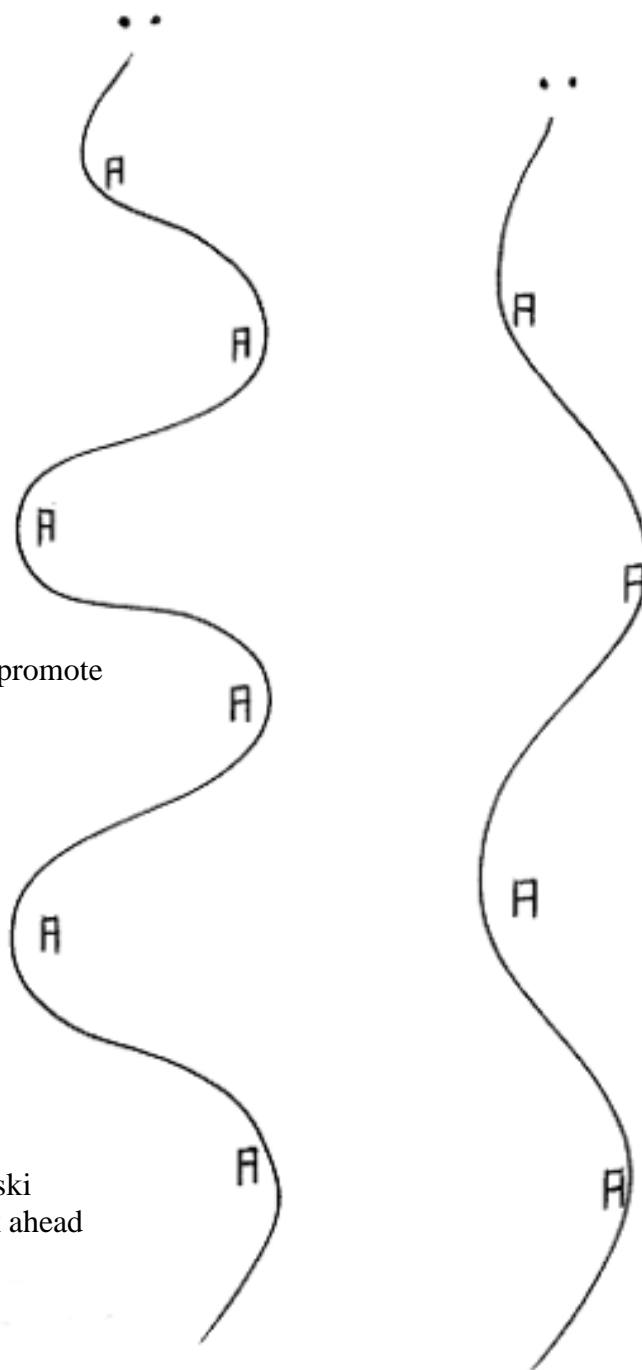
Add indicators (dye markings) between gates to promote movement (C of M in the line of travel)

Notes

Ensure the set is appropriate to the skill level

Encourage the ski racers to carve on the outside ski

Encourage the ski race to look forward and think ahead



Description

Three gates are set at a desired vertical distance in the fall line. At the third gate, the setter can increase the vertical and offset distances accordingly. The pattern is repeated as many times as the training hill allows. The goal

Focus

- Linked turns
- Manage rhythm changes
- Use of the pole touch/ plant
- Looking forward/anticipation

Terrain

Moderate to steep

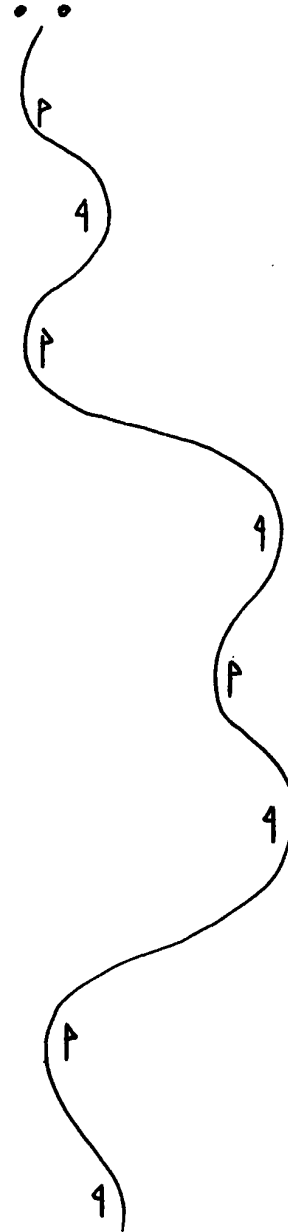
Turn Shape

Full range of turn shapes

Variations

Brushes, Stubbies.
Flex trainers

Use a variety of vertical and offset distances



Notes

Ensure the vertical and offset distances are appropriate to the age and skill level

Ensure that the ski racer

Ensure that the ski racer anticipates the rhythm change and adjusts the line on the third turn

Encourage the ski racer (to use a pole touch/plant to stabilize the upper body

Description

Two stubbies are set vertical with one another down the fall line with an age/skill level/equipment appropriate vertical distance. The next two gates are set with vertical and offset distances appropriate to the steepness of the terrain.. The pattern is repeated with the end effect as a corridor set.

Focus

- Carving with the outside ski in the fall line
- Looking forward
- Upper / lower body separation
- Move the C of M in the line of travel

Terrain

Moderate

Turn Shape

Half turns then progress to full turns

Variations

Various types of gates.

Variety of terrain.

Variety of vertical and offset distances



Notes

Excellent drill when progressively developed.

Start this drill with shallow offset in stubbies until ski racer is comfortable.

Encourage the ski racer to look forward and think ahead.

Encourage the ski racer to link the turns to develop and maintain rhythm

Description

Corridor sets describe any drill set where the vertical and the offset distances remain consistent throughout the entire set. This type of drill is excellent for promoting linking turns with rhythm and impulse.

Focus

- Linking turns with rhythm, impulse and speed
- Looking forward/anticipation

Terrain

Flat to steep

Turn Shape

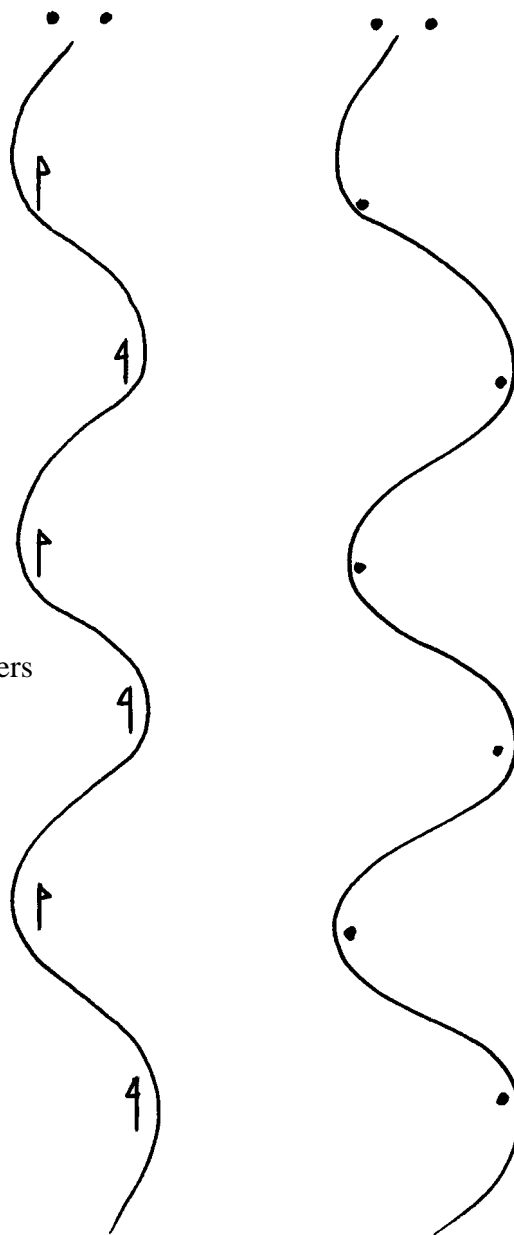
Half turns then progress to full turns.

Variations

Vary the length and width of the corridor.

Utilizing variety of gates

Modify the sets with rhythm changes to challenge the ski racers



Notes

Set this drill according to the age/skill level/equipment of the ski racer.

Ensure the ski racer is focussing on what the ski is doing on the snow (carving).

Ensure that the set compliments the goal of the session.

Description

A defined corridor is where the set allows the ski racer to determine the speed, turn shape and line.. The defined area can be in the shape of an hourglass, vertical, diagonal, etc.

Focus

- Agility/versatility
- Tactics (line interpretation)
- Decision making
- Looking forward/anticipation

Terrain

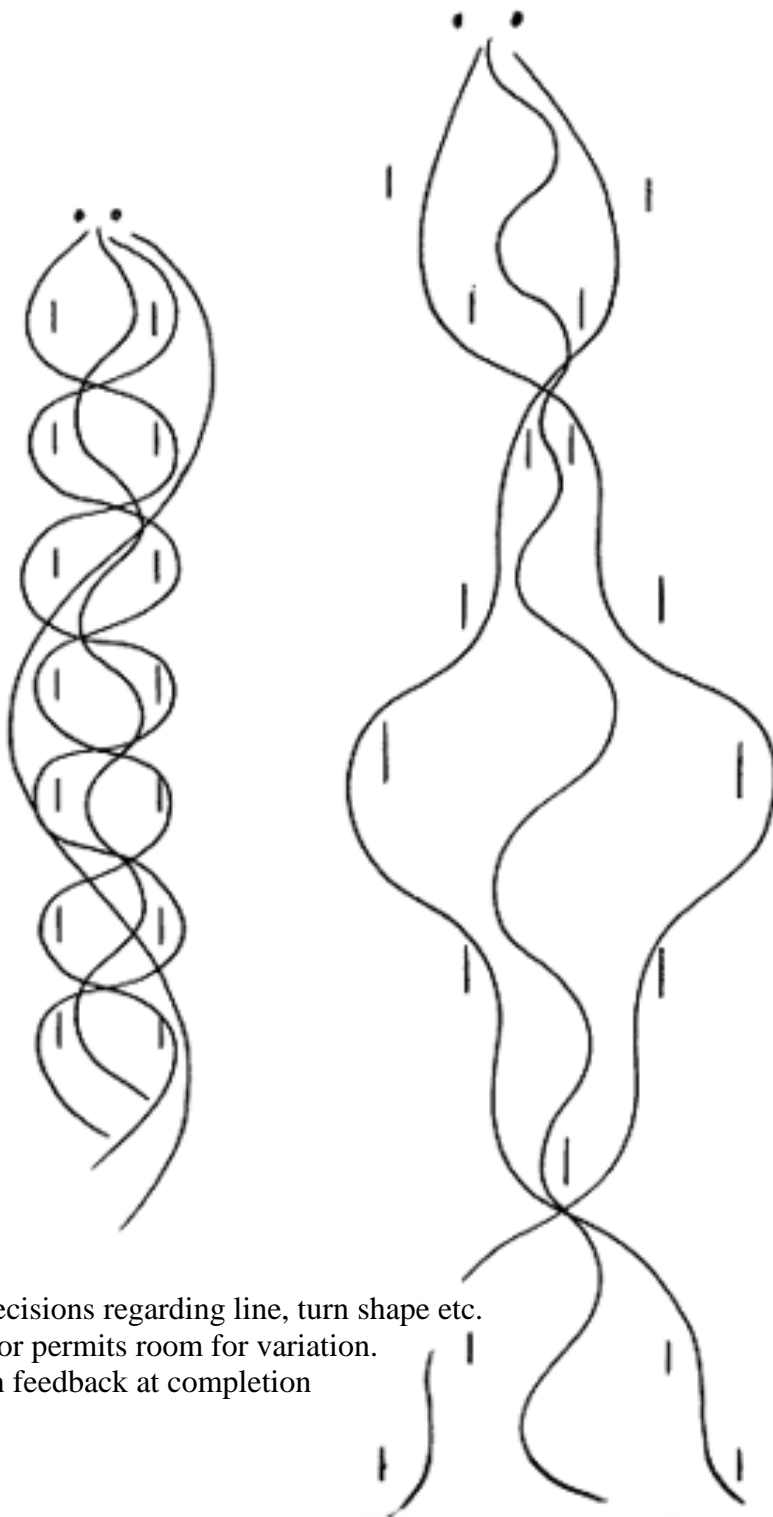
Consistent flat to steep

Turn Shape

Determined by the set of the corridor

Variations

One ski
No ski poles
Slide slip exercises



Notes

Encourage the ski racer to make his/her own decisions regarding line, turn shape etc. Limited only by imagination, ensure the corridor permits room for variation. Encourage the ski racer to provide his /her own feedback at completion of each drill.

Description

For Slalom warm up, set a series of fifteen to twenty gates that promotes linking turns with rhythm and confidence. The drill course should promote warm up and activation.

Focus

- Physical/mental warm-up/activation
- Linking turns with rhythm, impulse and speed

Terrain

Medium to flat

Turn Shape

Quarter, half to three quarter turns

Variations

Short durations

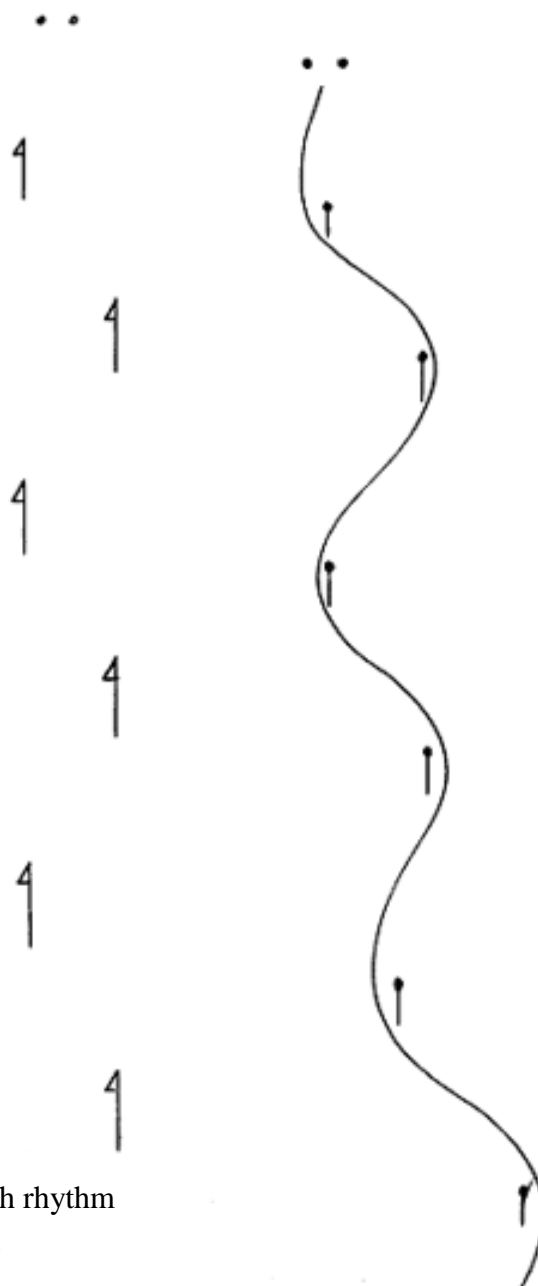
Notes

Ensure the set allows the ski racer to link turns with rhythm

Ensure safety.

Ensure attainable finish rate.

Allow the ski racer to begin training at his/her own state of readiness.



GS into Slalom drill (Slalom) (Learn to Train - Learn to Race)

Description

This drill starts with 4-5 GS panels to develop the line and rhythm, then a Slalom corridor of 8-10 gates and finish with 3-4 GS panel gates. The line should be the same, back to every gate whether it is GS or Slalom.

Focus

- Tactics (line interpretation).
- Maintain rhythm, impulse and speed
- Upper/lower body separation

Terrain

Medium

Turn Shape

Half to three quarter turns.

Variations

Use the terrain from steep to medium or medium to flat.

Notes

This drill is designed to promote rhythm and line. Set the GS panels the same as the Slalom corridor to develop the same turn shape.



Description

This drill consists of continuous linked hairpins. The vertical distance in the hairpins should be age/skill level/equipment appropriate i.e. (4 -6 metres) The distance from one hairpin to the next should be age/skill level/equipment appropriate i.e. (8 to 12 metres)

Focus

- Tactical skills (line interpretation)
- Rhythm change adaptation
- Agility/versatility
- Looking forward/anticipation (decision making)

Terrain

Consistent moderate slope

Turn Shape

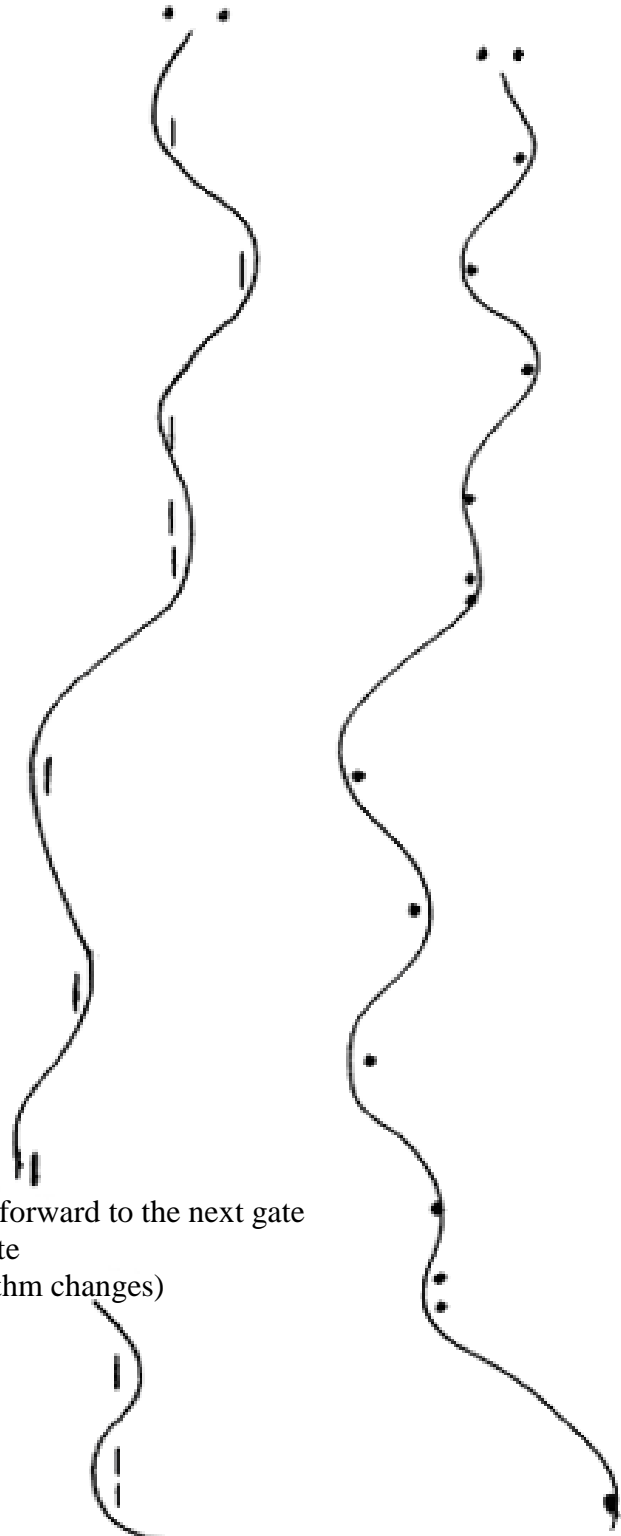
Slalom hairpin

Variations

Progress from stubbies to flex trainers.

Notes

Ensure that the ski racer's centre of mass is moving forward to the next gate
Utilize various clearing methods through hairpin gate
Encourage mental management skills (focus on rhythm changes)



Horizontal Gate in Hinged Gates (Slalom) (Learn to Train - Learn to Race)

Description

This drill is an effective way to bring confidence into the gates, and to help develop proper clearing technique. The skier holds his/her ski poles in both hands out and in front of body, at sternum height. Within a corridor set, the skier attempts to clear the gate at the middle point of the ski poles without moving the body to "reach" for the gates. Hands/ elbows remain up and forward through the entire run, with the emphasis of strengthening the arms through the gate.

Focus

- Clearing the gate at a specific point on the pole
- Stability on the outside ski
- Upper body stability

Terrain

Consistent flat to moderate

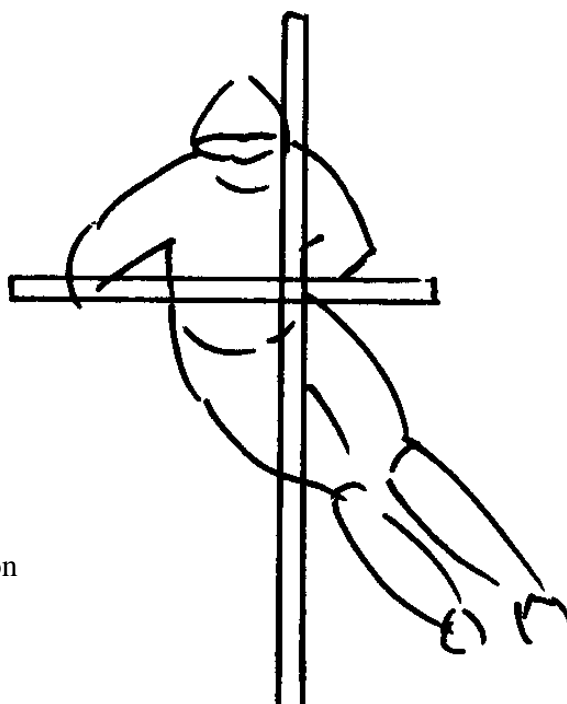
Turn Shape

Consistent corridor set - basic slalom set

Variations

Change the length of the course.

Vary the rhythm of set to challenge and for adaptation



Notes

Challenge the ski racer to ensure middle of poles stays in between eyes, arms do not move side to side. Ensure the ski racer keeps elbows well ahead of the core, and poles at eye level. Encourage the ski racer to maintain mobility in the legs.

Description

Set the flagged gates at an age/skill level appropriate vertical distance i.e. (25 to 30 metres). The goal of the training is to pattern SG speed training and build confidence. The width of the set is dependent on the safety aspects and width of the terrain. Flat terrain is excellent to build confidence. Remember to give the ski racers inspection time prior to training. Safety considerations, such as spill zones and hazards are the most important aspect of setting.

Focus

- Confidence on longer skis (if appropriate)
- Tactics (line and direction)
- Speed management
- Anticipation (look for speed)

Terrain

Flat to medium

Turn Shape

Half to three quarter turns

Variations

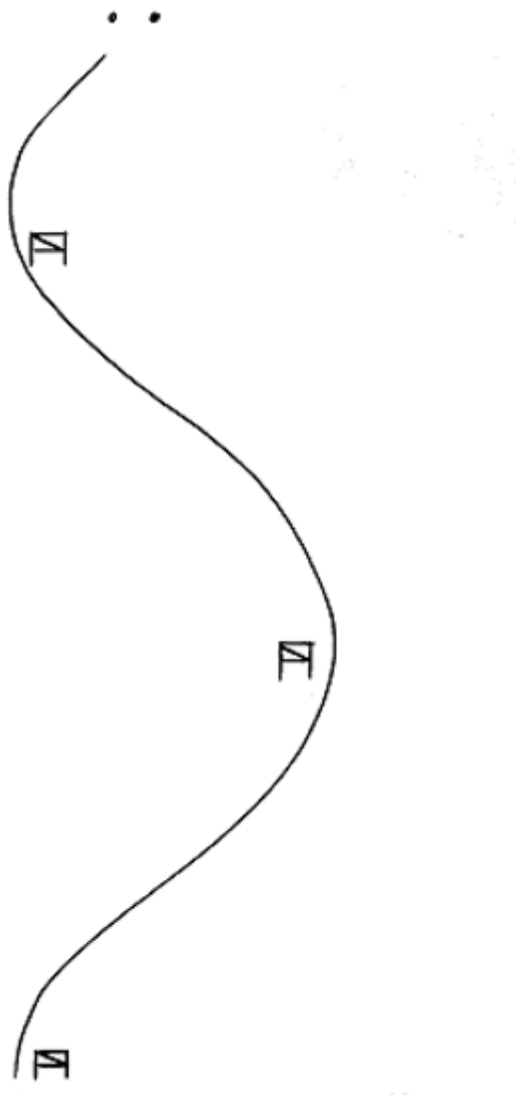
Progress the speed.

Medium to flat terrain.

Modify the set according to ski racer response to training

Notes

This type of training raises the intensity level. Coaches should set the course to allow the ski racers to manage their speed by the turn shape. If a coach needs to control the speed in a section, set double gates to control the arcs. Visibility is very important factor. Do not train speed without panels.



Description

For Giant Slalom warm up, set a series of 20-25 gates that promotes linking turns with rhythm, impulse and speed. . The drill course should promote activation with physical, technical and mental preparation for speed. . The drill course should have a change of rhythm at least once.

Focus

- Mental preparation (looking for speed)
- Linking turns with rhythm and impulse

Terrain

Moderate to Steep

Turn Shape

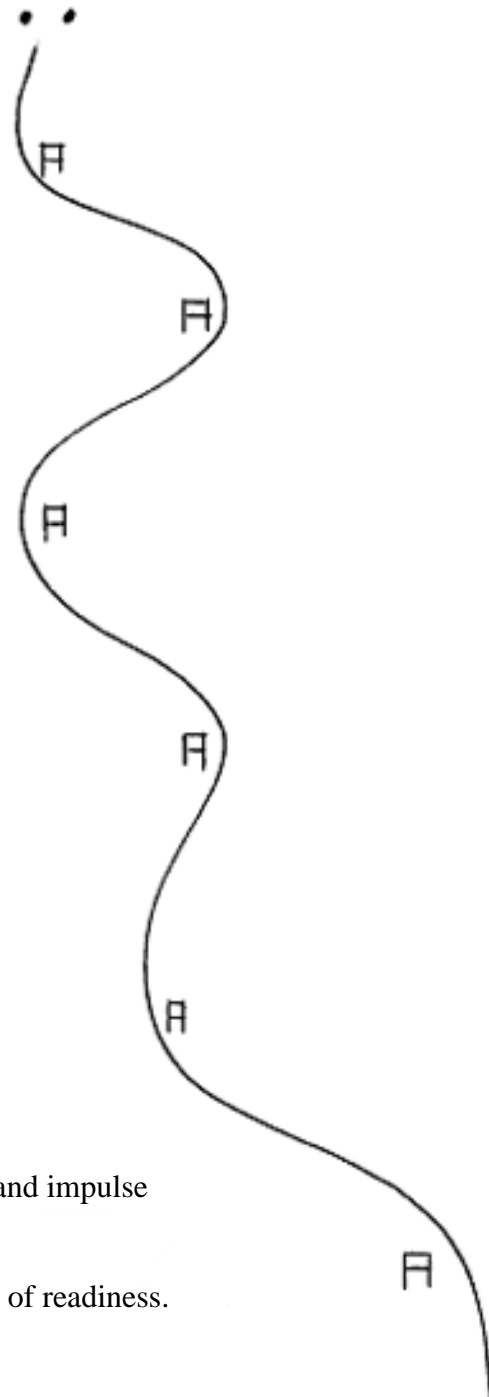
$\frac{3}{4}$ to full

Variations

Change the terrain and rhythm more often
Short or longer courses

Notes

Encourage the ski racer to look for speed with rhythm and impulse
Ensure safety.
Encourage the ski racer to integrate mental preparation
Allow the ski racer to begin training at his/her own state of readiness.



Handle Bar Drill (GS) (Learn to Race - Train to Race)

Description

Make a handle bar that is shorter than shoulder width. This will allow the ski racer to pass by the gate without interference from the training aid.

Focus

- Maintaining stability in the arms and upper body.

Terrain

Medium to Steep

Turn Shape

Three quarter to full turns



Variations

The closer the hands are the more difficult the drill becomes.

Notes

Ensure the handle bar is closer in width than the shoulders. The skier will hook the gate with the inside arm if the handle bar is too wide.

Race Simulation Training (GS) (Learn to Race - Train to Race)

Description

Simulate a three quarter to full Giant Slalom course with timing for 2 to 4 runs.

Focus

- Pre- race mental training
- Distraction control
- Race intensity
- Personal race preparation (physical/mental)

Terrain

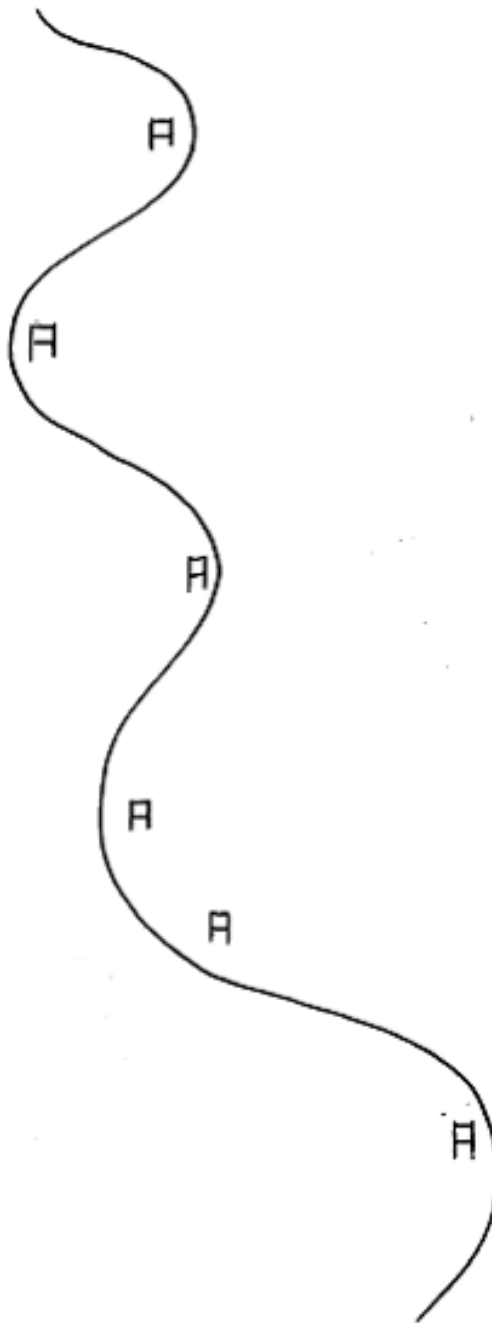
Flat, moderate to steep

Turn Shape

Full range of GS type turns (Full Monty)

Variations

Change the snow and weather conditions
Create situations to develop coping skills for the athlete.



Notes

This type of training is very effective during the Pre-Competition/Competition phases of the seasonal plan.

Coaches can use race simulation training as a vehicle to test athlete response to race levels of intensity.

Description

Mark Sharp designed this drill for Allison Forsyth to help her slalom line. Set half turn stubbies in a corridor on flat terrain. The goal of the drill is to ski the appropriate line by straddling every stubbie. This drill is designed for line confirmation, speed and confidence.

Focus

- Looking forward/thinking ahead
- Tactics (line)
- External focus of attention (straddle the stubby).

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Terrain

flat

Variations

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Change the terrain.

Turn Shape

fall line, half to three quarter turns

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Notes

Encourage the ski racer to straddle the stubby as cleanly as possible
Encourage the ski racer to look forward to anticipate the line
Encourage the ski racer to use the stubby as an external cue

Impossible Flush. (Slalom) (Train to Race)

Description

Set starts with a vertical distance of 10 - 12 metres, every 2 -3 gates a metre is dropped until the last few gates are down to 2 metres. Set should be very exact, and very straight. Set with hinged gates.

Focus

- Lower body agility/mobility
- Tactics (line)
- Looking forward/thinking ahead
- Upper body stability
- Use of the pole (touch/plant)

Terrain

Consistent flat to moderate

Variations

One ski

Without ski poles

Notes

Ensure that the ski racer knows that the distances drastically decrease

Promote "anything goes" to encourage quickness (agility) and recovery skills

Encourage mental management skills (external focus of attention)



Hairpin Drill (Slalom) (Train to Race)

Description

This drill consists of continuous linked hairpins. The hairpin distance is 6 m. Exit of the hairpin is 9-11 m and the distance from the single approach gate is 9-11 m.

Focus

- Tactics (line)
- Rhythm change adaptation
- Leg/feet agility
- Mental managing
(focus on exit gate of hairpin)

Terrain

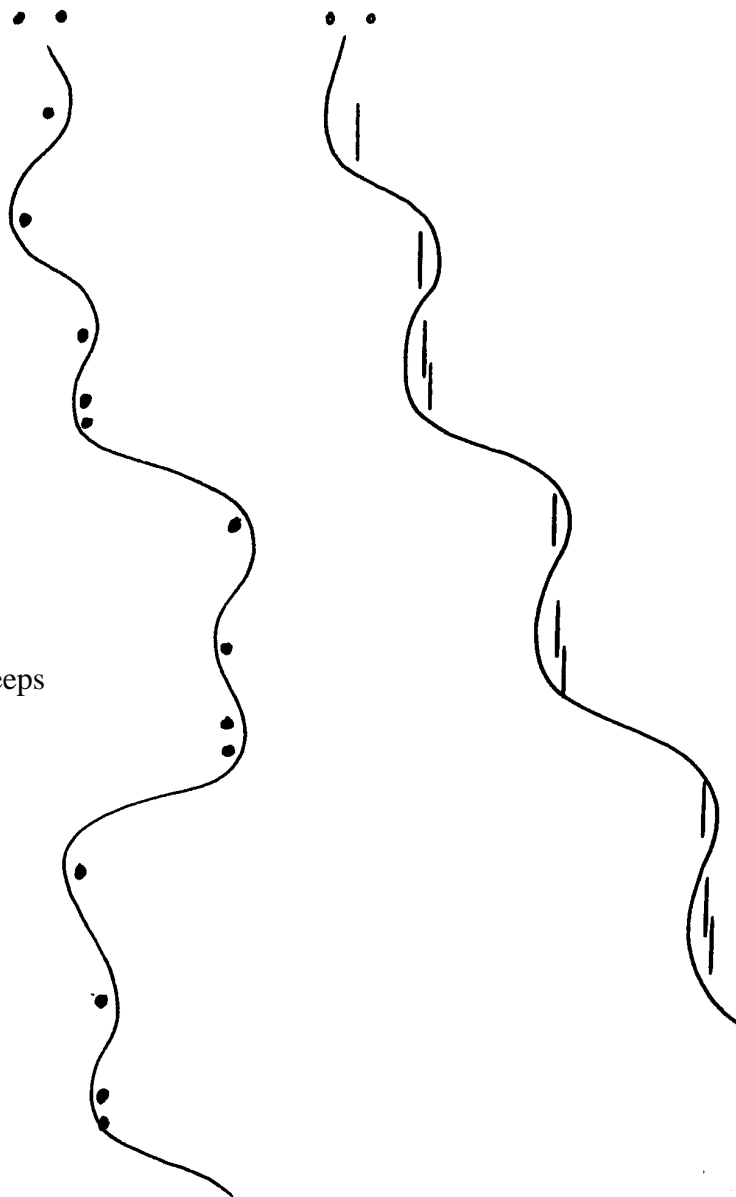
Consistent moderate to steep slope

Turn Shape

Slalom hairpin

Variations

Change the terrain to add break-overs, rolls, steeps



Notes

Ensure that the ski racer is looking forward

Encourage the ski racer to move his/her centre of mass in the line of travel out of combinations

Encourage mental management skills (focus on rhythm changes) with no loss of speed.

Description

Simulate a three quarter to full slalom course with combinations and timing for 2 - 4 runs.

Focus

- Pre - race mental management training
- Race intensity levels
- Distraction control
- Personal race preparation (physical/mental)

Terrain

Flat, moderate to steep

Turn Shape

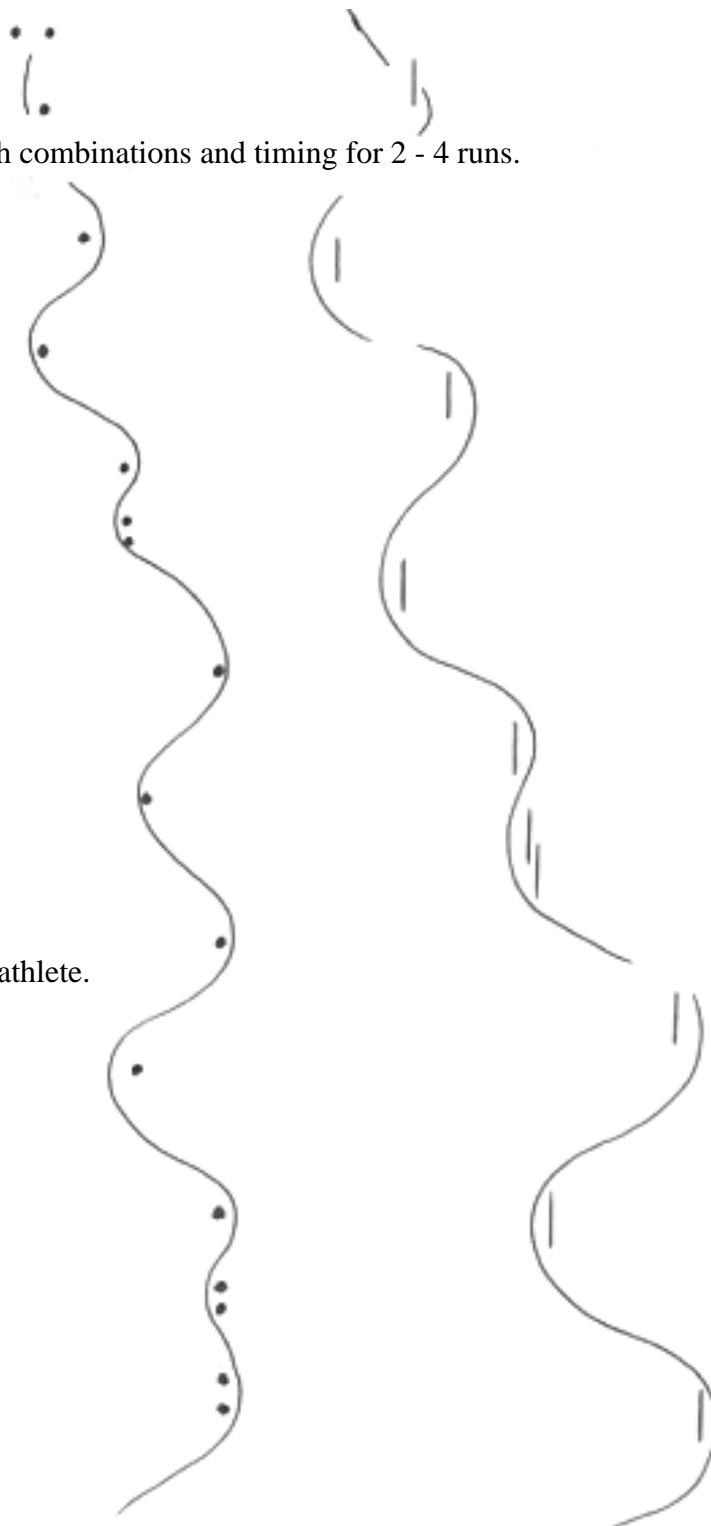
Full range of SL type turns (Full Monty)

Variations

Change the snow and weather conditions
Create situations to develop coping skills for the athlete.

Notes

This type of training is very effective during the Pre-Competition/Competition phases of the seasonal plan. A coach should be setting this type of course more often for this skill level.



Combination Drill (Slalom) (Train to Race)

Description

Set a series of combinations, either flushes or hairpins. The drill helps the skier learn to cope with the transitions from long to short turns. Use 3-4 gates and set a combination, then repeat the drill and change the combination.

Focus

- Agility/mobility
- Entering/Exiting combinations.
- Adaptation (long to short turns)
- Clearing skills
- Looking forward/thinking ahead

Terrain

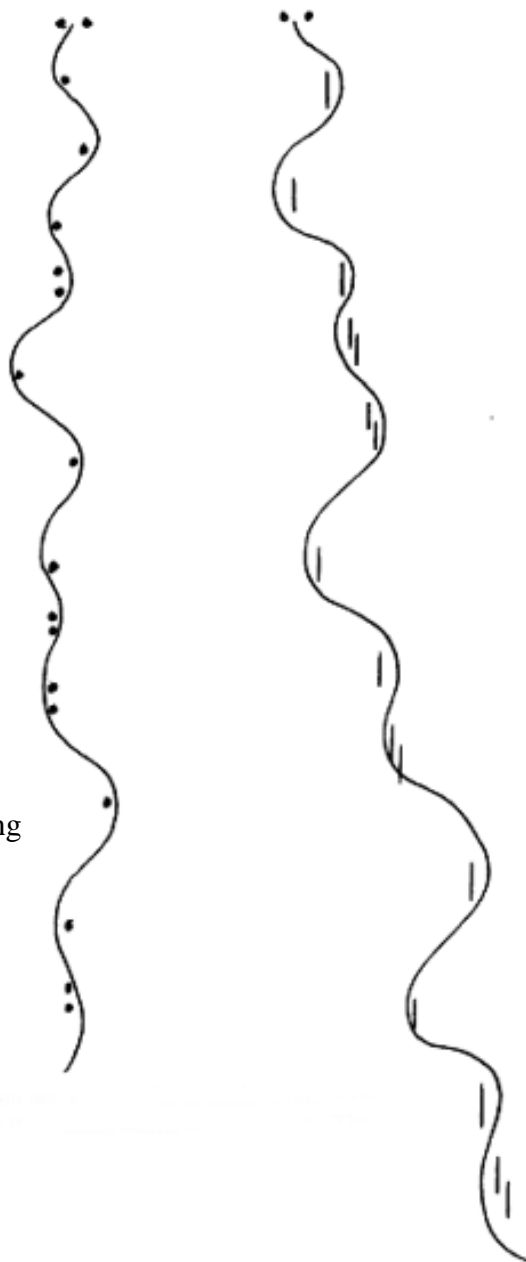
Flat to Medium

Turn Shape

Half turns to straight.

Variations

Change the terrain and series of combinations.
Modify the drills according to ski racer response to training



Notes

The drill will help the ski racers in the transition from entering and exiting the combinations. Use the required regulations for the combinations but vary the vertical and offset distances so the ski racer learns how to maintain speed or to accelerate. The combination should not slow the skier's speed.

Super G Model Training (SG) (Train to Race)

Description

Simulate a three quarter to full SG course with timing for 2 - 3 runs. The set should match the age of experience and the athletic and motor skill level of the ski racers.

Objectives

- Mental management training for speed
- Inspection techniques.
- Race simulation.
- Ski racer's personal race prep routine

Terrain

Flat, moderate to steep

Turn Shape

Set to the hill to control the speed.

Variations

Change the snow and weather conditions
Create situations to develop coping skills for the athlete.
Use moderate air time with the jumps.

Notes

Super G training requires attention to more detail regarding safety (spill zones, snow conditions, etc.)
Set the training environment to challenge not to **intimidate**.

This type of training is very effective during the Pre - Competition/Competition phases of the seasonal plan.

A coach should be setting up this type of situational training more often for this skill level.



Concluding Remarks – AIM 2 WIN

Skill Development and Sequencing

Skill development occurs in stages that are relative to an individual's physical, psychological, social and emotional growth and maturation rate. It is systematic and predictable.

Sequencing a training regimen is necessary in order for ski racers to acquire new skills.. Sequencing training involves the following:

- Selecting the appropriate terrain
- Matching the drill or exercise to the age, athletic and motor skill level of the ski racer
- Allowing time for the ski racer to adapt to the demands of the prescribed task
- Ensuring there is success in the attempts
- Modifying the right variable(s) to challenge further adaptation
- Patience with the ski racers' progress
- Creativity and resourcefulness
- Allowing the athletes "time on task" to consolidate new information

Keep it simple and safe.