



Revision 12-16-16

PSIA – Central Division – AASI

ADAPTIVE ALPINE LEVEL 1 & 2 WORKBOOK

BI-SKI & MONO-SKI



Name: _____

This workbook is a tool for you to expand your skiing, teaching and technical skills in preparation for your Adaptive Bi-Ski & Mono-Ski exam. Bring the completed workbook to your on-hill exam.

Note: The Americans with Disabilities Act (ADA) requires that testing entities such as PSIA-C-AASI make "reasonable accommodations" for qualified candidates with disabilities (whether physical or cognitive) and to the extent that they would not "fundamentally alter" the services being provided. Members with disabilities who are considering applying for an education course or certification exam must contact PSIA-C-AASI at 763-235-6484 at least four weeks in advance of a scheduled course or exam to provide notice of their requested reasonable accommodation and discuss their situations. This allows PSIA-C-AASI to assess your request for a reasonable accommodation and to plan for reasonable accommodations, if necessary. Requests for accommodations will be considered on a case-by-case basis.

The essential eligibility requirements for each Adaptive Alpine Level 1 & 2 course and exam are presented in the PSIA-C-AASI Adaptive Alpine Level 1 & 2 Exam Material. The standards are national in scope and their maintenance is necessary in the interests of public safety, effectiveness, value for the consumer, and guest/employer expectations.

The ADA does not require reasonable accommodations for a transitory or minor disability. A transitory disability is an impairment with a duration of six months or less, such as one caused by illness or injury. If this applies to you, you may contact the PSIA-C-AASI office to receive or refund or to transfer to a future clinic or exam.

*You may refer to the PSIA-C-AASI Americans with Disabilities Act (ADA) Policy for further information.**

**Awaiting board approval, 2017.*

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Local and program regulations and safety guidelines take precedence over this information. It is in your best interest to exercise due diligence in determining the appropriateness of the information for your particular circumstances. In addition, please take into account any and all factors that may affect your lesson. This includes but is not limited to: the health, well-being and fitness of the student; weather conditions; terrain; other people on the slope; your own abilities, as well as those of your student and anyone who may accompany you.

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All of the answers can be found in the following resources:

Professional Ski Instructors of America & American Association of Snowboard Instructors. *Adaptive Snowsports Instruction*. Lakewood, CO: The Professional Ski Instructors of America Education Foundation, 2003.

Professional Ski Instructors of America. *Alpine Technical Manual*. Lakewood, CO: The American Snowsports Education Association Education Foundation, 2014.

Professional Ski Instructors of America & American Association of Snowboard Instructors. *Core Concepts for Snowsports Instructors*. The Professional Ski Instructors of America Education Foundation, 2001.

PSIA-RM-AASI
ADAPTIVE ENCYCLOPEDIA
Free download

PSIA-RM-AASI
ADAPTIVE INFORMATION GUIDE: BI-SKI
Free download

PSIA-RM-AASI
ADAPTIVE INFORMATION GUIDE: MONO-SKI
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For PSIA-RM-AASI reference materials: <http://bit.ly/2hwmYgG>



Preparing for Your On-the-Hill Exam

Use the following tables to track your progress as you are studying and practicing for your exam.

✓	Bi-Ski Preparation	Comments
	Become familiar with the different kinds of bi-skis. <i>What are the strengths and challenges of each piece of equipment? Under what circumstances would you use each type of bi ski? When would you use the bi ski accessory equipment (kidney belt, padding, handle bar, etc.)?</i>	
	Practice setting up the bi-ski with fixed and hand-held outriggers. In what situations would you use each?	
	Understand fixed and handheld rigger adjustments. <i>Under what circumstances would you make these adjustments?</i>	
	Practice loads/unloads and safety protocols. <i>What additional safety concerns should you address with a bi-ski guest?</i>	
	Practice seat assists. <i>Can you safely perform a seat assist? What additional safety concerns need to be addressed with a seat assist? When might you use a seat assist?</i>	
	Practice tethering a bi-ski. <i>Can you safely tether a bi-ski? Which positions and techniques work best and why? Can you perform an emergency stop</i>	
	Ski in the bi-ski. <i>One of the best ways to understand the bi-ski is to practice skiing in it. How does it feel to load the chairlift in a bi-ski? How does it feel to depend on someone else for your speed control?</i>	
	Read the PSIA-RM-AASI Adaptive Information Guide for Bi-Ski. How can you use the progressions to help your guests improve their skiing?	
	Audit an experienced instructor in a bi-ski lesson. <i>What did you learn that you can use in your own bi-ski lessons?</i>	
	Write out bi-ski progressions. <i>Create sample scenarios and then write out sample progressions to fit your scenarios. Try thinking of unique scenarios! How do bi-ski progressions differ from mono-ski progressions? How can you give your guest greater independence?</i>	

✓	Mono-Ski Preparation	Comments
	Become familiar with the different kinds of mono-skis. <i>What are the strengths and challenges of each piece of equipment? Under what circumstances would you use each type of mono-ski?</i>	
	Learn how to assess and fit a mono-ski. <i>Can you perform a dowel test? What other modifications are needed to give your guest the best ski performance? When would you use the mono-ski accessory equipment (kidney belt, padding, etc.)?</i>	
	Understand handheld rigger adjustments. <i>Under what circumstances would you make these adjustments?</i>	
	Learn how to pick an appropriate ski for a mono-ski guest. <i>How do you pick the best length and shape?</i>	
	Practice various hands-on assists. <i>In what situations would you use these assists?</i>	
	Practice loads/unloads and safety protocols. <i>What additional safety concerns should you address with a mono-ski guest?</i>	
	Ski in the mono-ski. <i>One of the best ways to understand the mono-ski is to practice skiing in it. What ineffective skiing habits do you have when you are in the mono-ski? Do you have these same ineffective habits in your stand-up skiing?</i>	
	Read the PSIA-RM-AASI Adaptive Information Guide for Mono-Ski. <i>How can you use the progressions to help your guests improve their skiing?</i>	
	Audit an experienced instructor in a mono-ski lesson. <i>What did you learn that you can use in your own mono-ski lessons?</i>	
	Write out mono-ski progressions. <i>Create sample scenarios and then write out sample progressions to fit your scenarios. Try thinking of unique scenarios! How do mono-ski progressions differ from bi-ski progressions? How can you give your guest greater independence?</i>	

✓	Disability Awareness
<i>As an adaptive ski instructor, you are expected to be aware of the disabilities that might affect your guests.</i>	
	Read the PSIA-RM-AASI Adaptive Encyclopedia and the Adaptive Snowsports Instruction Manual. <i>What other references are available?</i>
	Know basic Disability Etiquette. <i>Incorporate this etiquette into your lessons and interactions with your guests.</i>
	Know the disabilities and medications that you are most likely to encounter with a bi-ski or mono-ski guest. <i>The disabilities and medications you are expected to know are listed on the following page. For each disability, you are expected to know symptoms and the special considerations for skiing. For each category of medication, you should know the uses and side effects.</i>

✓	Movement Analysis
<i>Movement analysis can elevate a lesson in such a way that your guests meet their goals and improve their skiing.</i>	
	Become familiar with the PSIA-C format for movement analysis (MODDS). <i>Incorporate the concepts of movement analysis into your lessons.</i>
	Practice using movement analysis. <i>You can find skiing videos on YouTube and Vimeo. Or you can practice movement analysis on your fellow instructors and skiers you see on the hill.</i>

Prerequisites for Adaptive Level 1 & 2 Certification

1. Minimum 16 years of age
2. Participant shall be required to have 10 hours of on-hill Lead Adaptive ski instruction experience
3. Take the Adaptive Alpine Workshop Clinic and Functional Skiing Assessment.
4. Demonstrate level 1 or level 2 proficiency before taking an exam module
5. Be current in dues and Continuing Education Units (CEUs)
6. Level 3 Certified Instructors from another discipline may bypass the Level 1 Adaptive Alpine Workshop Clinic and Functional Skiing Assessment.

Requirements to Achieve Adaptive Level 1 Certification

1. Completed the Adaptive Alpine Workshop Clinic and Functional Skiing Assessment demonstrating level 1 or level 2 proficiency.
2. Complete the corresponding workbook for the Module Exam
3. Attend and pass the corresponding on-hill Module Exam.

Requirements to Achieve Adaptive Level 2 Certification

1. Completed the Adaptive Alpine Workshop Clinic and Functional Skiing Assessment demonstrating level 1 or level 2 proficiency.
2. Complete the corresponding workbook for the Module Exam
3. Attend and pass the corresponding on-hill Module Exam
4. Meet the Adaptive Level 1 standard in all Exam Modules
5. Meet the Adaptive Level 2 standard in at least one Exam Module

Disabilities and Medications to Study for Your Level 1 & 2 Exam

As an adaptive instructor, you are expected to know the common disabilities that might require the use of adaptive ski equipment or techniques, as well as the medications that these individuals might use. You may be tested verbally on the following disabilities and medications throughout the course of your Level 1 & 2 exam.

*It is expected that you have basic knowledge of each of the disabilities listed, including symptoms and the special considerations for skiing. For each category of medication, you should know the uses and side effects. You are **not** expected to know specific brand names for each classification of medicine.*

Level 1 & 2 Bi-Ski & Mono-Ski Disabilities

- Amputation
- Balance impairments
- Cerebral Palsy
 - Spastic
 - Athetoid
 - Ataxic
 - Mixed CP
- Cerebrovascular Accident
- Epilepsy
- Intellectual Disability (Mental Retardation)
- Limb Deficiency
- Multiple Sclerosis
- Muscular Dystrophy
- Neuromuscular Diseases
- Paralysis & Paresis
- Polio
- Post Polio Syndrome
- Spina Bifida
- Spinal cord injuries
- Traumatic Brain Injury

Level 1 & 2 Bi-Ski & Mono-Ski Medications

- Analgesics
- Antibacterials
- Antibiotics
- Anticholinergics
- Anticoagulants
- Anticonvulsants
- Antidepressants
- Antidiabetics
- Antiemetics
- Anti-inflammatory
- Antispasmodics
- Chemotherapy
- Diuretics
- Immunosuppressives
- Muscle Relaxants
- Nonsteroidal anti-inflammatory drugs (NSAID's)
- Psychostimulants
- Sedatives
- Steroids

Observation and Description Movement Matrix (4 to 6 Words)

	Tipping Movements	Twisting Movements	Bending Movements
Initiation Phase			
Shaping Phase			
Finish Phase			

"SKIER HEADLINE" What can be changed in the shortest amount of time & be most effective why?- Assist the skier to make movement generated at the feet/snow for greater control and quicker activity from the skis.

MODDS

M (Motivation)		
O (Observation)		
D (Describe)		
D (Determine)	<i>Cause:</i>	
	<i>Effect:</i>	
S (Suggest)		

Lesson / Coaching Plan

What:	
How:	
Why:	
What:	
How:	
Why:	
What:	
How:	
Why:	
What:	
How:	
Why:	
What:	
How:	
Why:	

5 SKIING FUNDAMENTALS

1. Control the relationship of the "Center of Mass" to the base of support to direct pressure along the length of the ski.
2. Control the pressure from ski to ski and direct pressure toward the outside ski.
3. Control edge angles through a combination of inclination and angulation.
4. Control the skis rotation (turning, pivoting and steering) with leg rotation separate from the upper and lower body.
5. Regulate the magnitude of pressure created through ski/snow interaction.

Teaching

Matching: Match the following words with their definition. Each definition is used only once.

Source: Core Concepts & Adaptive Alpine Exam Material

- | | |
|------------------------------|---|
| 1. ___ Visual | A. Teaching style in which the instructor directs the students to a specific answer through a series of questions or experiences |
| 2. ___ Open question | B. A teaching style in which the instructor outlines the parameters of an assigned activity. Students are free to execute and practice the activity within the given boundaries |
| 3. ___ Teaching for transfer | D. A formula that combines what you want the student to learn with the situation you create to encourage learning and the appropriate terrain for success |
| 4. ___ Demonstration | F. A learning style in which the student learns best by seeing or watching |
| 5. ___ Task | I. Drawing upon a student's previous learning to help with present learning |
| 6. ___ Skill/drill/hill | J. Used to initiate a discussion or gain information about a student's insights and opinions |
| 7. ___ Physiological | K. Related to thinking, analyzing and speaking |
| 8. ___ Cognitive domain | L. Performing a task or exercise as an example for students |
| 9. ___ Guided discovery | M. The most pressing needs, as postulated by Abraham Maslow |

Fill-in-the-blank: Fill the blank with the appropriate terminology.

Source: Core Concepts & Alpine Technical Manual

10. Reaching one's potential while generating a peak experience is the level of _____ in Maslow's Hierarchy of Needs.
11. _____ questions limit discussions and are used to elicit information or confirm understanding and agreement.
12. When Abraham Maslow developed his Hierarchy of Needs, he visualized a pyramid with the most _____ needs on the bottom.
13. One of the first sensory systems to fully develop is the _____ system, which controls balance and the sense of movement. Located in the inner ear, this system provides information about the position of the head relative to the ground.

14. List the seven elements of the Teaching Cycle

15. Cite the seven points of *Your Responsibility Code*

16. Verifying your guest's level of physical and cognitive understanding is part of the _____ step in the Teaching Cycle.

17. Cite the five points of The Park Smart Program. (Note: this has been changed, so make sure you check a current reference, like www.freestyleterrain.org.)

Multiple Choice: Mark the answer that best completes the statement or question.*Source: Core Concepts*

18. When students are exhibiting fear, it is best to:
- A. Convince them that their fear is imaginary.
 - B. Try to belittle their fear in a humorous way.
 - C. Acknowledge the fear with respect and respond positively to it.
 - D. Ignore the fear and let them overcome it by themselves.
19. In learning styles, the initials VAK stand for:
- A. Vibration, Absorption, Kinetics
 - B. Valedictorian, Authoritarian, Keynesian
 - C. Video, Autographic, Kinesis
 - D. Visual, Auditory, Kinesthetic
20. Wearing a helmet while mono or bi-skiing falls into the _____ level of Maslow's Hierarchy of Needs.
- A. Safety/Security
 - B. Recognition/Social
 - C. Self-esteem
 - D. Self-actualization
21. In terms of learning styles, students who learn best by doing are considered _____ learners
- A. Visual
 - B. Auditory
 - C. Kinesthetic

Professional Knowledge

Matching: Match the following words with their definition. Each definition is used only once.

Source: Alpine Technical Manual

- | | |
|----------------------------|--|
| 1. ___ Neutral | A. The amount a ski is tilted relative to the surface of the snow and hill |
| 2. ___ Turn radius | B. Taking varying amounts of weight off the skis to manipulate and control pressure |
| 3. ___ Corresponding edges | C. Posture in which the alignment of the body is centered. |
| 4. ___ Unweighting | D. The size of the turn |
| 5. ___ Platform | E. Inclination of the entire body without angulation |
| 6. ___ Sidecut | F. Also called fall line |
| 7. ___ Edge angle | G. The way a skier aligns his or her skeletal structure on the skis |
| 8. ___ Carving | H. Created by setting the edges deeply into the snow, this allows the skier to make movements such as stepping, stemming or rebounding |
| 9. ___ Steering | I. The muscular effort used to direct the path of the skis |
| 10. ___ Leverage | J. The amount of “hourglass” shape or waist a ski has |
| 11. ___ Gravity zone | K. When the tails of the skis follow the tips through the turn to leave clean arcs in the snow |
| 12. ___ Center of mass | L. Application of pressure in front of or behind the midpoint of the skis |
| 13. ___ Stance | M. The left edge of one ski/outtrigger and the left edge on the other |
| 14. ___ Banking | N. Change the position of your center of mass forward and backward relative to your feet |
| 15. ___ Fore/aft movements | O. Represents the point around which all of a body’s mass is equally distributed |

Fill-in-the-blank: Fill the blank with the appropriate terminology.*Source: Core Concepts*

16. The angle between the extended axes of the femur and the tibia, measured at mid-patella (kneecap) is called the _____-angle
17. The _____ is an imaginary line that follows the steepest line of descent; the path along which a ball would roll if released down the slope.
18. The thigh bone is also called the _____.
19. Flexion of the foot in an upward direction is called _____
20. When a muscle performs work while getting longer, it is called _____ contraction.

Matching: Match the following words with their definition. Each definition is used only once.*Source: Adaptive Snowsports Instruction & Adaptive Encyclopedia*

- | | |
|-------------------------------|--|
| 21. ___ Anticholinergics | A. May be attached to the bi-ski for lateral support |
| 22. ___ Epilepsy | B. Adjustments done to ski equipment to modify a skier's normal stance |
| 23. ___ Evacuation system | C. Also known as Cerebrovascular accident (CVA) |
| 24. ___ Fixed outriggers | D. Medications that reduce anxiety |
| 25. ___ Spinal fusion | E. Removal of a limb at the joint |
| 26. ___ Canting | F. A malformation of the spinal cord during fetal development |
| 27. ___ Muscular dystrophy | G. A disorder that disrupts the transmission of electrical signals inside the brain. |
| 28. ___ Post-polio syndrome | H. Paralysis of the lower extremities |
| 29. ___ Stroke | I. Ditropan and Detrol |
| 30. ___ Autonomic dysreflexia | J. Disorders that cause progressive and irreversible wasting of muscle tissue |
| 31. ___ Sedative | K. Required for all mono-skis and bi-skis used on chairlifts |
| 32. ___ Paraplegia | L. Potentially life-threatening hypertensive occurrence produced by the body's inability to sense and react to specific stimuli. |
| 33. ___ Linkage | M. Lingering effects of poliomyelitis, causing paralysis of muscles |
| 34. ___ Disarticulation | N. Connects the seat to the ski(s) and usually consists of moving swing arms that allow the suspension to work but restrict movement in other planes |
| 35. ___ Spina bifida | O. Surgery that fuses vertebrae to stiffen the spine |

Fill-in-the-blank: Fill the blank with the appropriate terminology.

Source: Adaptive Snowsports Instruction & Adaptive Encyclopedia & Adaptive Information Guides (Bi-Ski & Mono Ski)

36. _____ is a neurological disability where the nerve fibers become scarred, thus interrupting the transmission of messages to various body parts.
37. _____ are medicines that treat seizure disorders.
38. The seat of the mono-ski or bi-ski is equivalent to a stand-up skier's _____.
39. Medium to short radius turns, upper/lower body separation and bump skiing on easy blue terrain are all objectives of the mono ski level _____ progressions.
40. _____ is the paralysis of all four limbs.
41. List the regions of the spine and the number of vertebrae in each.
- _____
- _____
- _____
- _____
- _____
42. _____ are medicines used to treat or prevent blood clots.
43. The two types of outriggers available to bi-skiers are called _____ outriggers and _____ outriggers.
44. For mono-skiers, the rule of thumb is that a heavier skier needs _____ (more/less) suspension tension, while a lighter skier needs _____ (more/less) suspension tension.
45. A bi-skier using fixed outriggers _____ (may/may not) ski independent of a tetherer.

Multiple Choice: Mark the answer that best completes the statement or question.

Source: Alpine Technical Manual & Adaptive Snowsports Instruction & Adaptive Encyclopedia & Adaptive Information Guides (Bi-Ski & Mono Ski)

46. Garlands do NOT include which phase of the turn?
- A. Initiation
 - B. Shaping
 - C. Finishing
47. In terms of blending skills, powder skiing requires:
- A. More rotary than hardpack
 - B. Similar skill blend to bumps
 - C. More edging than hardpack
 - D. A and B
 - E. B and C
48. Any movement that increases the angle at a joint is called
- A. Extension
 - B. Friction
 - C. Perception
 - D. Deflection
 - E. Proprioception
49. Tipping the skis relative to the length or longitudinal axis of this skis is known as
- A. Flexing and Extending
 - B. Edge control
 - C. Turning
 - D. Balancing
 - E. Hopping
50. A combination of sliding and slipping as the skis move forward through a turn is called:
- A. Skidding
 - B. Sliding
 - C. Slipping
 - D. Shaping
 - E. Sloping

51. A kidney belt may be used with a bi-skier for:
- A. Upper body stabilization
 - B. Maintaining body temperature
 - C. Keeping snow out
 - D. Aesthetics
52. Which objective is NOT typically included in the level 3 mono-ski progression?
- A. Linked turns
 - B. Varying turn shape and size
 - C. Hip and lower body angulation
 - D. Hockey stops
53. During the dowel test, the student is in the apparatus and the balance point is found when the student can:
- A. Lean forward and touch the front of the ski to the ground.
 - B. Pressure the tip of the ski with a slight head tip forward and pressure the tail with a slight tip backward.
 - C. Remain centered on the dowel while leaning from side to side and touching the outriggers to the ground.
 - D. Lean backward and touch the tail of the ski to the ground while using the outriggers for balance.
54. A person with Athetoid Cerebral Palsey has:
- A. Extraneous and uncontrolled movements
 - B. Diminished muscle tone
 - C. Muscle atrophy of the peroneals and toe extensors
 - D. Tense, contracted muscles
55. The absence of a limb could be due to
- A. Limb deficiency
 - B. Albinism
 - C. Amputation
 - D. Aphasia
 - E. Lactose
 - F. A and C

56. The function of the shock on a mono-ski includes controlling:
- A. Rotary
 - B. Pressure
 - C. Edging
 - D. Steering
57. What factors determine the position of the foot tray on a mono-ski?
- A. Contact between the thighs and the seat bottom
 - B. Spasticity
 - C. Comfort
 - D. A and B
 - E. A, B and C
58. As an instructor assisting a mono-skier after a fall, you should:
- A. Be cautious not to put yourself, especially your back, in an awkward position.
 - B. Remove the mono-skier's outriggers.
 - C. Place the mono-ski across the fall line.
 - D. A and C
 - E. A, B and C
59. Chairlift loading procedures, outdoor static balance exercises and outrigger position while moving are all objectives of the bi-ski level _____ progression.
- A. One
 - B. Two
 - C. Three
 - D. Four
 - E. Five
60. In terms of arm position, mono-skier's athletic stance can be described as:
- A. Arms as straight as possible
 - B. Upper arms hanging vertically at the sides, with a slight space between elbows and body
 - C. Lower arms hanging at the same angle as the outrigger shafts
 - D. A and B
 - E. B and C