



# Cognitive - Visual Exam Information

Revised 2011

# **ADAPTIVE COGNITIVE DISABILITIES (Intellectual Disabilities) EXAM INFO**

## **DEVELOPMENTALLY DISABLED**

Students in this classification comprise a widely diverse population, representing many different disabilities, which may encompass physical weaknesses and/or cognitive processing difficulties. The complexity of this classification requires knowledge of the many disabilities, their causes and effects upon skiing performance, plus commonly used medications. A complete and detailed student analysis is imperative to determine the physical, cognitive and emotional strengths/ weakness of the student. A thorough check of present medications will provide important information relative to stamina and sensitivity to the environment, as well as attentiveness, and interpersonal relations.

The ATS skill progression needs to be modified to comply with the physical and cognitive abilities of the student. Matching learning preferences with teaching styles enhances the learning environment for the student. Frequent demonstrations and a focus on small, obtainable goals, and accomplishments is one of the most successful teaching strategies. Providing individual positive feedback along the way helps to maintain the student's motivation and interest. Students who have a Developmentally Disability will benefit from an individual assessment and tailored lessons for best success!

### **Some examples of common developmental disabilities included:**

Apraxia, Attention Deficit Disorders (ADD, ADHD), Autism Spectrum Disorder (ASD), Brain Damage, Cerebral Palsy (CP), Cystic Fibrosis, Developmental Disability (DD), Down's Syndrome, Dyslexia, Epilepsy/Seizures, Fetal Alcohol Syndrome (FAS), Fragile X, Hearing Impaired, Learning Disorders, Mental Retarded (MR), Neurological Disability (may include; spina bifida, CP, hemiplegia, stroke, muscular dystrophy), Non-Verbal Learning Disorder (NLVD), Rett Syndrome, Sensory Integration Dysfunction, Vision and/or Perception

Note: Some of the above disabilities may have no effect on an individual's cognitive ability or ability to learn new skills. EVALUATE!!!

### **A Student Evaluation Focus:**

A thorough review of primary and secondary abilities, their cause and effect upon skill performance and cognitive processing, should be made. Students who have a cognitive or developmental disability frequently have other involvements, some apparent, some hidden. A thorough evaluation will indicate this. Often there will be medical problems, which are not evident. For example:

- 1) Past surgical procedures - Cerebral Palsy students frequently have orthopedic surgery to reduce spasticity by lengthening muscle/tendons.
- 2) Secondary or hidden disabilities (I.e. A person with Down's Syndrome may have heart complications, and/or hearing problems, or cervical weakness)
- 3) A person with Multiple Sclerosis may have intermittent sensation loss or no feeling in their legs or feet and may have hearing or visual difficulties.
- 4) A person with Diabetes may have fluctuating blood sugar levels and circulatory problems. He/she may be missing a toe(s).
- 5) A person with an acquired or traumatic brain injury may have lost their ability to judge distances, and/or may have visual perceptual or memory difficulties)

This list goes on and on. Never assume anything! Medications also create problems and need to be reviewed. Side effects of medications can, for example, make a student listless, slow to respond, nervous, sensitive to the sun, and/or muscularly weak. Medication timing is important because adverse reactions to lack of medication, or low medication levels, are common. Cancer patients, due to chemotherapy and radiation treatments, may be prone to hemorrhage upon impact and/or may have brittle bones.

Much information can be gained by asking your student about other sports and activities in which they participate. Bicycle riding indicates some balance and independent leg action; ball activities indicate eye-hand coordination and some spatial judgment. Knowledge of sports activities and interests, plus information about their daily schedule can help you to access both physical and cognitive abilities. This may also be used for teaching for transfer of skills.

Parents or significant caregivers can provide the most detailed information regarding a student's cognitive processing strengths and needs. Many schools have a Special Education Team that creates an IEP for school and parents of children in special education. This information may assist with your initial assessment of a student. One-on-one phone conversations are extremely valuable prior to the actual lesson. The more communication and assessment that can be done up front, the better!

### **Equipment and Physical Assists:**

Students who have cognitive processing difficulties or developmental disabilities often have motor planning, balance, and fine muscle or gross motor coordination difficulties. Ski-bras, edgie-wedgies, klip-skis, hula-hoops, tethers, and sliders are utilized to increase balance and coordination. The two-point hold is often used (description of the two-point hold is found in "Bold Tracks"). Some frequently used bamboo assists are:

1. Single pole held horizontally at waist or shoulder height by both instructor and student, with instructor skiing backwards.
2. A long single pole held horizontally at waist to chest level by both student and instructor, skiing side by side.
3. Two poles, one in each hand of student and instructor, held at hip height with one person skiing in front, the other immediately in back; called horse and buggy.
4. Clam Shell - two heavy/strong poles (or two poles taped together) held by two instructors; one pole being placed under the buttocks, the other placed waist-chest height for students' hands.

## **TWO-TRACK PROGRESSION for DEVELOPMENTALLY DISABLED**

### **Beginner/Novice Zone Objectives**

Level 1: Welcome to Skiing/Build the Foundation

Student assessment

Medical history

Equipment selection, introduction and set up

Static balance exercises, indoor

Student / instructor communication, safety, guiding, and emergency stop

Mobility on skis and snow flat terrain

Level 2: Introduction to Flats

Mobility on skis and snow

Understand the fall line and be aware of terrain changes

Falling and getting up

Straight runs

Develop skills for skating and climbing

Refine stepping and twisting skills to turn out of the fall line

Straight runs with slight directional changes/ wedge change-ups

Stopping and slowing

Level 3: Introduction to Turning

Chair lift loading and unloading procedures

Introduction to Chair Lift and Green Terrain

Equipment and safety concerns for riding chair lift

Turn left and right

Vary turn shape, size and speed control

Skating/ Slipping

Fan progression  
Linking turns  
Explore different equipment and uses for hands on teaching  
Master the beginner area

Level 4: Explore the beginner mountain experience  
Develop greater skill blending  
Vary turn shape for the terrain situation  
Explore a variety of snow conditions  
Ski the easiest beginner terrain on the mountain  
Refine turning and edge control

### **Intermediate Zone Objectives**

Level 5: Develop and Enhance Intermediate Movement Options  
Define proper body movements and positions: fore, aft, laterally, absorption, and extension  
Develop long- to medium- and medium- to long-radius turns  
Carry and use poles more efficiently  
Maintain an open parallel through the turn on smooth blue slopes  
Develop various ways to control speed and turn shape on all green and some blue terrain  
Introduction to various snow conditions and terrain

Level 6: Anchor Intermediate Skills and Movements  
Medium- to short-radius turns  
Link open parallel on easy blue terrain  
Ski varying snow conditions  
Feel carving sensations  
Explore various hands-off guiding and/or teaching methods  
Develop greater confidence and skill blending

Level 7: Explore Movements and Skills for Upper Level Skiing  
Bump skiing on blue terrain  
Short-radius turns  
Total independence (keep safety in mind)  
Increase and decrease speed in turns on blue and black terrain  
Linked parallel turns

### **Advanced Zone Objectives**

Level 8: Refine Advanced Movement Patterns  
Carving medium- and long-radius turns  
Ski short turns on the steeps  
Ski blue and easy black bumps  
Boot-top powder

Breaking, gliding control movements on steep terrain

Level 9: Develop Movement Options for Steep Terrain

Refine movements in short-radius turns

Develop optional movement patterns for varying speed control and conditions.

Develop optional movements and tactics for advanced bump skiing

Bumps, racing, off-piste, terrain parks and pipe.

## VISUALLY IMPAIRED

Blind and visually impaired skiers are usually two track skiers. A kinesthetic and concise, verbal approach to skill development is most effective with visually impaired students. Due to the visual difficulties, the Visually Impaired/blind student must utilize his/her other sensors (auditory, kinesthetic, tactile, etc.) to process information. For example, when teaching the "gliding wedge" the instructor may need to draw a wedge or V with his/her fingers on the palm or back of his/her student's hand. Another example is that the instructor may have to physically place the student's skis side by side when instructing the totally blind student how to "match their skis."

The instructor has the responsibility of acting as a guide, and compensating for the student's decreased visual acuity. Multiple ranges of visual acuity are possible, from limited depth perception, peripheral or tunnel vision, to legally blind or total loss of vision.

### Causes of Visual Impairments:

The leading causes of visual impairments and blindness are: Glaucoma, followed very closely by Diabetes. Some additional causes are (but not limited to):

Cataracts	Central Nervous System	Light Damage (welding)
Retinitis Pigmentosa	(Multiple Sclerosis)	Traumatic Brain Injury (left aversion)
Detached Retina	Surgery	Chemical Burns
Myopia	Corneal Diseases	Vascular Diseases
Friedreich's Ataxia	Congenital Nystagmus	Macular Degeneration
	Tumors	

Student Evaluation/Guiding Overview:

The first focus of your indoor assessment is the student's:

- 1) Visual abilities
- 2) Cause of visual impairment

- 3) Medication and medical precautions
- 4) Hearing and other sensory abilities

The second part of the indoor assessment relates to the student's guiding preference (indoor and on-snow). Some facts to consider are:

- 1) Range of vision
- 2) Ability to hear
- 3) Skiing skill level
- 4) Terrain and snow conditions

The focus in guiding is to provide clear, concise instructions, which will enable the student to ski. Verbal, as well as kinesthetic descriptions are utilized to establish a solid communication base between student and instructor. Most important, is an agreed upon word between student and instructor meaning imminent danger. This word needs to be established before the first lesson. This word, when spoken, will immediately result in the student falling to the ground and covering himself/herself the best way possible.

Some popular guiding methods are:

**Simple-directional commands:** This method includes such commands as: "Stop, go, right, left, slower, faster, hold", etc. and can be used with beginning skiers. These commands are universally understood, and are clear and concise. Simple, basic commands can serve as the basis for communicating on and off the slope with students, regardless of their skill level.

**Clock System:** Complementing the simple-directional command system is the Clock system. A commonly utilized system with the visually impaired/blind population, the student is always facing 12 o'clock. If you desire the student to complete a 90 degree turn to the right, your instructions would be to turn to 3 o'clock. Once completed, the student is again at the 12 o'clock position and is ready to receive new instructions (i.e. turn to 9 o'clock (make a 90 degree turn to the left.) This command system is utilized inside, in corrals and on the slope. It is very useful in intermediate/advanced ski guiding and in racing.

**Grid/Graph System:** The Grid system enables intermediate/advanced blind skiers to be aware of their location within the confines of the present skiing terrain. The Grid system should never be utilized simultaneously with the clock system. One side of the trail is "0", the other side is "10", the center of the slope is "5", etc. Utilizing the Simple-Directional Command System (or a modification thereof) plus the Grid system, students can be kept well informed of their position on the slope.

As the student progresses, the need for an agreed upon abbreviated/concise command system greatly increases, because timing is of the essence in upper level, blind ski teaching/guiding.

## **TWO-TRACK PROGRESSION for BLIND SKIERS**

The following is based on the PSIA Alpine National Standards and has been adapted for blind and developmentally disabled skiing.

### **Beginner / Novice Zone Objectives**

Level 1: Welcome to Skiing / Build the Foundation

Student assessment

Medical history

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Level 2: Introduction to Flats

Mobility on skis and snow

Understand the fall line and be aware of terrain changes

Falling and getting up

Straight runs

Develop skills for skating and climbing

Refine stepping and twisting skills to turn out of the fall line

Stopping and slowing

Level 3: Introduction to Turning

Turn left and right

Vary turn shape, size and speed control

Skating

Fan progression

Linking turns

Explore different equipment for hands-on guiding and teaching

Master beginner area

Chair lift loading and unloading procedures

Introduction to Chair Lift and Green Terrain

Equipment and safety concerns for riding chair lift

Level 4: Explore the Beginner Mountain Experience

Develop greater skill blending

Vary turn shape for the terrain situation

Explore a variety of snow conditions

Ski the easiest beginner terrain on the mountain

Refine turning



## **Intermediate Zone Objectives**

### Level 5: Develop and Enhance Intermediate Movement Options

Refine proper body movements and positions  
Develop long to medium and medium to long radius turns  
Carry and use poles more efficiently  
Maintain an open parallel through the turn on smooth blue slopes  
Develop various ways to control speed and turn shape on all green and some blue terrain

### Level 6: Anchor Intermediate Skills and Movements

Medium to short radius turns  
Link open parallel on easy blue terrain  
Ski varying snow conditions  
Feel carving sensations  
Explore various hands off guiding and or teaching methods  
Develop greater confidence and skill blending

### Level 7: Explore Movements and Skills for Upper Level Skiing

Bump skiing on blue terrain  
Short radius turns  
Total independence (keep safety in mind)  
Increase and decrease speed in turns on blue and black terrain  
Explore disciplined skiing  
Linked parallel turns

## **Advanced Zone Objectives**

### Level 8: Refine Advanced Movement Patterns

Carving medium and long radius turns  
Ski short turns on the steeps  
Ski blue and easy black bumps  
Boot top powder  
Breaking, gliding control movements on steep terrain

### Level 9: Develop Movement Options for Steep Terrain

Refine movements in short radius turns  
Develop optional movement patterns for varying speed control and conditions  
Develop optional movements and tactics for advanced bump skiing  
Bumps, racing, off-piste, terrain parks and pipe