



## **Ski Spectacular Instructor Academy**

**Hosted by The Hartford Ski Spectacular  
December 4-8, 2022**

### **Clinic Summary Notes**

#### **Clinic Topic: Neurocognitive Diagnoses: Insights for Snowsports Instructors – Christina Bruno**

1. The Learning Connection model is a framework for snowsports instruction that separates instruction into three domains: people skills, teaching skills, and technical skills.
  - Teaching skills represent the actions the instructor takes to center the lesson around the riders needs and motivations. The guiding principles for teaching skills within snowsports instruction are:
    - Collaborate on long-term goals and short-term objectives.
    - Manage information, activities, terrain selection, and pacing.
    - Promote exploration, experimentation, and play.
    - Facilitate the learner's ability to reflect upon experiences and sensations.
    - Adapt to the changing needs of the learner.
    - Manage emotional and physical risk.
2. Criteria for NCD's are based on the defined cognitive domains:
  1. Complex attention – Sustained, divided, or selective attention and processing speed
  2. Executive function – planning, decision-making, overriding habits, mental flexibility, and responding to feedback/error correction
  3. Learning and memory – includes cued recall, immediate or long-term memory, and implicit learning
  4. Language – Includes expressive language and receptive language
  5. Perceptual-motor – Includes any abilities related to visual perception, gnosis, perceptual-motor praxis, or visuo-constructional
  6. Social cognition – Includes recognition of emotions and theory of mind
3. Most neurocognitive disorders are degenerative meaning they become worse over time.
4. Alzheimer's disease is characterized by the gradual progression of impairment in cognition as well as the presence of beta-amyloid plaques and neurofibrillary tangles.
5. TBIs occur when an individual experiences significant trauma or damage to the head with the most common type being a concussion.
6. Vascular disorders generally begin with atherosclerosis which leads to a stroke.
7. Significant cognitive changes occur due to repetitive drug and alcohol abuse such as delirium.

8. Dementia with Lewy bodies is characterized by significant fluctuations in attention and alertness; recurrent visual hallucinations; impaired mobility; and sleep disturbance.
9. Frontotemporal NCD causes progressive declines in language or behavior due to the degeneration in the frontal and temporal lobes of the brain.
10. Parkinson's disease is characterized by tremors of hands, arms, legs, or face; rigidity of the limbs and trunk; slowness in initiating movement; and drooping posture or impaired balance and coordination.
11. Huntington's disease involves involuntary movement, progressive dementia, and emotional instability.
12. HIV infection begins with slower mental processing, impaired executive function, problems with more demanding attentional tasks, and difficulty learning new information.
13. Pharmacological interventions for Alzheimer's disease target the neurotransmitters acetylcholine and glutamate and newer research is focused on the build-up of beta-amyloid and neurofibrillary tangles.
14. Psychological treatments include cognitive and behavioral strategies:
  1. Engaging in Social Skills & Self Care Training
  2. Breaking down complex tasks into smaller, more attainable goals.
  3. Simplifying the environment: labeling location of items, removing clutter, etc.
  4. Cognitive Stimulation: following the news, sports, reading books, games, etc.
  5. Offering a supportive and safe space to express emotions, frustrations, etc.
15. Caregivers need to join support groups to help them manage their own anger and depression, especially since 90% of such caregivers are relatives of the afflicted.
16. Resources for further information: PSIA-AASI Teaching Snowsports Manual.  
<https://www.thencri.org/education-resources/neurocognitive-disorder/>  
<https://opentext.wsu.edu/abnormal-psych/chapter/module-14-neurocognitive-disorders/>