


Using Cognitive Status for Fall Prevention Strategies


How to use an ACL score for effective fall prevention strategies

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Objectives

- Understand Allen Cognitive Levels and how they are determined. Review wealth of info available for ACL levels.
- Discuss and apply known evidence related to ACL Level and Visual Field to develop fall prevention strategies.
- Utilize appropriate balance training interventions for patient with cognitive impairment.




Cognition

- Attention
- Perception
- Memory
- Language use
- Judgement
- Problem Solving
- Learning and Planning




Ways to “Classify” Cognition

- Mild/Moderate/Severe
- GEMS – Teepa Snow – model that focuses on strengths
- Variety of tests
 - MoCA
 - MMSE
 - BIMS
 - SLUMS
- ACL – Claudia Allen




Allen Cognitive Levels

- Focuses on functional cognition
- Provides a framework to guide clinician
- Goal to promote safe engagement in valued activities
- Performance on standardized assessment
 - Leather lacing
 - Placemat
- Confirmed through other tests/measures or activities




Collaboration

- Cognitive screens can be completed by a variety of trained professionals
- Cognitive assessments should be administered by those specifically trained to assess and interpret
- Interdisciplinary team members can apply the results of the cognitive assessment to their area of intervention




Allen Cognitive Level Resources

- [Observable Attributes and Intervention Guidelines](#)
 - Functional cognitive abilities and intervention guidelines by level ACL 1.0-6.0
- [Hierarchies of Functional Cognition](#)
 - Describes inferred and observed cognitive abilities and patterns of performance by mode




Allen Cognitive Level Resources

- [Summary of Modes of Performance](#)
 - Description, what person may pay attention to, motor behavior, communication behavior, attention span by level ACL 1.0-6.0
- [ACL At a Glance](#)
 - Functional characteristic, best approach, role of therapy by level and mode ACL 4.0-6.0
- [ACL Caregiver Guides](#)
 - Caregiver facing recommendations to facilitate best ability and least restrictive environment by level and mode ACL 2.4-5.2




Visual Changes Associated with Age

- Loss of ability to see up close (presbyopia)
- Floaters and Flashers
- Dry eyes or Tearing
- Cataracts – cloudy lens
- Glaucoma – blurry vision, loss of peripheral vision, needing more light to see
- Macular Degeneration – blurring or distorted central vision
- Retinopathy – blind spots, cloudiness




Visual Changes Associated with Dementia

- Visual field shrinks
- Impaired depth perception
- Impaired visuospatial processing – inability to grasp objects within field of view
- Neglect




Visual Field with Dementia

- Scuba goggles
 - Mild dementia (ACL mode 5)
- Binoculars
 - Moderate dementia (ACL mode 4)
 - Social vision or task vision
 - Each time visual field changes, brain must reorganize
- Monoculars
 - Severe dementia (ACL mode 2-3)



Auditory Change Associated with Aging

- Gradual hearing loss
 - People with hearing loss are more likely to develop dementia



A note about labeling...

- “poor judgement”
- “non compliant”
- “impulsive”
- “uncooperative”



Put it all together... Fall Prevention

- ACL 5.0
 - Anticipate hazards
 - Coach, help remove hazards with agreement
 - Discuss recommendations, come to consensus

CARE PROVIDER'S ROLE

- Person may live alone with weekly check
- NOTE: Person sounds “normal”, but lacks appropriate social skills (interrupts, loud or rude comments)
- Care provider/teach:
 - Anticipate or help solve social conflicts
 - Monitor, maintain use and cleaning of adaptive equipment
 - Anticipate consequences of actions on safety
- Repeats improved effects
- Coordinates all body parts
- Stops working to talk
- Changes facial expression and intonation to match feelings
- Does not talk and work simultaneously
- States personal rights
- Works at normal, invariant work pace

Initiates alterations in fine motor actions to produce new effects	Stops working to talk Expresses feelings; questions activity purpose	Recognizes need to schedule infrequent events; inconsistent
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Fall Prevention

- ACL 4.2
 - Important items in direct view
 - Increased time for daily tasks
 - Remove ground level hazards
 - 3 weeks to learn a new task with repetition (assistive device)
 - Impaired visuospatial skills (cannot use long handled devices)

FUNCTIONAL CHARACTERISTICS

Does not notice floor or other hazards


- May report bowel or bladder problems
- Working attention 24" (not across table)
- Slow to act, slow to respond

• Short term memory tests as impaired

• Aware of “parts” of the activity, asks for help, Concept of personal goals limited to “walking”

- Imitates short sequence with 1 new action
- Compares striking features of objects, one at a time (color, number, size)
- Recognizes a striking error (“it’s wrong”)
- May demand immediate assistance
- Requests day and time, may not retain
- Works at invariant pace, 2-3 times slower than typical work pace

Matches one striking feature at a time	Identifies features, problems Asks for help, date	1 hour increments One activity
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Fall Prevention

ACL 3.8

- Limited visual field and depth perception
- Leave items in direct site and order for use
- Use highly contrasted visual cues
- Reduce distractions
- Verbally prompt for self care, toileting
- Encourage: "keep going"
- Often won't recognize their need for assistance

Description	Pays Attention to	Motor Behavior	Communication Behavior	Duration/Time
Using all objects	Effects of actions on activity	Covers space, uses all objects Sequences familiar actions	Recognizes activity only when done	Up to time when all objects are used

- Imitates 3 familiar actions in correct sequence
- Stops when "done" when objects are depleted or space is filled
- States they are "done" when objects are depleted or space is filled

Fall Prevention

- Use what we know to determine root cause
- Implement intervention aimed at root cause; small adjustments; reassess
- Use ACL and visual field information to create supportive, safe environments

Balance Training

- As with all balance – identify and treat underlying impairment
- Use ACL mode to select and prescribe meaningful interventions
 - Consider visual field
 - Consider time to process information
 - Consider style of "education"

References

- <http://allencognitive.com> (resources, free downloads)
- <http://allencognitivementors.com>
- <https://www.ot-innovations.com/clinical-practice/cognition-2/the-allen-cognitive-level-battery/>
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