

Cognition & Perception

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How does a stroke affect Cognition & Perception?

Cognition

- * Cognition is a series of complex thought processes by which we come to know and act on our environment, to benefit from past experiences, and to generate new ideas to advance our existence.
- * Cognitive problems are often invisible (unlike the physical impairments) but can have a major impact on a persons function and level of independence

Metacognition

- * Metacognition is often described as “knowing about knowing”; it is the ability to know and monitor the individual characteristics of cognitive skills. It enables a person to choose memory strategies, problem-solving approaches and reasoning methods.

Attention

- * Being able to concentrate on one thing for a period of time.

What you might notice:

- * Inability to focus on one thing, “mind wandering”
- * Not following through on directions
- * Distractibility
- * Taking a long time to complete a task that you feel should be simple
- * Asking you to repeat things

Attention

How can you help?

- * Remove distractions- turn off TV, radio, pull curtain to cut off noise in room
- * Short, simple instructions- make sure patient understands them
- * Direct eye contact- make sure they are focused
- * Don't talk too quickly, give them time to think and respond
- * Break tasks down into shorter sequences
- * Allow rest breaks if needed, sustaining attention can be hard work and mentally exhausting

Orientation

- * Awareness of time, place and person

What you might notice:

- * Restlessness, trying to get out of bed/chair
- * Repetitive questions about “where am I”
- * Fearfulness when being approached/resistance to care
- * Becoming lost when leaving room/wandering
- * Frustration

Orientation

How can you help?

- * Give gentle reminders with correct information- try not to make the client feel foolish
- * Ensure white board in room is up to date with correct information, especially date
- * Ask family to bring in a calendar and use it with client to keep track of date
- * Have family bring in a journal as well as some pictures of family
- * Post personal info in room or write in journal for client (ie name, address, date of birth, spouses name)
- * Limit changes of rooms and schedules (ie. Treatment times)
- * Post sign outside door “Frank, this is your room” for client’s who wander/get lost easily

Memory

- * The ability to retain and recall personal experiences, information, and skills. Attention is imperative for memory as new information cannot be stored without attending to it first.

Different types of memory:

- * Short term- Name of person you just met
- * Recent- What you ate for breakfast/if you took your pills
- * Long-term- Memories from childhood

Memory

What you might notice :

- * Difficulty remembering names of staff
- * Difficulty remembering family members especially names of those seen less frequently (grandchildren, neices/nephews)
- * Difficulty recalling circumstances leading up to hospitalization
- * Asking the same question repetitively
- * Difficulty finding way back to room
- * Missing appointments such as therapy
- * Forgetting to take medications

Memory

How can you help?

- * Encourage use of memory aids- journal, sticky notes, planner, phone etc.
- * Update white board regularly, wear your name tag so it is easily visible
- * Store things in room in the same place, create a routine when possible
- * Post routine on bulletin board/wall visible to client
- * Provide information as simply and clearly as possible, ensure good attention before providing information
- * Have families bring in photos labeled with names/locations
- * Use signs or pictures as cues- post in places client will see them easily
- * Present new information one step at a time. Break tasks down into steps and present in correct sequence

Insight

- * Recognizing and understanding your abilities and limitations. Many clients may perform things unsafely due to a lack of insight. Different from stubbornness.

What you might notice:

- * Attempting to get up from bed/chair on own even though unable to walk
- * Frustration/anger - “I can do it myself”
- * Ignoring your directions

Insight

How can you help?

- * Make the environment as safe as possible- remove clutter, make a clear path to bathroom, use bed and chair alarms, seatbelt/tray on wheelchair
- * Have walking aids or other devices close at hand
- * Gently remind the client about the stroke and resulting impairment- avoid scolding
- * Provide the amount of supervision that is required- let them do the things they can do on their own, help with what they can't

Judgment

- * Making the right choices and decisions while being aware of one's own capabilities

What you may notice:

- * Choosing inappropriate clothing for temperature/activities
- * Discharge plans that do not match capabilities- ie. Saying they are going home alone when they are 2 assist transfer
- * Getting up on own when they are not safe to do so

Judgment

How can you help?

- * Discuss concerns about safety with team and family if appropriate (if client is not capable, need to get POA involved)
- * Do not place client in difficult or challenging situations as they may not be able to determine safe action
- * Maximize safety in client's environment- wheelchair brakes, walker close by

Impulsivity

- * Acting quickly without thinking things through. Usually related to problems with insight and judgment

What you might notice:

- * Moving too quickly, forgetting to use walking aid
- * Forgetting brakes on wheelchair before transferring
- * Saying things that are blunt/hurtful- first thing that comes to mind

Impulsivity

How can you help?

- * Encourage client to slow down
- * Give clear and specific instructions
- * Divide tasks into small steps- focus on one part at a time and ensure first step completed before moving onto the next one (ie. Brakes locked before start transfer)
- * Make environment as safe as possible- bed/chair alarms, tray/seatbelt on chair

Problem-Solving

- * The ability to recognize a problem and find a good solution. Problems with memory, sequencing, and insight all affect problem-solving abilities

What you might notice:

- * Difficulty initiating/completing tasks (don't know where to start)
- * Frustration/anger
- * Disorganization, poor sequencing of tasks (trying to put toothpaste on toothbrush without removing cap)

Problem-Solving

How you can help?

- * Break tasks down into steps. Focus on one step at a time
- * Provide pictures/simple words for steps to leave in room with correct sequence
- * Cue verbally to help client come up with solution (ie. Look at toothpaste, do you see something you need to do first)
- * Talk about different ways to approach problem- there is usually more than one solution

Perception

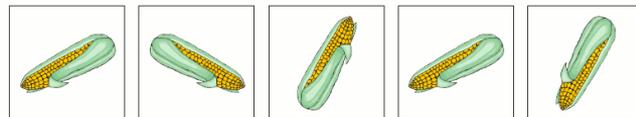
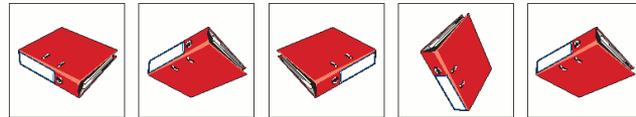
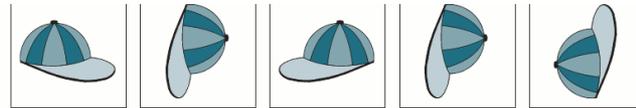
- * Perception is the mechanism by which the brain interprets sensory information (vision, hearing touch, taste, smell) received from the environment. It provides us with understanding about our environment
- * The perceived information is then further processed by the various cognitive functions and the individual may choose either to respond by a verbal expression or motor act, or to perceive and think about the observed stimuli.

Perception

- * Like Cognition, Perceptual problems are often invisible barriers. Perceptual problems can impact on function as much, and sometimes more than physical limitations
- * Caregivers, including staff often become frustrated as they expect too much of the client since they do not “see” a problem. Client often get labeled as unmotivated or “doing it on purpose”

Visual Perceptual Skills

- * Spatial Relations: How objects relate to each other and how we relate to objects in the environment



Visual Perceptual Skills

- * **Visual Closure:** the ability to visualize a complete whole when given incomplete information or a partial picture

Visual Perceptual Skills

- * Visual Figure-Ground: the ability to perceive and locate a form or object within a busy field without getting confused by the background or surrounding images.



Visual Perceptual Skills

- * **Visual Form Constancy:** the ability to recognize the fact that a shape remains the same despite changes in size, direction, orientation and distance.

Visual Perceptual Skills

- * Visual Discrimination: the ability to appreciate the differences and similarities in shapes, forms, colors, patterns, sizes, shapes, positions and orientations.

Visual Perceptual Skills

What you might notice:

- * Misjudging heights of steps/distances to objects
- * Pushing towards affected side during transfers
- * Knocking items over, missing chair when sitting down
- * Difficulty finding items in room
- * Difficulties with reading/writing

Visual Perceptual Skills

How can you help?

- * Encourage client to practise and repeat actions to become familiar with the activity and retrain the brain
- * Make environment as safe as possible, reduce clutter
- * Lay out materials for tasks such as ADLs to make it easier for client to find them
- * Talk with OT about possible strategies such as fluorescent tape, contrasting colours etc.

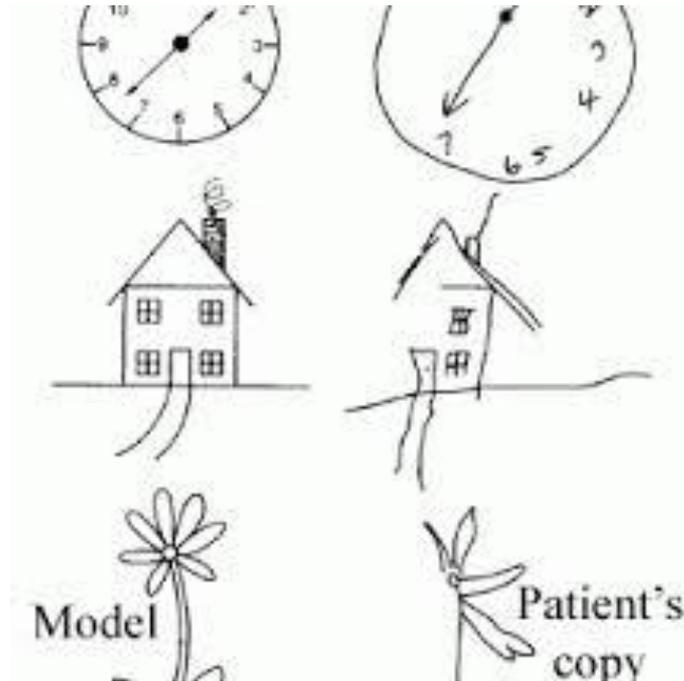
Inattention/Neglect

- * Decreased awareness of the body and environment on the side affected by the stroke. Can be visual neglect (not seeing) and/or body neglect (not feeling)

What you may notice:

- * Leaving food on one side of tray only
- * Looking to one side of room, sometimes so severe that they are twisting neck to the non-stroke side
- * Bumping into objects on affected side
- * Forgetting to dress/wash/groom one side of the body
- * leaving arm dangling during transfers

Inattention/Neglect



Inattention/Neglect

How can you help?

- * Arrange room to encourage stimulation on the affected side (ie. Window on that side, caregivers come to that side for care)
- * Approach from unaffected side to avoid startling client, then move to affected side to provide stimulation
- * Use visual cues such as orange tape at edge of bedside table to use as an anchor to look for before eating, grooming etc.
- * Encourage good scanning of environment prior to moving (lighthouse strategy)
- * Position affected arm where client can see it
- * Rub affected arm to stimulate sensation/awareness
- * Remind client to hold affected limb during transfers with physical and verbal cueing

Apraxia

- * Difficulty making purposeful movements, even though client has the physical ability and understanding to perform the task

What you may notice:

- * Trouble speaking
- * Trouble doing routine tasks such as grooming, dressing even though they have the range of motion and strength to do the task

Apraxia

How can you help?

- * Talk to team about best strategies for client
- * Use short and simple instructions to limit confusion
- * Break task down into simple steps and do the task the same way each time following these steps
- * Encourage repetition and practice of activities
- * Provide hand-over-hand guidance if necessary but do not do the task for the client

Agnosia

- * Inability to identify objects via visual input

What you may notice:

- * Using items the wrong way- ie. Brushing hair with toothbrush
- * Inability to find an object that you have asked them to get
- * Choosing wrong clothing items
- * Not completing tasks that you have asked them to do

Agnosia

How can you help?

- * Use other senses to identify object other than vision (ie. Tell them what type of bristles to feel for for brush vs. toothbrush or size)
- * Only present object that is required for task vs. laying out all items
- * Organize clothes by touch (different types of hangers for different clothes)

Final Tips

- * Be patient, cognitive/perceptual issues are frustrating for both the client and caregiver
- * Avoid taking over and doing everything for client as then they will not be able to improve
- * Slow things down- one step at a time
- * Limit distractions/noise to allow good focus/attention
- * Ask your friendly OTs for help!



Thanks for listening!