Visual Perception

Visual perception is the ability to interpret the surrounding environment by processing visual information. The visual system allows someone to acquire, interpret, select, and organize sensory information through the eyes.

Signs and Symptoms of Decreased Visual Perception

- Trouble sequencing steps during activities of daily living (ADLs), such as bathing, dressing, grooming tasks
- Difficulty writing, drawing, copying, or constructing designs
- Difficulty routing in the environment
- Difficulty finding something in a crowded area

Impact of Decreased Visual Perception on Daily Function

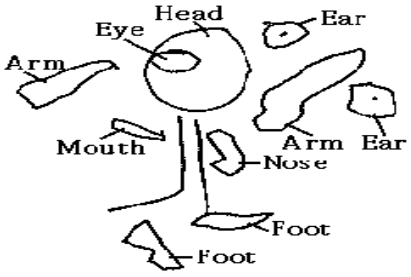
- Decreased safety awareness
- Decreased independence with activities of daily living (ADLs)
- Confusion of left vs. right
- Confusion of likes vs. differences

Common Visual Perceptual Disturbances

Following a head injury, an individual can have a variety of visual perceptual deficits which can directly affect their level of function and independence. The following define different categories of visual perception:

- *Body Image/Body Scheme*
    - Body Image: The visual and mental image of one's body
    - Body Scheme: Regulates the position of different body parts on one's body

- *Somatognosia*: Lack of awareness of body structure and failure to recognize one's body parts in relation to one another



- *Right-Left Discrimination:* Ability to understand left versus right

- *Unilateral Neglect:* Inability to integrate and use perceptions from the left side of the body or environment.

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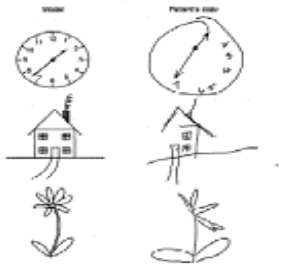

Spontaneous drawing:

- *Spatial Relations*: Perception of the position of two or more objects in relation to self and each other

- *Figure Ground Discrimination:* Ability to differentiate between the foreground and background

- *Position in Space:* Ability to interpret concepts of in-out, up-down, front-back

- *Topographical Orientation:* Ability to understand and remember relationships of places to one another

- *Apraxias*
    - Most often due to a lesion located in the left hemisphere of the brain, typically in the frontal or parietal lobes.
    - It should not be confused with ataxia, which is a lack of coordination of movements.
    - With apraxia, an individual might have the desire and the physical ability to do the movements, yet they are unable to due to disease or damage to the brain.
    - There are several types of apraxias:
        - Inability or difficulty to build, assemble, or draw objects- *Constructional Apraxia*
        - Inability to imitate gestures or spontaneously use tools or objects appropriately- *Ideomotor Apraxia*
            - Individuals know what they are supposed to do, but they are unable to execute the motion correctly.
            - Lack of motor movement patterns so purposeful tasks cannot be performed (Ex: Clumsy movement, awkward grasp, unable to wave goodbye)
            - May show errors in how they hold and move tools or objects (ie. Unable to use a comb to brush their hair)
        - Inability to plan movement related to an object because the perception of the object's purpose is lost- *Ideational Apraxia*
            - Individuals are not able to conceptualize or plan sequences of motor actions to use tools or objects appropriately (Ex: using a razor to brush teeth, putting deodorant to mouth)

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- *Agnosias*
  - It is the inability to process sensory information, despite an individual having intact senses.
  - There are several types of agnosias, including:
    - Inability to recognize objects through vision but can replicate it in a drawing- *Visual Agnosia*
    - Inability to recognize objects or forms by only touch- *Tactile Agnosia*
    - Inability to recognize differences in sound- *Auditory Agnosia*