



Approaching Neglect as Multidisciplinary Team

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Disclosures

We have nothing to disclose



Objectives

- Define neglect and different types of neglect
- Neglect and stroke location
- Neglect and functional outcomes
- Review of neural plasticity
- Physical therapy, occupational therapy, and speech therapy roles and treatments of neglect
- Applications for nurses



Defining Unilateral Neglect

- Deficit of attention
- Lack of response to visual or sensory stimulation on the affected side
- Differs from Hemianopsia
 - Patients with visual inattention/neglect miss visual information on one side of their body/environment but **do not** have vision loss

Subtypes of neglect

✧ **Personal** - Attends to only one side of body

- Wash/shave only one side of their face
- Abnormal sitting posture with their head turned away from the affected side of the body

✧ **Peripersonal** - Neglect to near space

- To neglect to do things such as eat from one side of the plate

✧ **Extrapersonal** - Neglect to “far” space

- Unaware of the environment on the affected side of the body





Question

- You notice your patient is sitting in a chair and their arm has dropped off the armrest. The patient does not notice. This is an example of....
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- A. Personal Neglect
 - B. Peri-personal Neglect
 - C. Extra-personal Neglect



Stroke Location and Neglect

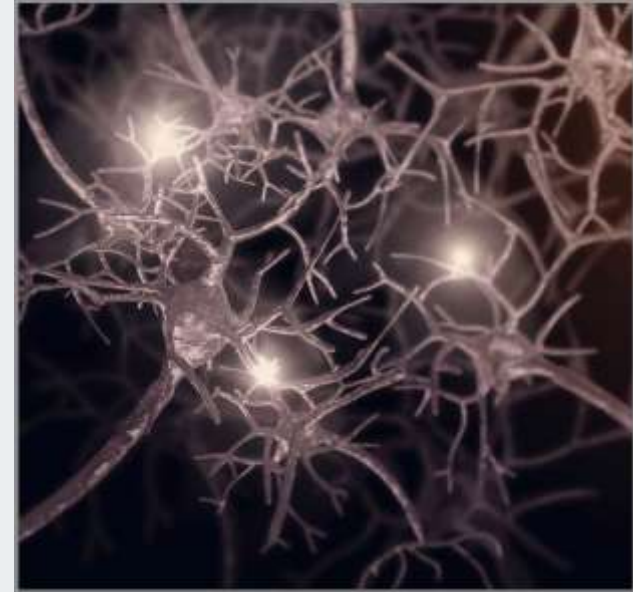
- Most commonly seen in 40-70% of R hemispheric strokes (MCA)
 - R posterior parietal cortex is postulated to be more dominant when it comes to spatial awareness
 - With L hemisphere involvement
 - Difficult to determine as patients may be aphasic and have difficulty following directions vs. true neglect
- Seen in both ischemic and hemorrhagic strokes
- Seen most commonly with R frontal, superior temporal, or posterior parietal lobe injury
 - Can also see with damage to basal ganglia or thalamus

Stroke Recovery and Neglect

- **Longer rehabilitation stays**
 - Longer for severe than for mild neglect
- **Increased risk for falls**
- **Worse functional independence at discharge than patients without neglect**
 - Particularly with self cares, transfers, and locomotion
- **Lower likelihood of home discharge**
 - Especially for patients with severe neglect
- Some patients are unaware of their neglect which can negatively impact rehab outcomes

Neural Plasticity

- Ability of the CNS to alter itself by reorganizing or creating new neuronal connections through learning and behavioral changes
- Injury to brain tissue leads to clearing of debris, remodeling, and production of new neuronal connections (Kleim 2008)





Neural Plasticity and Recovery Principles

- “Use it or lose it”
- Repetition of a new or re-learned skill over time helps drive neural changes and reorganization
- Early rehab helps (acute care setting)
 - Prevents early compensatory strategies that may discourage use and subsequent recovery of the affected side
- Engagement and motivation promotes stronger memory consolidation
- Age

Stoke Recovery is a Team Approach

- **Every patient interaction is an opportunity to help promote learning and early recovery!**





Timeline for Initiating Therapy

- An array of studies are conflicting and inconclusive related to how soon therapy should start
- No significant change in MRS scores were found by initiating therapy within the first 24 hours
- Early mobilization is primarily dependent on the hemodynamic stability
 - This is similar to criteria used for critically ill patients on ventilators



OT Role in Treatment of USN

Overall OT Goal for Neglect Patients:

Improve patient awareness of both sides of their environment to support self care independence



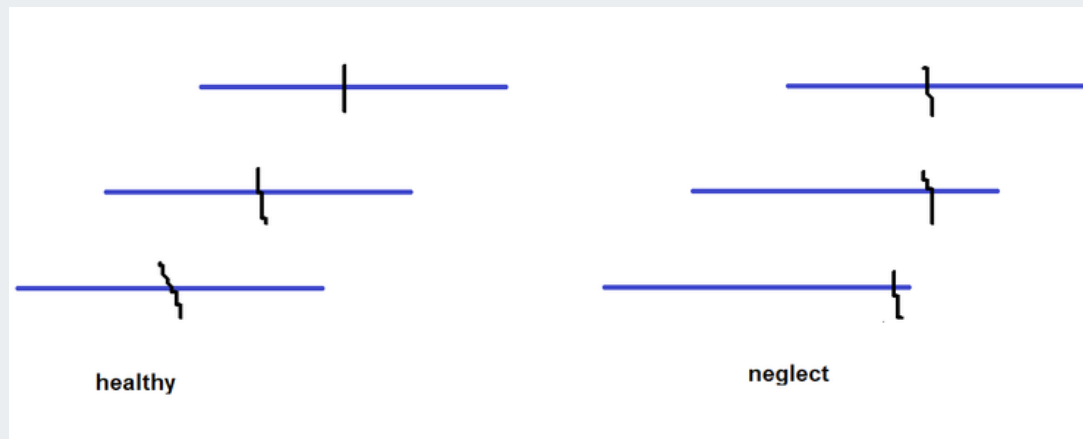
OT Assessment: How does neglect impact ADL performance?

& General Behavioral Assessment

- Poor eye contact/response to people on contralesional side
- Pt fails to care for affected side during self care
- Drops items (soap, utensils) on affected side. Does not notice

& Screening Tools

- Comb and Razor Test
- Line bisection/ star cancellation
- Catherine Bergego Scale



OT Treatment Interventions

■ Cueing to Improve Awareness

- Stand on the patient's affected side during grooming and verbally cue them to scan toward you to find items for the ADL task

■ Visual Scanning

- Create a contrasting outline on the patient's tray table and keep ADL items within it so the patient has a reduced, but defined area to scan for items
- Hemispatial Glasses, Prisms, or eye Patches

■ Limb Activation

- Tell the patient to use the unaffected side to reach for the affected UE and or cue them to use the affected side to reach for items versus the unaffected side

OT Treatment Interventions

- **Neck/Hand Vibration**

- Gently tap on the patients affected side while cuing them to use it during BADL tasks
 - TENS Unit
 - posterior cervical stimulation can be used in conjunction with functional tasks

- **Trunk Rotation**

- Gently rotate the patient's trunk toward the affected side while cuing them to imitate an ADL task that is set up on that side. This is a good opportunity to collaborate/co-treat with PT so they can work on balance/core activities



SLP Assessment

- **Clinical swallow**

- Patient eats only half of the food on their plate or are unable to find items they thought were on their plate/tray
- Pocketing of food or saliva in the affected cheek

- **Cognitive Communication Evaluation**

- The patient is unable to make sense of written information because they start or stop halfway through the line or page
- Can be completed informally or with standardized tests for cognitive communication (i.e. cognitive linguistic quick test)

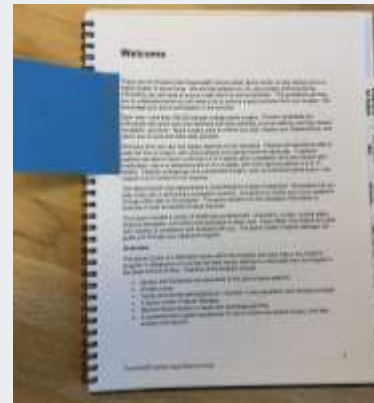


SLP Treatments for USN

■ Reading

– Anchors

- Use bright colors such as a highlighter, bright paper, or sticky note on the affected side of the paper to encourage left to right scanning
- Encourage the patient to use their finger or highlighter to direct their eyes to what they are reading



■ Meals

- Place utensils on the affect side and encourage visual scanning to find
- Encourage tongue sweep on affected side to prevent pocketing
- Recognize that although it is therapeutic to challenge the impaired side, complete really important tasks on the strong side to mitigate frustration





PT Goals in Treatment of USN

- **Improve patient awareness of both sides of their body and environment to promote safe transfers and locomotion**
 - Can the patient navigate around obstacles or through doorways in their room safely?
 - Can the patient transfer safely in different environments?

PT Assessment of USN

■ **Observation of mobility**

– **Bed mobility**

- Is the patient only moving one arm and leg off the edge of the bed?

– **Transfers**

- Does the patient have difficulty transferring one direction because they can not see the location they are transferring to?

– **Locomotion**

- Is the patient running into doorways or bumping into objects on their affected side?



PT Interventions

- **Visual scanning (Lighthouse scanning)**
- **Trunk rotation/reaching tasks**
 - Reaching/rotating towards neglected side to reach for objects/touch targets
- **Transfers**
 - Cues to look at destination and plan hand placement, or visualize and verbalize sequencing prior to transfer
- **Locomotion**
 - Visual scanning for targets while ambulating (may need to start in an environment with fewer distractions)
 - Bright colored tape/objects/signs, bright lights, sounds help draw attention to neglected side



Applications for Nurses

■ **Ambulation**

- may note the patient's hand drops off the walker while attending to other tasks, or run into the wall because they don't see the edge of the doorway
- Have the pt stop and regroup to both their personal and extra-personal environment before continuing

■ **Bed mobility**

- use verbal, auditory, and visual cues to help the patient find the bed rail to reach so they can help with rolling (practices visual scanning and trunk rotation)



Applications for Nurses

- **Positioning during patient interactions**
 - Stand just past midline on their neglected side to encourage scanning
- **Self Feeding**
 - Watch for Pocketing
 - Tray setup
 - Minimize distractions/background noises so they can focus on scanning/using targeted strategies





Applications for Nurses

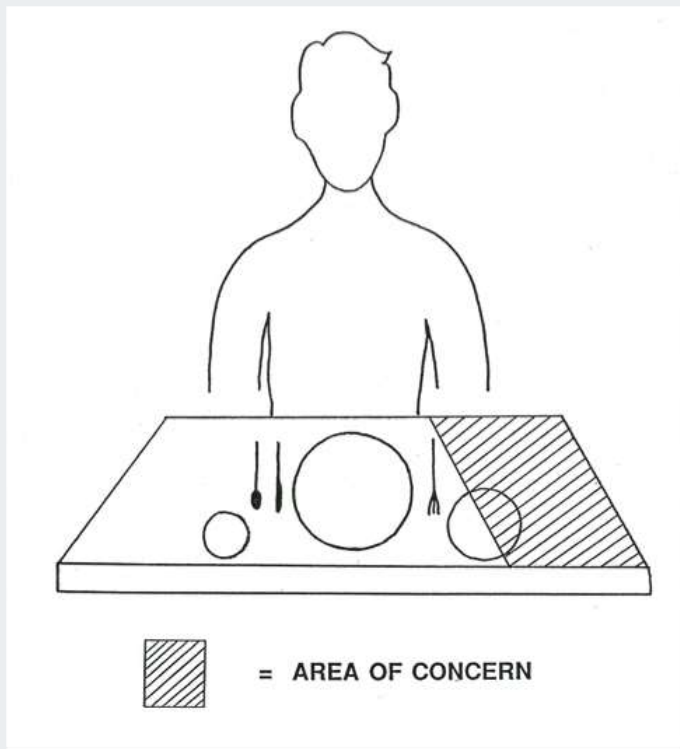
- **Upper Extremity placement/positioning**
 - Use of hemi or Give Mohr slings if paresis is present
 - make sure UE on the affected side is properly positioned during bed mobility and transfers
 - Place call light and table with personal items are on their unaffected side
- **Family Education**
 - Educate family on what neglect is





Examples of Signs for Patient Care

Left Field Cut Mealtime Set Up



PATIENT: _____

THERAPIST: _____

EXTENSION: 6362

THERAPY SERVICES

Bed Positioning for Left Hemiplegia

PURPOSE:

- Prevent development of joint pain.
- Normalize muscle tone.
- Control/manage hand edema.
- Comfort.

LYING ON INVOLVED SIDE

**Preferred position

- Involved shoulder protracted, external rotation (gentle cupping of scapula to protract).
- Involved leg extended.
- Uninvolved hip and knee: slight flexion, on pillow.



LYING ON UNINVOLVED SIDE

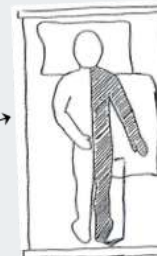
- Involved shoulder protracted, arm on folded bath blanket or pillow.
- Involved hip and knee: slight flexion, on pillow.



LYING SUPINE

(Least desirable position)

- Folded bath blanket or pillow under involved shoulder and arm.
- Hand higher than arm – may need additional positioning.
- Rolled-up blanket – lengthwise against involved leg to prevent external rotation.



- BackCare Physical Therapy 541-222-7550
- Inpatient Therapy, RiverBend 541-222-5430
- Oregon Rehabilitation Center 541-686-7363

- Barger Physical Therapy 541-241-8410
- Inpatient Therapy, University District 541-686-7363
- Orthopedic Sports & Spine Therapy 541-686-8945
- Outpatient Therapy, RiverBend Pavilion 541-222-6360
- Outpatient Rehabilitation Services 541-686-7085



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Question

Your patient is trying to walk to the bathroom, but runs into the wall instead because they cannot see the opening to the doorway on their neglected side. You....

- A. Let them keep running into the wall until they figure it out or give up
- B. Move the walker or help move them in the direction of the open door
- C. Ask the patient to stop, cue them look both directions, and problem solve the solution



Summary

- There are 3 types of neglect that can affect pt function
- Left unilateral neglect is most common and leads to longer rehab stays, worse functional outcomes, increased risk for falls and decreased likelihood of discharge home
- With a team approach, we can maximize our impact on neural plasticity and recovery in this population



Thank You

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Questions

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