Neuro Assessment Beyond the Modified NIHSS

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Objectives

1. Review the purpose of the frequent and ongoing neuro assessments in patients with stroke.

2. Discuss options for developing tools that accurately capture components of the neuro assessment beyond the mNIHSS.

Presenter Disclosure Information

Neuro Assessment Beyond the mNIHSS

- Eileen Hawkins
  - Financial Disclosure: No relevant financial relationship exists

- Dawn Beland
  - Financial Disclosure: No relevant financial relationship exists

# of assessment components, is there consistency throughout your ...ring the performance and documentation of your standard neuro ass... ... patients with stroke or does it vary by unit, criticality, stroke type, electro... documentation limitations, or other factors?

Yes, components of the standard neuro assessment are defined and neuro assessments are consistently performed and documented.

Yes, components of the the standard neuro assessment are defined but the performance and documentation of neuro assessments still vary widely due to a variety of potential factors.

No, there is no defined standard neuro assessment and the performance and documentation of neuro assessments vary widely in terms of quality and consistency.

...o idea if there is a policy or defined standard. I just do what I consider to be a neuro assessment.

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What are the purposes of frequent and ongoing neuro assessments in patients with stroke?

- To monitor for acute deterioration
- To monitor for improvement or decline in function
- To ascertain each patient's *specific* assessment abnormalities and functional deficits to direct our *individualized* plan of care

Neuro Assessments in Stroke – Best Practices

- Should be performed with the frequency prescribed in protocols
  - CPG recommendations

Neuro Assessments in Stroke – Best Practices

- Should be defined to promote consistency. Do factors such as criticality, stroke type, unit protocols and/or electronic documentation limitations impact the neuro assessment that is performed?
  - If so, define the assessment(s) to be performed under variable circumstances.
  - Perhaps the “neuro check” in the immediate post-tpa period is not the same “neuro check” performed on Day #4 when patient patient is stable on Q4-8 hour “checks”.

Neuro Assessments in Stroke – Best Practices

- Should be meaningfully and accurately *performed*
  - RN education on neuro assessment techniques, components and pathophysiology

Neuro Assessments in Stroke – Best Practices

- Should be meaningfully and accurately *captured* within a tool that permits capture of patient-specific deficits
  - If the tool does not allow for capture of a deficit, there may indeed be no monitoring of that deficit.
  - The descriptors under an assessment component should accurately define the findings.
    - Options available under "*Speech*" should include descriptors i.e., *clear, garbled, unintelligible*. "*Expressive aphasia*" does NOT belong there but should instead fall under the component of *"Language*".
    - The sensory loss accompanying a stroke syndrome should not have to be captured and inaccurately described under spinal cord dermatomes or peripheral nerve distributions.

Neuro Assessments in Stroke – Best Practices

- Tools would ideally not be fragmented in order to promote ability to observe decline or resolution over time.
  - The need to open a separate "*Cerebellar*" tab to capture ataxia or a "*Cranial Nerve*" tab to capture impaired eye movements may not facilitate consistency in assessment or promote facility in observing decline or improvement by viewing the tool.

Neuro Assessments in Stroke – Best Practices

- Assessments should drive the plan of care for the entire team.
  - The patient with imbalance from ataxia & vertigo, and blurry vision from impaired eye movements has a different plan of care than the patient with severe aphasia and dense hemiparesis.

My “take-away”

- There may be a place for improvement in the quality of:
  - your actual assessments
  - the accuracy of documentation of deficits, and/or
  - the tool(s) utilized to capture deficits

If you review your stroke patient’s “routine” neuro assessments within your record and discover:

- It looks like he is 100% neurologically normal, and he *so* IS NOT
- You have no idea what the true nature of deficits are because the description under the component is imprecise or simply inaccurate
- You have no idea if the patient has improved or declined since admission because everyone is capturing (or not capturing) different aspects of the assessment with variable precision

ndard neuro assessment is done by nurses in your facility when th needs frequent signs?

The full NIHSS

A modified NIHSS

BE FAST

GCS

Facility specific set of assessments

Other

There is no standard neuro assessment at our hospital

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Now that we know the Why, let's discuss the What….

- Most do some form of a mNIHSS.
- Many different versions of the mNIHSS exist.
- Most drop LOC 1a (wakefulness), facial, ataxia, dysarthria and the sensory item is simplified.
  - These changes improve the reliability and validity of the mNIHSS compared to the full NIHSS.
- But do these assessments cover all the possible deficits patients with stroke may present with?

Meyer, BC and Lyden, PD. The Modified National Institutes of Health Stroke Scale (mNIHSS): Its time has come. *Int J Stroke*. 2009 August; 4(4): 267-273.

How much is enough?

- And of course, we have all the time in the world for frequent assessments….
- If the purpose of nursing assessments is to determine whether the patient is deteriorating, stable or improving
  - How can we tell if the patient is changing without checking?
  - Is there room for standardized assessments as well as optional ones when needed?

Yes!

- We propose that to exist in the real, busy world of hospital based nursing, we must critically evaluate the specific assessments done for each patient on an individual basis.
- But we need a structure in which to do this so it can be documented consistently (policy, tool, guideline)
- JC standards for stroke center certification require assessment of the deficits the patient presents with, i.e., the assessments must match the patient's needs.
  - e.g., monitoring GCS, pupillary function, LOC and motor function does little to capture the decline or resolution of visual field deficits, sensory loss, dysarthria, aphasia, or neglect observed in large MCA stroke.

Yes!

- Furthermore, neuro assessments for patients with stroke at certified stroke centers should be beyond rudimentary

AND

- Drive the individual plan of care for each patient. That is best practice. That very important aspect of nursing care is one of the distinguishing features of a certified stroke center.

How is this defined?

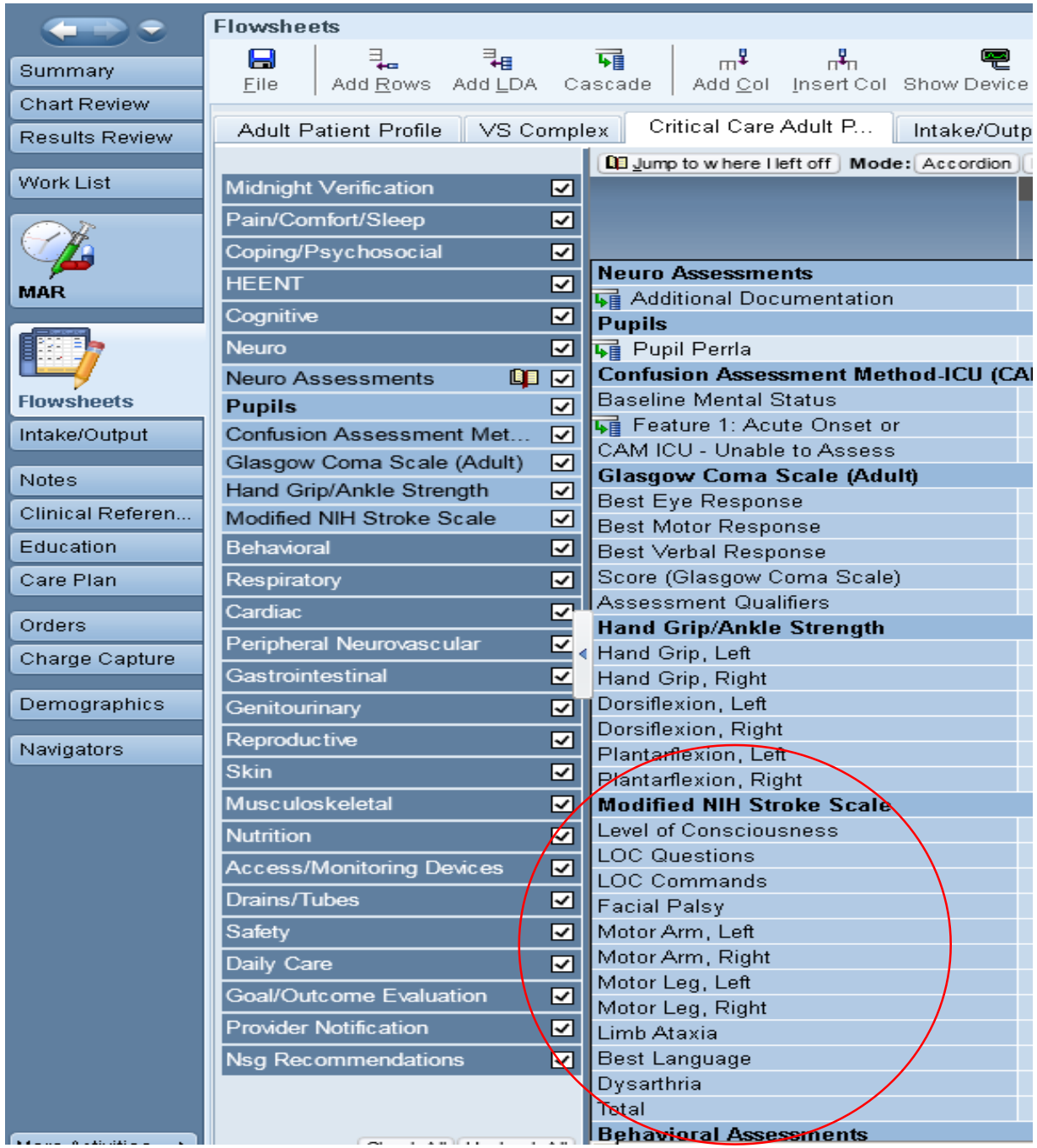
- One option is to review the H&P done on admission to note the presenting deficits.
- Deficits that the patient presents with need to be re-evaluated on a frequent and routine basis.
  - This is especially true for the patients who have received treatment – either IV tPA or EVT.
- Many patients' deficits will be covered within the mNIHSS but how do we manage those that aren't?

How can we incorporate other abnormalities?

- Continue to use the mNIHSS or other assessment as defined by your facility for every patient, every assessment
- AND create an ‘other abnormalities’ field (or a better name…) only to be used when the patient presents with a deficit not covered by your current mNIHSS and only completed for the deficit not covered.
- This would individualize care

So what's missing from your mNIHSS?

- If ataxia is removed as suggested, how will changes in posterior circulation be assessed?
- Is a field cut the only thing important with vision? What about diplopia?
  - Visual or Eye assessment could include:
    - Double vision
    - Field cuts
    - Gaze deviation
- Dizziness?



If your current mNIHSS is like ours, then…

Modified NIH Stroke Scale
Level of Consciousness
LOC Questions
LOC Commands
Facial Palsy
Motor Arm, Left
Motor Arm, Right
Motor Leg, Left
Motor Leg, Right
Limb Ataxia
Best Language
Dysarthria
Total

New fields

Additional assessments to add

- Visual assessment
  - Double – yes/no
  - Field cut
    - Left
    - Right
  - Gaze deviation
- Dizziness
  - Present
  - Absent

- Unilateral Sensory Change

(repeated for face, arm and leg)

  - Left/right
  - No deficit
  - Diminished sensation
  - Absent sensation
- Neglect
  - Yes/No
  - Left/Right

One option

HEENT WDL	
HEENT	
Vision Aid	
Hearing Aids/Devices Care	

Eye WDL	
Eye WDL	
Left Vision Change	

Sensory Assessment	
Light Touch	
LUE Light Touch	
RUE Light Touch	
LLE Light Touch	
RLE Light Touch	
Head/Neck Light Touch	

Sensory Assessment	
Neglect	
LUE Neglect	
RUE Neglect	
LLE Neglect	
RLE Neglect	
Head/Neck Light Touch Neglect	

Dizziness

Left Vision Change

Select Multiple Options: (F5)

- blind
- blurred vision
- double vision
- partial vision field
- sees halos around light
- sees spots
- vision change denied
- fixes and follows
- other (see comments)

Comment (F6)

LLE Light Touch

Select Single Option: (F5)

- WNL
- mild impairment
- moderate impairment
- severe impairment
- absent sensation
- not tested
- other (see comments)

Comment (F6)

Select Single Option: (F5)

- 0=absent
- 1=present in one limb

Final Notes

- Individualize assessments based on your patient's presentation.
- Consider defining your "routine" neuro assessment(s) for patients with stroke in order to promote quality and consistency in practice.
- Use your current tools as the standard of care. Modify if indicated.
- Add additional fields that are optional, only to be completed when the patient's presenting deficits indicate.