Canadian Neurological Stroke Scale (CNSS)

Assessment in Acute Stroke

Objectives

- By the end of this presentation you should:
- Understand what the CNSS is
- Be able to perform the CNSS
- and be able to differentiate between the Glasgow Coma Scale, the NIHSS and the CNSS.

Canadian Neurological Stroke Scale

- Measures *deficits* due to stroke
- Allows earlier detection of deterioration
- Measures
  - 6 items
  - Impairment or physiological deficits
- Scoring
  - 1.5 – 11.5 score
  - Lower score indicative of greater neurological deficit

How to complete the Canadian Neurological Stroke Scale

Assess: Vital Signs and Pupils

- Vital Signs: BP, Temp, Pulse, Respirations, Oximetry
- Pupils: Size and reaction to light

Section A: Mentation

Includes Level of Consciousness, Orientation, Expressive and Receptive Speech

<u>Level of Consciousness:</u>

Alert (Score = 3)

Drowsy (Score = 1.5)

- patient remains awake & alert for short periods of time when stimulated verbally, but tends to doze off

Mentation cont'd

Orientation:

*Patient can speak, write or gesture their responses *

Place (where) – city or hospital

Time (when) – month & year

Oriented (Score = 1.0)

- correctly states both place, month & year

Disoriented (Score = 0.0)

- any one or all answers are incorrect

Mentation cont'd

Speech:

Receptive – Ask patient the following separately (do not prompt by gesturing)

(1) Close your eyes

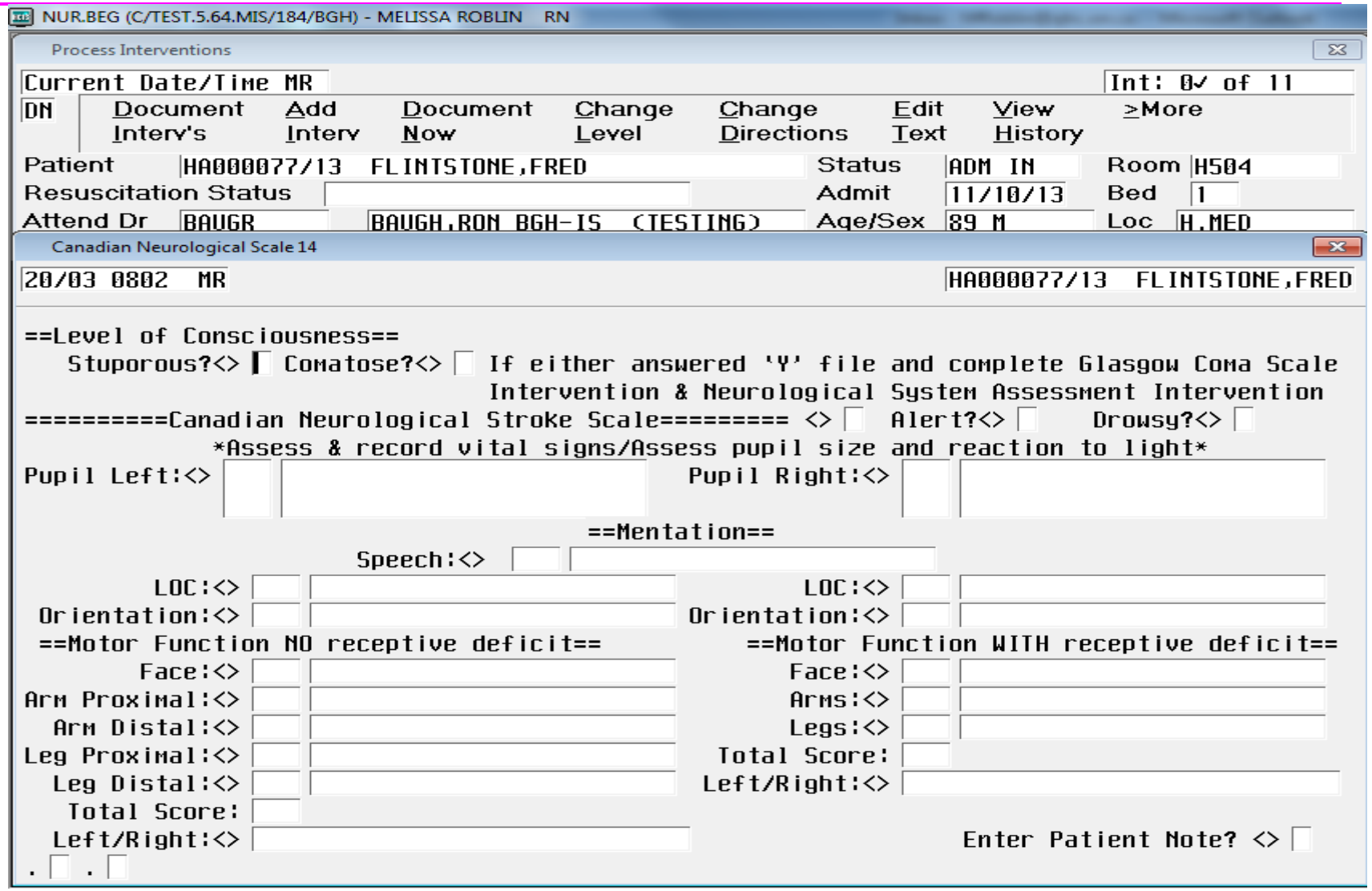
(2) "Does a stone sink in water?"

(3) Point to the ceiling

Receptive deficit – If patient is unable to do all three, Receptive deficit, (Score = 0.0), proceed to A2 Motor Response

No receptive deficit – proceed to assess expressive speech

E-doc Screen


NUR.BEG (C/TEST.5.64.MIS/184/BGH) - MELISSA ROBLIN RN
Process Interventions
Current Date/Time MR
Int: 0✓ of 11
DN
Document Interv's
Add Interv
Document Now
Change Level
Change Directions
Edit Text
View History
>More
Patient HA000077/13 FLINTSTONE,FRED
Status ADM IN
Room H504
Resuscitation Status
Admit 11/10/13
Bed 1
Attend Dr BAUGR BAUGH,RON BGH-IS (TESTING)
Age/Sex 89 M
Loc H.MED
Canadian Neurological Scale 14
20/03 0802 MR
HA000077/13 FLINTSTONE,FRED
==Level of Consciousness==
Stuporous?<>
Comatose?<>
If either answered 'Y' file and complete Glasgow Coma Scale Intervention & Neurological System Assessment Intervention
==========Canadian Neurological Stroke Scale========= <>
Alert?<>
Drowsy?<>
Assess & record vital signs/Assess pupil size and reaction to light
Pupil Left:<>
Pupil Right:<>
==Mentation==
Speech:<>
LOC:<>
Orientation:<>
==Motor Function NO receptive deficit==
Face:<>
Arm Proximal:<>
Arm Distal:<>
Leg Proximal:<>
Leg Distal:<>
Total Score:
Left/Right:<>
LOC:<>
Orientation:<>
==Motor Function WITH receptive deficit==
Face:<>
Arms:<>
Legs:<>
Total Score:
Left/Right:<>
Enter Patient Note? <>

Mentation cont'd

Speech:

Expressive –

(1) Show patient 3 items separately (pencil, watch, key) and ask them to name each object.

(2) Ask patient what each object is used for while holding it up again, i.e. "What do you do with a pencil?"

Normal speech: able to state the name & use of all 3 objects (score = 1.0)

Expressive deficit unable to state the name & use of all 3 objects (score = 0.5)

A1: Motor Function (No Receptive Deficit)

Face: Ask patient to smile/grin, note weakness in mouth or nasal/labial folds (facial droop)

None/no weakness (Score = 0.5)

Present/weakness (Score = 0.0)

A1: Motor Function Scoring
No Receptive Deficit

Test both limbs and record the affected side

None (1.5); no weakness present.

Mild (1.0); full ROM, cannot withstand resistance.

Moderate (0.5); some movement, not full ROM.

Complete (0.0); complete loss of movement, total weakness.

A1: Motor Function
No Receptive Deficit

Arms:

Proximal – Ask pt. to lift arm 45-90 degrees & apply resistance between shoulder & elbow

Distal – Ask pt. to make fist & flex wrist backwards, apply resistance between wrist & knuckles


Proximal Arm –
raise to 90°


Distal arm – dorsi-
flex wrist

A1: Motor Function
No Receptive Deficit

Legs:

Proximal – In supine position, ask pt. to flex hip to 90 degrees, apply pressure to mid thigh

Distal – Ask pt. to dorsiflex (toes to ceiling), apply resistance to top of foot


Proximal leg – hip to 90°

Distal leg –
dorsi-flex ankle

A2: Motor Response (Receptive Deficit)

Face: Have pt. mimic your smile. If unable, note facial expression while applying sternal pressure

Symmetrical (Score 0.5), Asymmetrical (Score 0.0)

Arms: Demonstrate or lift pt's arms to 90 degrees, score ability to maintain equal levels (>5 secs)

Legs: Lift pt's hip to 90 degrees, score ability to maintain equal levels (>5 secs), if unable to maintain raised position, apply nail bed pressure to assess reflex response

Limbs – Equal strength (Score 1.5), Unequal (Score 0.0)

Remember

- Test both limbs and record the affected side

Total Scoring

Section A: Mentation

+

A1: Motor Function (no receptive deficit)

OR

Section A: Mentation

+

A2: Motor Function (receptive deficit)

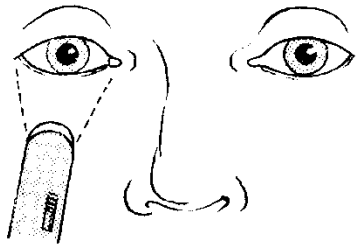
Total max. score = 11.5 Total min. score = 1.5

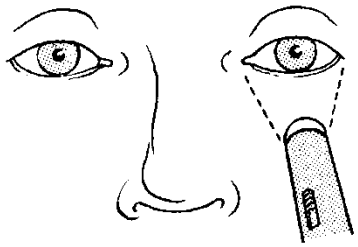
Interpreting the Score

If there is:

- a decrease of > 1 point and/or
- changes noted in pupil size or reaction to light or
- changes in vital signs

Notify MD STAT





Glasgow Coma Scale

- Measures
  - 3 items: eye opening response, verbal response, motor response
  - Level of consciousness or coma

- Scoring
  - 3 (worst) - 15 (best) score
  - Lower score indicative of greater neurological deficit
  - Scores of 3-8 usually indicate coma

- Characteristics
  - Standardized tool for assessing level of consciousness (LOC)
  - Not felt to be sensitive enough for stroke patients who do not have impaired LOC

Summary

- The Canadian Neurological Stroke Scale (CNSS) should be administered to all acute stroke patients on admission, as per MD's orders and with any change in condition/deterioration
- The Glasgow Coma Scale should not be used in place of the CNSS and should only be used as an assessment of level of consciousness with stuporous or comatose patients
- The CNSS is an accurate and quick way to address early changes in a patient's condition
- Ensure CNSS started *PRIOR* to starting tPA infusion

National Institute of Health Stroke Scale (NIHSS)

Interpretation of Physician Assessment in Acute Stroke

What is the NIHSS…and why do we use it?

- Standardized stroke severity neurological scale intended to describe the neurological deficits found in stroke patients.
- Industry standard that allows us to:
  - Quantify our clinical exam;
  - Determine if the patient's neurological status is improving or deteriorating;
  - Provide for standardization; and
  - Communicate a patient's status
  - Integrates components of neurological exam
  - Includes testing of select cranial nerves, motor, sensory, cerebellar, inattention (neglect), language and LOC

Resources

www.rnao.org

- Download the RNAO Best Practice Guideline: Stroke Assessment Across the Continuum of Care (June 2005)

http://www.strokecenter.org/trials/scales/index.htm

- Access copies of the Canadian Neurological Scale, the NIHSS and the GCS

- Melissa Roblin Stroke Resource Nurse at QHC