

## NIHSS Assessment in the Complex Patient



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Deborah Lynch has disclosed that there is no actual or potential conflict of interest in regards to this presentation  
The planners, editors, faculty and reviewers of this activity have no relevant financial relationships to disclose.  
This presentation was created without any commercial support.

# Learning Objectives

**At the conclusion of this course participants will be able to:**

- ▶ **Identify areas of the NIHSS that are most problematic with regards to uniformity**
- ▶ **Demonstrate how to score the patient who is aphasic using NIHSS**
- ▶ **Implement scoring techniques for the patient who is encephalopathic, using NIHSS**

# 1a-Level of Consciousness

- ▶ **0- alert**
  - ▶ **1-not alert, but arousable by minor stimulation**
  - ▶ **2-not alert; requires repeated stimulation to attend**
  - ▶ **3- responds only with reflex motor or autonomic effects**
- 

# Patient #1- Mixed Aphasia



# Patient #2- Low level of arousal



# 1b-Level of Consciousness Questions

- ▶ **What month is it?**
- ▶ **How old are you?**
  
- ▶ **0- answers both questions correctly**
- ▶ **1- answers one correctly**
- ▶ **2-answers neither correctly**



# Patient #1- Mixed Aphasia

- ▶ **Guttural sounds**
- ▶ **Frustrated**
- ▶ **Few spoken words but non-sensical**

**Asked to nod if it's:**

- ▶ **March, April, or June**
- ▶ **Are you**
  - **70?**
  - **72?**
  - **75?**

# Patient #2 Low level of arousal

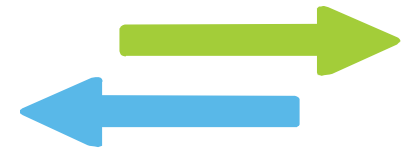
- ▶ **No response to questions asked**





# 1c-Level of Consciousness Commands

- ▶ **Open and close your eyes**
- ▶ **Grip and release your hand**
  
- ▶ **0-performs both tasks correctly**
- ▶ **1- performs one task correctly**
- ▶ **2-performs neither task correctly**



# Patient #1- Mixed Aphasia

- ▶ **She can close her eyes and open them, to command**
- ▶ **She cannot make a fist, to command**

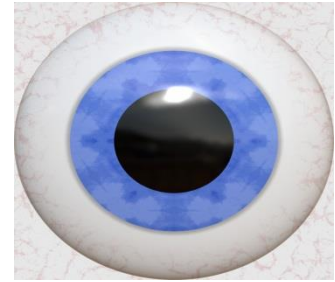


# Patient #2: Low level of arousal

- ▶ **Can squeeze hand to command**
- ▶ **Cannot follow other simple commands**



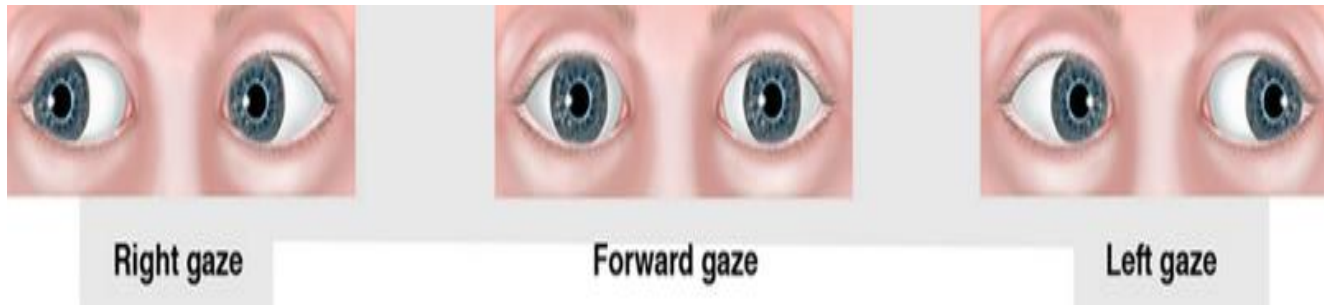
## 2- Best Gaze



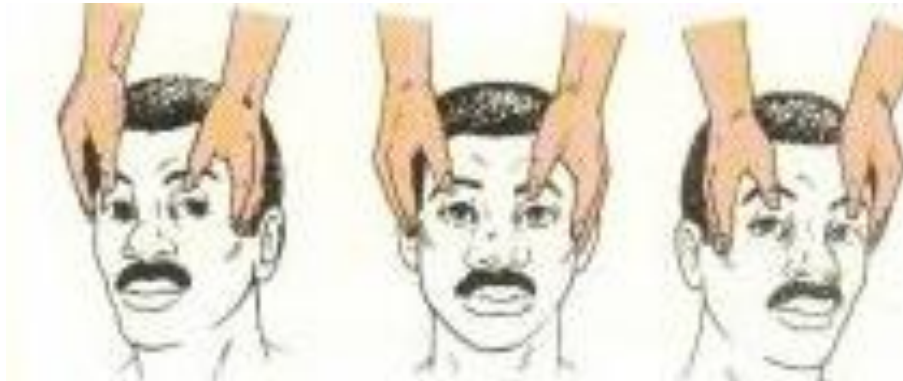
- ▶ **0- normal**
  - ▶ **1- Partial gaze palsy**
  - ▶ **2- Forced deviation or total gaze paresis**
- 
- ▶ **Patients with conjugate deviation overcome by voluntary or reflexive activity) and those with isolate peripheral nerve paresis are scored 1**

# Patient #1: Mixed Aphasia

- ▶ **Using confrontation with eyes directed into patient's eyes**
- ▶ **She is able to follow right and left with conjugate eye movements**

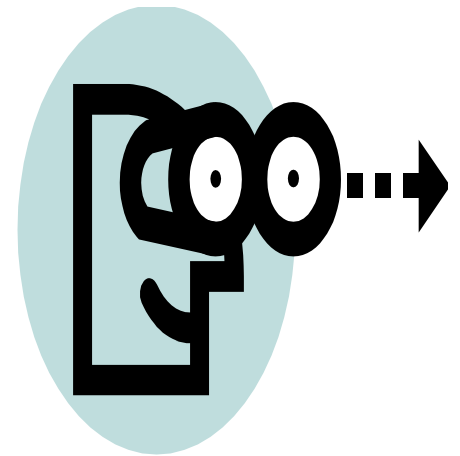


# Patient #2: Low level of arousal



# 3-Visual Fields

- ▶ **Confrontation, finger counting or visual threat (upper and lower quadrants)**
- ▶ **0- no visual loss**
- ▶ **1- partial hemianopia**
- ▶ **2- complete hemianopia**
- ▶ **3- bilateral hemianopia**
- ▶ **Score 1 for extinction and record in item 11; Blind pts are scored 3**



# Patient #1: Mixed Aphasia

- ▶ **Use of Visual Threat:  
Blinks in both eyes**

**BLINK      BLINK**



## Patient #2: Low level of arousal

- ▶ **Use of Visual Threat:  
Blinks in one eye only**

# 4-Facial Palsy

- ▶ **0- normal symmetry**
- ▶ **1- minor paralysis (asymmetrical smile, flattened nasolabial fold)**
- ▶ **2- partial paralysis (lower face)**
- ▶ **3- complete paralysis**

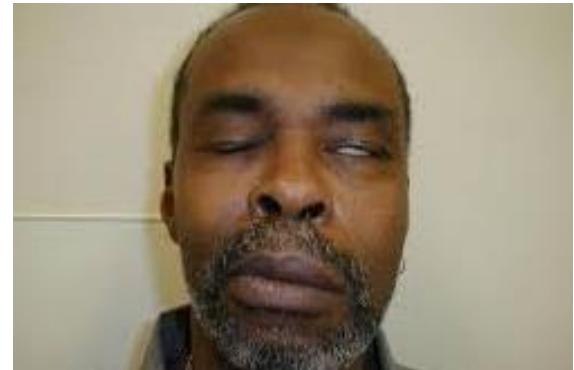


# Facial Asymmetry

- ▶ **Patient #1-aphasia**



- ▶ **Patient #2- low arousal**



# 5-Motor Arm

- ▶ 0- no drift
- ▶ 1- drift
- ▶ 2- some effort against gravity
- ▶ 3- no effort against gravity
- ▶ 4- no movement
- ▶ UN- amputation



# Patient #1 : Aphasia

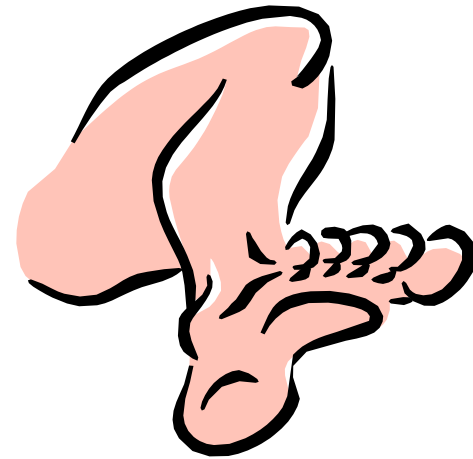
## ▶ **Demonstration**

# Patient #2 : Low Level of Arousal

## ▶ **Demonstration**

# 6-Motor Leg

- ▶ 0- no drift
- ▶ 1- drift
- ▶ 2- some effort against gravity
- ▶ 3- no effort against gravity
- ▶ 4- no movement
- ▶ UN- amputation



# Patient #1 : Aphasia

## ▶ **Demonstration**

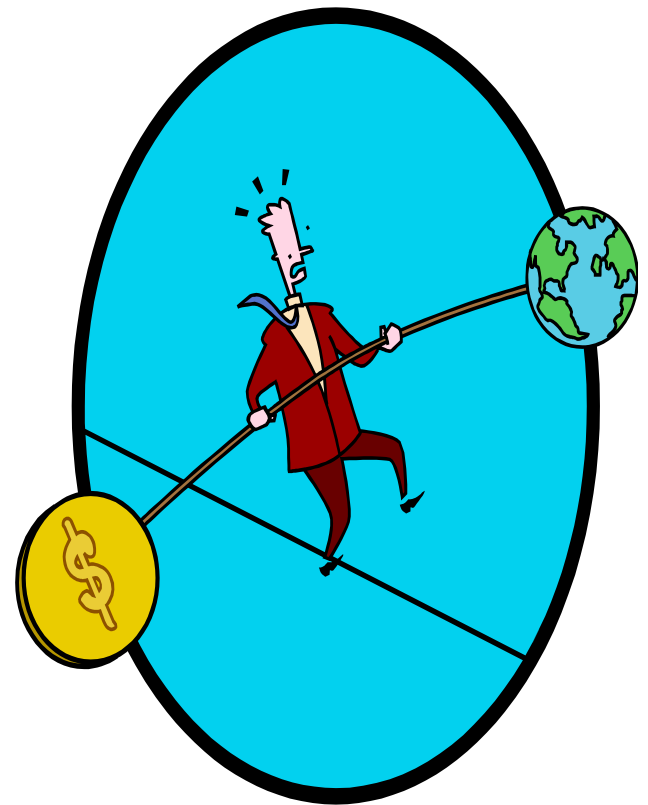


# Patient #2 : Low Level of Arousal

## ▶ **Demonstration**

# 7-Limb Ataxia

- ▶ 0– absent
  - ▶ 1– present in one limb
  - ▶ 2– present in 2 limbs
  - ▶ UN– amputation
- 
- ▶ Score 0 for pts who are paralyzed or cannot understand



# Patient #1: Aphasia



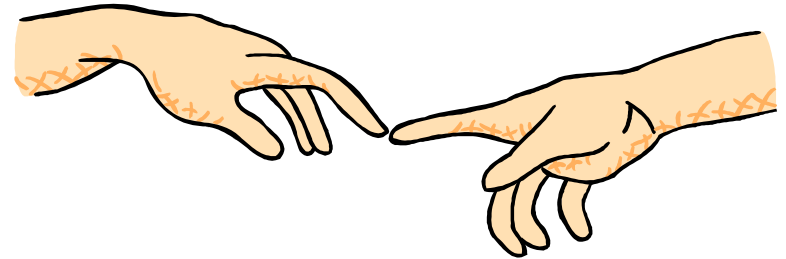
# Patient #2 Low level of arousal

- ▶ **No response to commands**



# 8-Sensory

- ▶ **0- normal**
- ▶ **1- mild to moderate loss**
- ▶ **2- severe to total sensory loss**



- ▶ **Stuporous and aphasic pts are scored 0 or 1. Comatose pts are scored 2.**

# Patient #1 : Aphasia

## ▶ **Demonstration**

# Patient #2 Low level of arousal

## ▶ Discussion



# 9-Best Language

- ▶ **0- no aphasia**
  - ▶ **1- mild to moderate**
  - ▶ **2- severe**
  - ▶ **3- mute**
- 
- ▶ **Comatose pts are scored 3**





# Patient #1 : Aphasia

- ▶ **Can point to common objects:**
  - feather, chair, key, glove
- ▶ **Use of non-sensical words when describing picture**
- ▶ **Cannot read**

# Patient #2 Low level of arousal

## ▶ Discussion



# 10-Dysarthria

- ▶ **0- normal articulation**
- ▶ **1- mild to moderate dysarthria**
- ▶ **2- severe dysarthria**
- ▶ **UN- intubated**



# Patient #1 : Aphasia

## ▶ **Demonstration**

# Patient #2 Low level of arousal

## ▶ Discussion



# 1 1-Extinction and Inattention

- ▶ **0- no abnormality**
  - ▶ **1- visual, tactile, auditory, spatial or personal inattention**
  - ▶ **2- profound hemi-inattention or extinction to more than one modality**
- 

#1: Aphasia &

#2 Low level of arousal

# ▶ Discussion

