Neurologic Examination

Mental status exam:

1. MMSE: normal 27-30
   - Orientation= 10
     - State, city, county (Harris), hospital, floor
     - Month, day of the week, date, year, season
   - Registration (3 objects) =3
   - Concentration: WORLD backwards or serial 7s =5
   - Recall= 3, with prompting
   - Language: naming=2, repetition (No, if's, ands, or buts) = 1,
     - 3 steps command (take this paper, fold into half, and put it on the ground)= 3
     - Write a complete sentence= 1, read this sentence and do what it says =1
   - Intersecting pentagon= 1

2. Mental status description: alert, drowsy/lethargic, stupor, coma. No consensus on these terms. Therefore, it is better to describe it for the patient care purpose. Ex. Open eyes with loud voices but does not follow 1 step command, track faces, blink to threats, non-verbal.

3. Language: fluency, naming, repetition, comprehension, reading, writing

4. Hemineglect: double simultaneous test, intersect lines, draw a clock

Cranial Nerves:

1. Pupils 5mm->3mm equal and reactive (II/III), EOM, visual acuity, nystagmus, visual fields, sensation to LT/PP, facial movements, hearing to finger rubs, palate elevation, head turning , and tongue protrusion

2. Fundoscopic examination, corneal reflexes (V/VII), Gag (IX, X), vestibule-ocular reflex (VIII, VI, III),

Motor:

1. Strength: 5= full, 4= against some resistance, 3= fully anti-gravity, 2= movements with gravity eliminated, 1= muscle contractions, 0= flaccid.

2. Pronator drifts: for subtle weakness

3. Tone, tremor, muscle bulks, fasciculations

4. Describe muscle strength according to the patterns of weakness such as proximal/distal or L4/L5 distributions.

Sensation:

1. Pinprick, temperature, light touch, vibration (128Hz), proprioception

2. Sensory level to look for spinal cord process

3. Response to pain in coma/ stupor patients: grimace, localize, withdraw, flexor posture, extensor posture

4. Graphesthesia, stereoagnosia

5. Romberg test
Deep tendon reflexes
1. Bicep, brachioradialis, tricep, patellar, ankle (0-4, 2=normal, 0= absent )
2. Other reflexes: snout, glabellar, plamomental reflexes, ankle clonus
3. Babinski’s sign, Oppenheim’s sign

Coordination:
1. Finger-nose-finger and heel-knee-shin test
2. RAM (dysdiadochokinesia), finger tap (on the crease), open and close hand, heel tap
3. Mirror test, saccadic eye movements
4. Action/resting/intention tremor

Gait:
1. Normal walking, walking on the toes, heels, and tandem gait
2. Get up from a seated chair without using hands, posture reflexes
3. Turning, going through a narrow hallway, visual cueing

Red Flags for psychogenic patients
1. Slowness of the movements instead of weakness
2. Distractibility, suggestibility, entrainment, crying, exceptional efforts
3. Acute onset after emotional stress
4. Tell patients to walk back, hop on one foot,

Normal Examination Documentation
1. Awake, alert, cooperative, fluent speech without dysarthria, can name and repeat, follow 3 step commands
2. PERRL, EOMI, sharp disc margins B, PP intact at V1-V3 distribution, symmetric face, hearing intact with FR, palate and tongue midline, head turning and trapezes 5/5 B
3. Muscle strength (not muscle power) 5/5 B UE /LE
4. DTR 2+ throughout, plantar reflexes down B
5. Sensation LT/PP intact B UE/LE
6. FNF and HKS no dysmetria B
7. Gait normal, able to walk on toe/heel/tandem

Coma Examination
1. Pupillary, corneal, vestibule-ocular, Gag reflexes
2. Breathing over the vent or not. May need to turn the vent setting down to zero
3. Response to pain in all four extremities
4. Deep tendon reflexes
5. Open patient’s eyes and ask them to look up or down- in case the patient is locked-in