



NEUROLOGIC HISTORY AND PHYSICAL

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NEUROLOGIC EXAMINATION

- **History**
 - Localization
 - Etiology/Pathophysiology
 - Source, reliability, cultural
- **General physical examination**
 - Complete but emphasize parts that are most important for the differential diagnosis and history
- **Neurological examination**
 - Localization of lesion/lesions or diffuse
- **If the Hx and Examination do not agree, one or both of them are incorrect, repeat one or both of them**

POINTS TO CONSIDER IN THE HISTORY

- The cc is what the patient or family says is the main reason they are “seeing you”; patients may try to give you multiple chief complaints; avoid this, they are giving you the HPI and often more; don’t mention everything that ever happened to the patient in the cc; only relevant items
- Reason for consultation is why a physician or other health provider asks you to see patient; that may or may not be the cc. The patient may give you the referring physician or someone else’s reason as their cc but try to find out both
- Change in MS is a silly reason, means many things, stated that way it doesn’t tell you much; ask the nurse and family members
- The diagnosis that the patient gives you for their current problem and their past medical history may be wrong; decide for your self, particularly if its important
- History is the study of the past; so PMHx is redundant

POINTS TO CONSIDER IN THE HISTORY

- Reliability, cultural, MS, level of cooperation are all important
- Beware of translations done by relatives; often important but often editorialized
- You are the historian, the patient is the subject of the history; so don't say the patient is a "poor historian"
- The ROS should follow the PMHx and should inform that history-the patient with no Hx of cardiac disease may describe angina under ROS

POINTS TO CONSIDER IN THE HISTORY

- **Have the patient tell the story in their own words when possible; you need edit and focus their story with your questions**
- **It's useful to hear their interpretation of causative factors or theories of disease but beware**
- **The patients description of factors that influence symptoms are important**
- **DETAILS ARE IMPORTANT**
 - **Transient- how long**
 - **Variable- how? always there but vary? Absent at times?**
 - **Chronology of symptoms are very important**

POINTS TO CONSIDER ABOUT THE HISTORY

- Pertinent positives and negatives from the PMHx, the ROS, medications, social and family history should be put in the HPI; you can always list them briefly later or refer back to the HPI to keep the coders happy
- Change in medications or new medications are often important in the HPI
- If the family history is important, get the details; negative family history is not sufficient; maybe the patient is an only child, adopted. Consanguinity, inbred communities, birth order and age of sibs, parents at time of death, age of children, etc are all important, if the family history is important; not in 85 yo hypertensive diabetic with dyslipidemia with third cerebral infarct.

POINTS TO CONSIDER ABOUT GENERAL PE

- VS are always important; give the #s, they can be normal, they are not “stable” if I don’t know what they were the last time; dead people have stable vs
- Be “complete” but emphasize, document in detail and report the pertinent positives and negatives
- No carotid bruits is not a term for a neurologist to use as the description of the vessels; describe palpation (strength, side to side comparison, tenderness or not) and then presence or absence of adventitious sounds. Normal and occluded vessels have no bruits; listen elsewhere
- Palpate preauricular and temporal pulses, not just carotid
- Radial pulses and BP in both arms if pertinent

NEUROLOGIC EXAM

- Mental status
 - Cranial nerves
 - Motor system
 - Sensory exam
 - (Deep) tendon reflexes (DTRs) and plantar responses; others
- Mental status
 - Cognition
 - Cranial nerves
 - Motor examination
 - Sensory exam
 - DTRs and plantar responses; others
 - Coordination
 - Gait

PRACTICAL HINTS

- Be practical, let the Hx guide your exam
- “You can observe a lot by watching” (Lawrence Peter ‘Yogi’ Berra)

NEUROLOGIC EXAM

- **MENTAL STATUS**

- Practical, situational, much is done during taking Hx
- Level of consciousness
- Level of cooperation
- Orientation (time, place and person)
- Speech (comprehension and expression)
- Memory
- Naming, R-L orientation, reading, perception of place in space, color, calculations
- Insight, judgment
- Affect and mood
- Minimental status exam
- Very subjective part of exam; influences much of the rest of the exam and Hx; cultural

NEUROLOGIC EXAM

- **CRANIAL NERVES**

- Tests individual cranial nerves but also sometimes tests brain stem, cerebellum, cerebral hemispheric functions as well as muscle and neuromuscular junction
- Which of the above are involved depends on the pattern of abnormalities, other features of the neurologic exam as well as history
- Cranial nerves I and II are CNS, not PNS
- Some nerves have motor and sensory function, some motor only, some special sensory functions, some autonomic along with other functions

NEUROLOGIC EXAM

- **I (Olfactory)**
 - Smell; Hx often of decreased taste; avoid painful stimuli
- **II (Optic nerve); testing also visual pathways**
 - Visual acuity (20 feet or equivalent vs handcard; contrast sensitivity; corrected
 - Visual fields, central as well as peripheral, DSS
 - Funduscopic exam
 - (External eye exam is HEENT on general exam, the rest is neurologic exam)
 - Pupillary response is II (afferent) and III (efferent) to light and accommodation

NEUROLOGIC EXAM

- **III (Oculomotor), IV (Trochlear) and VI (Abducens)**
 - Tested together because they work together
 - Position at rest/primary gaze including lids
 - Range of motion (versions and ductions)
 - Pursuit/tracking; testing some VIII and cerebellum
 - Saccade testing; testing some VIII and cerebellum
 - Smoothness and coordination of movements
 - Testing brain stem function as well as nerves; occasionally testing hemispheric function (frontal eye fields)
 - Pupils are II (afferent) and III (efferent)

NEUROLOGIC EXAM

- **V (TRIGEMINAL)**
 - SENSORY, V1, V2 AND V3 (SCALP BEYOND EAR IS C2-3); testing brain stem, hemisphere, upper cervical cord
 - MOTOR; JAW AND RELATED MOVEMENTS; brain stem
 - TASTE ANTERIOR
 - **VII (FACIAL); testing brain stem and hemispheres as well**
 - MOTOR CONTROL OF MUSCLES OF FACE SUCH AS SMILE, PUFFING CHECKS, PURSING LIPS, PLATSYMA, CLOSING EYES, AT REST, SPONTANEOUS; “SYMETRIC”
 - MODERATES LOUDNESS OF HEARING
- CORNEAL REFLEX IS V (AFFERENT) AND VII (EFFERENT)
BLINK REFLEX IS II (AFFERENT) AND VII (EFFERENT)

NEUROLOGIC EXAM

- **VIII (Stat-acoustic or acoustic vestibular nerves)**
 - Hearing (finger rub, 512 Hz tuning fork, whispered speech; testing brain stem)
 - Balance, eye movements (overlaps with III, IV, VI and cerebellum/brain stem); special tests
- **IX (Glossopharyngeal) and X (Vagus)**
 - Often tested together although some different functions
 - Speech (certain types of abnormalities), swallowing
 - Gag reflex, palatal movement
 - Posterior taste
 - Autonomic
 - Testing brain stem and bilateral hemisphere function

NEUROLOGIC EXAM

- **XI (Spinal accessory nerve)**
 - Fibers mix with fibers from upper cervical roots
 - Some list functions with motor system
- **XII (Hypoglossal nerve)**
 - Tongue movement, not just midline
 - Bulk/atrophy
 - Adventitious movements; fasciculations

NEUROLOGIC EXAM

- **MOTOR**

- Gait; note pattern of abnormalities if abnormal
- Station; includes ability to sit without support
- Coordination; note pattern of abnormalities, slow, dysmetric, ataxic, etc
- Bulk; atrophy and in what pattern
- Strength/power; different ways of quantitating (0-5 developed for LMN weakness; mild, moderate, severe; etc)
- Tone; normal, increased (what pattern), decreased; extremities, axial
- Adventitious movements (tremors, seizures, fasciculations, myokymia, cramps, myotonia etc)

NEUROLOGIC EXAM

- **SENSORY**

- Primary sensation; pain superficial (deep pain only under certain circumstances), light touch, temperature (seldom tested correctly) and vibration (threshold not just duration)
- Pattern; distal vs proximal, dermatomal (roots), individual peripheral nerve(s), spinal levels, right vs left, etc
- Higher/integrated functions; proprioception, joint position sense, 2 pt discrimination, texture, stereognosis, graphesthesia, etc
- Beware of findings w/o complaints or vice versa

NEUROLOGIC EXAM FOR NON-NEUROLOGISTS

- (Deep) tendon reflexes; DTRs
 - 0-5 ; 0-4
- Plantar responses
- Other reflexes; Hoffman's, Wartenberg's; release phenomomenae
- The most objective part of the neurologic examination