

HIGH-YIELD CENTRAL NERVOUS SYSTEM NOTES

FOR USMLE STEP 1 AND STEP 2

By

Dr. Yesheswani Illuri



Dear IMG

High-Yield Notes for USMLE Step 1 & Step 2 CK

STEP 1 - PATHOPHYSIOLOGY & BASIC SCIENCE

STROKE - ISCHEMIC

- Sudden focal neurologic deficit → Stroke until proven otherwise
- Ischemic stroke (87%) vs Hemorrhagic stroke (13%)
- Contralateral hemiparesis + Face/arm > leg + Aphasia (if dominant hemisphere) → Middle cerebral artery (MCA) stroke
Most common stroke
Supplies: Lateral cerebral cortex (motor/sensory cortex)

Broca aphasia (expressive, frontal lobe) → Can understand but can't speak

Wernicke aphasia (receptive, temporal lobe) → Can't understand, fluent but nonsensical speech

- Contralateral leg weakness > arm + Urinary incontinence + Personality changes → Anterior cerebral artery (ACA) stroke

Supplies: Medial cerebral cortex

- Contralateral homonymous hemianopia + Visual agnosia + Prosopagnosia → Posterior cerebral artery (PCA) stroke

Supplies: Occipital lobe, inferomedial temporal lobe

Can also cause: Thalamic pain syndrome

(central post-stroke pain)

- Ipsilateral ataxia + Nystagmus + Dysphagia +
Loss of pain/temp on ipsilateral face +
Contralateral body → Lateral medullary
syndrome (Wallenberg, PICA)
Nucleus ambiguus (CN IX, X, XI)

- Ipsilateral tongue deviation + Contralateral
hemiparesis + Contralateral loss of
proprioception/vibration → Medial medullary
syndrome (ASA)

Hypoglossal nerve (CN XII) + Corticospinal
tract + Medial lemniscus

Dear IMG

- Ipsilateral facial paralysis + Lateral gaze palsy + Contralateral hemiparesis → Medial pontine syndrome

Facial nerve (CN VII) + Abducens (CN VI) + Corticospinal tract

- Locked-in syndrome → Bilateral ventral pons infarction → Quadriplegia + Intact consciousness + Only vertical eye movements
Basilar artery occlusion

- Ipsilateral CN III palsy (eye down and out) + Contralateral hemiparesis → Weber syndrome (medial midbrain)

Oculomotor nerve + Cerebral peduncle

Dear IMG

STROKE - HEMORRHAGIC

- Sudden severe headache + "Worst headache of my life" + Neck stiffness + Xanthochromia → Subarachnoid hemorrhage (SAH)

Most common cause: Ruptured berry (saccular) aneurysm

Most common site: Anterior communicating artery (junction with ACA)

Risk factors: APCKD, Ehlers-Danlos, Marfan, HTN, Smoking

CT head: Hyperdense blood in subarachnoid space (star pattern)

If CT negative but high suspicion → Lumbar puncture (xanthochromia = yellow CSF from RBC breakdown)

Complications: Rebleeding, Vasospasm (days 4-

14, prevent with nimodipine), Hydrocephalus

- HTN patient + Sudden severe headache + Altered mental status + Contralateral hemiparesis → Intracerebral hemorrhage Most common sites: Basal ganglia (putamen, caudate), Thalamus, Pons, Cerebellum Caused by: Chronic HTN → Charcot-Bouchard microaneurysms

Also: Amyloid angiopathy (lobar hemorrhages in elderly), AVM, Anticoagulation

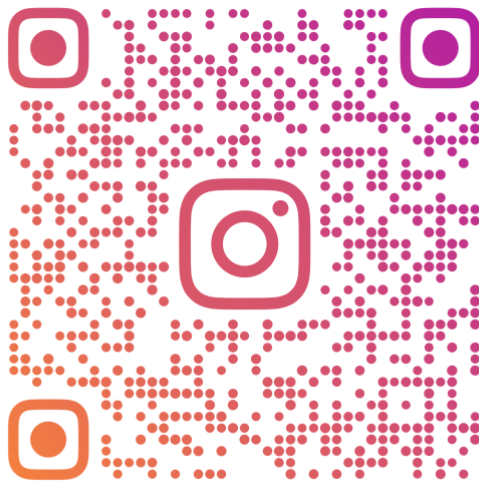
- Head trauma + Lucid interval + Biconvex (lentiform) hyperdensity NOT crossing suture lines → Epidural hematoma

Dear IMG



 **Unlock Full PDF — ₹299**

Comment "**PDF**" on our Instagram
High Yield PDF post
and receive purchase details + full PDF directly!



DEAR_IMG

@dear_img
guidance@dearimg.com