

# CNS Past Papers 2023

EXAM PRACTICE QUESTIONS

UNIVERSITY OF JORDAN – FACULTY OF MEDICINE

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Which of the following best describes a function of the cerebellum as opposed to the basal ganglia?

**A** Ipsilateral coordination of voluntary movement

**B** Direct transmission of motor neurons to the spinal cord

**C** Initiation of voluntary movement sequences

**D** Regulation of muscle tone via the indirect pathway

A patient is producing fluent but nonsensical speech with impaired comprehension. Where is the most likely lesion?

**A** Broca's area

**B** Wernicke's area

**C** Primary motor cortex

**D** Angular gyrus

A patient demonstrates socially disinhibited behavior, poor impulse control, and personality changes following a head injury. Which area is most likely lesioned?

**A** Temporal lobe

**B** Parietal lobe

**C** Prefrontal cortex

**D** Occipital lobe

Which of the following tracts does NOT primarily regulate movement?

**A** Rubrospinal tract

**B** Superior olivary nucleus

**C** Pontoreticulospinal tract

**D** Medullary reticulospinal tract

A patient presents with resting (pill-rolling) tremor and cogwheel rigidity. Which structure is most likely affected?

A Cerebellum

B Basal ganglia

C Primary motor cortex

D Spinal cord

A patient walks with a wide-based, staggering, 'drunken' gait. Which structure is most likely responsible?

**A** Basal ganglia

**B** Frontal lobe

**C** Cerebellum

**D** Vestibular nerve

Which of the following is true about long-term memory?

**A** It is always easy to retrieve

**B** It has a limited storage capacity

**C** Information must undergo consolidation to be stored

**D** It is encoded exclusively in the hippocampus

Which of the following is correct regarding the insula?

**A** It is considered the sixth lobe of the cerebral cortex

**B** It contains higher-order gustatory processing centers

**C** It is located medial to the internal capsule

**D** It is part of the limbic system exclusively

Which of the following represents a MISMATCH between the internal capsule component and its content?

**A** Anterior limb — corticospinal tract

**B** Posterior limb — superior thalamic radiation

**C** Genu — corticobulbar tract

**D** Retrolenticular part — visual radiation

A 10-year-old boy presents with symmetric ascending lower limb weakness progressing over 3 days. CSF shows elevated protein with normal WBC. What is the most likely diagnosis?

**A** Diabetic radiculopathy

**B** Guillain-Barré syndrome

**C** Multiple sclerosis

**D** Transverse myelitis

A 70-year-old patient presents with acute right facial drooping, tongue deviation, and limb weakness for 4 hours. What is the most appropriate immediate step?

**A** Start levodopa/carbidopa therapy

**B** Administer aspirin 300 mg before excluding hemorrhage

**C** Perform a CT scan of the head immediately

**D** Arrange elective MRI within 24 hours

Which of the following is INCORRECT regarding the hippocampus?

**A** It forms part of the roof of the inferior horn of the lateral ventricle

**B** It is a component of the limbic system

**C** It plays a key role in consolidation of declarative memory

**D** It receives input from the entorhinal cortex

A 30-year-old develops a brain abscess in the context of chronic otitis media and mastoiditis. What is the most likely causative organism?

**A** Streptococcus species (*Streptococcus pneumoniae*)

**B** *Nocardia asteroides*

**C** *Mycobacterium tuberculosis*

**D** *Cryptococcus neoformans*

Which of the following eye findings requires urgent ophthalmology referral?

**A** Bilateral conjunctival injection

**B** Decreased visual acuity

**C** Mild photophobia

**D** Watery discharge

Which of the following is correct regarding adult diffuse gliomas?

**A** Oligodendroglioma with IDH mutation + 1p/19q codeletion also shows ATRX loss

**B** Among grade-matched gliomas, oligodendroglioma carries the best prognosis

**C** IDH mutation is common in IDH wild-type glioblastoma

**D** Astrocytoma requires 1p/19q codeletion for diagnosis

Which of the following signs is NOT expected in a lower motor neuron (LMN) injury?

A Fasciculations

B Muscle wasting

C Extensor plantar response (Babinski sign)

D Absence of deep tendon reflexes

Which of the following is SHARED between the stretch reflex and the Golgi tendon (inverse stretch) reflex?

**A** Both are conducted via type Ia nerve fibers

**B** Both produce an excitatory motor response

**C** Both have afferent signals conveyed by the dorsal spinocerebellar tract

**D** Both synapse at the same interneuron pool

What is the characteristic EEG pattern seen during non-REM (slow-wave) sleep?

**A** Low amplitude, high frequency beta waves

**B** High amplitude, low frequency delta waves

**C** Sleep spindles only, with no delta activity

**D** Sawtooth waves with rapid eye movements

Which antipsychotic adverse effect characteristically worsens or first appears AFTER drug withdrawal?

A Akathisia

B Drug-induced Parkinsonism

C Acute dystonia

D Tardive dyskinesia

Cholinesterase inhibitors are primarily used in the treatment of which condition?

A Parkinson's disease

B Alzheimer's disease

C Schizophrenia

D Epilepsy

A Parkinson's disease patient is started on a drug causing dry mouth and impaired gastrointestinal peristalsis. Which drug is most likely responsible?

**A** Levodopa/carbidopa

**B** Pramipexole

**C** Benztropine

**D** Selegiline

Which of the following is true regarding CNS tumors?

**A** Tumor grade is the sole determinant of prognosis

**B** Tumor location influences outcome independently of type or grade

**C** Metastatic CNS tumors always have worse prognosis than primary tumors

**D** All CNS tumors are amenable to surgical resection

*Answer: B. Tumor location influences outcome independently of type or grade | A tumor in the brainstem or eloquent cortex carries a worse prognosis regardless of histological grade, due to surgical inaccessibility.*

Which histological feature is characteristic of a WHO grade 2 (atypical) meningioma?

**A** Psammoma bodies

**B** Classic whorled pattern

**C** Chordoid features

**D** Sheetlike growth pattern with necrosis

Which surgical technique is used in the management of both epilepsy and focal brain lesions?

**A** Craniotomy

**B** Endoscopic ventricular surgery

**C** Stereotactic neurosurgery

**D** Gamma knife radiosurgery only

Which of the following best characterizes stem cells?

**A** Symmetric cell division only

**B** Asymmetric (differential) segregation during division

**C** Terminal differentiation upon first division

**D** Absence of self-renewal capacity

Which antidepressant is most appropriate to add to sertraline in a patient with inadequate response?

**A** Another SSRI

**B** Bupropion

**C** A tricyclic antidepressant

**D** An MAO inhibitor

Which inhaled anesthetic agent is described as a strong analgesic but weak anesthetic?

A Halothane

B Isoflurane

C Nitrous oxide

D Sevoflurane

Which antiepileptic drug is most commonly associated with Stevens-Johnson syndrome?

A Valproate

B Levetiracetam

C Lamotrigine

D Carbamazepine

A patient metabolizes a drug via CYP2C19. Which drug is most likely involved?

**A** Fluoxetine

**B** Sertraline

**C** Paroxetine

**D** Venlafaxine

In which non-cardiac condition is atenolol (a beta-blocker) used therapeutically?

**A** Hypertensive crisis

**B** Essential tremor

**C** Focal epilepsy

**D** Neuropathic pain

Which antipsychotic is reserved as a last-line agent for treatment-resistant schizophrenia due to its serious adverse effects?

A Haloperidol

B Olanzapine

C Risperidone

D Clozapine

Why does local inflammation reduce the efficacy of local anesthetics?

**A** Increased blood flow removes the drug faster

**B** Decreased local pH reduces the unionized fraction needed to penetrate nerve membranes

**C** Inflammatory cells directly degrade the anesthetic molecule

**D** Increased tissue pressure prevents drug diffusion

A patient in a controlled trial reports less pain than the active treatment group. What is the most likely explanation?

**A** The active drug has a paradoxical pain-enhancing effect

**B** Pain perception has a significant psychological and expectation-based component

**C** The placebo contains an unknown analgesic substance

**D** The patient is malingering

Weakness of the lower limb with sparing of the upper limb is most consistent with a lesion of which vessel?

**A** Middle cerebral artery

**B** Posterior cerebral artery

**C** Anterior cerebral artery

**D** Basilar artery

Which of the following is NOT a derivative of the prosencephalon (forebrain)?

A Cerebral cortex

B Thalamus

C Hypothalamus

D Pons

Which of the following statements about the thalamus is INCORRECT?

**A** It is connected to the hypothalamus via the mammillothalamic tract

**B** It serves as a relay station for most sensory modalities

**C** It is connected to the fornix via the septum pellucidum

**D** It communicates with the cortex via thalamocortical radiations

Which association fiber bundle directly connects the frontal lobe to the temporal lobe?

A Cingulum

B Superior longitudinal fasciculus

C Uncinate fasciculus

D Inferior fronto-occipital fasciculus

Which of the following correctly describes the anatomical relationship of the caudate nucleus?

**A** The head of the caudate nucleus is lateral to the internal capsule

**B** The head of the caudate nucleus is medial to the internal capsule

**C** The tail lies in the floor of the lateral ventricle

**D** The caudate is separated from the putamen by the external capsule

A medical student becomes anxious every time they enter the hospital where their exams are held. In classical conditioning, the hospital represents which type of stimulus?

**A** Unconditioned stimulus

**B** Unconditioned response

**C** Conditioned stimulus

**D** Neutral reinforcer

Which of the following best defines homeostasis?

**A** The process of cellular energy production

**B** Maintenance of a stable internal environment despite external changes

**C** Elimination of metabolic waste products

**D** Adaptation of an organism to chronic stress

Which of the following is TRUE regarding the exhaustion stage of the General Adaptation Syndrome?

**A** Cortisol levels are at their peak

**B** The body reaches a new adaptive equilibrium

**C** Resistance and immune function are reduced

**D** Sympathetic activity is completely suppressed

*Answer: C. Resistance and immune function are reduced | In Selye's exhaustion stage, adaptive reserves are depleted — cortisol drops, immunity falls, and the organism becomes susceptible to disease.*

A traveler crossing multiple time zones experiences jet lag. Which of the following best describes the resolution?

**A** The circadian rhythm resets immediately upon arrival

**B** Sleep deprivation is the only contributing factor

**C** Re-entrainment of the circadian rhythm takes several days

**D** Melatonin has no role in managing jet lag

Which of the following best characterizes the doctor-patient relationship in clinical communication?

**A** Verbal content is the primary determinant of patient trust

**B** Nonverbal communication significantly influences the therapeutic relationship

**C** Patient satisfaction depends solely on clinical outcomes

**D** Formal language improves patient comprehension

*Answer: B. Nonverbal communication significantly influences the therapeutic relationship | Up to 55–65% of communication is nonverbal. Eye contact, posture, and tone strongly affect patient trust, adherence, and satisfaction.*

A medical student memorizes the cranial nerves using a rhyme. Which memory strategy is being applied?

**A** Elaborative encoding

**B** Spaced repetition

**C** Mnemonics

**D** Chunking

Which of the following is NOT a normal physiological change during sleep?

**A** Decreased heart rate

**B** Reduced respiratory rate

**C** Increase in core body temperature

**D** Growth hormone secretion during slow-wave sleep

A substance causes euphoria, relaxation, and improved concentration at low doses, but CNS depression and severe hypotension at high doses. What is this substance?

A Caffeine

B Alcohol

C Nicotine

D Cannabis

A patient presents with action tremor and nystagmus following a sudden-onset episode. Which structure is most likely affected?

**A** Basal ganglia

**B** Cerebellum

**C** Frontal lobe

**D** Thalamus

All of the following are true regarding disc herniation at the L4–L5 level, EXCEPT:

**A** Low back pain radiating to the gluteal region

**B** Anteromedial sensory loss of the leg

**C** Impaired knee extension

**D** It is the most common level of disc herniation

Which of the following is FALSE regarding the spinothalamic tract?

**A** It carries pain and temperature sensation

**B** It decussates within one to two spinal cord segments of entry

**C** A unilateral lesion results in contralateral loss of pain and temperature below the lesion

**D** A unilateral lesion results in ipsilateral loss of pain and temperature below the lesion

Which of the following is FALSE regarding the corticospinal tract?

**A**

It descends through the basis pedunculi of the midbrain

**B**

It passes through the tegmentum of the pons

**C**

Approximately 55% of the lateral corticospinal tract terminates in the cervical region

**D**

It decussates at the level of the medullary pyramids

A patient presents with muscle atrophy, decreased deep tendon reflexes, flaccid paralysis, and fasciculations. Which additional finding is most consistent with this clinical picture?

**A** Hypertonia

**B** Clonus

**C** Hypotonia

**D** Positive Babinski sign

A patient presents with bilateral loss of pain and temperature sensation over the neck, shoulders, and upper limbs in a cape-like distribution. What is the most likely diagnosis?

**A** Amyotrophic lateral sclerosis (ALS)

**B** Syringomyelia

**C** Brown-Séquard syndrome

**D** Multiple sclerosis

At the level of the medullary olives, which of the following structures would NOT be found?

- A** Inferior cerebellar peduncle (ICP) at the posterolateral corner
- B** Hypoglossal nucleus
- C** Sensory nucleus of the posterior one-third of the tongue, located anterior to the tectospinal tract
- D** Nucleus ambiguus

*Answer: C. Sensory nucleus of the posterior one-third of the tongue, located anterior to the tectospinal tract*

Which of the following is FALSE regarding parasympathetic innervation of salivary glands?

**A**

The submandibular gland is supplied via the submandibular ganglion

**B**

The superior salivatory nucleus provides preganglionic fibers via CN VII

**C**

The superior salivary ganglion supplies the parotid gland

**D**

The inferior salivatory nucleus provides preganglionic fibers to the parotid via CN IX

A patient presents with left-sided ptosis, left pupil dilation, and left eye deviated down and out, along with contralateral hemiplegia. What is the most likely syndrome?

**A** Wallenberg syndrome

**B** Weber syndrome

**C** Benedikt syndrome

**D** Claude syndrome

Which psychological school focuses on behavior, thoughts, and feelings from a purely physical and biological perspective?

**A** Psychoanalytic school

**B** Biological school

**C** Cognitive-behavioral school

**D** Humanistic school

Which of the following correctly represents the formula for calculating Intelligence Quotient (IQ)?

**A**  $(\text{Chronological age} \div \text{Mental age}) \times 100$

**B**  $(\text{Mental age} \div \text{Chronological age}) \times 100$

**C**  $(\text{Mental age} \times \text{Chronological age}) \div 100$

**D**  $(\text{Mental age} \div \text{Chronological age}) + 100$

In Freudian theory, which component of the psyche is responsible for mediating between internal drives and external social reality?

**A** Id

**B** Superego

**C** Ego

**D** Collective unconscious

According to Hans Selye's General Adaptation Syndrome (GAS), which stage is characterized by elevated stress hormone levels that become counterproductive and may lead to disease?

**A** Alarm stage

**B** Resistance stage

**C** Exhaustion stage

**D** Recovery stage

A patient on long-term morphine therapy develops hyperalgesia. Which agent is most appropriate to manage opioid-induced hyperalgesia in this setting?

**A** Fentanyl

**B** Codeine

**C** Methadone

**D** Tramadol

Why is methadone preferred over other opioids in the management of opioid dependence and addiction?

**A** It has a short half-life allowing rapid titration

**B** It has no risk of respiratory depression

**C** It has a long half-life allowing once-daily dosing and reducing withdrawal symptoms

**D** It does not bind to opioid receptors

Which of the following statements about benzodiazepines is TRUE?

**A**

They can be safely used for more than 6 months without risk of dependence

**B**

Benzodiazepines should not be used for longer than 2–3 weeks due to tolerance and dependence risk

**C**

Diazepam and other benzodiazepines differ significantly in their withdrawal syndrome

**D**

Benzodiazepines act primarily on NMDA receptors

A patient complains specifically of difficulty initiating sleep (sleep-onset insomnia) with no trouble maintaining sleep. Which of the following agents is most appropriate?

**A** Diazepam

**B** Clonazepam

**C** Zolpidem

**D** Phenobarbital

Which of the following is NOT a criterion required for a substance to be classified as a true neurotransmitter (NT)?

**A** Must be synthesized in the presynaptic neuron

**B** Must be released upon presynaptic membrane depolarization

**C** Must be metabolized exclusively by MAO

**D** Must produce a response upon binding to postsynaptic receptors

Which of the following neurotransmitters is NOT metabolized by monoamine oxidase (MAO)?

**A** Dopamine

**B** Serotonin

**C** Acetylcholine

**D** Norepinephrine

A patient with confirmed HSV-1 encephalitis undergoes lumbar puncture. Which CSF profile would you most likely expect?

A

Decreased glucose, increased proteins, neutrophil predominance

B

Normal glucose, increased proteins, lymphocyte predominance

C

Normal glucose, normal proteins, normal WBCs

D

Decreased glucose, normal proteins, lymphocyte predominance

An infant presents with progressive flaccid paralysis, hypotonia, weak cry, and poor feeding. The mechanism of the causative toxin involves:

**A** Inhibition of GABA release at inhibitory interneurons

**B** Irreversible inhibition of acetylcholine release at the neuromuscular junction

**C** Stimulation of excessive acetylcholine release

**D** Blockade of nicotinic acetylcholine receptors

A researcher studying retinal ganglion cell firing reports results on visual processing pathways. Which of the following statements is correct?

A

Magnocellular ganglion cells are primarily responsible for visual acuity and color discrimination

B

Parvocellular ganglion cells are primarily responsible for detecting motion and spatial contrast

C

Intrinsically photosensitive retinal ganglion cells containing melanopsin are responsible for circadian rhythm entrainment

D

Koniocellular cells are responsible for detecting high-frequency flicker

Which of the following statements about the vestibular system is TRUE?

**A** The semicircular canals detect linear acceleration

**B** During head rotation, compensatory eye movement occurs toward the opposite side of rotation

**C** The utricle detects rotational acceleration

**D** The vestibulo-ocular reflex is mediated by the cerebellum alone

Which of the following statements about olfactory signal transduction is correct?

**A**

Olfactory receptor cells are modified epithelial cells that transmit signals via separate olfactory nerve fibers bundled into the olfactory nerve

**B**

Any volatile odorant molecule regardless of its chemical properties can activate olfactory receptors

**C**

Olfactory receptors are G-protein coupled receptors (GPCRs) that activate adenylyl cyclase, producing cAMP and resulting in signal amplification

**D**

Olfactory information is first relayed through the thalamus before reaching the cortex

A 74-year-old man presents with gradual high-frequency hearing loss. What is the most likely pathological basis?

A

Damage to the stria vascularis reducing endolymph production

B

Destruction of basilar hair cells of the cochlea

C

Degeneration of the spiral ganglion neurons

D

Rupture of Reissner's membrane

A brain tumor compresses the right optic tract. What visual field defect would result?

**A** Right monocular blindness

**B** Bitemporal hemianopia

**C** Left homonymous hemianopia

**D** Right homonymous hemianopia

Why does a person typically not perceive the sensation of an eyelash resting lightly on the cheek after a short time?

**A**

The thalamus filters the signal before cortical processing

**B**

The receptor potential fails to reach the threshold for generating an action potential due to sensory adaptation

**C**

The signal is inhibited by descending pain modulation pathways

**D**

Merkel's discs are absent from facial skin

A patient is burned and initially feels a sharp, well-localized pain, followed by a dull, diffuse, prolonged pain. What accounts for this two-phase pain response?

**A** First pain via C fibers; second pain via A-delta fibers

**B** First pain via A-delta fibers; second pain via C fibers

**C** First pain via A-beta fibers; second pain via A-delta fibers

**D** First pain via A-delta fibers; second pain via A-beta fibers

Which retinal region contains the highest concentration of cone photoreceptors and is responsible for highest visual acuity?

**A** Optic disc

**B** Peripheral retina

**C** Fovea centralis

**D** Ora serrata

Which of the following correctly describes the normal drainage pathway of aqueous humor?

**A**

Posterior chamber → anterior chamber → trabecular meshwork → Canal of Schlemm

**B**

Anterior chamber → posterior chamber → vitreous body → choroid

**C**

Posterior chamber → Canal of Schlemm → trabecular meshwork → anterior chamber

**D**

Anterior chamber → ciliary body → posterior chamber → Canal of Schlemm

Which of the following correctly distinguishes the Snellen chart from visual field testing, and what is the primary modality carried by the dorsal sensory pathway?

**A** Snellen chart tests visual fields; dorsal pathway carries pain and temperature

**B** Snellen chart tests visual acuity; dorsal pathway carries vibration and proprioception

**C** Snellen chart tests color vision; dorsal pathway carries crude touch

**D** Snellen chart tests contrast sensitivity; dorsal pathway carries fine discriminative touch only

In Alzheimer's disease (AD), which protein is primarily responsible for the formation of neurofibrillary tangles?

**A** Amyloid precursor protein (APP)

**B** Alpha-synuclein

**C** Tau protein

**D** TDP-43

Parkinson's disease primarily involves degeneration of neurons in which brain region?

**A** Putamen

**B** Substantia nigra pars compacta

**C** Subthalamic nucleus

**D** Caudate nucleus

Which of the following is NOT a characteristic feature of epidural hemorrhage?

**A** Rarely associated with skull fracture

**B** Most commonly caused by rupture of the middle meningeal artery

**C** Produces a lucid interval followed by rapid neurological deterioration

**D** Appears as a biconvex (lenticular) hyperdense lesion on CT

Which of the following statements about Multiple Sclerosis (MS) is FALSE?

**A** MS is more prevalent in females than males

**B** Active plaques contain areas of inflammation and myelin destruction

**C** Oligoclonal bands in CSF are formed by myelin-derived antibodies secreted into the serum

**D** MS lesions are characteristically disseminated in time and space

Which of the following histological or anatomical findings is characteristically visible in Amyotrophic Lateral Sclerosis (ALS)?

**A** Demyelinating plaques in the white matter

**B** Lewy bodies in the substantia nigra

**C** Atrophy of the anterior spinal nerve roots

**D** Neurofibrillary tangles in the hippocampus

Which of the following statements about extrapyramidal tracts is FALSE?

- A** The rubrospinal tract primarily facilitates distal flexor muscles and, to a lesser extent, proximal muscles
- B** The tectospinal tract mediates reflex head and eye movements in response to visual stimuli
- C** The medullary reticulospinal tract descends in the lateral funiculus of the spinal cord
- D** The pontine reticulospinal tract is tonically active and facilitates antigravity (extensor) muscles
- E** The vestibulospinal tract inhibits antigravity muscles

Cold sensation in the tongue is transduced by which receptor?

A TRPV1

B TRPM8

C TRPA1

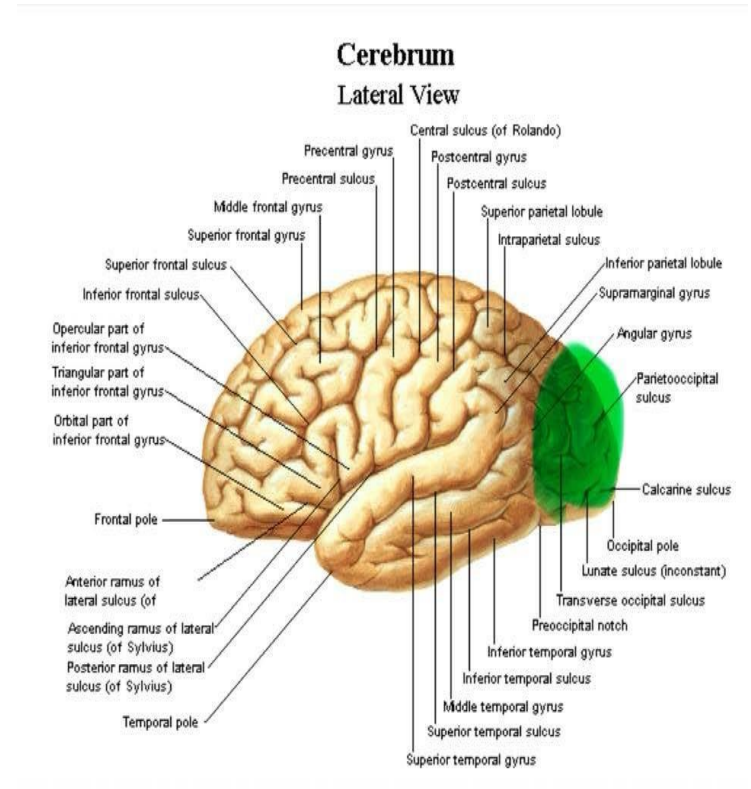
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# Lab Questions

## LAB Q1

A lesion specifically involving the cortical region highlighted in green on the macro-anatomical diagram results in an inability to recognize familiar objects visually, despite intact basic visual acuity. What is this clinical deficit?

- A** Prosopagnosia exclusively
- B** Visual agnosia
- C** Contralateral homonymous hemianopia
- D** Optic ataxia

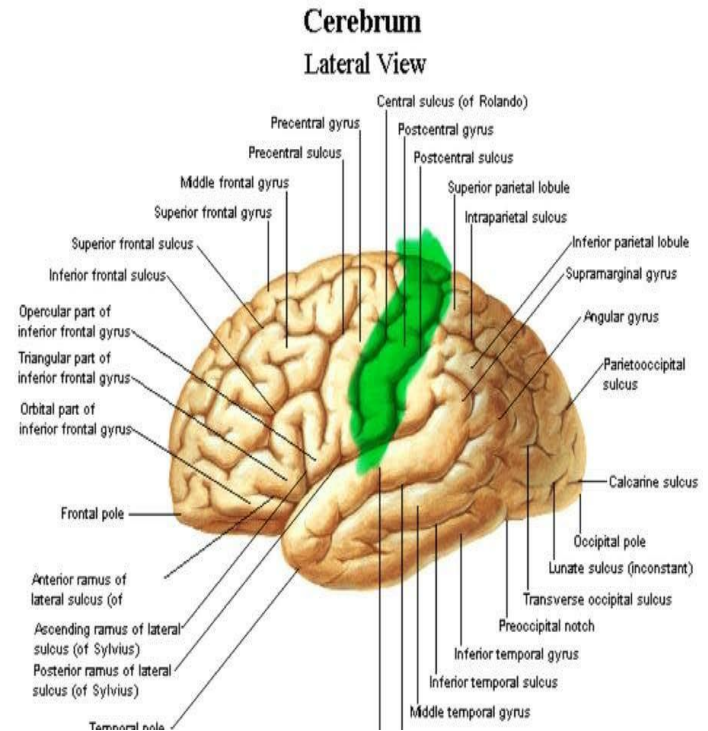


*Correct Answer: B. Visual agnosia | Damage to the visual association areas of the occipital lobe results in visual agnosia, where patients can see objects but cannot process or name them.*

## LAB Q2

The functional gyrus highlighted in green contains Brodmann's areas 3, 1, and 2. What functional deficit is expected if this specific cortical territory is infarcted?

- A** Loss of voluntary motor coordination
- B** Broca's expressive motor aphasia
- C** Contralateral loss of discriminative touch and proprioception
- D** Ipsilateral loss of pain and temperature perception

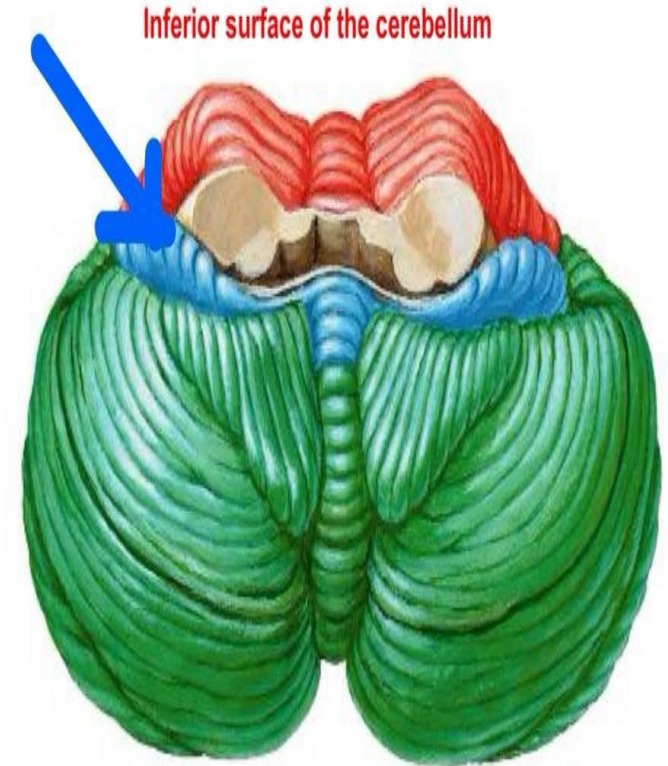


*Correct Answer: C. Contralateral loss of discriminative touch and proprioception | The green structure is the postcentral gyrus (Primary Somatosensory Cortex). Lesions yield a contralateral loss of cortical somatosensation.*

## LAB Q3

What is the primary physiological function associated with the highly conserved cerebellar structure pointed to by the blue arrow?

- A** Coordination of skilled, voluntary limb movements
- B** Maintenance of balance, equilibrium, and vestibulocular reflexes
- C** Motor planning and cognitive timing functions
- D** Dampening of resting muscular tremors

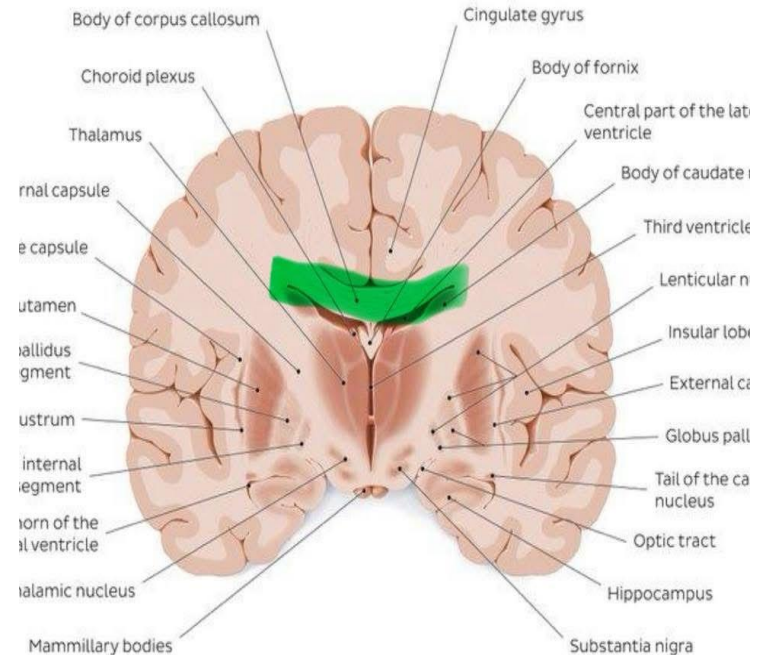


*Correct Answer: B. Maintenance of balance, equilibrium, and vestibulocular reflexes | The arrow points to the flocculonodular lobe (vestibulocerebellum), which interacts directly with vestibular nuclei to coordinate balance and eye movements.*

## LAB Q4

A patient presents with sudden-onset paraplegia and lower-limb sensory loss, sparing the upper limbs. Neuroimaging confirms an ischemic stroke affecting the deep interhemispheric structure highlighted in green. Which vascular structure is occluded?

- A** Anterior Cerebral Artery (ACA)
- B** Middle Cerebral Artery (MCA)
- C** Posterior Cerebral Artery (PCA)
- D** Anterior Communicating Artery exclusively



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*Correct Answer: A. Anterior Cerebral Artery (ACA) | The highlighted region is the corpus callosum along the medial aspect of the hemisphere. The ACA supplies the medial motor/sensory strips (leg fields) and the corpus callosum.*

## LAB Q5

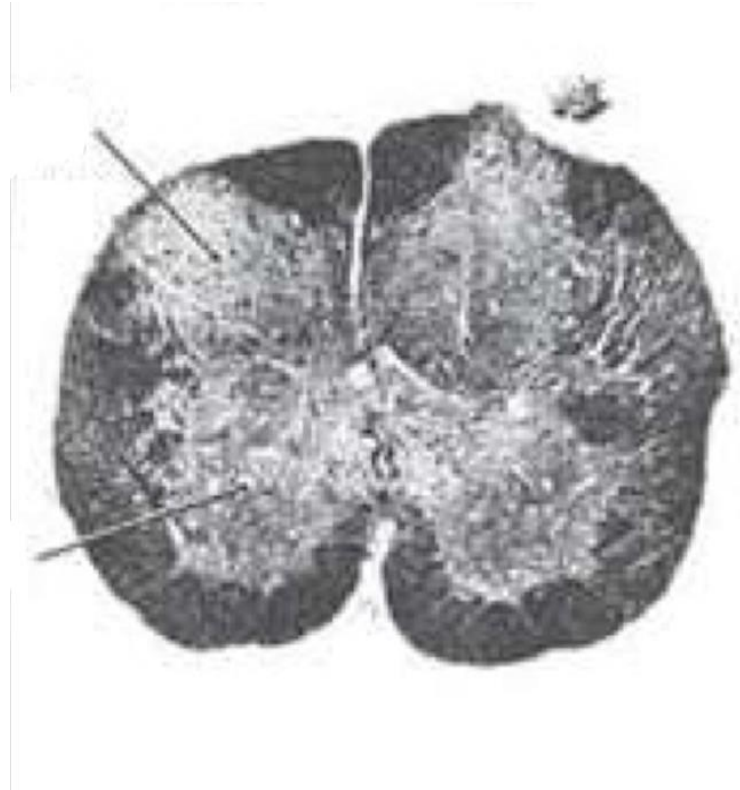
Identify the specific anatomical level of this spinal cord cross-section:

A Cervical level

B Thoracic level

C Lumbar level

D Sacral level (S3)



Correct Answer: D. Sacral level (S3) | This cross-section represents a sacral level, distinguished by the high ratio of gray matter to white matter.

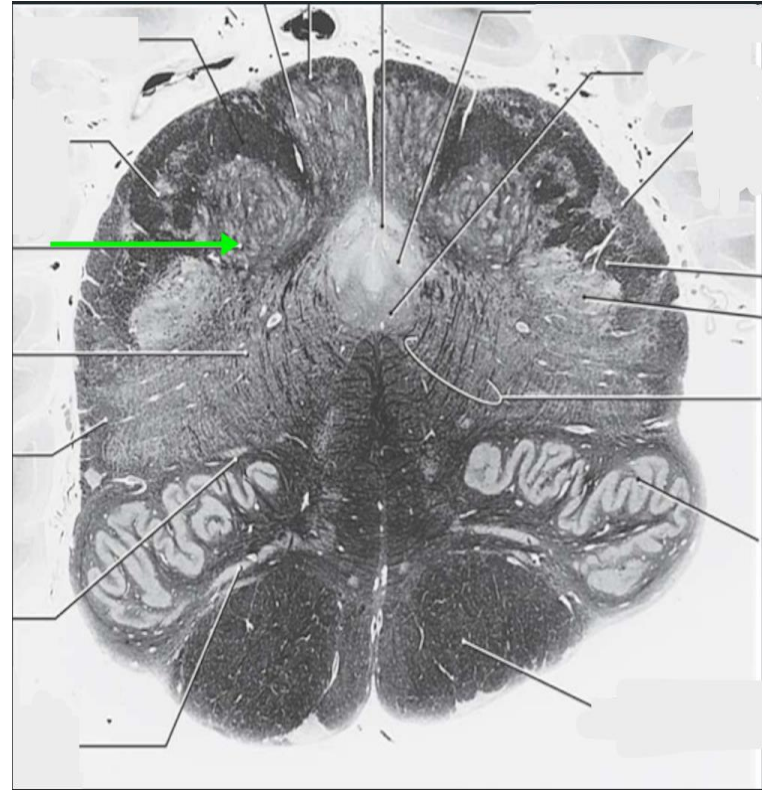
## LAB Q6

What structure is the green arrow pointing to?

A Nucleus Gracilis

B Nucleus Cuneatus

D Pyramid

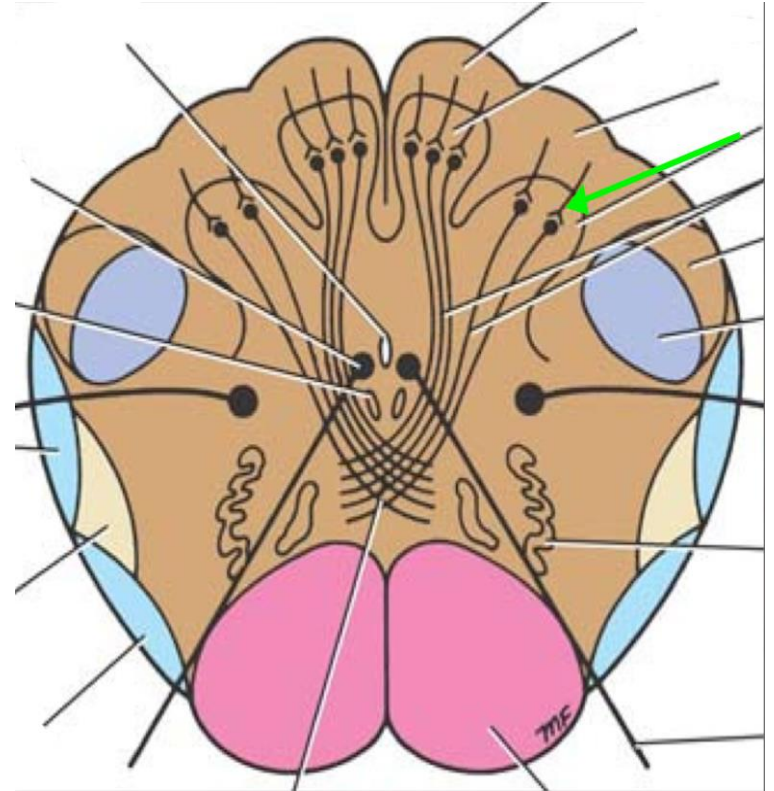


Correct Answer: B. Nucleus Cuneatus | The green arrow highlights the Nucleus Cuneatus located in the dorsolateral aspect of the lower closed medulla.

## LAB Q7

In this schematic diagram, what structure is indicated by the green arrow?

- A Nucleus Gracilis
- B Nucleus Cuneatus
- C Solitary Nucleus
- D Spinal Trigeminal Nucleus



Correct Answer: B. Nucleus Cuneatus | The schematic green arrow points directly to the Nucleus Cuneatus relay center.

# Good Luck!

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