

NeuroTrace Academy Study Guide

Category: Medical Terminology

Topic: Cranial Nerves & Sensory Systems

Style: Definition-based, exam-oriented, function-focused

1. Core Principles (Must Know)

Cranial Nerves

- Numbered I-XII
- Each has specific function
- Sensory vs Motor vs Mixed
- Location determines function

Key Principle

- Understanding cranial nerve functions enables accurate identification
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2. Cranial Nerves

Olfactory Nerve (CN I)

- **Function:** Nerves involved in smell
 - **Type:** Special sensory
 - **Location:** Nose to brain
 - **Key:** Smell = olfactory (CN I)
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3. Peripheral Nerves

Median Nerve

- **Location:** Runs down the arm to the hand
 - **Functions:**
 - **Motor:** Controls muscle movement in forearm and hand
 - **Sensory:** Conveys sensation to part of the hand, thumb, and index finger
 - **Type:** Mixed (motor + sensory)
 - **Key:** Thumb + index finger = median nerve
- Exam Trap:** Median nerve = thumb + index finger (not pinky/ring finger - that's ulnar)
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Sciatic Nerve

- **Location:** Runs down the length of the leg to the foot
 - **Function:** Motor and sensory to leg/foot
 - **Disorder:** Sciatica (pain along sciatic nerve)
 - **Key:** Leg distribution = sciatic nerve
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4. Sensory Disorders

Vertigo

- **Definition:** The feeling that one or one's surroundings are spinning
 - **System:** Vestibular system
 - **Causes:**
 - Inner ear disorders (Ménière's disease)
 - Brainstem disorders
 - Cerebellar disorders
 - **Distinction:**
 - **Dizziness:** Broader term
 - **Vertigo:** Specific spinning sensation
 - **Key:** Spinning sensation = vertigo
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Ménière's Disease

- **Definition:** A disorder of the inner ear, causing hearing loss, ringing in the ear, and sensation that one's surroundings are spinning
 - **Classic triad:**
 1. Hearing loss
 2. Tinnitus (ringing)
 3. Vertigo (spinning)
 - **Location:** Inner ear
 - **Key:** Inner ear + triad = Ménière's disease
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5. High-Yield Exam Discrimination Table

Structure	Function	Key Feature
Olfactory (CN I)	Smell	Special sensory
Median nerve	Motor + sensory	Thumb + index finger
Sciatic nerve	Motor + sensory	Leg distribution
Vertigo	Spinning sensation	Vestibular system
Ménière's	Inner ear disorder	Hearing + tinnitus + vertigo

6. ABRET Exam Pearls

Critical Distinctions

1. **Olfactory (CN I):** Smell - first cranial nerve
2. **Median nerve:** Thumb + index finger (not pinky/ring)
3. **Vertigo:** Spinning (not just dizziness)
4. **Ménière's:** Inner ear + classic triad

Common Exam Traps

- Confusing median nerve distribution (thumb/index) with ulnar (pinky/ring)
 - Mixing vertigo (spinning) with general dizziness
 - Forgetting that olfactory is CN I (smell)
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7. Quick Reference Summary

Must-Know Definitions

- **Olfactory:** Smell (CN I)
- **Median nerve:** Arm to hand, thumb + index finger
- **Sciatic nerve:** Leg distribution
- **Vertigo:** Spinning sensation
- **Ménière's disease:** Inner ear + triad (hearing, tinnitus, vertigo)

Memory Anchors

- Olfactory = smell (think "olfactory" = "olfactory")
- Median = middle (think "median" = middle fingers = thumb/index)
- Vertigo = spinning (think "vertigo" = "vert" = turn/spin)

Next Steps:

- Memorize cranial nerve functions
- Learn peripheral nerve distributions
- Understand sensory system disorders
- Practice discrimination between similar terms