

# NeuroTrace Academy Study Guide

**Category:** Medical Terminology

**Topic:** Cranial Nerves & Sensory Systems

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

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## 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

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**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)
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## Next Steps:

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