

# NeuroTrace Academy Study Guide

**Category:** Medical Terminology

**Topic:** General Medical Terminology

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

---

## 1. Core Principles (Must Know)

### Medical Terminology Foundation

- **Medical terminology uses specific prefixes, suffixes, and root words**
- Understanding these components helps decode complex terms
- Many terms have opposite pairs that are commonly confused
- Exam questions often test discrimination between similar terms

### Key Principle

- **Precise terminology prevents medical errors and ensures accurate communication**
- 

## 2. Critical Term Pairs (High-Yield Exam Traps)

### Iatrogenic vs Idiopathic

#### Iatrogenic

- **Definition:** Disease, disorder, or medical condition that is the direct result of medical treatment
- **Root:** "Iatro-" = physician/treatment
- **Examples:**
  - Medication side effects
  - Surgical complications
  - Hospital-acquired infections
- **Key Point:** Has a known cause (treatment)

#### Idiopathic

- **Definition:** Condition that occurs with no known cause
- **Root:** "Idio-" = unknown/peculiar
- **Examples:**
  - Idiopathic epilepsy
  - Idiopathic neuropathy
- **Key Point:** Unknown cause

🔑 **Exam Trap:** These are OPPOSITE concepts - one has known cause (treatment), other has unknown cause

---

### Acute vs Chronic

#### Acute

- **Definition:** Condition or illness that begins suddenly and is usually short-lasting
- **Characteristics:**
  - Sudden onset
  - Short duration
  - Often severe

- **Examples:** Acute appendicitis, acute infection

#### Chronic

- **Definition:** Condition that persists over a long period
- **Characteristics:**
  - Gradual or persistent onset
  - Long duration
  - May be progressive
- **Examples:** Chronic pain, chronic disease

🔑 **Exam Trap:** Onset (sudden vs gradual) + duration (short vs long) are key distinctions

---

### Bilateral vs Unilateral

#### Bilateral

- **Definition:** Condition affecting both sides of the body or two paired organs
- **Examples:**
  - Bilateral hearing loss (both ears)
  - Bilateral pneumonia (both lungs)
- **Key Point:** Both sides

#### Unilateral

- **Definition:** Condition affecting one side only
- **Examples:**
  - Unilateral weakness
  - Unilateral hearing loss
- **Key Point:** One side

#### Related Terms:

- **Ipsilateral:** Same side
  - **Contralateral:** Opposite side
- 

## 3. Essential Medical Terms

### Hallucination

- **Definition:** A perception that occurs when there is actually nothing there to cause it
- **Examples:** Hearing voices when none are present, seeing objects that aren't there
- **Distinction:**
  - **Delusion:** False belief (not sensory)
  - **Illusion:** Misinterpretation of real stimulus

### Cyanosis

- **Definition:** Bluish discoloration of the skin caused by low levels of oxygen in the blood
- **Cause:** Low oxygen saturation (hypoxia)
- **Distinction:**
  - **Jaundice:** Yellowing (bilirubin)
  - **Pallor:** Paleness

### Atrophy

- **Definition:** The shrinkage or near disappearance of a tissue or organ
- **Opposite:** Hypertrophy (increased size)
- **Related:**
  - **Hyperplasia:** Increased cell number
  - **Metaplasia:** Cell type change

## Abscess

- **Definition:** An accumulation of pus in a body tissue, usually caused by bacterial infection
- **Characteristics:**
  - Localized collection
  - Surrounded by inflammation
  - Usually bacterial
- **Distinction:**
  - **Cellulitis:** Diffuse inflammation
  - **Empyema:** Pus in body cavity

## Catheter

- **Definition:** A hollow flexible tube inserted into the body to put in or take out fluid or to open up or close blood vessels
- **Uses:**
  - Fluid administration
  - Pressure monitoring
  - Vessel manipulation
- **Distinction:**
  - **Stent:** Keeps vessel open
  - **Cannula:** Rigid needle

## Creatinine

- **Definition:** A waste product that is filtered from the blood by the kidneys and expelled in urine
- **Source:** Muscle metabolism
- **Clinical Use:** Kidney function marker
- **Distinction:**
  - **Urea:** Also kidney waste
  - **Bilirubin:** Liver waste

## In Situ

- **Definition:** Term meaning "in place" - used to describe a cancer that has not spread
- **Key Point:** Localized, no invasion or metastasis
- **Opposite:** Metastatic (spread)

## Adipose Tissue

- **Definition:** Another term for fatty tissue that stores energy, insulates and cushions the body
- **Functions:**
  - Energy storage
  - Insulation
  - Cushioning
- **Distinction:**
  - **Muscle tissue:** Contractile
  - **Connective tissue:** Structural

## Insomnia

- **Definition:** Difficulty falling and remaining asleep
- **Distinction:**
  - **Narcolepsy:** Excessive daytime sleepiness
  - **Sleep apnea:** Breathing cessation
  - **Hypersomnia:** Excessive sleep

## Debridement

- **Definition:** Surgical removal of dead, damaged or infected tissue or some foreign material from a wound or burn
- **Purpose:** Wound cleaning and healing promotion
- **Distinction:**
  - **Excision:** General removal
  - **Drainage:** Fluid removal

## Carcinogen

- **Definition:** Anything that can cause cancer
- **Distinction:**
  - **Mutagen:** Causes mutations (may or may not cause cancer)
  - **Teratogen:** Causes birth defects
  - **Oncogene:** Promotes cancer

## Febrile

- **Definition:** Related to fever
- **Opposite:** Afebrile (no fever)
- **Related:**
  - **Hyperthermic:** Elevated temperature
  - **Hypothermic:** Low temperature

## Adverse Reaction

- **Definition:** An unintended and unwanted side effect of some sort of treatment, usually drug therapy
- **Key Point:** Unintended harmful effect
- **Distinction:**
  - **Therapeutic effect:** Intended benefit
  - **Drug interaction:** Drug-drug effect

## Canal

- **Definition:** A tunnel-like passage in the body
- **Distinction:**
  - **Duct:** Usually glandular
  - **Fistula:** Abnormal connection

## Blood Pressure

- **Definition:** The tension in the main arteries created by the beating of the heart, resistance to flow, and elasticity of blood vessels
  - **Components:**
    - Heart contraction
    - Vascular resistance
    - Vessel elasticity
-

## 4. High-Yield Exam Discrimination Table

Term	Key Meaning	Common Confusion
Iatrogenic	Treatment-caused	Idiopathic (unknown)
Idiopathic	Unknown cause	Iatrogenic (treatment)
Acute	Sudden + short	Chronic (long)
Chronic	Persistent + long	Acute (short)
Bilateral	Both sides	Unilateral (one)
Cyanosis	Bluish (low O2)	Jaundice (yellow)
Atrophy	Shrinkage	Hypertrophy (growth)
Abscess	Localized pus	Cellulitis (diffuse)
In situ	Localized cancer	Metastatic (spread)

## 5. ABRET Exam Pearls

### Critical Distinctions

1. **Iatrogenic vs Idiopathic:** One has known cause (treatment), other has unknown cause - these are OPPOSITE
2. **Acute vs Chronic:** Onset (sudden vs gradual) + duration (short vs long) are both key
3. **Bilateral vs Unilateral:** Number of sides affected is critical for accurate documentation
4. **Cyanosis vs Jaundice:** Color + cause - bluish (oxygen) vs yellow (bilirubin)

### Common Exam Traps

- Mixing iatrogenic and idiopathic (opposite concepts)
- Confusing acute with chronic based on severity alone (must consider onset + duration)
- Using "bilateral" when only one side is affected
- Confusing cyanosis (oxygen) with jaundice (liver)

## 6. Practice Application

### Clinical Scenarios

1. **A patient develops a rash after starting a new medication.**
  - This is **iatrogenic** (treatment-caused)
2. **A patient has epilepsy with no known cause.**
  - This is **idiopathic** (unknown cause)
3. **A patient's symptoms began suddenly 2 days ago.**
  - This is **acute** (sudden onset, short duration)
4. **A patient has had symptoms for 6 months.**
  - This is **chronic** (long duration)

5. **A patient has hearing loss in both ears.**

- This is **bilateral** (both sides)
- 

## 7. Quick Reference Summary

### Must-Know Definitions

- **Iatrogenic:** Treatment-caused
- **Idiopathic:** Unknown cause
- **Acute:** Sudden + short
- **Chronic:** Persistent + long
- **Bilateral:** Both sides
- **Cyanosis:** Bluish (low oxygen)
- **Atrophy:** Tissue shrinkage
- **Abscess:** Localized pus
- **In situ:** Localized (no spread)
- **Febrile:** Fever-related

### Memory Anchors

- "Iatro-" = physician/treatment → iatrogenic
  - "Idio-" = unknown → idiopathic
  - Acute = sudden + short (think "acute angle" = sharp/sudden)
  - Chronic = long (think "chronicle" = long story)
  - Bilateral = bi (two) + lateral (side)
- 

### Next Steps:

- Review discrimination pairs daily
- Practice with clinical scenarios
- Focus on opposite concepts (iatrogenic/idiopathic, acute/chronic)
- Use memory anchors for quick recall