

## PHYSIOLOGY STUDY TIPS

Here are **high-yield, practical, med-school-tested** ways to study physiology effectively. These methods work well because physiology is *conceptual, mechanistic, and integrated* across systems. Remember,

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Physiology is about why the body behaves the way it does.

1. Focus on Mechanisms, Not Memorization
  - Ask yourself constantly: “What is the mechanism?”
  - For every concept, write: Stimulus → Mechanism → Response → Outcome.
  - Use flowcharts to map processes (e.g., RAAS, Starling forces, cardiac cycle).
  - This builds long-term understanding and helps on USMLE-style questions.
2. Study With Visuals — Draw Everything
  - Physiology is incredibly visual:
  - Draw diagrams of cardiac cycles, nephron segments, endocrine pathways, lung volumes, etc.
  - Use color coding to track ions, hormones, pressure changes, or membrane channels.
  - Try drawing a whole mechanism from memory at the end of the week. “Active drawing” cements physiology better than rereading.
3. Use Active Recall (Flashcards) for Definitions & Details: Not everything can be conceptual — some things must be memorized:
  - Use Anki/Pixorize style recall for:
    - Hormones & receptors
    - Transporters (SGLT, ENaC, NKCC2)
    - Lung volumes / formulas
    - Acid base equations
  - Keep flashcards short and granular (one fact per card).
  - Active recall ensures you don’t forget foundational facts needed for mechanisms.
4. Integrate Physiology with Pathophysiology Early: Your brain learns physiology faster when it sees what happens when things go wrong.
  - Pair normal + abnormal:
    - Cardiac: Normal pressure volume loops → changes in HF, valve disorders
    - Renal: Normal nephron → diuretic mechanisms
    - Pulmonary: Normal lung volumes → obstructive vs restrictive patterns
  - This accelerates understanding and improves Step 1 readiness.
5. Use Question Banks as a Learning Tool — Not Just Assessment
  - Do 10–15 physiology questions at a time while you’re learning the system.
  - After each question:
    - Identify: “What concept was this actually testing?”
    - Write that mechanism in your own words.
    - Add any missing fact or flowchart to your notes.
  - Questions teach you what physiology the exam really emphasizes.
  - Be OK with getting questions wrong when you are learning.

6. Study Physiology in “Systems,” Not in Isolation: Your curriculum is designed for you to do this. Physiology is integrated.
  - When studying:
    - Cardio ↔ Kidney (RAAS, BP regulation)
    - Lung ↔ Cardiac (V/Q, preload afterload interactions)
    - Endocrine ↔ Everything
  - Use block time to connect systems:
    - “How does one system respond when another changes?”
    - This is the key to solving multi-step exam questions.
7. Watch High Yield Videos for Complex Processes
  - Some systems (renal, cardio, neuro) are easier after watching visuals.
  - Good approaches include:
    - Short explainer videos for flow diagrams
    - Animation based explanations of cardiac cycle or nephron functions
    - Slowed-down explanations of lung mechanics and acid-base balance
  - Even 10 minutes of the right visual can shortcut hours of confusion.
8. Teach the Material — Even to Yourself. Teaching forces clarity. Try:
  - A 5 minute “whiteboard explanation”
  - Pretending you’re tutoring a classmate
  - Recording yourself explaining a mechanism, then listening later
  - If you can teach a mechanism simply, you truly know it.
9. Use Summary Sheets for Each Organ System
  - Make one-page sheets with:
    - Key hormones/regulators
    - Positive/negative feedback loops
    - Main equations (MAP, RPF, compliance, GFR, etc.)
    - Big-picture diagrams
  - Review these before practice blocks or during downtime. They become your “physiology quick brain.”
10. Revisit Physiology Throughout the Year
  - Physiology underlies:
    - Pathology
    - Pharmacology
    - Microbiology (immune physiology)
    - Clinical reasoning
  - Revisit your flowcharts weekly — they will make your future courses easier and Step prep smoother.

Need more help? Email Dr. O’Dell or schedule an appointment! [Book time with Dr. O’Dell](#)

## References

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