LSU Health NEW ORLEANS
School of Medicine

How to Study Anatomy in Your First Year of Medical School

Anatomy is not just memorization—it requires spatial understanding, repetition, and active learning. The most effective approach combines hands-on experience, active recall, spaced repetition, and integrated learning approaches.

To succeed in anatomy, you should:

- Study actively
- Review repeatedly
- Think in 3D
- Connect to clinical practice

1. **Prioritize ACTIVE learning (not passive re-reading)**

- Retrieval practice (self-testing) significantly improves exam performance and long-term retention in anatomy courses.
- Passive strategies (highlighting, rereading) are much less effective than active recall.
- Use practice questions, flashcards (e.g., Anki), and daily quizzing
- Cover labels on diagrams and test yourself

2. **Use spaced repetition to prevent forgetting**

- Anatomy knowledge is rapidly forgotten without repeated retrieval over time.
- Spaced review strengthens memory and supports long-term retention.
- Review material at increasing intervals (1 day → 3 days → 1 week → etc.)
- Avoid cramming—distribute study across days/weeks

3. **Learn anatomy in 3D (not just lists)**

- Understanding spatial relationships is critical and best developed through cadavers, 3D tools, or models. [mdpi.com]
- Combining virtual 3D tools with dissection improves understanding of 2D–3D relationships.
- Use multiple learning modalities:
  - Cadaver lab (you will be in lab regularly)
  - 3D anatomy apps
  - Radiology images (CT/MRI)
- Ask: "Where is this structure in space?"

4. **Use cadaver lab strategically**

- Cadaver dissection enhances:
  - Spatial understanding
  - Clinical reasoning
  - Confidence and professional development [pmc.ncbi.nlm.nih.gov]
- Students using dissection often show better knowledge acquisition and retention than those using models alone.
- Preview before lab → engage actively during lab → review immediately after

- Teach structures to peers in lab (reinforces learning)

5. **Combine multiple learning modalities (multimethod learning)**

- No single method is sufficient—blending cadaver, digital tools, diagrams, and discussion maximizes learning.
- Multimodal approaches improve engagement and retention.
- For each topic, use:
  - Text + lecture notes + lab + videos
- Reinforce the same concept from multiple angles

6. **Reduce cognitive load by organizing information**

- Anatomy is cognitively heavy; structured approaches improve comprehension and retention.
- Techniques like concept mapping and well-organized diagrams reduce overload.
- Break topics into chunks (e.g., compartments, layers, regions)
- Use concept maps or flow charts
- Focus on relationships, not isolated facts

7. **Practice drawing and labeling**

- Visual-spatial processing is essential for anatomy learning; diagrams enhance mental modeling.
- Sketch/draw structures from memory
- Label blank diagrams repeatedly
- Practice "explaining while drawing"

8. **Integrate clinical relevance early**

- Linking anatomy to clinical cases and imaging improves understanding and retention.
- Ask: "Why does this structure matter clinically?"
- Connect anatomy with:
  - Imaging
  - Injury patterns
  - Procedures

9. **Study collaboratively (with teaching roles)**

- Peer teaching and discussion enhance deep learning and retention in anatomy education.
- Study in small groups
- Rotate roles:
  - "Teacher" explains structures
  - Others quiz actively

10. **Be consistent—anatomy is cumulative**

- Anatomy learning requires continuous reinforcement over time, not short bursts.
- Daily review (even 20–30 minutes)
- Spiral back to older material weekly

LSU Health NEW ORLEANS
School of Medicine

Avoid these Common Pitfalls

- Cramming before exams
- Memorizing lists without understanding spatial context
- Relying only on lecture notes
- Avoiding cadaver lab or active practice
- Not revisiting older material

Quick Daily Study Structure (High-Yield)

- **Before lecture/lab:** Preview structures (5–10 min)
- **After lecture/lab:** Review actively (self-test + diagrams)
- **Later that day:** Spaced repetition (flashcards)
- **End of week:** Integrate:
    - Clinical correlations
    - Practice questions
    - Group teaching

Need more help? Email Dr. O'Dell or schedule an appointment! Book time with Dr. O'Dell

References

Arráez-Aybar, L. A. (2025). *Evolving anatomy education: integrating traditional and digital methods*. [mdpi.com]

Azzam, M. B., & Easteal, R. A. (2021). *Retrieval practice in anatomical education*. [pmc.ncbi.nlm.nih.gov]

BMC Medical Education (2025). *Spaced repetition in anatomy learning*. [link.springer.com]

Boscolo-Berto, R., et al. (2020). *Virtual + traditional anatomy learning RCT*. [pmc.ncbi.nlm.nih.gov]

Concept mapping and cognitive load studies in anatomy [link.springer.com]

Demir, B. T., et al. (2023). *Mobile anatomy learning and cognitive load*. [pmc.ncbi.nlm.nih.gov]

Hadie, S. N. H. (2020). *Cognitive load theory in anatomy diagrams*. [eduimed.usm.my]

Johannessen, E., et al. (2026). *Cognitive load in 3D vs 2D anatomy learning*. [frontiersin.org]

Madan, C. (2023). *Evidence-based learning strategies in medical education*. [pmc.ncbi.nlm.nih.gov]

Koelker-Wolfe, E., et al. (2025). *Student-driven anatomy learning and dissection*. [journals.sagepub.com]

Qatanani, A. M., et al. (2023). *Systematic review of cadaver dissection in medical education*. [pmc.ncbi.nlm.nih.gov]

Serra, M. J., et al. (2025). *Review of retrieval practice in health professions education*. [mdpi.com]