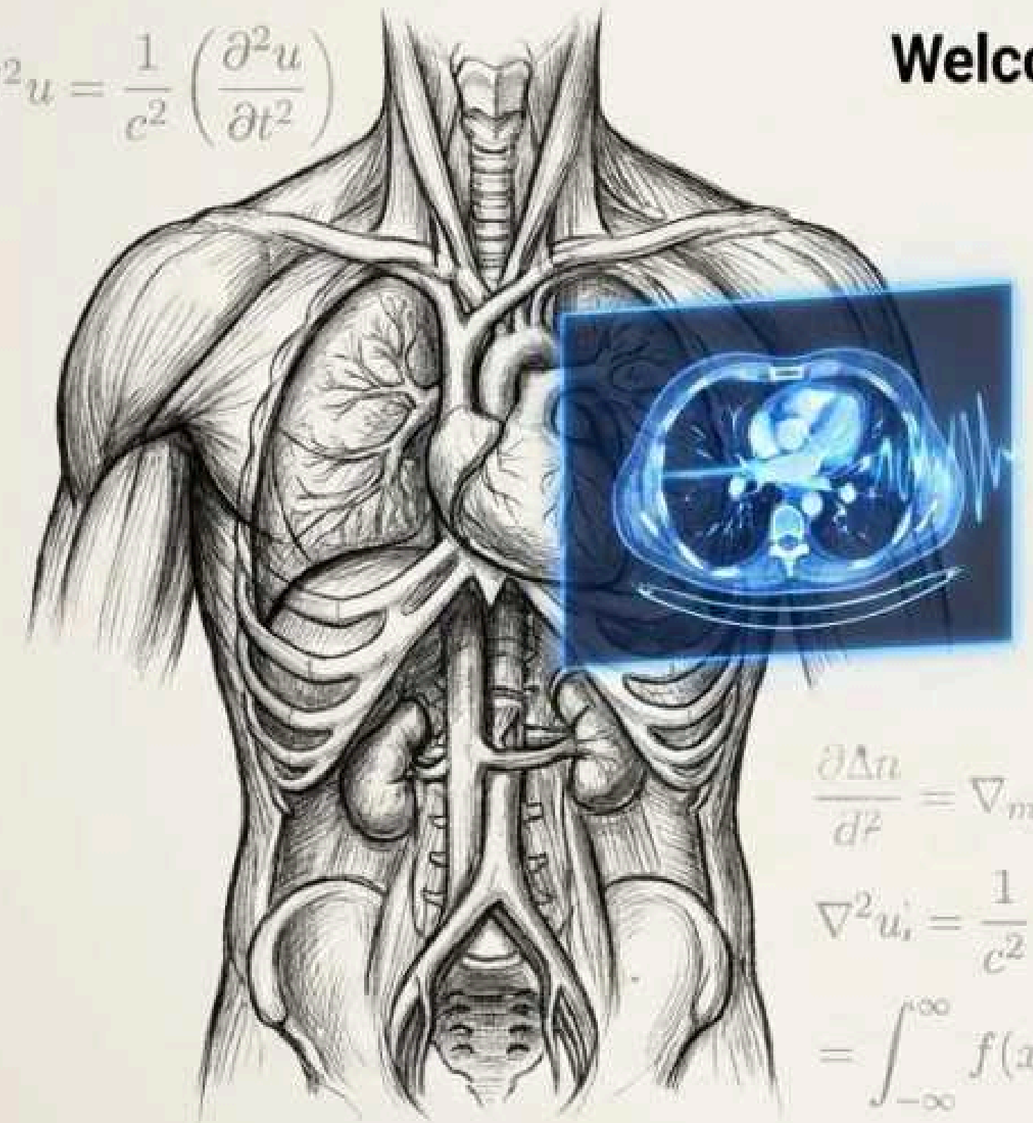
MED 534 B: Biomedical Imaging

¶ 0.1



Welcome to Anderson Academy | Year 2 Spring Course

Lineage: Modeled on the Harvard & MIT Health Sciences and Technology curriculum.

Physics:
The mechanics behind the scan.

Visualization:
What each technique shows best.

Risks:
Understanding biological impact.

Wisdom:
Clinical stewardship and smart usage.

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Questions & Course Feedback

¶ 0.2





Email: garyanderson@mail.grokbot.com

X (Twitter): @garyanderson

Open channels for all course-related inquiries.

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¶ 0.3

Important Disclaimer



This course teaches medical knowledge, not medical training.

What this Course Does NOT Provide:

- ☐ Clinical skills or medical licensing.
- ☐ Qualifications as a medical doctor or radiologist.
- ☐ Personal medical advice.

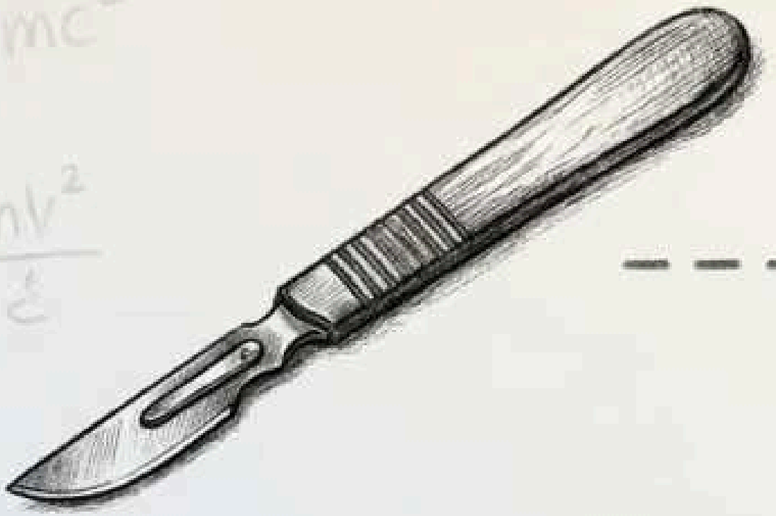
The Bottom Line: Decisions regarding medical imaging must be made strictly with a personal physician.

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The Transformation of Medicine

¶ 0.4

Before 1895:

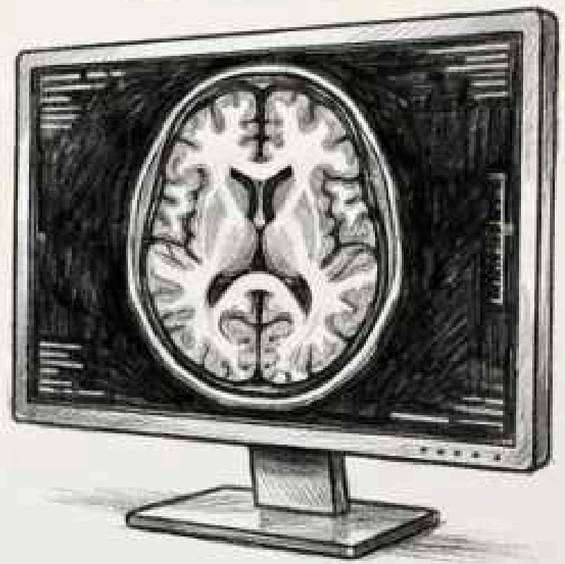


The only way to see inside the living body was Surgery.

(Röntgen)

1895

Today:



Volume: Hundreds of millions of scans performed annually.

Impact: Actively guides diagnosis, treatment, and procedures across every medical specialty.

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Course Map

¶ 0.5

1. X-Rays & Safety

$$I = I_0 e^{-\mu x}$$

2. Computed Tomography (CT)

$$\int_L f(x,y)\, ds$$

3. Ultrasound

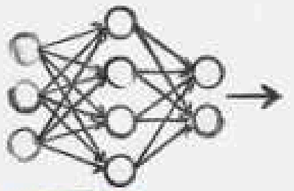
$$v = f \lambda$$

4. Magnetic Resonance Imaging (MRI)

$$\omega = \gamma B_0$$

5. Nuclear Medicine & Molecular

$$N(t) = N_0 e^{-\lambda t}$$



6. Interventional, AI, & Wise Use

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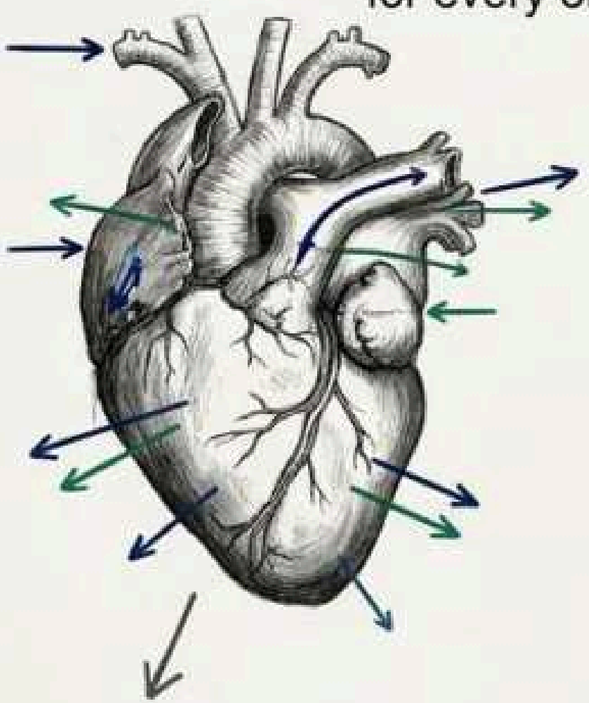
Prerequisites & Integration

¶ 0.6

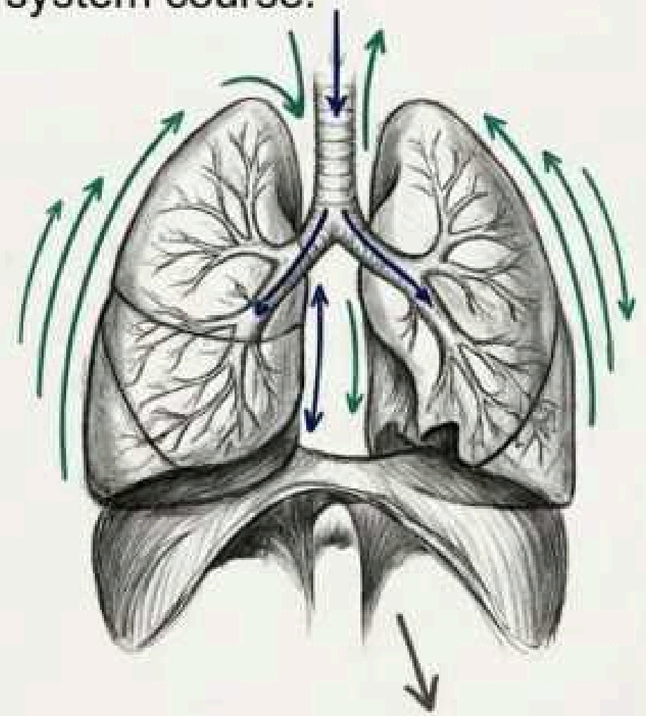
Basic Physics

Med School Anatomy

Foundation: The imaging taught here is the universal base for every organ-system course.



Integrates into MED 521 B



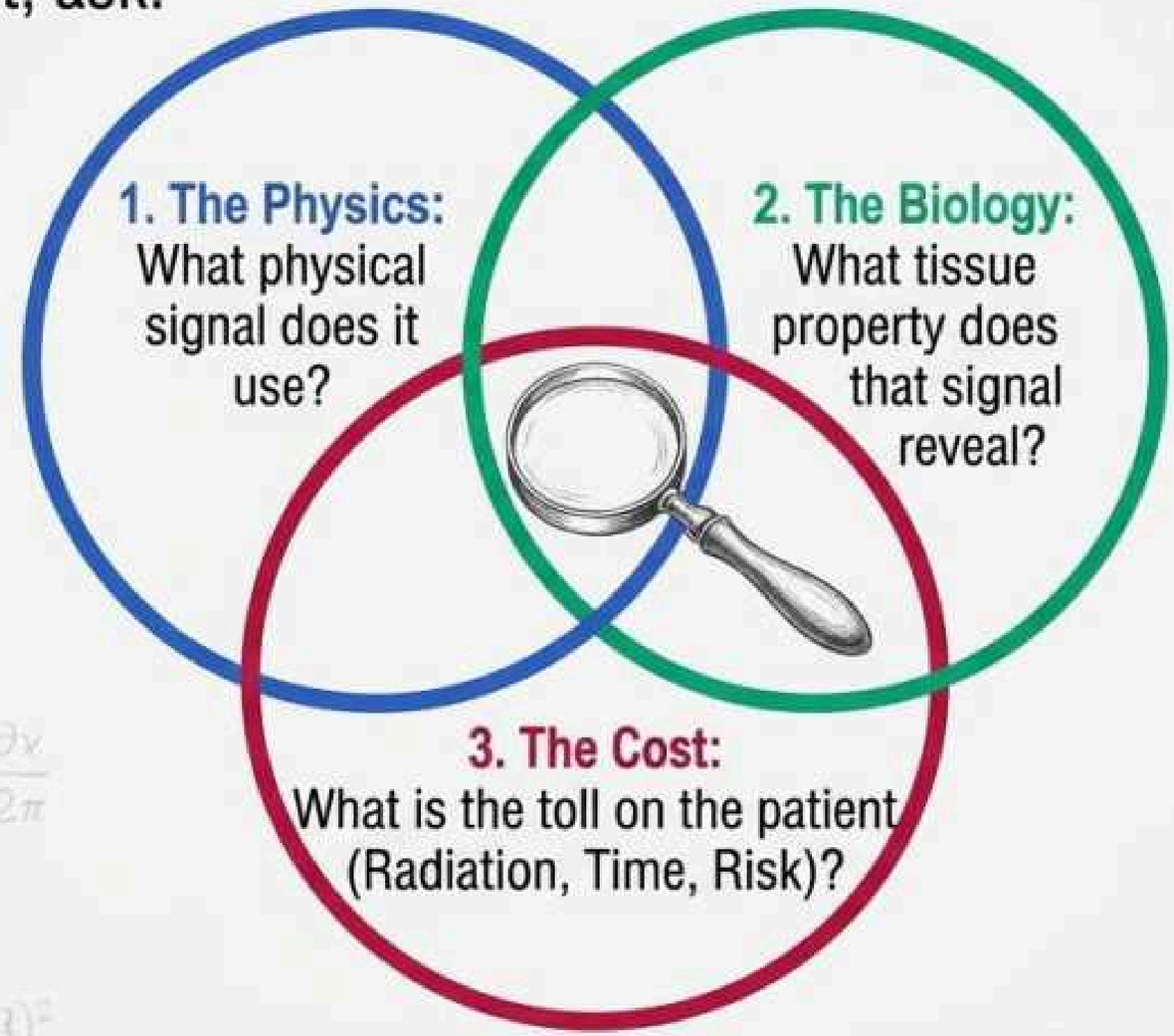
Integrates into MED 522 B

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The Core Heuristic: Three Essential Questions

¶ 0.7

For every imaging test, ask:



Insight: These three questions determine why a test succeeds or fails for specific clinical problems.

Let Us Begin.

¶0.8

Topic 1: The X-Ray

