Oh How Times Have Changed…

The Evolution of Education

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Conflicts

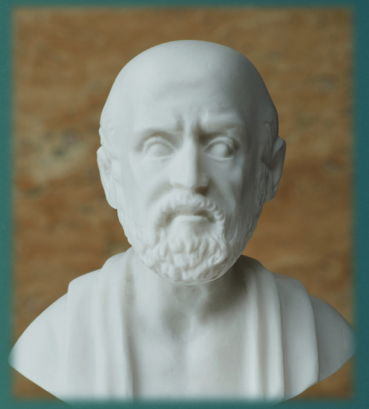
Goals…

- The Evolution of Medicine
- History of Medical Education
- Knowledge Translation…years…months…days
- How We Learn
- The Context of the Modern Learner
- Take Home Points

The Early Days…

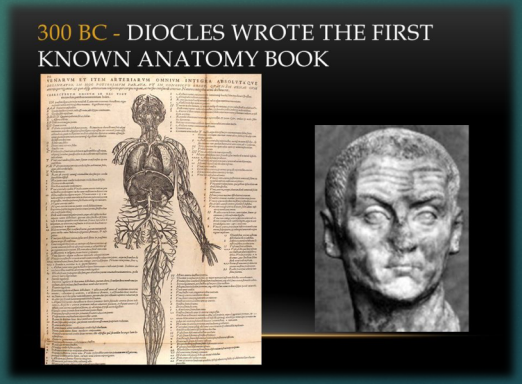
The Earliest Days…

The first known dentistry ~7000 BC in Baluchistan where Neolithic dentists used flint-tipped drills and bowstrings. The first known trepanning operation was ~5000 BC



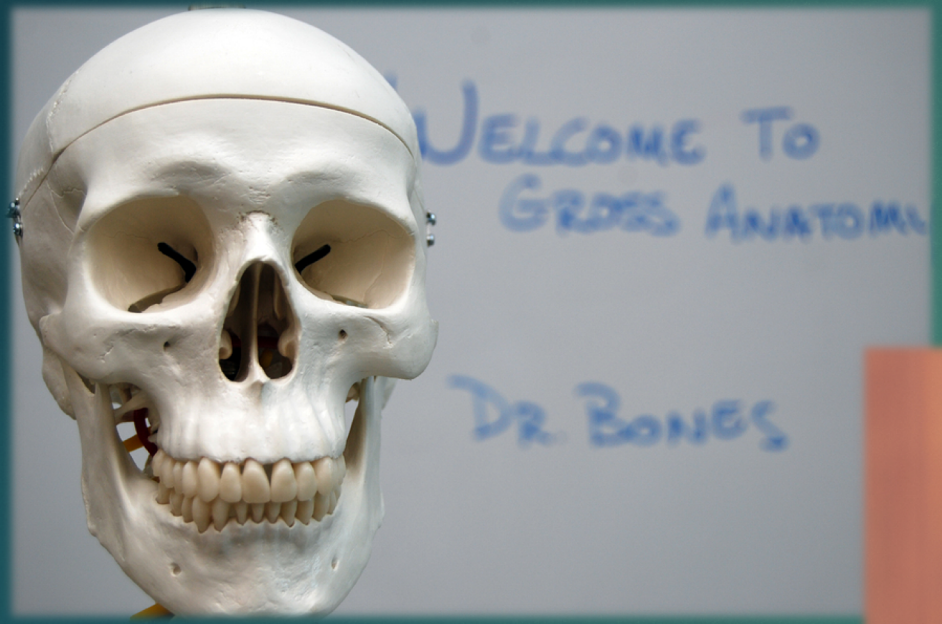
2600 BC The Egyptian Imhotep describes the diagnosis and treatment of 200 diseases

460 BC Birth of Hippocrates, the Greek father of medicine begins the scientific study of medicine and prescribes a form of aspirin



300 BC Diocles wrote the first known anatomy book

“Modern Medicine”…



“Modern Medicine”…

- Science Background
- Basic Sciences
  - Subject by subject
  - Linear learning
- Clinical Rotations
- Internship
- Residency
- Moonlighting?
- Attending
- Retire
- Die

Evolution? For better or worse…

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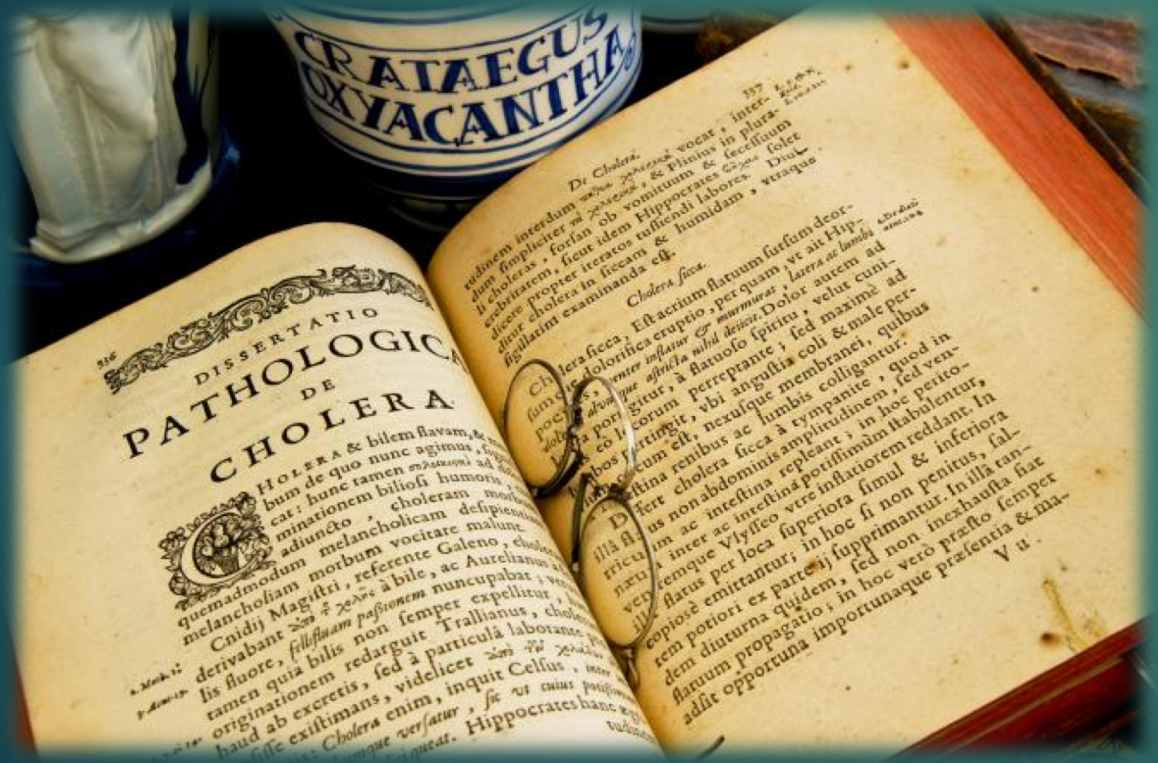

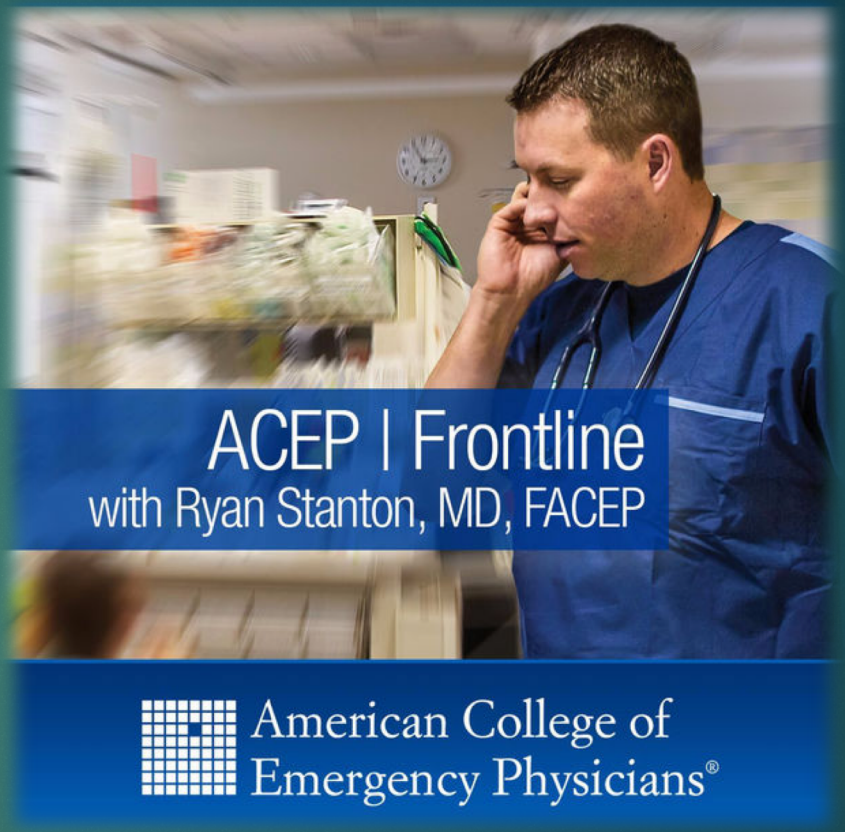

Knowledge at our fingertips…

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- Modern learning and access to information is unparalleled in human history
- As of 2016, it was estimated that the internet grows by 44 billion GB per day
  - Estimated 10x that by 2025
- We have access to almost any medical knowledge within seconds
  - Right and Wrong

What does this mean?

Decades…Years…Months…Days…

Generational Evolution…

Upset the Apple Cart…

- Bidirectional Learning
- Getting ahead of your skis
  - Possible widespread adoption before adequate vetting
  - Is it easier to do, or undo?
  - Cutting edge…but is ready for "primetime"
    - "I heard something on a podcast".
- Evolve the teaching model
  - Move past "1 size fits most"
- Assurance of "quality"
  - Is the source evidence based, opinion, or neither
- Widening gaps?

There is research…

Goals for modern medical education

1.	Standardize the learning outcomes and general competencies and provide options for customizing the learning process, providing opportunities for experiences in research, policy making, education, etc., reflecting the broad role played by physicians.
2.	In practice, physicians must constantly integrate all aspects of their knowledge, skills and values. They should acquire skills to educate, advocate, innovate, investigate and manage teams.
3.	Medical schools and teaching hospitals should support the engagement of all physicians-in-training in inquiry, discovery and systems innovation.
4.	Development of professional values, actions, and aspirations should be the backbone of medical education.

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Now more than ever… always learning

- Information and education slow for no man/woman
- If you aren't pushing the curve, you are behind it
- Medical gospel today may be heresy tomorrow
  - 50% of what we learn will eventually be malpractice…we just don't know which 50%
  - Gold Standard? –Is it 24 carat or fools gold?
  - 10 years ago, prescription opioids weren't addictive
- Have an open mind and always question why and how we do things
- Don't take anything at face value…get into the weeds

Take home…

- Education is evolving
  - As it should
- Information is everywhere
  - Good and bad
- Medicine is more than science and a stethoscope
- Don't put your faith in false idols
  - Truth is only as good as the facts…evidence
  - What is "standard" now may be malpractice tomorrow
- We must live as teachers and students…even when you earn grey hair…or no hair.

The end…