

INFORMATION INTOXICATION

EMRA Cuts Through the Haze with its 2013 Education Survey

A familiar refrain echoes continuously across the halls of hospitals all over the world:

Resident A: What (type of resource) do you use (time/place) to learn about (topic)?

Resident B: You should definitely check out (resource X), it's the best thing out there for learning (topic)!

Far from a nostalgic game of *Mad Libs*, this is a frequent conversation between adult learners eager to grow in the specialties they've chosen. Information flows from those who have gone before and have done it "right" to those who have self-identified an area of weakness. This invaluable information – passed down from one physician to the next – not only increases knowledge and skill, it also helps to improve patient care.

The Emergency Medicine Residency Review Committee (RRC) recognizes the value of self-directed learning in the training of future emergency physicians. The 2008 Council of Residency Directors (CORD) Academic Assembly Conference Alternatives Workgroup suggests that synchronous (traditional didactics-based) and asynchronous learning (accounted for by individualized instruction) have advantages and disadvantages, and the "ideal curriculum capitalizes on the strengths of each through a deliberate mixture of each."¹

The group allows for up to 20% of mandated education to occur in individualized sessions.² This formally made adult learners responsible for their own learning, with the freedom to target their own knowledge gaps in ways attuned to their personal learning styles and schedules. (This option is still residency-dependent).

The modern dilemma surrounding asynchronous learning is that **the amount of competing information available leads to "infoxication" (information + intoxication)**, otherwise known as information overload. Driven by the explosion of educational content available to residents with the advancement of web-accessible resources, the possibilities are endless. Many leading experts in their fields have embraced Web 2.0 and are available through social media to directly answer any additional questions an individual resident may have.³ If medical school felt like "trying to drink water from a

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fire hose," these ever-increasing options make current residency education akin to plugging that fire hose directly into the five oceans and turning it on full blast. Unadulterated, the information available can be overwhelming.

How does a single resident filter through the noise to find the right resource for learning? The EMRA Education Committee wanted to know the answer. We went back to the guidance "Resident A" was seeking from "Resident B" and thought: if one respected resident's opinion is good, 200 residents' opinions are even *better*.

During the two months surrounding the in-service examination this year, when residents' minds theoretically are most attuned to learning, **EMRA hosted an online survey asking visitors what resources they used most frequently. The results are enlightening.**



Results are also posted on the Education Committee page on emra.org.

EMRA EDUCATION SURVEY RESULTS

Resources EMRA Members Use Most

Daily

1. UpToDate
2. EMRA's *Antibiotic Guide*
3. Epocrates
4. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*

Main References

1. UpToDate
2. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
3. Rosen's *Emergency Medicine Concepts and Clinical Practice*
4. Roberts and Hedges'

On-Shift Resources

1. UpToDate
2. EMRA's *Antibiotic Guide*
3. Epocrates

Textbooks

1. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
2. Rosen's *Emergency Medicine Concepts and Clinical Practice*
3. Roberts and Hedges'
4. Harwood-Nuss'

Journals

1. *Annals of Emergency Medicine*
2. *Journal of Emergency Medicine*
3. *Academic Emergency Medicine*
4. *New England Journal of Medicine*
5. *JAMA*

Podcasts

1. EM:RAP
2. EMCrit
3. ERCast
4. SMART:EM

Blogs

1. EMCrit
2. Life in the Fastlane
3. Amal Mattu's *Emergency ECG*
4. Tie: UMEM Educational Pearls/Academic Life in EM

Question Banks

1. PEER Questions
2. ACEP Board Review Course

Specialty-Specific

Anesthesia

1. EMRA
2. Ron Walls' *Manual of Emergency Airway Management*
3. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide / UpToDate*

Cardiology

1. Amal Mattu's *Emergency ECG / UpToDate*
2. Rosen's *Emergency Medicine Concepts and Clinical Practice*
3. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*

Critical Care

1. EMCrit/Marino's *ICU Book*
2. EMRA Apps
3. Critical Care Clinics/Rosen's *Emergency Medicine Concepts and Clinical Practice*

Dermatology

1. *Fitzpatrick's Color Atlas*
2. Visual Diagnosis
3. UpToDate

ECG

1. Amal Mattu's *Emergency ECG*
2. Dubin's *Rapid Interpretation of EKG*
3. Dr. Smith's ECG blog

ENT

1. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
2. UpToDate
3. *Atlas of EM*

Medical Pharmacology

1. Epocrates
2. UpToDate
3. EMRA's *Antibiotic Guide*

Neurology

1. UpToDate
2. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
3. Rosen's *Emergency Medicine Concepts and Clinical Practice*

Ophthalmology

1. UpToDate
2. *The Wills Eye Manual*
3. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*

Orthopedics

1. Simon's *Emergency Orthopedics*
2. *Handbook of Fractures/Orthobullets.com*
3. *Wheless Textbook of Orthopaedics (Online)*

Pediatrics

1. *Harriet Lane Handbook*
2. UpToDate
3. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*

Procedures

1. Roberts and Hedges'
2. Youtube.com
3. EM Procedures/Google/UpToDate/Procedure Consult

Pulmonology

1. UpToDate
2. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
3. Rosen's *Emergency Medicine Concepts and Clinical Practice*

Radiology

1. Schwartz's *Emergency Medicine Case Studies/Learningradiology.com*
2. One Night in the ED (app)
3. UpToDate

Research

1. Pubmed
2. Evidencebasedmedicine.com/UpToDate
3. TheNNT.com

Toxicology

1. Goldfrank's *Toxicologic Emergencies*
2. Poison control centers
3. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide / Micromedex*

Trauma

1. *ATLS* textbook/Rosen's *Emergency Medicine Concepts and Clinical Practice*
2. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide*
3. UpToDate

Ultrasound

1. Ma's *Emergency Medicine Ultrasound*
2. Sonoguide.com/Emsono.com
3. Sonosite.com

Urology

1. Rosen's *Emergency Medicine Concepts and Clinical Practice / UpToDate*
2. Tintinalli's *Emergency Medicine: A Comprehensive Study Guide* ★

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