

ScholarQuest – EBM – Critical Appraisal Journal Club

A Curriculum for Information Mastery

Goal:

Prepare emergency medicine residents for successful careers that include competency at asking appropriate clinical questions, acquiring appropriate best evidence information to answer those questions, appraising the evidence acquired, and applying that information to lifelong learning medical knowledge and best clinical practice to improve care of the patients they care for.

Objectives:

1. Demonstrate an understanding of the key elements of clinical research through active participation in ScholarQuest – a three-year integrated research experience.
2. Actively participate in Evidence-Based Decision Making in the emergency department caring for patients.
3. Participate and exhibit competency at critical appraisal skills during the three-year, level-specific CA Journal Club.

Overview:

These programs integrate into a highly structured three-year Information Mastery program with three components: Evidence-based Medicine curriculum, Critical-Appraisal Journal Club, and ScholarQuest. Each are highly complementary of the whole and each other.

One specific learning activity that we consider a best practice example is the use of a novel custom emergency medicine search engine that educates while providing perhaps the most comprehensive and tailored information acquisition in medical education. The use of the search tool is an educational activity central to the goal of Information Mastery. Each search, whether to acquire information for clinical care, a didactic presentation or research project literature search, emphasizes the central concept of evidence strength. Search results are delivered to the user in a stratified manner according to accepted hierarchies of scientific strength rather than popularity or commercially-motivated paradigms (Google, Yahoo, etc.). The Evidence-Based Medicine Search Engine (*EBM Search*) is available online from anywhere with your UA NetID. *EBM Search* is also available WITHIN the EPIC electronic health record. It is a federated, meta-search with filters specific for EM content. It includes major textbooks, journals (full-text) and popular information websites. It will help you locate and appraise the best evidence available for clinical questions. Residents therefore practice lifelong learning and critical appraisal skills every clinical shift answering clinical questions and when researching content for conference presentations, EBM journal clubs and ScholarQuest research projects. EBM skills are assessed by faculty and documented on our direct observation bedside evaluation tool and evaluation shifts developed and supported by the program. Residents are expected to ask clinical questions, acquire electronically the information to answer the question, appraise the evidence acquired and apply the information to their specific patients.

The tool's creation, technical evolution and educational implementation is an area of scholarly focus of the program director and the UA Health Sciences Library.

Bracke P, Howse D, **Keim SM**; Evidence-based Medicine Search: A Customizable Federated Search Engine; *Journal Medical Librarian Association*; 2008;96(2):108-113.

Howse D, Bracke P, **Keim SM**; Technology Mediator: A New Role for the Reference Librarian?; *Biomedical Digital Libraries*; 2006;3:10.

ScholarQuest

Year 1:

1. Demonstrate understanding of key elements of biostatistics, clinical epidemiology, peer-reviewed publication, informational databases, ethics of human research, Institutional Review Boards, research questions and hypothesis, study design, professional team-building, mentoring, academic progress, promotion and tenure, grantsmanship.
2. Complete human subjects research ethics training.
3. Create a researchable hypothesis and research question with a team.
4. Participate in mentoring from a research faculty member.

Year 2:

1. Demonstrate competency at participating within an academic team motivated to conduct original research.
2. Submit an abstract of research to a peer-reviewed scientific meeting.
3. Participate in the construction of a poster or oral presentation of #2.
4. Participate in mentoring from a research faculty member.

Year 3:

1. Demonstrate competency at completing an original research project with publication and presentation of results with peer review.
2. Submit a publication to a peer-reviewed journal.
3. Participate in mentoring from a research faculty member.

Critical Appraisal Journal Club

Year 1:

1. Participate in a JC targeting fundamental skills of Critical Appraisal including the identification of focus, hypothesis, internal validity, construct validity, external validity, statistical analysis, results, conclusions.

Year 2:

1. Demonstrate proficiency at Year 1 objectives plus apply these skills to some of the key milestone publications in emergency medicine.

Year 3:

1. Demonstrate excellence at Year 1 and 2 objectives plus apply these skills to the current literature published.
2. Demonstrate the ability to lead an educational activity of critical appraisal.

EBM

Year 1:

1. Demonstrate understanding of key elements of EBM including how to ask clinical questions, acquire evidence, appraise evidence and apply to patient care and lifelong learning.
2. Demonstrate understanding of federated search technology available at UA.
3. Read assignments and participate in discussions from JAMA Users' Guide.

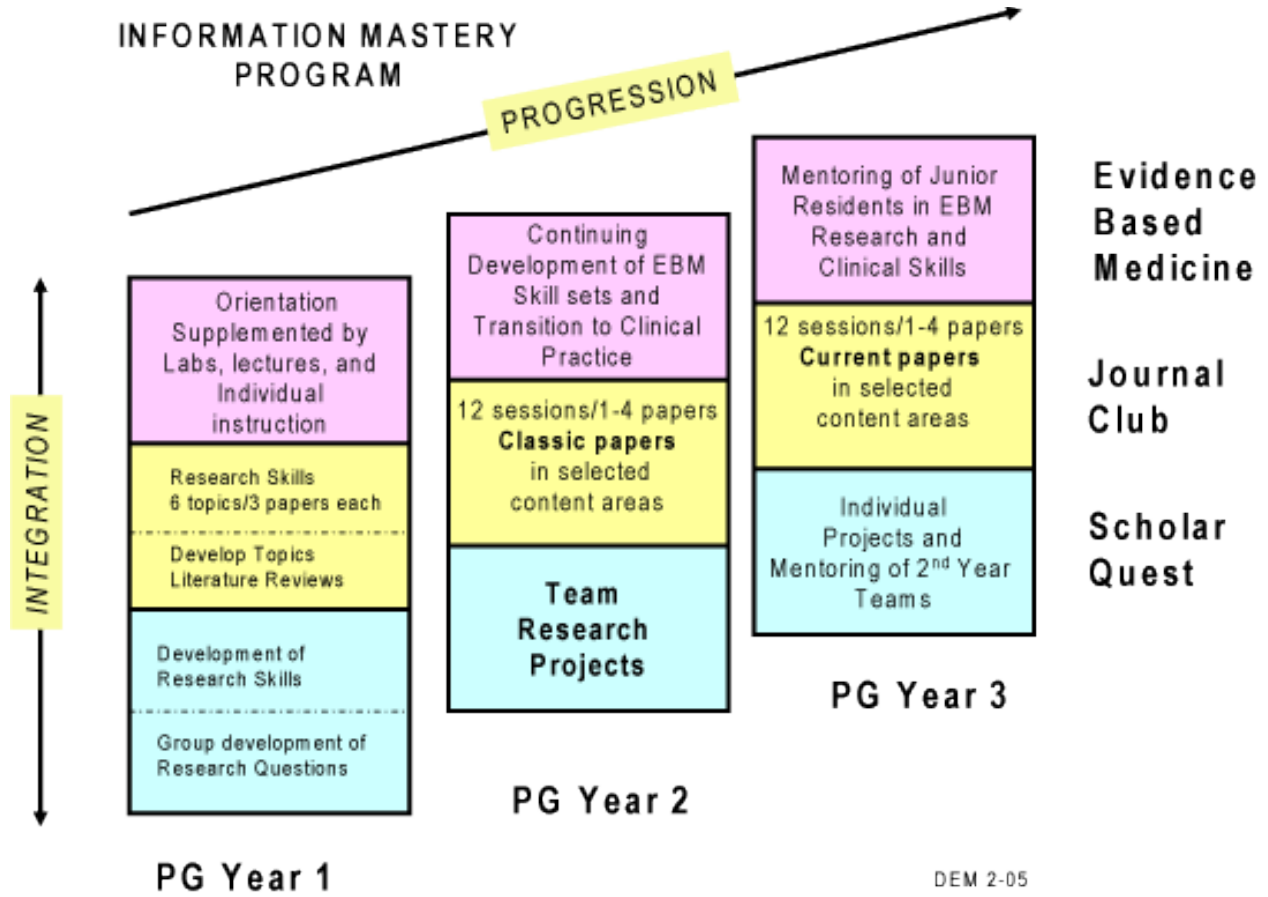
Year 2:

1. Demonstrate the ability to practice EBM in the ED.
2. Demonstrate the ability to present didactic conference with best evidence.
3. Read assignments and participate in discussions from JAMA Users' Guide.

Year 3:

1. Demonstrate excellence with objectives in Years 1 and 2.
2. Demonstrate the ability to teach medical students based on best evidence.
3. Read assignments and participate in discussions from JAMA Users' Guide.

INFORMATION MASTERY PROGRAM



DEM 2-05