From Clinical Practice to Research and Publication: An EBM Roadmap for Medical Students

This course spans four weeks, with each week featuring a comprehensive 90-minute lesson. Over the duration of this course, you will acquire fundamental insights into the primary tenets that underpin the daily activities of a clinician engaged in evidence-based medicine (EBM) and active medical research. The paramount objective of this course is to furnish you with essential foundational knowledge, thereby instilling the motivation to pursue further learning and the refinement of your competencies in these critical domains.

Week #1 (10.06.24) - Navigating from Clinical Dilemma to Academic Inquiry (Dr. Michal Meir)

- The evolution of medical knowledge base.
- From Medical dilemma to questions - basics of translation and phrasing techniques.
- Sources of medical knowledge.
- Quality of evidence assessment.
- Standard of care sources by professional societies.
- Initiating the search - where and how.
- The PICO Model.
- Practice - Rephrasing, keywords & MeSH terms, Refining the search, Expanding, Evaluating the source, Reading, and learning.

Week #2 (18.06.24) - The Core of Research: Essentials in Evidence-Based Medicine, Clinical Studies, and Critical Analysis (Dr. Yotam Bronstein)

- Evidence-Based Medicine overview - understand the fundamental principles that underpin modern medical knowledge.
- Exploring clinical research - discover various types of clinical research and their significance.
- Randomized control trials - examine the phases, key principles, and real-life examples.
- Distinguishing low vs. high-quality evidence - learning how to critically assess and differentiate inferior and superior evidence through practical examples.
- Recognizing preliminary findings - identify promising insights into innovative treatments and novel clinical approaches.

Week #3 (25.06.24) - Research, Writing, and Publication: Guiding Principles (Prof. Sharon Einav).

- Survey of the medical academic landscape - a panoramic perspective on the academic milieu within the medical domain.
- Crafting an academic career - a roadmap to professional ascension and excellence in the academic sphere.
- Constructing research and authorship - an instructive exploration of the nuances surrounding research proposal composition, article structuring, and the defining impact of research protocols and record substantiation on the article composition process.

- Peer review in scholarly Publication - an overview of the intricacies of peer review, encompassing considerations such as sample size, deviations, limitations, typology classification, and associated considerations.

Week #4 (02.07.24) - Introduction to AI Tools in Clinical Practice and Academic Medical Research (Itay Zahavi).

- What are LLMs and generative AI tools: Expansion and Terms.
- Using ChatGPT in article writing and clinical decision-making.
    - Explanations.
    - Examples.
    - Main conclusions and perspective from current research.
    - Limitations.
- Practical use of ChatGPT:
    - Writing prompts.
    - Minimizing hallucinations.
    - Statistics and coding.
    - Clarification of terminology.
    - Brainstorming and literature search.
    - Rephrasing and editing.
- The Future of AI Tools in Medicine and Medical Research.