

Name of block	Block-1
Name of elective	Introduction to Systematic Reviews and Meta-analysis
Location of hospital lab. or research facility	Department of Pharmacology
Name of internal preceptor (s)	Dr. Kirandeep Kaur
Name of external perceptor (if applicable)	-
Learning objectives of elective	• Introduction to systematic reviews and meta-analysis • Developing a Protocol for a systematic review • Search and selection of clinical studies • Use of reference manager-Mendeley • Introduction to RevManWeb • Steps of systematic review
Number of students that can be accommodated in this elective	4
Pre-requisites	• Interest in understanding evidence-based medicine • Interest in clinical research
Learning resources	• Cochrane Library https://www.cochranelibrary.com/
List of activities of student participation	• Develop a protocol for a systematic review. • To do a study search and selection.
Portfolio entries required	• A protocol for a systematic review
Logbook entry required	• Satisfactory completion of protocol for “M” grade
Assessment	• Formative attendance, participation in the course • Summative-presentation in the department

Introduction to Systematic Reviews and Meta-analysis

The two-week elective course, *Introduction to Systematic Reviews and Meta-Analysis*, offers students a structured entry into the methods that shape high-quality medical evidence. In a field where clinical decisions depend on clarity rather than conjecture, the ability to systematically evaluate research has become indispensable. This course introduces students to the principles and practices underpinning rigorous evidence synthesis, guiding them through each stage with clarity and practical relevance.

Systematic reviews and meta-analyses form the backbone of clinical guidelines, policy recommendations, and treatment standards. Through this elective, students examine how research questions are refined, how studies are identified and appraised, and how data from multiple investigations can be combined to produce reliable conclusions. The curriculum emphasizes precision, transparency, and critical thinking qualities essential for anyone engaging with scientific literature.

The core components of the course include:

- **Formulating focused clinical questions** using structured frameworks, such as PICO.
- **Conducting systematic literature searches** across major biomedical databases.
- **Evaluating study quality and identifying sources of bias** that influence outcomes.
- **Extracting and organizing data** from selected research articles with accuracy and consistency.
- **Exploring foundational concepts of meta-analysis**, including effect measures, heterogeneity and graphical interpretation.
- **Interpreting synthesized evidence** in the context of clinical practice and research priorities.
- **Developing critical appraisal skills** essential for navigating contemporary medical literature.

Purpose and Outlook

- This elective equips students with a practical understanding of how medical knowledge is consolidated and how well-designed reviews influence patient care, research directions, and health policy.
- All steps, starting from the formulation of the research question to the development of the protocol, study search, use of Cochrane RevMan Web, and writing of the systematic review, will be conducted as a team.
- The course encourages students to move beyond passive reading and develop an active and analytical approach to research. By understanding how evidence is assembled, students gain insight into the strengths and limitations of published studies and learn to interpret the findings with greater confidence.
- At the end of the course, the students will be well-versed with the Mendeley reference manager, RevMan Web, how to conduct systematic reviews, and how to critically evaluate a systematic review.

