Levels of Scientific Evidence infographic

Levels of Evidence-Based Research	Additional Notes
Meta-Analysis and Systematic Review The goal is to answer clinical questions by identifying, appraising, and synthesizing important clinical studies (original research) on a particular issue to provide clinical significance and efficacy. Meta-analysis uses statistical or quantitative methods to analyze and synthesize the outcomes of the systematic review.	• They have clearly stated objectives or research questions (similar to how original research has a hypothesis). They also decide on the types and characteristics of the populations, conditions, outcomes, interventions, etc. • They have a criteria listing of what they searched for, where they did the searches, what limits were applied (e.g. what type of studies). • Select studies that matched their criteria and screen for high-quality research. • Synthesis evidence. May or may not conduct a meta-analysis depending on whether the research question requires qualitative or quantitative data. • Concludes with recommendations for clinical work and research.
Randomized Clinical Trial (RCT) and Controlled Clinical Trial RCT are controlled clinical trials that test the effectiveness of a treatment, therapy, or medication by randomly assigning participants into control (placebo or no treatment) or experiment (control group) groups.	Randomization reduces selection biases while double-blinding reduces performance biases on both patients and clinicians.
Cross-Sectional Study and Cohort Study These analytical studies measure the exposure or treatments and then attempt to quantify the relationship between factors such as the effect of an intervention on an outcome.	Cohort studies are like long-term observations; they don't intervene or provide treatments. Cross-sectional studies the relationship, in particular, the association (not causality) between diseases; they provide a snapshot at a particular time.
Case Study, Observational Study, and Qualitative Study	Sometimes when a disease is rare or when it is not ethically possible to conduct higher levels of evidence-based research, exploratory case studies and

They record exposures such as interventions or risk factors and observe outcomes. These may be descriptive or analytical but they do not provide causality or quantitative evidence.	observations provide descriptive insights into impacts on patients. It also provides a more holistic approach that accounts for the interactions of more than one variable.
Expert Opinion, Commentary, and Physiological Theory Established practitioners, researchers, and professional associations write articles to provide an overview, answer clinical background questions, or to provide industry standards, guidelines, and recommendations.	Editorials, encyclopedias, and handbooks are also good sources of basic concepts and information.

Enjoy this fun parody of Coldplay's Viva La Vida (4 mins): https://www.youtube.com/watch?v=QUW0Q8tXVUc