



TWIN CITIES ORTHOPEDICS

TCO Virtual Rounds February 17th, 2022

1. Read the article Abstract, key points, highlight text box, and the Conclusion section.
 - a. Question: *What did the authors find, and why did they think it was necessary?*
 - b. Question: *What is the study design (Observational study, RCT, etc.)?*
 - c. Question: *What are the study's primary outcome(s) and secondary outcome(s)?*

2. Take some time to scan the tables and figures in the article
 - a. Question: *Do the tables and figures tell a story that agrees with the author's stated outcome?*
 - b. Comment – Try to get your interpretation, or "take," on the study results before reading the author's views on the results.

3. Read the Introduction with the following questions
 - a. Question: *What is the stated topic of the paper, and why is it important?*
 - b. Question: *What research on this topic has been done so far, and what new information is needed?*
 - c. Question: *Is the literature cited by the authors appropriate, relevant, and up to date?*
 - d. Question: *What problems, hypotheses, or research questions are addressed in the study?*
 - e. Question: *Do they end the Introduction with a clear statement of purpose of their research question/hypothesis?*

4. Read the Materials and Methods section (Methodology)
 - a. Question: *Was the trial pre-registered (e.g., www.clinicaltrials.gov)? Does the trial registration match what the researchers did?*
 - b. Question: *Did the authors determine if the study was powered to detect the changes they wanted to see?*
 - c. Question: *Are the statistical methods appropriate for the research question and the type of data collected?*
 - d. Question: *Were adverse events tracked throughout the study?*
 - e. Question: *How may have patient's or clinician's bias and expectations have influenced data collection?*

5. Use an established checklist to review methodology in detail
 - a. PEDro checklist, the Physiotherapy Evidence Database at <https://pedro.org.au/>



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- b. Based on the type of study, one can find an appropriate checklist at the equator-network (Enhancing the **QUAL**ity and **TRAN**sparency **OF** health Research) website at <https://www.equator-network.org/>

6. Read the results section
 - a. Question: *What new information can I gather from the Results section that was not readily available in the figures and tables I have already reviewed?*
 - b. Question: *Did the study provide explicit answers to the research question(s) asked?*

7. Read the Discussion section
 - a. Question: *How does the author explain the main finding? Are alternate explanations for the outcomes provided?*
 - b. Question: *How does the main finding agree or disagree with previous research findings?*
 - c. Question: *What are the main strengths and limitations of the study, and how do they affect the interpretation of the study results?*

8. Reread the conclusion section
 - a. Question: *Does the paper describe something new, confirm or refute previous research work?*
 - b. Question: *Are the results clinically significant? Will they change my clinical practice? Will they change how I present related information to the patient?*
 - c. Question: *How do my clinical biases and narratives influence my interpretation of this paper?*