Cincinnati Children's®

Project/Topic of your Clinical Question: _____

Reviewer: _____ **Today's Date:** _____ **Final Evidence Level:** _____

Article Title: _____

Year: _____ **First Author:** _____ **Journal:** _____

Do the study aim/purpose/objectives and inclusion/exclusion criteria assist in answering your clinical question?

☐ Yes ☐ No ☐ Unknown

- Study Aim/Purpose/Objectives:

- Inclusion Criteria:

- Exclusion Criteria:

When reading the bolded questions, consider the bulleted questions to help answer the main question.

If you are uncertain of your skills in evidence evaluation, please consult a local evidence expert for assistance:

CCHMC Evidence Experts: http://groups/ce/NewEBC/EBDMHelp.htm

Unfamiliar terms can be found in the LEGEND Glossary: http://groups/ce/NewEBC/EBCFiles/GLOSSARY-EBDM.pdf

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VALIDITY: ARE THE RESULTS OF THE SYSTEMATIC REVIEW / META–ANALYSIS VALID OR CREDIBLE?

1. **Did the overview address a focused clinical question?**   ☐ Yes ☐ No ☐ Unknown
   Comments:

2. **Was the search for relevant studies detailed and exhaustive?**   ☐ Yes ☐ No ☐ Unknown
   - Were the selection criteria clearly described?
   - Was it *unlikely* that important, relevant studies were missed?
   Comments:

3. **Was the quality of the included studies appraised?**   ☐ Yes ☐ No ☐ Unknown
   Comments:

4. **Were the methods consistent from study to study?**   ☐ Yes ☐ No ☐ Unknown
   - Did the sample include an appropriate variety of patients to whom the diagnostic test will be applied in clinical practice?
   - Did the clinicians know the participant diagnosis prior to reviewing any test results *(i.e., diagnostic uncertainty)*?
   - Were the index tests *(e.g., test being studied)* and reference standards *(e.g., gold standard or currently used test)* described?
   - Were withdrawals from the studies described?
   Comments:

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5. **Did studies use independent, blind comparisons with reference standard tests**
   *(without knowledge of the results of the other test)***?**   ☐ Yes ☐ No ☐ Unknown
   - Were the reference standards likely to correctly classify the target condition?
   - Did all studies include verification of diagnosis using a reference standard?
   Comments:

6. **Was there freedom from conflict of interest?**   ☐ Yes ☐ No ☐ Unknown
   - Sponsor/Funding Agency or Investigators
   Comments:

RELIABILITY: ARE THESE VALID STUDY RESULTS IMPORTANT?

7. **Were the same clinical data available when test results were interpreted as would be available when the test is used in practice?**   ☐ Yes ☐ No ☐ Unknown
   Comments:

8. **Were all test results reported, including uninterpretable or intermediate test results?**   ☐ Yes ☐ No ☐ Unknown
   Comments:

9. **What are the main results of the study?** *(e.g., Helpful data: Page #, Table #, Figures, Graphs)*

   - What was the effect size?
     (e.g., Diagnostic Accuracy – Sensitivity/Specificity, Likelihood Ratios, Limits of Agreement, Patient data to calculate these)

   - What were the measures of statistical uncertainty *(e.g., precision)*?
     (Were the results presented with Confidence Intervals or Standard Deviations?)

10. **Were the results statistically significant?**   ☐ Yes ☐ No ☐ Unknown
    Comments:

11. **Were the results clinically significant?**   ☐ Yes ☐ No ☐ Unknown
    - If potential confounders were identified, were they discussed in relationship to the results?
    Comments:

APPLICABILITY: **CAN I APPLY THESE VALID, IMPORTANT STUDY RESULTS TO TREATING MY PATIENTS?**

12. **Can the results be applied to my population of interest?**   ☐ Yes ☐ No ☐ Unknown
    - Is the diagnostic test feasible in my care setting?
    - Are the likely benefits worth the potential harm and costs?
    - Were the patients in this study similar to my population of interest?
    Comments:

13. **Are my patient's and family's values and preferences satisfied by the use of the diagnostic test?**   ☐ Yes ☐ No ☐ Unknown
    Comments:

14. **Would you include this study/article in development of a care recommendation?** ☐ Yes ☐ No ☐ Unknown
    Comments:

ADDITIONAL COMMENTS OR CONCLUSIONS ("TAKE-HOME POINTS"):

QUALITY LEVEL / EVIDENCE LEVEL

- *Consider each "No" answer and the degree to which this limitation is a threat to the validity of the results, then check the appropriate box to assign the level of quality for this study/article.*
- *Consider an "Unknown" answer to one or more questions as a similar limitation to answering "No," if the information is not available in the article.*

THE EVIDENCE LEVEL IS:

☐ **Good Quality Systematic Review**   [1a]
☐ **Lesser Quality Systematic Review**   [1b]

☐ **Not Valid, Reliable, or Applicable**

Table of Evidence Levels														
DOMAIN OF CLINICAL QUESTION	**TYPE OF STUDY / STUDY DESIGN**													
	Systematic Review Meta–Analysis	CCT [+]	Psychometric Study	Cohort – Prospective	Cohort – Retrospective	Cross – Sectional	Descriptive Study Epidemiology Case Series	Mixed Methods Study	Decision Analysis Economic Analysis Computer Simulation	Guidelines	Case Reports N-of-1 Study	Bench Study	Published Expert Opinion	Local Consensus Published Abstracts
Diagnosis / Assessment	1a 1b	2a 2b	2a 2b	3a 3b	4a 4b	4a 4b	4a 4b	2/3/4 a/b	5a 5b	5a 5b	5a 5b	5a 5b	5a 5b	5

[+] *CCT = Controlled Clinical Trial*

Development for this appraisal form is based on:

1. Guyatt, G.; Rennie, D.; Evidence-Based Medicine Working Group.; and American Medical Association.: Users' guides to the medical literature : a manual for evidence-based clinical practice. *Users' guides to the medical literature : a manual for evidence-based clinical practice:* "JAMA & archives journals." Chicago, IL, 2002
2. Melnyk, B. M. and E. Fineout-Overholt (2005). Evidence-based practice in nursing & healthcare : a guide to best practice. Philadelphia, Lippincott Williams & Wilkins.
3. Lohr, K. N. and T. S. Carey (1999). "Assessing "best evidence": issues in grading the quality of studies for systematic reviews." Joint Commission Journal on Quality Improvement 25(9): 470-9.
4. Phillips, et al: Oxford Centre for Evidence-based Medicine Levels of Evidence, 2001. Last accessed Nov 14, 2007 from http://www.cebm.net/index.aspx?o=1025.
5. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. *Worldviews Evid Based Nurs,* 2(3): 157-60, 2005.