Cincinnati Children's

LEGEND: Evidence Appraisal of a Single Study
Diagnosis / Assessment
Systematic Review / Meta-Analysis

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

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:

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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 recommendation? ☐ Yes ☐ No ☐ Unknown

Comments:

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

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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							
	TYPE OF STUDY / STUDY DESIGN						
DOMAIN OF CLINICAL QUESTION	**Systematic Review Meta–Analysis**	**CCT + Cohort – Prospective**	**Psychometric Study**	**Cohort – Retrospective**	**Cross–Sectional**	**Epidemiology Descriptive Case Series**	**Expert Opinion Case Reports**
Diagnosis / Assessment	**1a 1b**	**2a 2b**	**2a 2b**	**3a 3b**	**4a 4b**	**4a 4b**	**5a 5b**

+ CCT – Controlled Clinical Trial, RCT – Randomized Controlled 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.

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