Cincinnati Children's

LEGEND: Evidence Appraisal of a Single Study
All Domains
Bench Study

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:

Is a bench study congruent with the author's study purpose above? ☐ Yes ☐ No ☐ Unknown

Comments:

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 BENCH STUDY VALID OR CREDIBLE?

1. **Was there a theoretical basis for the experiment** *(i.e. biologic or physiologic plausibility)*? ☐ Yes ☐ No ☐ Unknown
   Comments:

2. **Were the parameters used based on industry standard or relevant literature?** ☐ Yes ☐ No ☐ Unknown
   - If not, was there a substantive argument for using a different parameter?

   Comments:

3. **Was the study conducted in the field rather than a controlled, laboratory environment?** ☐ Yes ☐ No ☐ Unknown
   Comments:

4. **Were the study methods appropriate?** ☐ Yes ☐ No ☐ Unknown
   Comments:

5. **Were valid and reliable instruments/methods used to measure the results?** ☐ Yes ☐ No ☐ Unknown
   - Was evidence provided to support the validity and reliability?

   Comments:

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

   Comments:

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RELIABILITY: ARE THESE VALID STUDY RESULTS IMPORTANT?

7. Was the description of the methods adequate to allow reproducibility? ☐ Yes ☐ No ☐ Unknown

Comments:

8. Was enough data provided to support study conclusions? ☐ Yes ☐ No ☐ Unknown

Comments:

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

10. Was appropriate allowance made for uncertainties in the analysis? ☐ Yes ☐ No ☐ Unknown

Comments:

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

Comments:

11. Were the results statistically significant? ☐ Yes ☐ No ☐ Unknown

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

- Can the results of the bench study be translated to the clinical setting?
- Are the results relevant to my population or question of interest?

Comments:

13. Would you include this study/article in development of a 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 Bench Study** [5a]
☐ **Lesser Quality Bench Study** [5b]
☐ **Not Applicable**

Table of Evidence Levels

DOMAIN OF CLINICAL QUESTION	TYPE OF STUDY / STUDY DESIGN																			
	Systematic Review Meta–Analysis	Meta–Synthesis	RCT+	CCT+	Psychometric Study	Qualitative Study	Cohort – Prospective	Cohort – Retrospective	Case – Control	Longitudinal (Before/After, Time Series)	Cross – Sectional	Descriptive Study Epidemiology Case Series	Quality Improvement (PDSA)	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
All Domains	1a 1b											4a 4b		2/3/4 a/b	5a 5b	5a 5b	5a 5b	5a 5b	5a 5b	5

+ *RCT = Randomized Controlled Trial; CCT = Controlled Clinical Trial*

Development Development for this appraisal form is based on:

1. Denzen, N. & Lincoln. Y. (2005). The Sage Handbook of Qualitative Research, Sage Publications: Thousand Oaks, California.
2. Fineout-Overholt and Johnston: Teaching EBP: asking searchable, answerable clinical questions. Worldviews Evid Based Nurs, 2(3): 157-60, 2005.
3. Freshwater, D. (2004). Deconstructing Evidence Based Practice, Routledge: New York: New York.
4. Guba, Y. & Lincoln, E. (1989). Fourth Generation Evaluation, Sage Publications: Newbury Part, California.
5. 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
6. Leininger, M (1991). Culture care diversity and universality: A theory of Nursing, National League for Nursing Press: New York
7. Leininger, M. & McFarland, M. (2006). 2nd Ed. Culture care diversity and universality: A worldwide nursing theory. Jones & Bartlett Publishers: Sudbury, Mass.
8. Lincoln, Y. & Guba, E. (1985). Naturalistic Inquiry, Sage Publications: Newbury Park, California.
9. Morse, J., Swanson, J., & Kuzal, A. (2001). The Nature of Qualitative Evidence, Sage Publications: Thousand Oaks, California.
10. 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.

