

Family Medicine Clerkship - Evidence Based Medicine Project Outline

Student Name:

Assess: Provide the background data of your patient

Ask: Write your Clinical Question and Indicate type of question (Therapeutic, Diagnostic, Harm, Prognostic or a Systematic Review of one of the above types)

Acquire: Describe your literature search, including the search strategy used, and list the citation of the article you will be Appraising. Additionally, ATTACH THE ARTICLE IN SAKAI, so that your faculty evaluator can read it.

Appraise: *Copy and answer each question* from the User Guides (attached below) in the Duke Module/JAMA User guides for your type of article, in order evaluate the risk of bias (validity) and evaluate the results.

Apply: *Copy and answer each question* under Apply from the user guides. How will you apply the results to your patient care?

Analyze: Reflect on your overall effort and performance. Did you ask a relevant, well focused question? Did you locate evidence to answer this question? Did you find a pre-appraised article? What did you learn?

Users' Guides for an Article About Therapy

<https://guides.mclibrary.duke.edu/ebptutorial/therapy>

<http://jamaevidence.mhmedical.com.archer.luhs.org/content.aspx?bookid=847§ionid=69031464>

APPRAISE: How serious was the risk of bias?

- Did intervention and control groups start with the same prognosis?
- Were patients randomized?
- Was randomization concealed?
- Were patients in the study groups similar with respect to known prognostic factors?
- Was prognostic balance maintained as the study progressed?
- To what extent was the study blinded?
- Were the groups prognostically balanced at the study's completion?
- Was follow-up complete?
- Were patients analyzed in the groups to which they were randomized?
- Was the trial stopped early?

APPRAISE: What are the results?

- How large was the treatment effect?
- How precise was the estimate of the treatment effect?

APPLY: How can I apply the results to patient care?

- Were the study patients similar to my patient?
- Were all patient-important outcomes considered?
- Are the likely treatment benefits worth the potential harm and costs?

Users' Guide for an Article About Interpreting Diagnostic Test Results

<https://guides.mclibrary.duke.edu/ebptutorial/diagnosis>

<http://jamaevidence.mhmedical.com.archer.luhs.org/content.aspx?bookid=847§ionid=69031491>

APPRAISE: How serious is the risk of bias?

Did participating patients constitute a representative sample of those presenting with a diagnostic dilemma?

Did investigators compare the test to an appropriate, independent reference standard?

Were those interpreting the test and reference standard blind to the other result?

Did all patients receive the same reference standard irrespective of the test results?

APPRAISE: What are the results?

What likelihood ratios were associated with the range of possible test results?

APPLY: How can I apply the results to patient care?

Will the reproducibility of the test results and their interpretation be satisfactory in my clinical setting?

Are the study results applicable to the patients in my practice?

Will the test results change my management strategy?

Will patients be better off as a result of the test?

Users' Guides to an Article About Prognosis

<https://guides.mclibrary.duke.edu/ebptutorial/prognosis>

<https://jamaevidence-mhmedical-com.archer.luhs.org/ViewLarge.aspxfigid=69033494&gbosContainerID=0&gbosid=0&groupID=0§ionId=69031497>

APPRAISE: How serious is the risk of bias?

Was the sample of patients representative?

Were the patients classified into prognostically homogeneous groups?

Was follow-up sufficiently complete?

Were outcome criteria objective and unbiased?

APPRAISE: What are the results?

How likely are the outcomes over time?

How precise are the estimates of likelihood?

APPLY: How can I apply the results to patient care?

Were the study patients and their management similar to those in my practice?

Was follow-up sufficiently long?

Can I use the results in the management of patients in my practice?

Users' Guides for an Article About Harm

<https://guides.mclibrary.duke.edu/ebptutorial/harm>

<http://archer.luhs.org/login?url=https://jamaevidence.mhmedical.com/ViewLarge.aspx?figid=69033494&gbosContainerID=0&gbosid=0&groupID=0§ionId=69031497>

APPRAISE: How serious is the risk of bias?

In a cohort study, aside from the exposure of interest, did the exposed and control groups start and finish with the same risk for the outcome?

Were patients similar for prognostic factors that are known to be associated with the outcome (or did statistical adjustment address the imbalance)?

Were the circumstances and methods for detecting the outcome similar?

Was the follow-up sufficiently complete?

In a case-control study, did the cases and control group have the same risk for being exposed in the past?

Were cases and controls similar with respect to the indication or circumstances that would lead to exposure (or did statistical adjustment address the imbalance)?

Were the circumstances and methods for determining exposure similar for cases and controls?

APPRAISE: What are the results?

How strong is the association between exposure and outcome?

How precise was the estimate of the risk?

APPLY: How can I apply the results to patient care?

Were the study patients similar to the patient in my practice?

Was follow-up sufficiently long?

Is the exposure similar to what might occur in my patient?

What is the magnitude of the risk?

Are there any benefits that are known to be associated with exposure?

Users' Guides for a Systematic Review (some may include a Meta-Analysis)

<https://guides.mclibrary.duke.edu/ebptutorial/systematicreview>

<http://archer.luhs.org/login?url=https://jamaevidence.mhmedical.com/ViewLarge.aspx?figid=69033668&gbosContainerID=0&gbosid=0&groupID=0§ionId=69031500&multimediaId=undefined>

APPRAISE: How serious is the risk of bias?

Did the review explicitly address a focused/sensible clinical question?

Was the search for relevant studies detailed and exhaustive?

Was the selection of studies reproducible?

Was the risk of bias of the primary studies assessed? (in the appropriate manner for the specific type of article - see Therapy, Diagnosis, Prognosis and Harm guides for Bias)

APPRAISE: What are the results?

If the Systematic Review includes a Meta-Analysis we ask (and answer by reviewing a Forest Plot):

What is the magnitude of treatment effect?

How precise are the results?

Are the results consistent across studies? (assess Heterogeneity vs. Homogeneity with the Eyeball test or I² test)

Eyeball test Visual evaluation of variability

How similar are the point estimates?

To what extent do the confidence intervals overlap?

Statistical tests evaluating variability

Yes-or-no tests for heterogeneity that generate a *P* value

I² test that quantifies the variability explained by between-study differences in results

Is there a concern about reporting or publication bias?

Overall, what is the quality of the body of evidence by outcome?

APPLY: How can I apply the results to patient care?

Were the study patients similar to my population of interest?

Did the review present results that are ready for clinical application (e.g. patient important outcomes, absolute benefit)

Are the likely treatment benefits worth the potential harms and costs?