

## Resources for critical appraisal

### What is critical appraisal?

The process of accessing and interpreting **research evidence** by systematically considering its **validity**, **reliability** and **relevance** before using it to inform a decision.

#### Validity

Assessed by looking at the methodologies of the study in more detail (not just jumping to the conclusions!)

- Are the methods robust?
- Did the study address a clearly focused issue?
- How were the participants of the study assigned?

#### Reliability

Look at the results in more detail – are they credible and repeatable?

- How was the data collected?
- What are the key findings?
- How significant are the results?

#### Relevance

Can the results be applied to my local health community?

- Were all important outcomes considered?
- Do you need further evidence before finding an answer to your question?

#### Levels of evidence

- Also called the 'hierarchy of evidence'
- Understanding levels of evidence will help you to answer the question, 'how far can I trust this article?'
- Lists different study types according to how robust they are



Source: Medical Research Library of Brooklyn  
[library.downstate.edu/EBM2/2100.htm](http://library.downstate.edu/EBM2/2100.htm)

#### Benefits of critical appraisal

- Critical appraisal bridges the gap between research and practice (ultimately improving practice and quality)
- It is a systematic and objective way of assessing the usefulness of published research
- Keep up to date for your own professional development
- Improves the rigour of your own research and practice

# Resources to help you with critical appraisal

## Checklists

Checklists enable you to apply critical appraisal techniques in a systematic way. Select a checklist according to the study design (e.g. Randomised Control Trial, Systematic Review).

Critical Appraisal Skills Programme (CASP) appraisal tools:

<http://www.casp-uk.net/#!/casp-tools-checklists/c18f8>

BestBETS Critical Appraisal Worksheets:

<http://www.bestbets.org/links/BET-CA-worksheets.php>

Centre for Evidence Based Medicine (CEBM) Critical Appraisal Guide:

<http://www.cebm.net/index.aspx?o=1157>

MRC/CSO Social and Public Health Sciences Unit, University of Glasgow

<http://www.understandinghealthresearch.org/>

## Glossaries

BMJ Clinical Evidence glossary

<http://clinicalevidence.bmj.com/x/set/static/ebm/toolbox/678178.html>

Centre for Evidence Based Medicine glossary

<http://ktclearinghouse.ca/cebm/glossary/>

Bandolier Evidence Based Medicine glossary

<http://www.bandolier.org.uk/glossary.html>

## Additional Reading

### BMJ How to read a paper series

Series of introductory critical appraisal articles

<http://www.bmj.com/about-bmj/resources-readers/publications/how-read-paper>

### Ask for Evidence

Offers guidance to allow you to check claims for yourself

<http://www.askforevidence.org.uk>

### Bandolier 'What is...?' series

Aims to demystify some of the terminology, techniques and practices used to assess evidence in healthcare, e.g. 'What is a systematic review?' and 'What are confidence intervals and p values?'

<http://www.bandolier.org.uk/extra.html>

## Books in the library

(on the shelf at 610.724)

*How to read a paper*  
by Trisha Greenhalgh

*The pocket guide to critical appraisal*  
by Iain K. Crombie

*The doctor's guide to critical appraisal*  
By Narinder Kaur Gosall  
and Gural Singh Gosall

*and many more...*

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