

# 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

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McArdle Library  
Arrowe Park Hospital  
Tel: 0151 604 7223 ext 8610  
Email: [wuth.lks@nhs.net](mailto:wuth.lks@nhs.net)

# 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 Best Practice Evidence Based Terms glossary

<https://bestpractice.bmj.com/info/us/toolkit/ebm-tools/a-glossary-of-ebm-terms/>

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 many more...*

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