

Critical Appraisal Toolkit

Articles on Critical Appraisal

Downs, S. H. & Black, N. (1998) The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions. *Journal of Epidemiology & Community Health*. 52 (6): 377. See page 382 for a check list on measuring study quality.

Facchiano, L, & Hoffman Snyder, C (2012), Evidence-based practice for the busy nurse practitioner: Part three: Critical appraisal process, *Journal of the American Academy of Nurse Practitioners*, vol. 24, no. 12, pp. 704-715. Available from: 10.1111/j.1745-7599.2012.00752.x. [6 February 2017].

Fineout-Overholt, E. et al (2010) Evidence-based practice step by step: critical appraisal of the evidence: part 1. *American Journal of Nursing* 110 (7) pp. 47 – 52.

Fineout-Overholt, E. et al (2010) Evidence-based practice step by step: critical appraisal of the evidence: part 11: Digging deeper – examining the ‘keeper’. *American Journal of Nursing* 110 (9) p. 41 – 48.

Jakubec, Sonya L.; Astle, Barbara J. (2013) Students connecting critical appraisal to evidence-based practice: a teaching-learning activity for research literacy. *Journal of Nursing Education* 52 (1) pp. 55 – 58.

Jones, S.C., Crookes, P.A. and Johnson, K.M., 2011. Teaching critical appraisal skills for Nursing research. *Nurse Education in Practice*, **11**(5), pp. 327-32.

Moore, Z. & Cowman, S. (2009) Nurses need critical appraisal skills when reading research. *Nursing Times* 105 (16) p. 33. CINAHL with full text, Ebscohost, viewed 6 February 2017.

Porritt, K. et al (2014) Study selection and critical appraisal...fourth in the series. *American Journal of Nursing* 114 (6) pp 47 – 52.

Savović, J., Weeks, L., Sterne, J. A., Turner, L., Altman, D. G., Moher, D., & Higgins, J. P. (2014). Evaluation of the Cochrane Collaboration's tool for assessing the risk of bias in randomized trials: focus groups, online survey, proposed recommendations and their implementation. *Systematic Reviews*, 3, 37. doi:10.1186/2046-4053-3-37.

Whiffin, C. J. & Hasselder, A. (2013) Making the link between critical appraisal, thinking and analysis. *British Journal of Nursing* 22 (14) pp. 831 – 835.

Books on Critical Appraisal

Aveyard, H. & Sharp, P. (2009) A beginner's guide to evidence based practice in health and social care professions. Oxford: Open University Press.

Crombie, I. K. (1996) The pocket guide to critical appraisal : a handbook for health care professionals. London: BMJ.

Gosall, N. K. & Gosall, G. S. (2015) The doctor's guide to critical appraisal. Knutsford: PasTest.

Greenhalgh, T. (2014) How to read a paper. Blackwell Publishing.

Other resources relating to Critical Appraisal

Ben Goldacre 2012 (Video - 12 minutes) <https://www.youtube.com/watch?v=RKmxL8VYy0M>

What doctor's don't know about the drugs they prescribe:.

https://www.ted.com/talks/ben_goldacre_what_doctors_don_t_know_about_the_drugs_they_prescribe?language=en

Resources that have been critically appraised

Websites/webpages

Behind the Headlines www.nhs.uk Analysis of key news headlines to determine where the story originated, what kind of research and what it involved, the basic results, the researchers' conclusions and a summary by the analysers. There are also links to the news items and the original science.

Centre for Reviews and Dissemination (CRD) <http://www.crd.york.ac.uk/crdweb/>

The Database of Abstracts of Reviews of Effects (DARE) and the NHS Economic Evaluation Database (NHS EED) provide access to:

- Over 35,000 quality assessed systematic reviews of health and social care interventions
- Summaries of all Cochrane systematic reviews and protocols up to March 2015
- Over 17,000 economic evaluations of health and social care interventions

The Department of Health and the National Institute for Health Research (NIHR) funded the production of DARE and NHS EED between 1994 and March 2015. Although funding has ceased and we are no longer adding new records to the databases both can be accessed via the CRD website.

Cochrane Clinical Answers <http://cochraneclinicalanswers.com/>

- Cochrane Clinical Answers (CCAs) provide a readable, digestible, clinically focused entry point to rigorous research from Cochrane systematic reviews. They are designed to be actionable and to inform decision making at the point of care.
- Each Cochrane Clinical Answer contains a clinical question, a short answer, and an opportunity to 'drill down' to the evidence from relevant Cochrane reviews. The evidence is displayed in a user friendly format, mixing narrative, numbers and graphics. The target audience for Cochrane Clinical Answers is healthcare practitioners and professionals, and other informed health care decision-makers.

The Cochrane Collaboration. http://handbook.cochrane.org/chapter_8/8_assessing_risk_of_bias_in_included_studies.htm and <http://www.bmj.com/content/343/bmj.d5928>

- Chapter 8: Assessing risk of bias in included studies. Guidance to authors preparing Cochrane reviews. Provides comprehensive explanations of bias.
- Higgins et al (2011) A Cochrane risk of bias assessment tool: for assessing risk of bias in randomised trials. BMJ. doi: 10.1136/bmj.d5928

Cochrane Library of Systematic Reviews <http://www.thecochranelibrary.com/view/0/index.html>

What do we do?

Cochrane exists so that healthcare decisions get better.

During the past 20 years, Cochrane has helped to transform the way health decisions are made.

We gather and summarize the best evidence from research to help you make informed choices about treatment.

Who is Cochrane for?

Cochrane is for anyone who is interested in using high-quality information to make health decisions. Whether you are a doctor or nurse, patient or carer, researcher or funder, Cochrane evidence provides a powerful tool to enhance your healthcare knowledge and decision making.

National Institute for Health Research (NIHR) Dissemination Centre (University of Southampton) <http://www.dc.nihr.ac.uk/>

Signals: the latest important research summarised.

Highlights: conditions, treatments and issues explored using NIHR evidence.

Themed reviews: bringing together NIHR research on a particular theme.

Tools to use to critically appraise

Websites/webpages

CASP (Critical Appraisal Skills Programme) <http://www.casp-uk.net/>

A series of checklist for systematic reviews, randomised controlled trials (RCTs), qualitative research, economic evaluation studies, cohort studies, case control studies and diagnostic test studies.

The Critical Appraisal Skills Programme (CASP) is part of Better Value Healthcare, a training organisation led by Professor Sir Muir Gray, and based in Oxford. The programme has developed workshops and tools for critical appraisal covering a wide range of research. It has also developed finding the evidence workshops, interactive and [e-learning resources](#). The philosophy of CASP has always been about sharing knowledge and understanding, working in ways that are non hierarchical, multidisciplinary and using problem based approaches. This ensures that it is accessible and has practical day to day application. <http://www.casp-uk.net/aboutus>

CATmaker http://cebmbh.warne.ox.ac.uk/cebmbh/education_catmaker.htm Software developed by Douglas Badenoch from the Centre for Evidence-Based Medicine, is a tool which helps you create Critically Appraised Topics, or CATs, for the key articles you encounter about therapy, diagnosis, prognosis, aetiology/harm and systematic reviews of therapy.

Centre for evidence based medicine <http://www.cebm.net/critical-appraisal/>

Critical appraisal is the systematic evaluation of clinical research papers in order to establish:

- Does this study address a [clearly focused question](#)?
- Did the study use valid methods to address this question?
- Are the valid results of this study important?
- Are these valid, important results applicable to my patient or population?

If the answer to any of these questions is “no”, you can save yourself the trouble of reading the rest of it.

- [Systematic Reviews](#) Critical Appraisal Sheet
- [Diagnostics](#) Critical Appraisal Sheet
- [Prognosis](#) Critical Appraisal Sheet
- [Randomised Controlled Trials](#) Critical Appraisal Sheet

SIGN <http://www.sign.ac.uk/methodology/checklists.html> ; <http://www.sign.ac.uk/methodology/tutorials.html>

Scottish Intercollegiate Guidelines Network (Healthcare Improvement Scotland) critical appraisal notes and checklists for systematic reviews and meta-analysis, randomised controlled trials, cohort studies, case control studies, diagnostic studies, economic studies and considered judgement proforma.

SIGN tutorials for critical appraisal of the medical literature:

- Video 1 Introduction to critical appraisal – appraising a systematic review (28' 35")
- Video 2 Appraising randomised controlled trials (RCTs) (15' 51")
- Video 3 Observational studies – (7' 5)

Understanding Health research <http://www.understandinghealthresearch.org/> This tool will guide you through a series of questions to help you review health research

University of Adelaide: Critical appraisal tool <http://joannabriggs.org/research/critical-appraisal-tools.html>

Critical appraisal tool downloads:

Case Control Studies, Case Reports, Case Series, Cohort Studies, Diagnostic Test Accuracy Studies, Economic Evaluations, Prevalence Studies, Quasi-Experimental Studies (non-randomized experimental studies), Randomized Controlled Trials, Systematic Reviews, Text and Opinion, Analytical Cross Sectional Studies, Qualitative Research.