

KNOWLEDGE MANAGEMENT: HOW TO FIND THE BEST KNOWLEDGE SOURCES

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This section is devoted to knowledge management in radiography. It includes consideration of:

- 1) how to find the best knowledge sources about a radiography topic,
- 2) how to find and combine keywords effectively,
- 3) how to evaluate the quality of research,
- 4) reference management,
- 5) other useful topics related to searching, finding, evaluating, application, sharing and producing knowledge.

The content will be practically oriented to be used in research and at the same time founded in guidelines for evidence-based practice (see Dicenso, Bayley, & Haynes, 2009; Nortvedt, Jamtvedt, Graverholt, Nordheim, & Reinar, 2012)

In this first issue, I will present several resources that may be helpful for healthcare professionals to be able to find the best available knowledge about a topic in the clinical practice. The goal may be to develop a new procedure, or to acquire more knowledge in order to better inform patients. For example, a relevant question for radiographers could be the sensitivity of PET-CT imaging of lung cancer. We often choose to ask colleagues when we need answers to clinical questions. In many instances, we are given a good answer and sometimes even a reference to relevant literature. However, we cannot be sure that the answer represents 'the best available knowledge' on the subject. We may also choose to look up an issue in a text book, but the actual knowledge in text books may be outdated, due to the rapid developments in medicine.

Google Scholar is a widely used search engine for finding research. Searches through this engine usually generate thousands of hits of varied quality. It is difficult to distinguish less reliable research papers from the more rigorous papers. Google Scholar is however very useful when searching for a

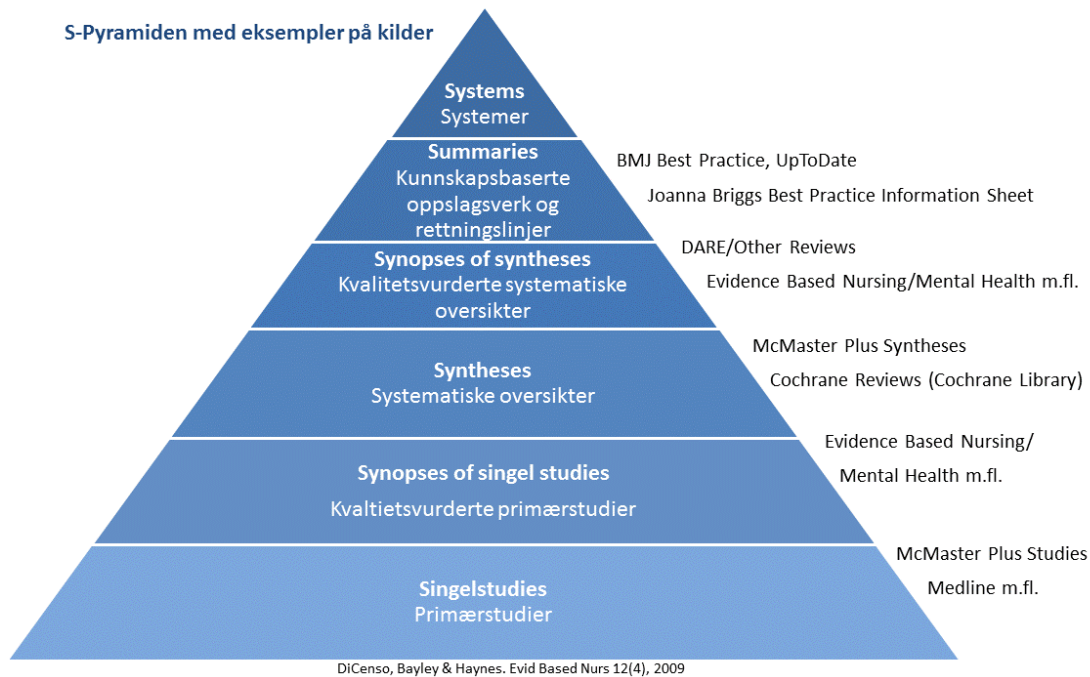
specific title. To identify the most reliable knowledge on a specific topic, we must conduct a literature search in various research databases and other research-based resources. A good tool for choosing among these resources is the knowledge pyramid (Dicenso et al., 2009) (see the modified Figure below sourced from kunnskapsbasertpraksis.no).

One should always start searching for research information at the top of the pyramid. At the very top are the future systems that will link medical records to the current guidelines for patient care. On the level below ('Summaries'), we find evidence-based point-of-care tools and guidelines. This is where we can start searching for relevant research (Nortvedt et al., 2012).

[BMJ Best Practice](#) is a point-of-care tool of diagnosis, treatment, prognosis and prevention of various medical conditions. [UpToDate](#) is another very comprehensive point-of-care tool that provides recommendations for diagnosis and treatment. Access to most of the resources usually requires subscription.

International guidelines can be found in resources, such as the [National Institute for Health and Clinical Excellence \(NICE\)](#) and the [National Guideline Clearinghouse \(NGC\)](#). The quality of the content of the resources at level two ('Summaries') in the knowledge pyramid is carefully quality controlled and is easy to read. If we find information that answers our questions at this level, we can usually rely on it without seeking further resources at lower levels in the knowledge pyramid. If not, we must continue to search step by step going down the levels of the pyramid.

The figure below shows several potential search resources. Amongst these, the [Cochrane Library](#) is important to mention; in this we find Database of Abstracts of Reviews of Effects (DARE)/ other reviews on level three of the pyramid and the Cochrane reviews ('Synthesis') at level four. Many databases provide results in the four lower levels of the knowledge pyramid. The biggest health professional database and one of the few that are available for free is [PubMed](#). This is easy to search through and retrieves both primary studies and review articles including Cochrane and Evidence-Based Nursing/ Medicine/ Mental Health, as mentioned in the figure below. If a quick overview of the existing research is required, [McMasterPLUS](#) is a good resource, which searches through many of the resources of the knowledge pyramid simultaneously (this is only available in Norway and parts of Canada and Australia).



References

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- Nortvedt, M. W., Jamtvedt, G., Graverholt, B., Nordheim, L. V., & Reinart, L. M. (2012). *Jobb kunnskapsbasert!: En arbeidsbok [Work in an evidence-based way!: A workbook]* (2. ed.). Oslo: Akribe.