

PERFORMING A LITERATURE SEARCH

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Introduction

Using the published literature is an essential part of any research question as it will:

- Help clarify what is already known and identify any gaps.
- Highlight disputes in the current literature.
- Find previous data and previously used research methods appropriate to your needs.
- Define terminology.
- Define scales and measurements.

It is a core part of any research work or indeed any reading of research work that you wish to consider incorporating into clinical practice.

Process

Before starting your literature search you need to decide:

- What type of evidence you want, e.g. case studies, randomised controlled trials, theories, historical, quantitative, qualitative etc.
- What question you want to ask. The more specific the question the narrower the search and it may be easier to start with a narrow search and expand rather than 'drown' in search results.

Types of question include:

- Prediction – What is the likely result of a?
- Intervention – Is doing a better than doing b?
- Causation – What are the likely causes of c?

Once you have an idea of what you want to ask, select out a few keywords and phrases that can be used to search data bases alone or in combinations. For instance, if you wish to look at imaging as an alternative to post-mortem you will need to consider:

- Age group: fetal? Neonatal? Paediatric? Adult?
- Type of death: natural, accidental, forensic?
- Imaging modality: X-Ray, CT, MRI.
- Additional intervention, biopsy, etc.
- Historical perspective.
- Pathological perspective or just radiological.

The keywords can then be combined with words such as AND, BUT NOT, NOT. etc. to help refine the search. Consider your keywords and be specific. Are there words with a similar meaning? Are there different spellings of the same word, e.g. American version? Try both single and plural forms of the keyword.

Planning the search

Decide what approach to take, e.g. systematic (all relevant material), retrospective (most recent first and work backwards), targeted (highly selective approach but this will be limited), or citation (work from a few review articles on the subject and find their research papers from the references). Usually it is a combination of these.

Quite often at this stage, if you are new to the area or new to research, it is worth searching for a few review articles on the subject and reading these to clarify your thoughts and help with choosing key words, key citations, methods, etc. Remember that although reviews are useful they do vary in quality, relevance, comprehensiveness and readability. Usually, reviews in prominent high impact factor journals are of good quality. Research advances rapidly and so usually the more recent the review the better. Most reviews contain references to original research articles and are worth looking at for the references, even if for nothing else.

Searches may include:

- Books. Your local library should have a catalogue of the books they hold and internet book sellers are also useful to browse what is available.
- Databases. There are a large number of electronic databases available and most institutions will have a librarian to help you use these if you are new to them. The most frequently used databases in radiological research are: Medline/Pubmed, Web of science, and Google scholar.

Once you have started your search you will need to continually look at the results and refine your search criteria, keywords, and combinations of keywords to obtain the desired results.

If you find you have no results widen the search criteria. If you have too many results narrow the search criteria. Try looking at a few review articles and the keywords they list as a starting point.

Most electronic databases do not go back beyond the mid 1960's and a trip to an archives department may be needed.

Good luck.