Performing your own literature search

Literature searching involves capturing the key literature for a particular topic – each year the ANZCA Library undertakes a large number of searches for the purposes of patient care, research, presentations and study – with more than 120 searches completed in 2018. However in today’s “Google” world, searching online sources and databases is becoming more familiar, so the library is focusing more attention on supporting and guiding fellows and trainees about how to conduct their own literature searches.

The following article is based on workshops given at the 2018 and 2019 ASMs, and gives an overview of the process involved in creating a self-directed literature search.

Steps:
1. Composing your search.
2. Where to search.
3. Collating the results.

1. Compose your search

Before you even begin your search, take the time to work through the topic.

A. Define your topic/problem

- Precisely define your topic
  - Don’t include too many concepts.
  - PREOPERATIVE ASSESSMENT FOR CHILDREN UNDERGOING BARIATRIC PROCEDURES

- Define your potential search terms
  - Think about the individual parts that comprise the topic, and keep the terms concise.
  - PREOPERATIVE + ASSESSMENT + CHILD + BARIATRICS

- Define the order of importance for the elements of the search
  - This will help you when linking your search terms together or if you need to drop terms to increase the number of results.
  - BARIATRICS
  - ASSESSMENT
  - PREOPERATIVE
  - CHILD

B. Create your search terms

- Subjects versus keywords
  - Where possible, try mapping your search term to a subject heading, as this will help yield the maximum number of results.
  - BARIATRIC PATIENT + BARIATRICS
  - PREOPERATIVE + PREOPERATIVE PERIOD
  - ASSESSMENT + PATIENT OUTCOME ASSESSMENT or TREATMENT OUTCOME

Tip: Check the subjects and keywords of already relevant articles to identify additional terms.
Tip: Use keywords where no comparable subject heading exists.
• Spelling
  - Many databases utilise American spellings which can be tricky when searching for keywords however some databases allow the use of wildcards: ? and * can often be used to indicate optional characters.
  - ANAESTHESIA = ANESTHESIA
  - ANAESTHESIA, ANESTHETICS, etc. = ANESTH*
  - PAEDIATRICS = PEDIATRICS
  - PAEDIATRICS = P?EDIATRICS

C. Building your search

• Build your search incrementally (one step-at-a-time)
  - One term at a time will indicate if and where a search may need tweaking.
  - BARIATRICS
  - BARIATRICS AND ASSESSMENT
  - BARIATRICS AND TREATMENT OUTCOME AND PREOPERATIVE PERIOD
  - BARIATRICS AND TREATMENT OUTCOME AND PREOPERATIVE PERIOD AND PEDIATRICS

• Use Boolean search logic to expand/narrow your results
  - This tends to be where most searchers make critical mistakes – be careful when joining terms together, try grouping ANDs or NOTs, and try not to join too many together at once (and remember BODMAS).
  - OR = expand the search results: PREOPERATIVE PERIOD OR PREOPERATIVE CARE
  - AND = narrow the search results: BARIATRICS AND PREOPERATIVE PERIOD
  - NOT = exclude certain terms: CHILD NOT ADULT
  - Use brackets to prioritise the order: BARIATRICS AND (PREOPERATIVE PERIOD OR PREOPERATIVE CARE)

• Be sure to include subheadings when searching
  - In Medline, this is called exploding the term.

D. Limiting your search results

• Add your limiters incrementally (one step-at-a-time)
  - You can use additional subject terms to limit your search, but be careful not to use terms that are too narrow or that do not return many results in their own right – remember to start broad, and then narrow your results.
  - Broad term = HUMANS [this would eliminate articles about animals]
  - Narrower term = CHILD

• Limit your results to a particular date range:
  - Publication year = 2000 to current
  - Limit your search by language: Language = English
  - Limit your search to a type of article: Publication type = Review articles
  - Limit your search by age range: Age group = All Child
  - This latter term can be used as an alternative to adding a limiting subject heading.

• Focus your terms = returns only those articles where the term is a major focus
  - This can be very useful when using generic terms that return a large number of results.

Tip: Use keywords to highlight terms in the citation (or use CTRL-F to highlight terms in a result list).
Performing your own literature search (continued)

2. Where to search

There are a large number of databases and collections that can potentially be utilised when searching for medical literature, depending on what topic and type of information you are seeking. The following databases are considered a good place to start, but this list is, by no means, exhaustive.

- **Ovid Medline**
  While there are many platforms for searching Medline/PubMed, the Ovid platform is considered the best for advanced searching.
- **Ovid Embase [where available]**
  An excellent adjunct to Ovid Medline with a focus on European content and proceedings. Does not use MeSH, but its own unique thesaurus, EMTREE.
- **PubMed**
  There is now very little difference between the content found on PubMed and Ovid Medline - both search the content of the MEDLINE database. Use for keyword searches only, as the advanced search/subject mapping requires expert training to utilise effectively.
- **Informit Health Collection**
  Covers more than 190 titles from Australasia (including ANZCA publications).
- **ERIC**
  An online library of education research and information.
- **Cochrane Library**
  Excellent source for evidence-based publications and systematic reviews.
- **TRIP Database**
  One-stop searching for guidelines and evidence-based material from around the world.
- **eTO Complete – Therapeutic Guidelines**
- **Google Scholar**
  Keyword search only and downloaded citations do not contain abstracts. Possible to directly access ANZCA Library full-text through Library Links feature.
- **ANZCA Library Discovery Service**
  Search the books, e-books, journals, e-journals and articles available via the ANZCA library. Contains the full MEDLINE index, MeSH searching is available via Advanced Search, and it is also possible to search Libraries Worldwide.

3. Collating the results

There are a number of reference tools available for collating and managing your search results – both paid and freely available. Most databases allow users to export their search results in a number of different formats for loading to those reference tools. The most widely accepted format for loading is RIS.

The following are some of the more well-known reference tools.

- **EndNote**: A paid reference management software package, used to manage bibliographies and references when writing essays and articles. A free web-based version with limited features, EndNote Basic, is also available.
- **RefWorks**: A web-based paid reference management software package.
- **Zotero**: A free open-source reference management software used for managing bibliographic data and related research materials (such as PDF files).
- **Mendeley**: A free desktop and web program produced by Elsevier for managing and sharing research papers, discovering research data and collaborating online.

The ANZCA library has produced number of guides that provide additional information about all of the above reference tools, as well as links to comparison tables for selecting the best tool for you.

For further information on undertaking literature searches and managing references, see the Literature Searching library guide: https://libguides.anzca.edu.au/litsearch