

How to...

find an answer to your clinical question



This guide shows you how to locate the evidence base in order to answer a question you may have. An example of topical fluoride use in elderly patients – a topic the BDA has been approached about – is used as an example.

Searching for evidence

The best place to start is an advanced search on Ovid using each facet of your question - the chosen question is *Do topical fluorides in elderly patients reduce or prevent dental caries?*

A guide on how to perform an advanced search can be downloaded from the BDA website. Before you begin to search you should think about the type of evidence you are interested in. For clinical queries systematic reviews (SR), meta-analyses, and randomised controlled clinical trials (RCT) are considered the highest level of evidence while publications including case studies and opinion pieces are not thought to be as good an evidence source. A good idea is to look for systematic reviews and randomised control trials first. In Ovid you can do this using free text or by using a filter. You can also carry out a clinical queries search using Pubmed (this also searches Medline) to search specifically for SRs and RCTs. A good source of systematic reviews is the CDSR database accessed via the Cochrane Library. The Ovid search strategy used for this topic can be seen in Figure 1.

<input type="checkbox"/>	# ▲	Searches	Results	Search Type	Actions
<input type="checkbox"/>	1	exp dental-caries/	34089	Advanced	Display More
<input type="checkbox"/>	2	exp fluorides, -topical/	3716	Advanced	Display More
<input type="checkbox"/>	3	(adult* or old* or elder* or senior* or geriatric* or aged).mp. [mp=ti, ab, bx, ct, sh, ot, nm, hw, ps, rs, an, ui]	7621910	Advanced	Display More
<input type="checkbox"/>	4	2 and 3	730	Advanced	Display More
<input type="checkbox"/>	5	limit 4 to (clinical trial, all or comparative study or guideline or meta analysis or multicenter study or practice guideline or randomized controlled trial or "review" or twin study or validation studies) [Limit not valid in Journals@Ovid,Your Journals@Ovid; records were retained]	356	Advanced	Display Delete Save More
<input type="checkbox"/>	6	1 and 5	210	Advanced	Display More

Remove Selected | Save Selected | Combine selections with: And Or | RSS | Save Search History

Figure 1

Grey Literature

As well as academic publications that are distributed or indexed by commercial publishers you should also search for grey literature. There are no set places that you should consult and the topic for your question should be borne in mind when you are selecting your sources. Some places you could consult for evidence based information are:

- **Relevant professional associations** - consider dental associations as well as organisations, colleges and societies related to your question. The New York Academy of Medicine collates a list of grey literature-producing organisations. (<http://www.nyam.org/library/online-resources/grey-literature-report/producing-organizations.html>).
- **Electronic Thesis Online Service (EThOS)** - <http://ethos.bl.uk>
This service provided by The British Library aims to offer a 'single point of access' where researchers can access all theses produced by UK Higher Education. Registration is required.
- **The Cochrane library** - <http://www.thecochranelibrary.com>
As well as systematic reviews this open access database (in the UK and some other countries) allows you to search the following: Database of Abstracts of Reviews of Effects (Other Reviews), Cochrane Central Register of Controlled Trials (Trials) Cochrane Methodology Register (Methods Studies), Health Technology Assessment Database (Technology Assessments) and NHS Economic Evaluation Database (Economic Evaluations).
- **National Guideline Clearing House** - <http://www.guideline.gov/>
A public resource for evidence-based clinical practice guidelines.
- **Turning research into practice (TRIP)** - <http://www.tripdatabase.com/>
A clinical search tool designed to allow health professionals to rapidly identify the highest quality clinical evidence for clinical practice.
- **Centre for Reviews and Dissemination (CRD)** - <http://www.york.ac.uk/inst/crd/index.htm>
A health services research centre that provides research-based information for evidence-based medicine. It covers three databases, DARE, NHS EED and an HTA database. These are also searchable under Cochrane.
- **U.S. Preventive Services Task Force** - <http://www.uspreventiveservicestaskforce.org/>
Accurate, up-to-date and relevant recommendations about preventative services in primary care from a panel of experts in prevention and evidence-based medicine.
- **Evidence-based Practice** - <http://www.ahrq.gov/clinic/epcix.htm>
The US Department of Health and Human Services Evidence- Based Practice Centre (EPC). EPCs review relevant scientific literature on clinical, behavioural, organisation and financing topics to produce evidence reports and technology assessments for informing and developing coverage decisions, quality measures, educational materials and tools, guidelines, and research agendas.
- **EuroScan** - <http://euroscan.org.uk/>
A collaborative network of HTA agencies to exchange information and evaluate emerging technologies. Information covers emerging new drugs, devices, procedures, programmes and settings in health care.

- **Health Evidence Network** - <http://www.euro.who.int/en/what-we-do/data-and-evidence/health-evidence-network-hen>
HEN is an information service for public health and healthcare decision makers in the European Region. HEN works with several agencies and organisations to provide access to independent and reliable health information and evidence for decision makers.
- **ClinicalTrials.gov** - <http://clinicaltrials.gov/>
A registry of clinical trials run by the United States NLM and NIH and is the largest clinical trials database. Currently it holds registrations from trials from more than 170 countries in the world.
- **WHO International Clinical Trials Registry Platform**- <http://www.who.int/ictrp/en/>
WHO ICTRP is a clinical trials registry.

Sifting your results

Once you have carried out your searches you will have a list of publications relating to your question. Sift through this list and discard any duplicate publications and publications that do not fit your criteria and keep those that do (your inclusion and exclusion criteria). You need to consider aspects such as your population, the treatment environment and how the outcome was assessed. The chosen criteria can be seen in Table 1. If you aren't sure from the title or abstract if the paper will be helpful take a quick look at the full text to confirm. While you are sifting your results it is also useful to hand search the reference lists of the articles you are interested in as these may include publications that your search did not locate. Of the papers returned in the literature searches and extra publications found through hand searching the total of relevant articles was 12.

* No study was discarded due to participant's toothbrushing at home with fluoridated dentifrice.

Inclusion criteria	Exclusion criteria
<i>In vivo</i> studies involving human subjects that examined subjects own teeth	<i>In situ</i> and <i>in vitro</i> studies
Elderly study population	Clinical trial with nonrandomised design
Systematic review, meta-analysis or clinical trial	No concurrent control groups (nil, placebo, or active)
Any type of topical fluoride application professionally applied or likely to be undertaken only following the recommendation of a dentist	Institutionalised elders as study population
Caries-active or high caries risk classifications based on any combination of decayed, filled and/or missing primary and/or permanent surface or tooth scores	Study population reside in optimally fluoridated area
	Caries-active or high risk classifications not made on an individual basis
	Caries not the unit of observation and analysis

Table 1