Evidence-Based Practice in Optometry Interest Group – Intro meeting

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Australian Government
Office for Learning and Teaching

Why evidence-based practice optometry?

Why am I here?

Why are you here?

Outline

Brainstorm ~30 minute session

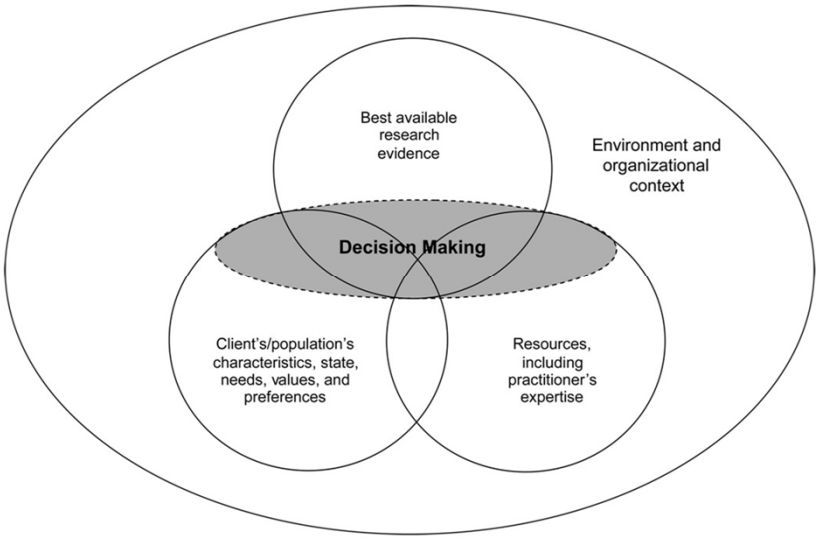
followed by ~1 hour practical workshop on
"Answering Clinical Questions in Optometry"

Topics:

Participant introductions

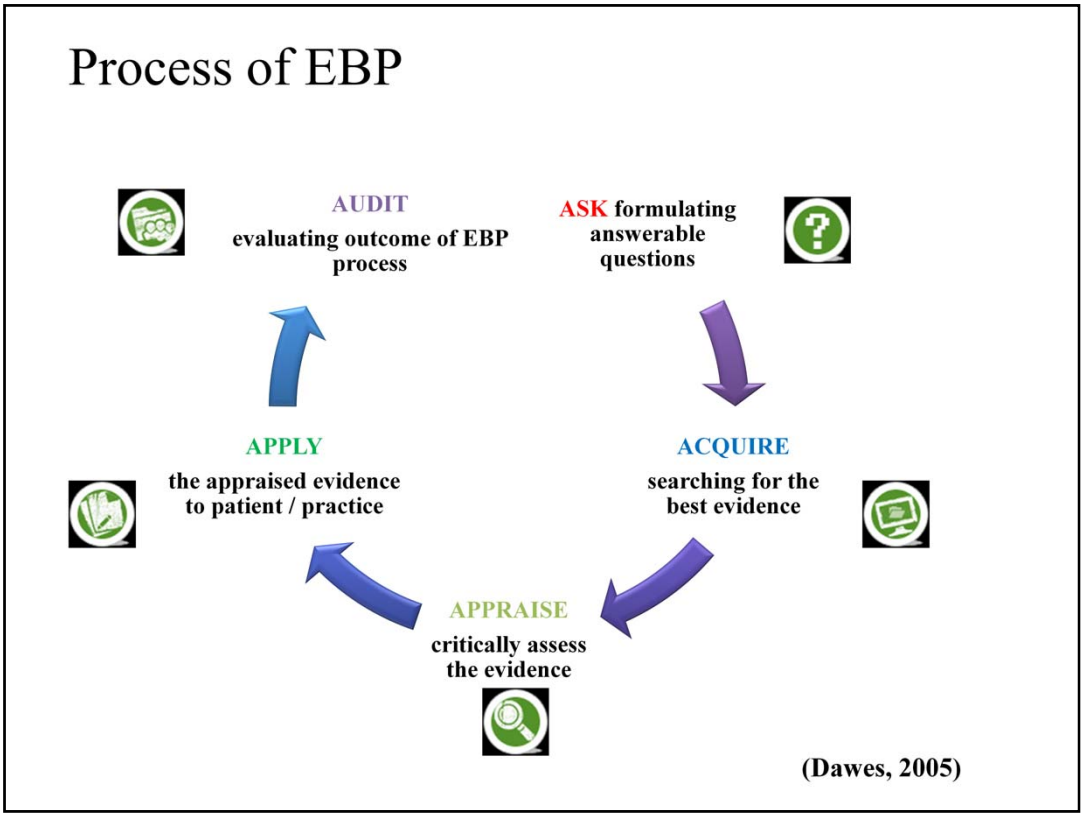
What participants and EBP team would like to get out of the group

Evidence Based Practice (EBP)



From Satterfield et al (2009) Toward a Transdisciplinary Model of Evidence-based Practice. Millbank Quarterly 87(2): 368-390.
(With permission)

EBP is the combination of the best available evidence from research, the patient's preferences/circumstances and the practitioner's expertise, taking into account the practice environment. You can also note that EBP is also sometimes described as "clinical decision making". The intent of EBP is to shift the emphasis in clinical decision making from "intuition, unsystematic clinical experience, and pathophysiologic rationale" to scientific, clinically relevant research. It means integrating individual clinical expertise with the best available evidence, taking into account patient's perspective as well as the practice context. EBP is not unique to optometry but applies to all health fields and can inform policy decisions as well as individual patient decisions.



So how should we do this?

So to summarise the 5 steps of learning the process of EBP. The initial step or ASK involves asking an answerable question. This requires learning to ask focused questions that lead to effective search strategies. The second step or ACQUIRE involves learning how to design and conduct a thorough search strategy to answer the question that was formulated. These are the two steps we will concentrate on tonight. The third step or APPRAISE involves the critical evaluation of the validity and clinical relevance of the study or papers including concepts such as levels of evidence, appropriateness of study design and statistical analysis. The fourth step or APPLY involves apply the evidence to practice. This includes exploring the patient's values and the acceptability of the proposed treatment to them. The fifth step or AUDIT and involves reflection on how well the previous four steps worked. This evidence-based practice process is often referred to as the five “A”s.

Step 1: "Ask" a clinical question

The **PICO** strategy was developed to support this part of the process by providing triggers for the identification of terms, as follows:

- **P: Person, Patient, Population or Problem**
- **I: Intervention**
- **C: Comparison**
- **O: Outcome**

Your neighbour's 12 year old daughter has just been to her eye doctor and told that she needs to update her distance vision glasses for the 3rd time in the last 2 years. She asks for your advice on what can be done to stop her daughter's eyes getting worse.

At the first step of the EBP process, we frame a question. The question is related to a clinical scenario and allows key terms to be identified, forming the basis of a search strategy for the next step in the process. At this stage, we are gathering those terms in the form of a question.

P: Person, Patient, Population or Problem. This term identifies the type of patient (e.g. gender, age group, race) and the clinical 'problem' (e.g. condition, disease) faced.

I: Intervention. This is a more straightforward term, identifying the intervention of interest. However, this term is only relevant to questions related to intervention of some kind, such as therapeutics, lenses or referral for surgery.

C: Comparison. This term applies when the clinical question will ask about one intervention, or perhaps one diagnostic strategy, versus another. When the practitioner is interested in such a comparison, the two interventions/strategies are named as an Intervention and a Comparison.

O: Outcome. The question will refer to an outcome measure or indicator of some kind, such as visual acuity or myopia progression, and this is specified as the Outcome term. PICO was developed for clinical scenarios in which intervention is being considered, so not all of the above four terms apply to questions that are not directly related to intervention.

Asking Focused Questions: the PICO

	1	2	3	4
	Patient or Problem	**Intervention** (a cause, prognostic factor, treatment, etc)	**Comparison Intervention** (if necessary)	**Outcomes**
Tips	Starting with your patient, ask "How would I describe a group of patients similar to mine?"	Ask "Which main intervention am I considering?"	Ask "What is the main alternative to compare with the intervention?"	Ask "What can I hope to accomplish?" or "What could this exposure really affect?"
	Balance precision with brevity	Be specific	Again, be specific	Again, be specific
	"In older age adults....."	".... can daily use of low dose aspirin...."	"....when compared to no aspirin usage...."	".... lead to higher risk of developing age-related macular degeneration."
MODIFIED PICO: PIO or P(N/R/T)CO		**Number or Risk or Test**	**Comparison Exposure or Test** (if necessary)	
Example	"In older age adults"	"what is the prevalence of" "what are the risk factors for"	-	"age-related macular degeneration"

Modified from: www.cebm.net

Learning to ask focused questions is as simple as 1,2,3,4. PICO may need to be modified for the purpose of questions not focusing on intervention. For example, If we are not asking about an intervention of any kind (such as when we are interested in prevalence, or diagnosis) we do not need to include the "I" term. Instead, it is appropriate for some questions to add other letters, such as "N" for Number in questions of prevalence or magnitude. "R" for Risk factor in questions of aetiology, and "T" for Test method in questions of diagnosis.

Does collagen cross-linking (compared to no treatment) halt progression of disease in keratoconic patients?

	Keyword		**Synonym**
P	Keratocon*	*or*	Astigmat* Pellucid
and			
I	Cross-linking	*or*	Riboflavin
and			
C	No treatment	*or*	
and			
O	Progression	*or*	

Asterix (*) Is a truncation symbol that means the search will be executed looking for any further letters added to the word

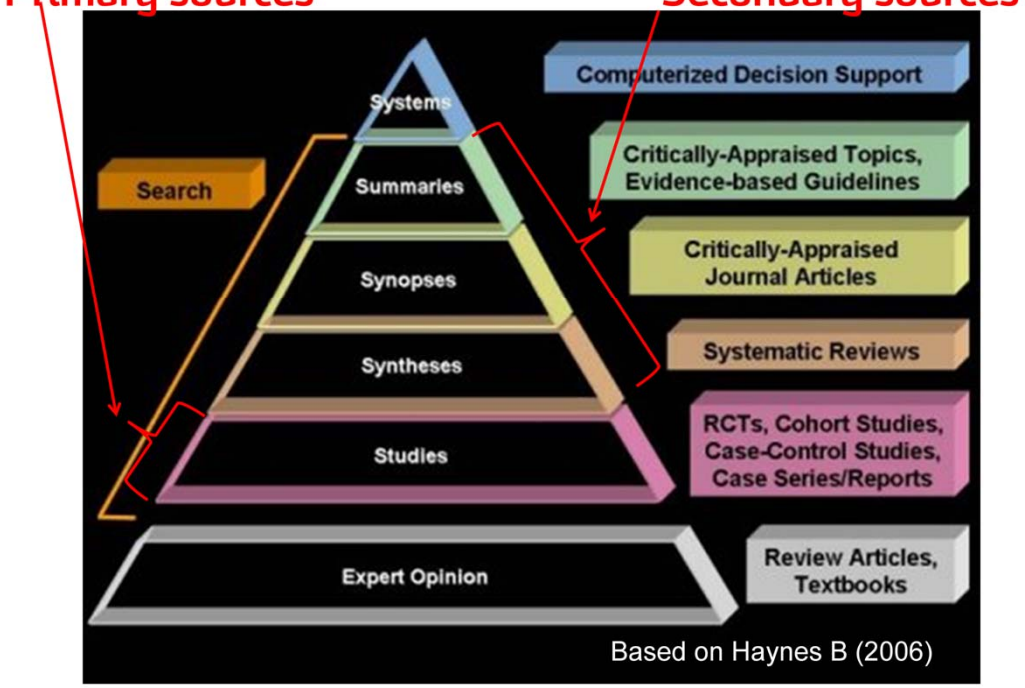
Courtesy: Dr Elizabeth Murray

It can be really helpful to use a table like this when preparing your PICO for a search. Once you have developed an answerable question you can perform your search in an appropriate database. Then order these in order of importance before using these in a web browser. Combine search terms using AND and OR.

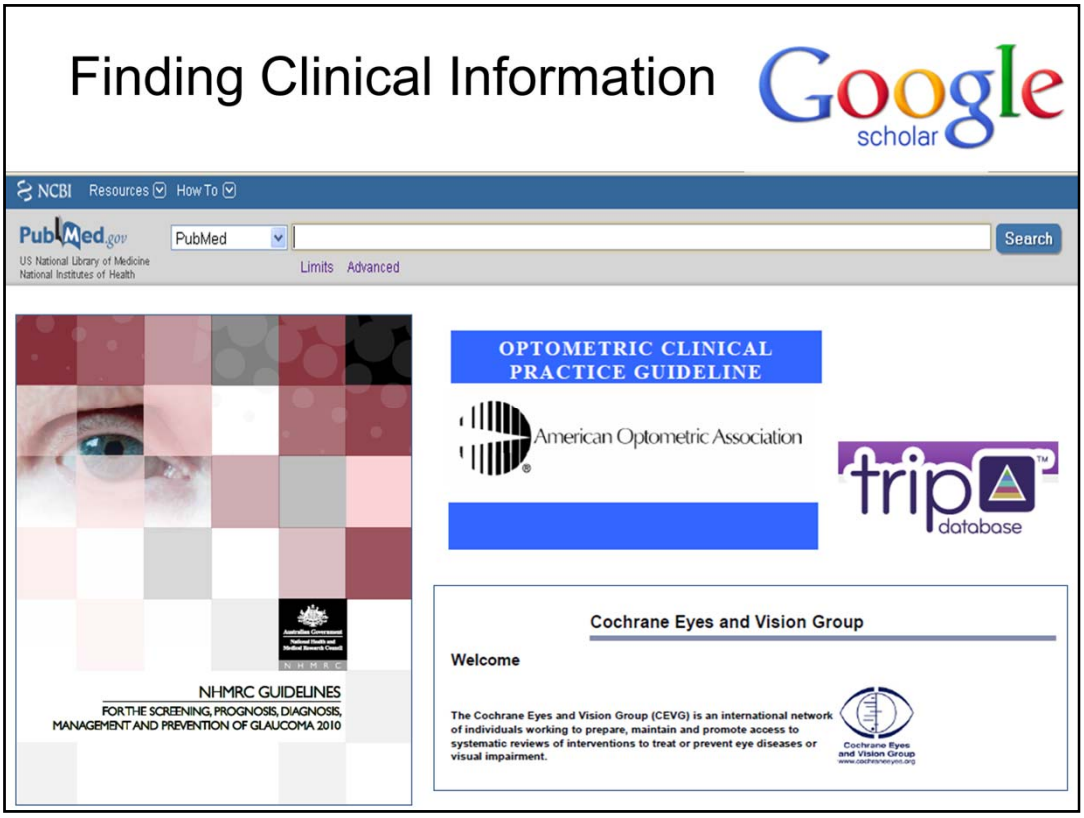
Narrow (AND) / broaden (OR) search if too many or too few hits by using

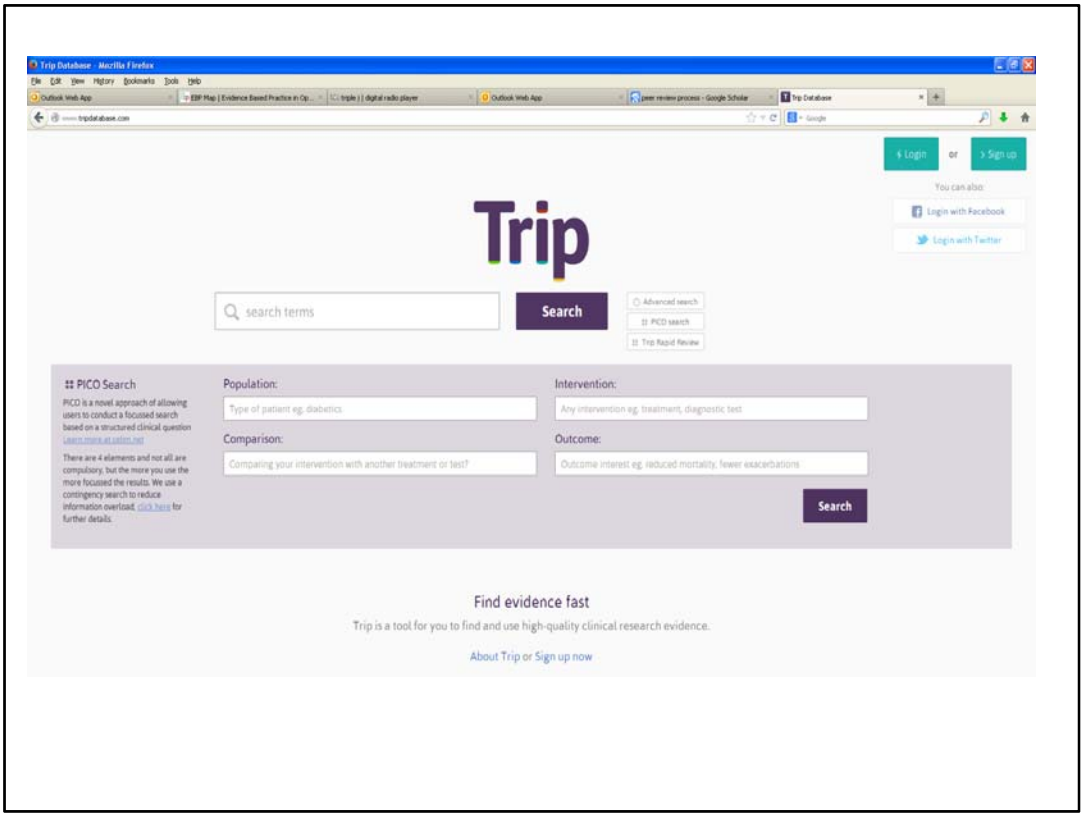
- Narrowing your search (AND)
- Broadening your search (OR)
- Limiting your search (systematic reviews)

Searching for answers: Pyramid of evidence



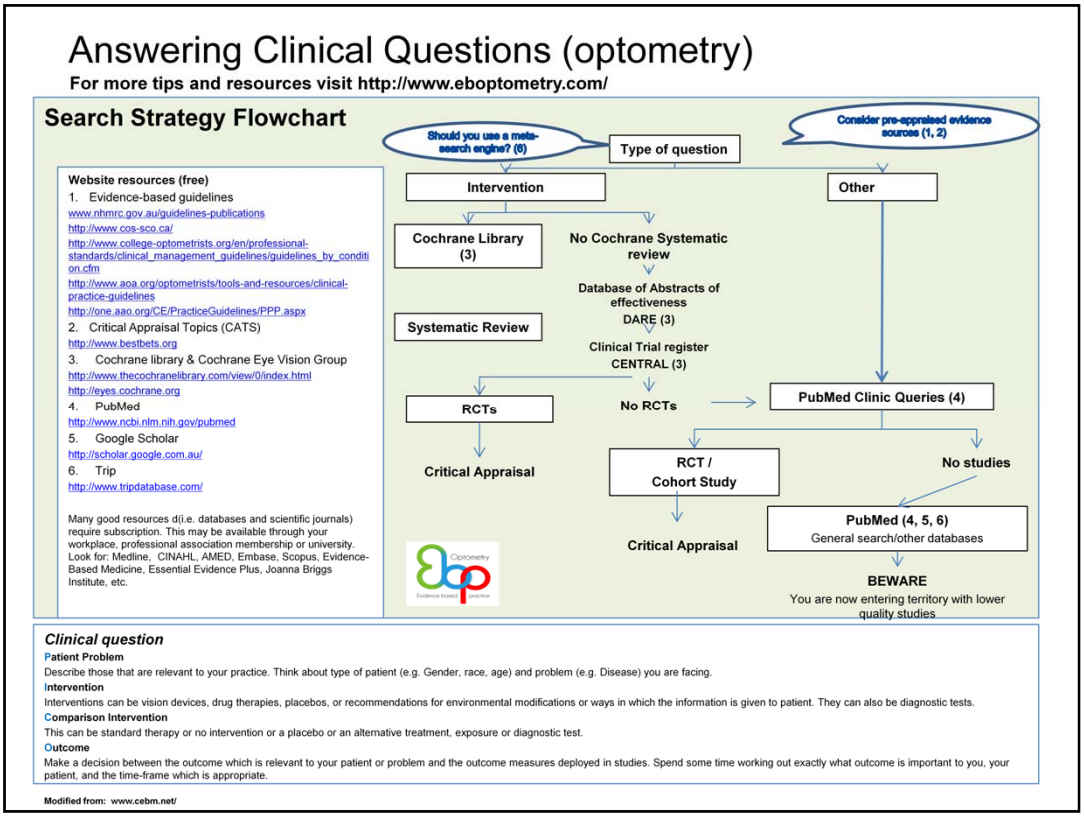
Finding Clinical Information





The trip database is a meta-search engine which searches multiple databases using the same search terms. It maximises the possibility of finding relevant information.

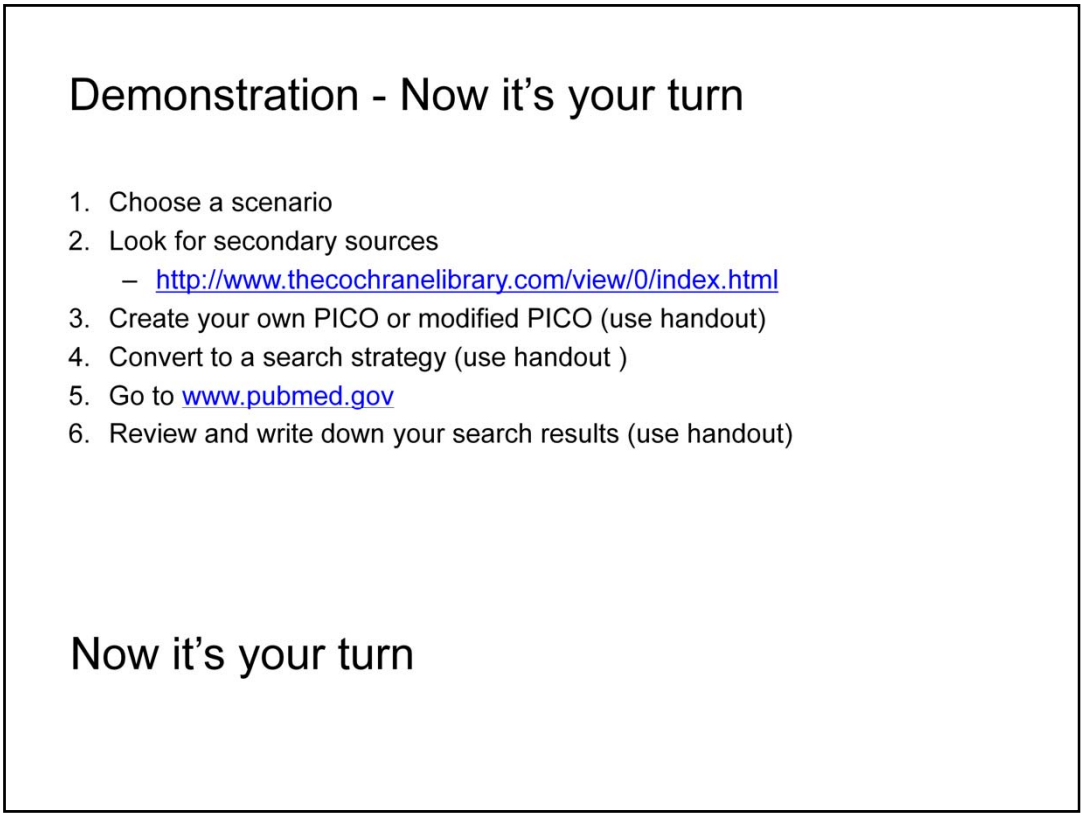
Demonstration of Trip PICO search for the same terms.
URL: http://www.tripdatabase.com/



This handout is provided to help guide you through the process of using your clinical question to search for answers in the literature using the world wide web. On the left hand side I have listed useful free website resources that are either optometry specific or can be used to search for and obtain optometry evidence. The right hand side of the chart depicts the flow of what would constitute a systematic search strategy aiming to source high quality pre-appraised evidence and then moving along to lower quality evidence if this is not available. For example, if your question focuses on an intervention, look for secondary sources of evidence such as Cochrane reviews, systematic reviews or RCTs. If no information can be sourced from these sources, then use databases such as pubmed as we have learnt today to source evidence. As shown on the diagram, for primary sources including RCTs, the next logical step is to critically appraise the evidence you have unearthed as this has not been done for you in such cases. But this is a topic for another workshop. The bottom of the handout provides a brief reminder of how to construct a Clinical Question using the PICO format.

** Please note this handout is uploaded separately on www.eboptometry.com

and can be printed for quick access



Evidence before you formulate a clinical question, you could look for secondary sources on the management of keratoconus. This will reveal a proposal for a systematic review of cross-linking for keratoconus at the protocol stage in the Cochrane library but no guidelines from any groups of keratoconus. You are then left with searching yourself using PubMed.

Now it's your turn

[Table on page 8 provided to help determine a PICO clinical question and search terms. Team members circulated to assist.]

Wrap-up – CAT?

- CAT = Critically Appraised Topic
- Concise summary of best evidence for specific clinical scenario
- See www.bestbets.org (ophthalmology) for examples

Highlight difference between a CAT and a systematic review. The focus is much narrower. It is quick, usually done by clinicians and practitioners and limited to best and most current evidence. Does not go through a systematic process and can be subject to bias but

Producing CATS focusing on optometry subjects at a future session? Would require list of possible topics. Agreement on chosen topic. Search and papers divided between nominated group members to review and present to the rest of the group at a future session.

What next?

- Feedback form please
- CE points
- Next meeting?
- Minutes to be circulated

- Visit www.ebpoptometry.com/

Feedback suggestions:

Suggestions for future meetings?

Was this helpful?

Should we adopt different format?

What else could we do?

Would you like to learn more about critical appraisal?