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**Evidence- based practice:
formulating a well-built clinical question**

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The evidence-based practice process

The essentials of evidence based practice (EBP) have been defined by *Sackett et al*¹. They include:

- Formulating a well-built question
- Identifying articles and other evidence-based resources that answer the question
- Critically appraising the evidence to assess its validity
- Applying the evidence
- Re-evaluating the application of evidence and areas for improvement

In this series of articles, we discuss various aspects of evidence-based practice and the available support in order for you to embed this in your clinical practice.

Formulating a well-built question

A major component of evidence-based practice is asking a focused, well-built question. To perform an effective search of resources, you first need to decide what details are important to the enquiry so that you can formulate the research question.

Wilson *et al*² argue that “a well-structured question will focus [the healthcare provider] on the problem he is most concerned with and will guide his search strategy”, and that learning to ask these questions ensures active, critical thinking.

This article discusses how to formulate a well structured clinical question systematically using an evidence-based model. To make the process of asking an answerable question easier, the Centre for Clinical Effectiveness (CCE) at Monash Institute suggest a framework called “PICO”.

Summary points

In order to formulate a good clinical question, you need to:

- Get the question clear in your mind
- Identify the information you need to answer the question
- Translate the question into searchable terms
- Develop and refine your search approach using key words

PICO framework

The acronym PICO assists in remembering the steps (P, patient or problem; I, intervention; C, comparison intervention; O, outcomes). A well-built clinical question includes the following components:

- Define the type of outcome you wish to assess. Your question may, for example, pertain to changes in a physical sign or prognostic indicator, the outcome of a diagnostic test, a response to therapy, or cost effectiveness.

Patient/Population/Problem	Any characteristics that define your patient or population, e.g. target clinical condition, co-existing condition, ethnicity, age group.
Intervention/Exposure	What you want to do with the patient/population/problem e.g. form of treatment, diagnostic test, education programme, type of service delivery.
Comparison/Control (if applicable)	Alternative(s) to main intervention, e.g. placebo.
Outcomes	Any outcomes or effects relating to the intervention, e.g. prevention, side effects, morbidity, quality of life, cost-effectiveness.

Framing good questions

The following approach can help you frame a good question:

- Describe the subject of the question. It may be helpful to phrase the question in this form: "How would I describe a group of patients similar to this one?"
- Define which intervention you are considering for the specific patient or population; it may be appropriate to name a second intervention with which to compare the first. An example of such a pair would be a traditional X-ray versus a magnetic resonance image (MRI).

A worked example

Here is an example question that includes all the four PICO components:

"A patient has just had surgery for breast cancer. She is feeling fed up and is not interested in leaving the house. You wonder whether running or yoga may be beneficial in giving focus and reviving her spirits."



The PICO component

Patient/Population/ Problem	Breast cancer
Intervention/Exposure	Running
Comparison/Control	Yoga
Outcomes	Revive spirits

This can be reworded as follows:

“Does yoga or running help improve quality of life in breast cancer patients?”

Key points

Applying PICO is a systematic way to identify important concepts in a case, and formulate a question for searching. However, you will often not have a comparison intervention. Also, different types of EBP resources require different levels of specificity, so depending on the type of resource you're using, you might not search with all the PICO components at first.

Remember, no matter what type of resource you will ultimately use to look for answers, you should always start by applying PICO to your question so that your approach is strategic from the outset.

What next?

After successfully formulating the clinical question (step 1), you need to find relevant evidence. You may need to consult several types of information resources. This will be discussed in the next issue.

References

1. Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. *British Medical Journal* 1996;**312** (7023):71-2.
2. Wilson K, McGowan J, Guyatt G, Mills EJ, Evidence-based Complementary and Alternative Medicine Working Group. Teaching evidence-based complementary and alternative medicine: Asking the questions and identifying the information. *Journal of Alternative & Complementary Medicine* 2002;**8** (4):499-506.

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