

Evidence Based Dentistry and Clinical Guidelines



What is Evidence Based Practice?

The best known and most widely accepted definition of Evidence-Based Practice (EBP) was suggested by David Sackett back in the 1990s; 'Evidence based medicine is the integration of best research evidence with clinical expertise and patient values.

Similarly, the American Dental Association defines Evidence Base Dentistry (EBD) as: 'An approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences.'

The Australian Dental Association's policy on Evidence Based Dentistry encourages the concept behind EBD, supports the need for ongoing dental research and emphasises that the need for dental care must be determined by the treating dentist in consultation with the patient.

[Click here](#) for the Australian Dental Association policy.

There are five steps in the EBD process that the clinician should consider when reviewing a clinical intervention:

- > **Ask the Question:** Define a clinically relevant and focused question where the evidence may promote the oral health of patients.

- > **The Search for Information:** Access and acquire available evidence, systematically conduct searches of all studies, grade the strength of the evidence used, and identify gaps in the evidence.
- > **The Appraisal:** Critically appraise the information accessed, evidence for validity with an understanding of the research methods.
- > **The Application:** Use the results and act on them to provide treatment in practice. Apply the results of the evidence to patient care or practice in consideration of patients' preferences, values and circumstances. Ultimately the patient makes the final treatment decision; by using this framework dental professionals can ensure that patients will be provided with treatment options based on sound evidence.
- > **The Evaluation:** Assess the health care outcomes following the EBD process.

EBD is not about developing new knowledge or validating existing knowledge. It's about translating the evidence and applying it to clinical decision-making. The purpose of EBD is to use the best evidence available to make patient-care decisions. Most of the best evidence stems from research, but EBD goes beyond research use and includes clinical expertise as well as patient preferences and values. The use of EBD takes into consideration that

sometimes the best evidence is that of opinion leaders and experts, even though no definitive 6 results from research results exists.

Applying Evidence Based Practice to everyday clinical situations

One way of making synthesised evidence usable in practice is to present recommendations for best practice in clinical guidelines.

Clinical guidelines are systematically developed statements to assist health professional and patient decisions about appropriate health care for specific circumstances. They are used to translate evidence into actionable recommendations that can be applied to clinical situations. The Institute of Medicine defines clinical guidelines as 'systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances', and well-developed guidelines will have gone through at least the first three stages of the five-stage evidence-based process.

An important consideration is that Clinical Guidelines are fossilised at the time of publication and evidence is rapidly evolving, usually outstripping the rate of updating of guidelines.

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An example of this is the *Therapeutic Guidelines second edition* published in 2012 and superseded by version three in December 2019.

Using research to inform treatment planning can seem daunting for clinicians who have used alternative techniques that have worked adequately throughout their careers. In dentistry, many procedures are accepted and carried-out on patients without having a strong evidence base.

It has been suggested that these procedures should be called 'dogmas' as they are based on beliefs that are accepted as being true even when this has not been supported by evidence. Once formed, 'dogmas' can allow clinicians to fall into the routine of carrying out and accepting procedures as a 'gold standard' without

questioning alternatives which may provide better outcomes for the patient.

One example of how a dogma has been challenged is the concept of a shortened dental arch. When a shortened dental arch is considered for a patient, the patient's functional needs and preferences must be taken into account and the patient must be informed of teeth that do not need replacing.

Another example of dogma is that some orthopaedic surgeons insist that their patients require antibiotic cover when their patients are undergoing dental treatment (particularly extractions) following joint replacement surgery despite there being no evidence to support this and the prescribing of prophylactic antibiotics for patients with pre-existing joint prosthesis is not

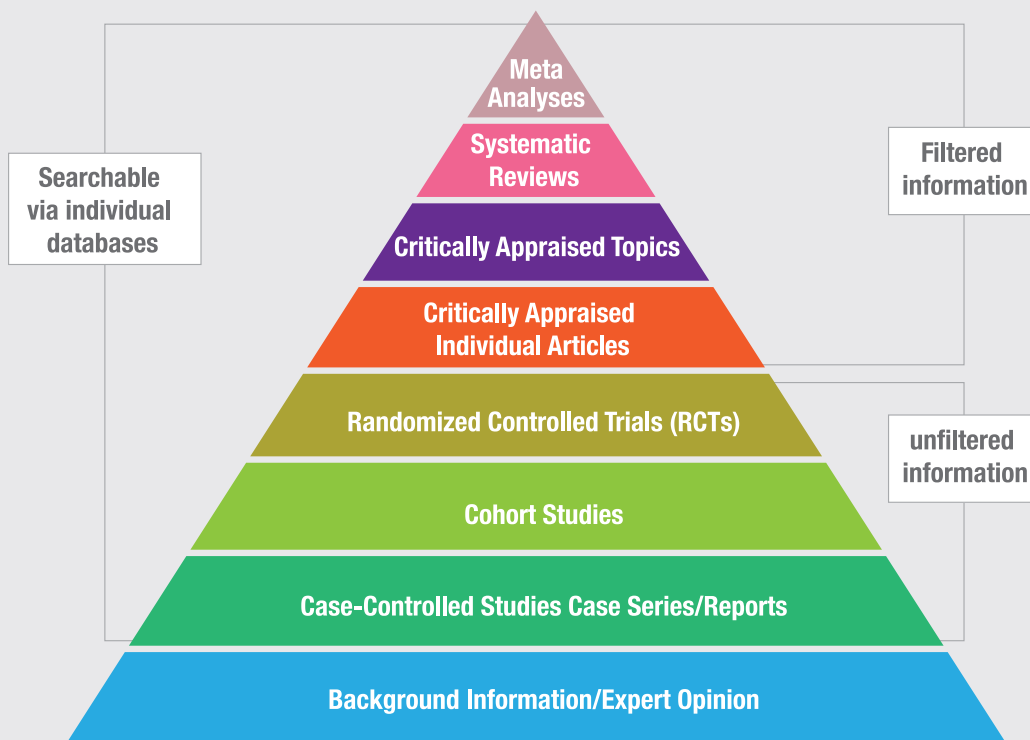
recommended (*Therapeutic guidelines Oral and Dental 2019*).

Unfortunately changes like this take time to be accepted in practice.

Guidelines are tools, not rules. Clinicians still need to think for themselves and individualise care, not simply follow dogmatic principles and processes in a blinkered fashion.

Clinicians should support the concept of evidence-based dental care using credible scientific data, in conjunction with the requirement to have patient-centred treatment and base a treatment plan on accepted evidence, with patient input into the plan through a thorough informed consent process.

Figure 1:
Level of Evidence.
From 'What is hierarchy of evidence' by Dr Arun Pal Singh, 2015



References

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