

## **Acute Pain Management: Does Current Evidence Provide a Guide for Improved Practice?**

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Modern evidence-based medicine (EBM) is a relatively young discipline. The main aim is to provide a framework for decision-making processes and get the best outcome for the patient by integrating evidence, clinical expertise and patient factors. The evidence-base for acute pain medicine has grown rapidly over recent years and can provide an excellent guide to patient management in many circumstances. However, apart from the obvious possibilities of limitations with clinical expertise and differences in patient expectations and responses, there can be limitations with the evidence available and its specific application in clinical practice.

### ***Limitations of evidence***

- *Quality of evidence*: high quality evidence (meta-analyses, good RCTs) may be lacking. EBM should not be restricted to these but use the best evidence available to help answer clinical questions. In many instances in acute pain management, lower quality evidence has been important (eg improved monitoring for opioid-induced respiratory depression; increased risk of respiratory depression with PCA background infusions).
- *Clinical significance of evidence*: good quality evidence of benefit may not be clinically significant/applicable (eg benefits of opioid-sparing; studies reporting small reductions only in VAS); or adverse effects may outweigh benefit.
- *Applicability and generalisability*: study results reflect the average patient from that study and might not be applicable to other patient groups or procedures, or to all clinicians and clinical settings.
- *Errors*: some evidence may be incorrect (Henry McQuay's group in Oxford suggest that as many as 1 out of every 6 published studies contains serious errors) or fraudulent (eg recent retraction of 21 articles by the one author).
- *Keeping current*: difficult to keep up to date with all relevant evidence.
- *Misuse of evidence*: evidence might be misinterpreted; recommendations can be influenced by opinions of the group responsible for developing guidelines; patients may not be the only priority of the recommendations.
- *Lack of evidence of benefit vs lack of evidence*: lack of good evidence of benefit is not the same as good evidence of no benefit.

### ***Availability of evidence***

If evidence is used to guide treatment, including acute pain management, that evidence must be up to date – an impossible task for any one individual. Assistance in keeping knowledge current comes in a number of different forms including:

- Systematic reviews (eg Cochrane)
- Evidence summaries (eg *Acute Pain Management: Scientific Evidence* - ANZCA)
- Guidelines (eg NHMRC, National Institute of Clinical Excellence in the UK)

### ***Other limitations to use of evidence***

There are many other reasons why it may not be possible to apply results from any one of group of studies to an individual patient including:

- Differences between patients – including demographics, genetics, morbidities, values, preferences, psychosocial differences, behaviours, variable responses to treatments.
- Differences in the environments in which we practice – including different clinical, economic, administrative and organisational settings.

- Differences in our knowledge, expertise, experience and behaviours.

Appropriate evidence can and should be used to guide acute pain management. However, clinical expertise is then necessary to evaluate and tailor appropriate evidence in order to get the best result for the individual patient.

### **References**

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