The Hierarchy of Evidence

The Hierarchy of evidence is based on summaries from the National Health and Medical Research Council (2009), the Oxford Centre for Evidence-based Medicine Levels of Evidence (2011) and Melynyk and Fineout-Overholt (2011).

I  Evidence obtained from a systematic review of all relevant randomised control trials.

II Evidence obtained from at least one well designed randomised control trial.

III Evidence obtained from well-designed controlled trials without randomisation.

IV Evidence obtained from well designed cohort studies, case control studies, interrupted time series with a control group, historically controlled studies, interrupted time series without a control group or with case-series

V Evidence obtained from systematic reviews of descriptive and qualitative studies

VI Evidence obtained from single descriptive and qualitative studies

VII Evidence obtained from expert opinion from clinicians, authorities and/or reports of expert committees or based on physiology


<table>
<thead>
<tr>
<th>Reference (include title, author, journal title, year of publication, volume and issue, pages)</th>
<th>Evidence level (I-VII)</th>
<th>Key findings, outcomes or recommendations</th>
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| Australian and New Zealand Neonatal Network (ANZNN), Best Practice Clinical Guideline- Assessment and Management of Neonatal Pain, September 2007 | II National Guideline | - Explain the steps of how to use a pain assessment tool;  
- Observe the infant for 15-30 secs, assess muscle tone by gently touching the infants limb  
Frequency of assessment; at least once per nursing shift/ every 4-6 hours |
- Pain assessment tool scoring system explained as well as an explanation of the scoring terms  
- Pilot study was undertaken to evaluate the effectiveness of the tool.  
- Article recommended the use of the PAT scoring system to evaluate pain in post-operative and other neonates.  
- Tool was found to be useful and workable. |
- Pain assessment described as 5th vital sign.  
- Neonates who have neurological impairment may have altered pain processing and modulation.  
- Vulnerable infants will sometimes learn to become helpless in order to restore energy if constant attempts to communicate pain are unrecognised. |
- Newborns may experience greater sensitivity to pain / more susceptible to the long-term effects  
- Sedation may mask symptoms of neonatal pain, while not providing pain relief |
| Protocol (systematic review) | • Preterm infants will display hypersensitivity to sensory stimuli, compared with health term infants  
• If infants are exposed to painful stimuli, they may have altered brain development and behaviour  
• Responses of infants to neonatal pain  
• Measuring hormonal, behavioural and physiological responses in infants will validate pain in the neonate  
• Neonates inability to verbalise pain |