PAIN ASSESSMENT AND MANAGEMENT
Supporting information

This guideline has been prepared with reference to the following:

Anand K. Assessment of neonatal pain. In Post T (Ed.) UpToDate. Retrieved 1/5/2015. 2014. Waltham, MA.

Anand K. Prevention and treatment of neonatal pain. In Post T (Ed.) UpToDate. Retrieved 1/5/2015. 2014. Waltham, MA.

Anon. Prevention and management of pain in the neonate: an update. American Academy of Pediatrics Committee on Fetus and Newborn and Section on Surgery; Canadian Paediatric Society Fetus and Newborn Committee. Pediatrics 2006;118:2231-41

http://pediatrics.aappublications.org/content/118/5/2231.full.pdf+html

What is the evidence for the efficacy of non-pharmacological interventions?
A systematic literature review of 13 randomised trials and 2 meta-analyses (Cignacco, 2007) looked at the effects of non-nutritive sucking, music, swaddling, positioning, olfactory and multisensorial stimulation, kangaroo care and maternal touch. These had an observable positive effect on pulse rate, respiration and oxygen saturation, reduction of motor activity and excitation states following painful procedures. Validated pain assessment instruments were not employed in these studies, however, and further research was called for.
A Cochrane systematic review of 20 trials (Shah, 2012) found that distress measured by heart rate, crying time and two scoring systems (Douleur Aigue Nouveau-ne and Neonatal Facial Coding Score) was significantly reduced by breastfeeding or breast milk supplementation during painful procedures.
A double-blind prospective trial in 110 infants (Thyr, 2007) found that infants given 2 mL of 30% glucose after immunisation at 3, 5 and 12 months cried less than those given water (mean crying time reduced by 22, 62 and 52% respectively).
A meta-analysis of 20 RCTs involving 1380 infants and children between 1 month and 11 years of age (Chambers, 2009) found that breathing exercises, child-directed distraction, nurse-led distraction, and combined cognitive-behavioural interventions were effective in reducing the pain and distress associated with routine childhood immunisations.
A Cochrane systematic review of 57 studies involving 4,730 infants (Stevens, 2013) found that sucrose significantly reduced the duration of total crying time (seconds) [WMD -39 (95% CI -44 to 34), 88 neonates].
A Cochrane systematic review (Johnston, 2014) also investigated the pain relieving effect of skin-to-skin care (also known as Kangaroo Care). 19 studies involving 1594 infants were analysed and the authors concluded that “SSC appears to be effective, as measured by composite pain indicators and including both physiological and behavioural indicators, and safe for a single painful procedure such as a heel lance”

Chambers CT, Taddio A, Uman LS, et al. Psychological interventions for reducing pain and distress during routine childhood immunizations: a systematic review. Clin Ther 2009;31(Suppl 2):S77-S103)

Cignacco E, Hamers JP, Stoffel L, et al. The efficacy of non-pharmacological interventions in the management of procedural pain in preterm and term neonates. A systematic literature review. Eur J Pain 2007;11:139-52

Johnston C,Campbell-Yeo M, Fernandes A et al. Skin-to-skin care for procedural pain in neonates. Cochrane database of systematic reviews 2014. CD008435
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008435.pub2/full

Shah PS, Herbozo C & Aliwalas LL. Breastfeeding or breast milk for procedural pain in neonates. Cochrane Database of Systematic Reviews 2012. Art. No.: CD004950
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004950.pub3/pdf/standard

Stevens B, Yamada J, Lee G et al. Sucrose for analgesia in newborn infants undergoing painful procedures. Cochrane Database of Systematic Reviews 2013. Art. No.: CD001069
http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD001069.pub4/pdf

Evidence Level: I

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Last amended September 2015
Last reviewed December 2021

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