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NON-PHARMACOLOGICAL PAIN MANAGEMENT IN NEONATE

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“There is nothing quite like that perfect moment when you’re holding your baby in your arms and realize you would do absolutely anything for them”

Pain is an unpleasant sensory and emotional experience associated with actual or potential damage which is a major problem in sick newborn infants especially for those needing intensive care. Newborns are vulnerable to pain and its deleterious effects because they have larger receptive fields for nociceptive impulses and possibly a higher density of nerve endings and concentration of substance P receptors. Hospitalization of Newborn infants in a neonatal intensive care unit undergoes an average of 134 painful procedures within the first two weeks. Even more concerning, some Newborn infants might experience more than 3000 painful procedures during the entire course of their NICU stay, most of procedures are necessary for diagnosis and treatment which includes the venous and arterial puncture, capillary puncture, tracheal intubation, pulmonary mechanical ventilation, the introduction of drains, the aspiration of a tracheal cannula, a gastric probe, and the removal of adhesive tapes as painful procedures. This Painful experiences may result in physiological and behavioral alterations and may have adverse consequences on long-term neurological development. The harmful effects of pain include irritability, fear, sense of mistrust towards caregiver, disturbed sleep and wakefulness cycle, delayed wound healing, altered immunological functions, biochemical alterations in energy metabolism. Negative effects on the developing brain also include long-term adverse effects like subtle behavioral changes that may persist up to childhood.

The pharmacological pain relief is the most commonly used, but might be ineffective and has side effects, including long-term neurodevelopmental sequelae where as Non-pharmacological methods have the potential to provide pain relief which include skin-to-skin care (SSC), swaddling, therapeutic massage, musical therapy (MT) and facilitated tucking utilize environmental, behavioral, and pharmacological approaches by activating a “gate control mechanism” that prevents the pain sensation from traveling to the central nervous system.

- **Skin to skin care :** Cholecystokinin, a neuropeptide associated with analgesia, is released when the infant is exposed to familiar smell of the mother. Therefore, providing an neonate with skin to skin care with the mother can have an analgesic effect.



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- **Swaddling :** Swaddling, the practice of wrapping infants in blankets and can help simulate the environment of the womb which may translate to analgesia.



- **Massage therapy:** Massage can potentially saturate the senses and decrease the pain signals that are sent to the central nervous system.



- **Music therapy:** Music therapy uses distraction to activate the infant's attention and thus distracts them from the pain and decreases their sensation of pain.



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- **Facilitated tucking:** Holding the infant in a flexed position can also have analgesic effects due to saturation of senses and decrease the pain signals that are sent to the central nervous system.

