

# Midwifery and Neonatal Nursing

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## Does undermanaged pain increase the risk of infection?

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**Statement of Problem:** Neonatal sepsis is an important global health challenge. Of the estimated 4 million neonatal deaths, 25% are attributed to the clinical syndrome neonatal sepsis (Qazi & Stoll, 2009).

**Purpose:** To present the best available evidence examining the relationships between nociception, immune function, infection, and the role anesthesia and analgesia may play in decreasing infection.

**Methodology:** Articles were identified from electronic databases PubMed, Medline and CINAHL.

**Findings:** Pain did not correlate with immune activation or tissue swelling. The amount of bacteria present influenced the pain sensitivity. When the immune system is blocked, there is either no difference in pain or an increase in pain to a bacterial infection. These findings suggest the immune system may not be responsible for pain. Moreover, once sensory neurons are activated, sensory neurons release signals that may suppress the immune system.

**Conclusion & Significance:** The significance of the high rates of infection and the occurrence of multi-drug resistant pathogens has increased the necessity to explore adjunct therapies to help decrease sepsis. Emerging research has focused on the interaction between the nociceptive pathway and immune function suggesting effective analgesic strategies may modulate immune function and decrease infection (Chiu et al., 2013).

**Recommendations:** Although strong evidence supports acute pain as a stressor that impairs immune function, rigorous research is urgently needed to determine if anesthetic and analgesic regimens can influence immunomodulation or boost immune function significantly to avert infection.

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