As a supporting document to highlight the extent and severity of NICU stress, and to guide a discussion about pain prevention in the NICU

BACKGROUND:
Variable approaches to pain management in the Neonatal Intensive Care Unit (NICU) have left this problem unresolved for this challenging area of care. A systematic shift in clinical practice toward earlier identification and proactive prevention of pain in neonates is needed. Developing a “minimal-pain” mindset amongst NICU practitioners may lead to an overall reduction of pain experienced by hospitalized neonates. This article provides several recommended approaches to accomplish this overarching goal, including minimizing stress during the process of admission, reducing invasive catheterization, and determining how clinician experience impacts pain.

KEY TOPICS ADDRESSED

NEONATAL PAIN
• Each year, up to 8% of newborns are admitted to NICUs.
• There is a lack of recognition of the severity of pain experienced by neonates during their stay in the NICU.
• Notable painful procedures in the NICU include, but are not limited to: intubation with endotracheal tubes, needle puncture for venous access, placement of oro/nasogastric and chest tubes, blood samples from arterial lines, and injections into subcutaneous or intramuscular spaces.
• In total, neonates may endure as many as 14 painful procedures each day.
• Often, the painful stimuli occur without the benefit of analgesia due to the risk of hypotension or respiratory depression.

DISPELLING PHYSIOLOGICAL MISUNDERSTANDINGS ABOUT NEONATE PAIN
• Neonates have the ability to experience pain because they have functional nervous systems.
• Neonates have the mental and physical capacity needed to not only experience but also remember experiences of pain.

EVALUATING NEONATE PAIN
• As in many adult care settings, pain is considered the “5th vital sign” in most NICUs and needs to be checked at a regular cadence.
• Although neonates cannot verbally articulate pain, behaviors suggestive of discomfort can be identified by experienced clinicians.
• Validated neonate-specific pain scales that attempt to quantify pain have been published to guide clinical care.
• The Association of Women’s Health, Obstetric and Neonatal Nurses suggests several factors must be considered when applying such pain scales in practice:
  - Pain scales are generalized and therefore may not be applicable in all circumstances.
  - Neonates may not have a behavioral response to painful stimuli, but this does not necessarily mean they are not feeling pain.
  - Selected pain measurement tools should have a means to assess both behavior and physiology.
  - Measurement of pain is only part of a comprehensive, programmatic approach to pain management.
CONSEQUENCES OF ALLOWING PAIN TO GO UNTREATED

• On an immediate basis, untreated pain may result in physiological changes such as: increased heart rate and respiratory rates, blood pressure elevations, decreased oxygen saturation, and cerebral blood flow alterations.

• Other clinical outcomes that can be impacted by pain include increased rate of infections, poor healing of wounds, increased length of hospital stay, and increased mortality.

KEY FACTORS IN CREATING A “MINIMAL-PAIN” NICU CULTURE

• Clinicians should focus first and foremost on preventing pain.

• Avoiding or altogether eliminating unnecessary laboratory interventions and tests is recommended.

• Experienced providers, as opposed to trainees, should perform procedures on unstable neonates who are particularly susceptible to pain.