Introduction

There is ample documentation in the literature that newborn infants experience pain and exhibit a variety of both physiologic and behavioral responses to this pain. Despite this fact, considerable variation occurs from nursery to nursery and provider to provider in the management of pain in the newborn. Many questions still exist regarding the best way to assess pain and agitation and to treat or prevent an infant’s response to painful procedures or therapies. Some of these questions will be discussed briefly below in the FAQs. Our hope is that these questions will stimulate further discussion regarding the management of pain in the NICU and that this discussion can lead to more consistent use of pain therapies.
Do newborns experience pain and should it be treated?

While the answer to this question appears obvious, there are those who continue to believe that neural pain pathways are not developed enough in the preterm infant for that infant to experience pain or those who feel that even if pain is experienced, it “will not be remembered” and therefore does not require treatment. The literature now has documented quite well that neural pathways are developed by the second trimester and further documents the variety of physiologic and behavioral changes exhibited by babies of even extreme prematurity. Painful procedures elicit physiologic responses with changes in heart rate, oxygen saturation, respiratory patterns, and stress hormone levels. A number of motor, state, and self-regulatory behavioral changes have also been documented. In addition, evidence now indicates that newborns do “remember” painful experiences and respond differently to painful procedures (such as immunizations) later in life than those who have not experienced pain as a newborn. The data are compelling not only that newborns experience pain but also that this pain does cause physiologic changes and should be ameliorated as much as possible.
What therapies can be used to alleviate pain in the NICU?

A variety of both pharmacologic and nonpharmacologic treatments have been shown to be safe and effective for even premature infants. It is essential to anticipate the need to treat pain instead of simply reacting to the baby's behaviors following a procedure or therapy. Pharmacologic and nonpharmacologic interventions may be used in conjunction with one another to minimize the baby's exposure to medication. These nonpharmacologic interventions include non-nutritive sucking, swaddling, rocking, clustering of care, and placing the baby in a supported tuck position. These interventions should be appropriate to the gestational age of the baby. When choosing medications, it is important to consider whether or not one is treating pain or agitation in the baby. It is inappropriate to use sedatives, which have no analgesic effect, to treat an infant about to undergo or immediately following a painful procedure. On the other hand, babies who are frequently agitated due to chronic overstimulation may respond quite well to a sedative in addition to altering some of the overstimulating care practices. An individualized plan should be discussed and implemented for each patient based on his or her specific needs.
How can assessments of pain and agitation be utilized in developing a plan for pain management?

A number of pain assessment tools have been studied and found to be useful in managing pain in the NICU. All of these assessment tools assign objective scores to some of the baby's behavioral or physiologic responses to pain or agitation. The choice of an assessment tool should take into account one's patient population, the ease of use, and acceptability by the nursing staff. Studies have shown that pain assessment scores do increase with increasingly noxious stimuli. However, there is a great deal of overlap in scores between different babies and across a variety of procedures. For example, the same procedure may elicit widely different scores in different babies. In addition, our philosophy should not be to treat pain only after the baby begins to exhibit high pain assessment scores, but rather to anticipate pain and agitation and use the assessment scores to monitor the effectiveness of our treatment. In light of this, one can say that pain assessment tools are helpful in implementing an overall pain management plan, but they are only part of this plan. Finally, one cannot underestimate the importance of educating staff as to the importance of pain management as it is impossible to be successful in this endeavor without the acceptance of nursing caretakers.
References