

recurrent pain ([Valrie, Bromberg, Palermo, et al, 2013](#)). A sleep diary can be useful in keeping a record of activities surrounding sleep, including bedtime, time to fall asleep, number of night awakenings, waking in the morning, and especially any pain or other circumstance that interfered with sleeping. The sleep diary was validated using sleep actigraphy in healthy 13- to 14-year-old children ([Gaina, Sekine, Chen, et al, 2004](#)). The Sleep Habits Questionnaire, which is useful for assessing sleep behaviors in school-age children with chronic or recurrent pain, has also been evaluated for use in preschool and toddlers using parent proxy ([Sneddon, Peacock, and Crowley, 2013](#)).

## Assessment of Pain in Specific Populations

### Pain in Neonates

The impact of early pain exposure greatly affects the developing nervous system, with persistent long-term effects. This makes neonatal assessment extremely important, although difficult, because the most reliable indicator of pain, self-report, is not possible. Evaluation must be based on physiologic changes and behavioral observations with validated instruments ([Hatfield and Ely, 2015](#)) ([Box 5-2](#)). Although behaviors (such as vocalizations, facial expressions, body movements, and general relaxation state) are common to all infants, they vary with different situations. Crying associated with pain is more intense and sustained (see [Fig. 5-1](#)). Facial expression is the most consistent and specific characteristic; scales are available to systematically evaluate facial features, such as eye squeeze, brow bulge, open mouth, and taut tongue. Most infants respond with increased body movements, but the infant may be experiencing pain even when lying quietly with eyes closed. The preterm infant's response to pain may be behaviorally blunted or absent; however, there is ample evidence that such infants are neurologically capable of feeling pain. In addition, infants in awake or alert states demonstrate a more robust reaction to painful stimuli than infants in sleep states. Also, an infant receiving a muscle-paralyzing agent (vecuronium) is