Assessment of Sedation
- Sedation is scored in addition to pain for each behavioral and physiological criteria to assess the infant’s response to stimuli.
- Sedation does not need to be assessed/scoring with every pain assessment.
- Sedation is scored from 0 to -2 for each behavioral and physiological criteria, then summed and noted as a negative score (0 to -10).
- A score of 0 is given if the infant has no signs of sedation, does not under-react.
- Desired levels of sedation vary according to the situation.
  - "Deep sedation" → goal score of -10 to -5
  - "Light sedation" → goal score of -5 to -2
- Deep sedation is not recommended unless an infant is receiving ventilatory support, related to the high potential for hypoventilation and apnea.
- A negative score without the administration of opioids/sedatives may indicate:
  - The premature infant’s response to prolonged or persistent pain/stress
  - Neurologic depression, sepsis, or other pathology.

Assessment of Pain/Agitation
- Pain assessment is the fifth vital sign – assessment for pain should be included in every vital sign assessment.
- Pain is scored from 0 to +2 for each behavioral and physiological criteria, then summed.
- Points are added to the premature infant’s pain score based on the gestational age to compensate for the limited ability to behaviorally communicate pain.
- Total pain score is documented as a positive number (0 to +11).
- Treatment/interventions are suggested for scores > 3.
- Interventions for known pain/painful stimuli are indicated before the score reaches 3.
- The goal of pain treatment/intervention is a score ≤ 3.
- More frequent pain assessment indications:
  - Indwelling tubes or lines which may cause pain, especially with movement (e.g., chest tubes) → at least every 2-4 hours.
  - Receiving analgesics and/or sedatives → at least every 2-4 hours.
  - 30-60 minutes after an analgesic is given for pain behaviors to assess response to medication.
  - Post-operative → at least every 2 hours for 24-48 hours, then every 4 hours until off medications.

Paralysis/Neuromuscular blockade
- It is impossible to behaviorally evaluate a paralyzed infant for pain.
- Increases in heart rate and blood pressure at rest or with stimulation may be the only indicator of a need for more analgesia.
- Analgesics should be administered continuously by drip or around-the-clock dosing.
- Higher, more frequent doses may be required if the infant is post-op, has a chest tube, or other pathology (such as NEC) that would normally cause pain.
- Opioid doses should be increased by 10% every 3-5 days as tolerance will occur without symptoms of inadequate analgesia.

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**Scoring Criteria**

### Crying / Irritability

<table>
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<th>Score</th>
<th>Description</th>
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| -2    | No response to painful stimuli  
  • No cry with needle sticks  
  • No reaction to ETT or nares suctioning  
  • No response to care giving |
| -1    | Moans, sighs, or cries (audible or silent) minimally to painful stimuli, e.g. needle sticks, ETT or nares suctioning, care giving |
| 0     | No sedation signs or No pain/agitation signs |
| +1    | Infant is irritable/crying at intervals – but can be consoled  
  • If intubated – intermittent silent cry |
| +2    | Any of the following  
  • Cry is high-pitched  
  • Infant cries insconsolably  
  • If intubated – silent continuous cry |

### Extremities / Tone

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<th>Score</th>
<th>Description</th>
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| -2    | Any of the following  
  • No palmar or planter grasp can be elicited  
  • Flaccid tone |
| -1    | Weak palmar or planter grasp can be elicited  
  • Decreased tone |
| 0     | No sedation signs or No pain/agitation signs |
| +1    | Intermittent (<30 seconds duration) observation of toes and/or hands as clenched or fingers splayed  
  • Body is not tense |
| +2    | Any of the following  
  • Frequent (>30 seconds duration) observation of toes and/or hands as clenched, or fingers splayed  
  • Body is tense/stiff |

### Behavior / State

<table>
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<tr>
<th>Score</th>
<th>Description</th>
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| -2    | Does not arouse or react to any stimuli:  
  • Eyes continually shut or open  
  • No spontaneous movement |
| -1    | Little spontaneous movement, arouses briefly and/or minimally to any stimuli  
  • Opens eyes briefly  
  • Reacts to suctioning  
  • Withdraws to pain |
| 0     | No sedation signs or No pain/agitation signs |
| +1    | Any of the following  
  • Restless, squirming  
  • Awakens frequently/easily with minimal or no stimuli |
| +2    | Any of the following  
  • Kicking  
  • Arching  
  • Constantly awake  
  • No movement or minimal arousal with stimulation (not sedated, inappropriate for gestational age or clinical situation) |

### Vital Signs: HR, BP, RR, & O2 Saturations

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<thead>
<tr>
<th>Score</th>
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| -2    | Any of the following  
  • No variability in vital signs with stimuli  
  • Hypoventilation  
  • Apnea  
  • Ventilated infant – no spontaneous respiratory effort |
| -1    | Vital signs show little variability with stimuli – less than 10% from baseline |
| 0     | No sedation signs or No pain/agitation signs |
| +1    | Any of the following  
  • HR, RR, and/or BP are 10-20% above baseline  
  • With care/stimuli infant desaturates minimally to moderately (SaO2 76-85%) and recovers quickly (within 2 minutes) |
| +2    | Any of the following  
  • HR, RR, and/or BP are > 20% above baseline  
  • With care/stimuli infant desaturates severely (SaO2 < 75%) and recovers slowly (> 2 minutes)  
  • Out of sync/fighting ventilator |

### Facial Expression

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<tr>
<th>Score</th>
<th>Description</th>
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| -2    | Any of the following  
  • Mouth is lax  
  • Drooling  
  • No facial expression at rest or with stimuli |
| -1    | Minimal facial expression with stimuli |
| 0     | No sedation signs or No pain/agitation signs |
| +1    | Any pain face expression observed intermittently |
| +2    | Any pain face expression is continual |

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**Facial expression of physical distress and pain in the infant**