**Supplemental Appendix 3: Sedation scales.**

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| Ramsay Scale16 | |
| Level | **Characteristics** |
| 1 | Patient awake, anxious, agitated, or restless |
| 2 | Patient awake, cooperative, orientated and tranquil |
| 3 | Patient drowsy, with response to commands |
| 4 | Patient asleep, brisk response to glabella tap or loud auditory stimulus |
| 5 | Patient asleep, sluggish response to stimulus |
| 6 | Patient has no response to firm nail-bed pressure or other noxious stimuli |

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| University of Michigan Sedation Scale17 | |
| Level | **Characteristics** |
| 0 | Awake and alert |
| 1 | Minimally sedated: tired/sleepy, appropriate response to verbal conversation and/or sound |
| 2 | Moderately sedated: somnolent/sleeping, easily aroused with light tactile stimulation or a simple verbal command |
| 3 | Deeply sedated: deep sleep, arousable only with significant physical stimulation |
| 4 | Unarousable |

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| Wilton scale18 | |
| Level | **Characteristics** |
| 1 | Agitated: Clinging to parent and/or crying |
| 2 | Alert: Awake but not clinging to parent, may whimper but not cry |
| 3 | Calm: Sitting or lying comfortably with eyes spontaneously open |
| 4 | Drowsy: Sitting or lying comfortably with eyes spontaneously closing but responds to minor stimulation |
| 5 | Asleep: Eyes closed, arousable but does not respond to minor stimulation |

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| Modified Wilton scale19 | |
| Level | **Characteristics** |
| 1 | Agitated: Clinging to parent and/or crying |
| 2 | Alert: Awake but not clinging to parent, may wimper but not cry |
| 3 | Calm: Sitting or lying with eyes open, relaxed |
| 4 | Drowsy: Eyes closed but responds to minor stimulation |
| 5 | Asleep: Does not respond to minor stimulation |

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| Children’s Hospital of Wisconsin Sedation Scale20 | | |
| Level | **Classification** | **Characteristics** |
| 6 | Inadequate | Anxious, agitated, or in pain |
| 5 | Minimal-conscious | Spontaneously awake without stimulus |
| 4 | Conscious-moderate | Drowsy, eyes open or closed, but easily arouses to consciousness with verbal stimulus |
| 3 | Moderate-deep | Arouses to consciousness with moderate tactile or loud verbal stimulus |
| 2 | Deep | Arouses slowly to consciousness with sustained painful stimulus |
| 1 | Arouses, but not to consciousness, with painful stimulus |
| 0 | Anesthesia | Unresponsive to painful stimulus |

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| Observer’s Assessment of Alertness/Sedation22 | | | | |
| Composite score level | **Assessment categories** | | | |
| **Responsiveness** | **Speech** | **Facial expression** | **Eyes** |
| 5  (Alert) | Responds readily to name spoken in normal tone | Normal | Normal | Clear, no ptosis |
| 4 | Lethargic response to name spoken in normal tone | Mild slowing or thickening | Mild relaxation | Glazed or mild ptosis (less than half the eye) |
| 3 | Responds only after name is called loudly or repeatedly | Slurring or prominent slowing | Marked relaxation | Glazed and marked ptosis (half the eye or more) |
| 2 | Responds only after mild prodding or shaking | Few recognizable words |  |  |
| 1  (Deep sleep) | Does not respond to mild prodding or shaking |  |  |  |

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| Dartmouth Operative Conditions Scale33 | | | | |
| Patient state | **Observed behaviors** | | | |
| Pain/stress | (0)  Eyes closed or calm expression | (1)  Grimace or frown | (2)  Crying, sobbing or screaming |  |
| Movement | (0)  Still | (1)  Random little movement | (2)  Major purposeful movement | (3)  Thrashing, kicking, or biting |
| Consciousness | (0)  Eyes open | (-1)  Ptosis, uncoordinated or drowsy | (-2)  Eyes closed |  |
| Sedation side effects | (-1)  SpO2 <92% | (-1)  Noise with respiration | (-1)  Respiratory pauses >10s | (-1)  BP decrease >50% from baseline |

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| COMFORT Scale21 | | | | | | | | |
| Level | **Alertness** | **Agitation** | **Respiratory response** | **Movement** | **MAP** | **HR** | **Muscle tone** | **Facial tension** |
| 1 | Deeply asleep | Calm | No coughing and no spontaneous respiration | No movement | Below baseline | Below baseline | Totally relaxed, no muscle tone | Facial muscles totally relaxed |
| 2 | Lightly asleep | Slightly anxious | Spontaneous respiration with little or no response to ventilation | Occasional, slight movement | Blood pressure consistently at baseline | HR consistently at baseline | Reduced muscle tone | No facial muscle tension evident |
| 3 | Drowsy | Anxious | Occasional cough or resistance to ventilator | Frequent, slight movements | Infrequent elevations of >15% during observation period | Infrequent elevations of >15% during observation period | Normal muscle tone | Tension evident in some facial muscles |
| 4 | Fully awake | Very anxious | Actively breathes against ventilator or coughs regularly | Vigorous movement limited to extremities | Frequent elevations of >15% during observation period | Frequent elevations of >15% during observation period | Increased muscle tone and flexion of fingers and toes | Tension evident through-out facial muscles |
| 5 | Hyperalert | Panicky | Fights ventilator, coughing or choking | Vigorous movement including torso and head | Sustained elevation of 15% or more | Sustained elevation of 15% or more | Extreme muscle rigidity | Facial muscles contorted and grimacing |