HEALTH HOLDING
HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Maternal Intensive Care Unit		
Document:	Departmental Policy and Procedure		
Title:	Sedation and Analgesia in Intubated Patients in Maternal Intensive Care Unit		
Applies To:	All Maternity Intensive Care Unit Staff		
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1. PURPOSE:

1.1 To provide the patients with timely and adequate analgesia and sedation to the intubated patients on mechanical ventilation.

1.2 To avoid sedation complications and prevent or decrease side effects of analgesia/ sedatives.

2. DEFINITIONS:

2.1 **Minimal Sedation (Anxiolysis)** – A drug-induced state during with patients respond normally to verbal commands, either alone or after light tactile stimulation. No interventions are required to maintain a patient airway, and spontaneous ventilation is adequate. Cardiovascular function is maintained.

2.2 **Moderate Sedation/ Analgesia (Conscious Sedation)** – A drug-induced depression of consciousness during which patients respond purposefully a verbal command, either alone or after light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function maintained.

2.3 **Deep Sedation/ Analgesia** – A drug induced depression of consciousness during which patients respond purposefully, following repeated or painful stimulation. The ability to independently maintain ventilator function may be impaired. Patients may require assistance in maintaining patency of airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

2.4 **Ramsay Sedation Scale** – A method of scoring to evaluate level of consciousness when patients getting regular sedation.

3. POLICY:

3.1 This policy stands for the intubated and mechanically ventilated patients who are in needs of sedation. For non-intubated patients Conscious Sedation policy should be applied.

3.2 All continuous sedation and analgesia drug must be stopped once a day (sedation vacation) except ordered otherwise, in order to record neurological signs and mental status level, and then re-start the drip with the same or changed dose according to patients needs and drugs interaction and patient's mental status.

3.3 All nursing staff should be ready to avoid any mishappening e.g. self extubation.

3.4 The results of "sedation vacation" have to be documented daily in the patient's medical record by physician and MICU staff nurse with date and time.

4. PROCEDURE:

4.1 Sedation

4.1.1 MICU Physician will do following:

4.1.1.1 Assess the patient for need of sedation and rule out reversible causes of discomfort/ anxiety such as hypoxemia, hypercarpnea, and toxic/drug side effect.

4.1.1.2 Assess comorbidities and potential side effect of drug(s) chosen.

4.1.1.3 Set treatment goal e.g. target Ramsay Sedation Score.
4.1.1.4 Preferably use combined infusion.
4.1.1.5 Write legible and clear order with drug generic names, doses and route in patient medical record.

4.1.2 ICU staff nurse will stop all continuous sedation and analgesia daily as per protocol except if:
4.1.2.1 Clear order not to discontinue sedation and reason for continuation.
4.1.2.2 Patients who are planned for clinical procedure in MICU, or transfer for clinical procedure outside MICU surgery.

4.1.3 ICU staff nurse will monitor vital signs and assess & reassess the patient including Ramsay Sedation Scale or Richmond Agitation Sedation (RASS) Scale as given below, and document in patient medical record.

Ramsay Sedation Scale

SCORE	RESPONSE
1	Anxious or restless or both
2	Cooperative, oriented and tranquil
3	Responding to commands
4	Brisk response to light glabellar to tap or loud auditory stimulus
5	Sluggish response to light glabellar tap or loud auditory stimulus
6	No response to stimulus

Richmod Agitation Sedation Scale (RASS)

Target RASS	RASS DESCRIPTION
+4	Combative, violent, danger to staff
+3	Pulls or removes tubes(s) or catheters; aggressive
+2	Frequent non-purposeful movement, fights ventilator
+1	Anxious, apprehensive, but not aggressive
0	Alert and calm
-2	Light sedation, briefly awakens to voice (eye opening/contact) <10 sec
-3	Moderate sedation, movement or eye opening. No eye contact
-4	Deep sedation, no response to voice, but movement or eye opening to physical stimulation.
-5	Unarousable, no response to voice or physical stimulation.

4.1.4 ICU physician must take into consideration following recommendation for selection and sedative agents:
4.1.4.1 Triglycerides concentrations to be monitored after two days of propofol infusion, and total caloric intake from lipids should be include in the nutrition support prescription.
4.1.4.2 Midazolam or diazepam to be used for rapid sedation of acutely agitated patients.
4.1.4.3 Propofol is the preferred sedative when rapid awakening (e.g. for neurologic assessment for extubation) is important.
4.1.4.4 The potential for opioid, benzodiazepine and propofol withdrawal to be considered after high doses or more than approximately seven days of continuous therapy. Doses to tapered systematically to prevent withdrawal symptoms.
4.1.4.5 Haloperidol is the preferred agent for the treatment of delirium in critically ill patient.
4.1.4.6 Patients to be monitored for electrocardiographic changes (QT interval prolongation and arrhythmias) when receiving haloperidol.
4.1.4.7 Used Sedation Algorithm.
4.1.4.8 Generally, in MOH hospital's MICUs, following used as sedative drugs: Midazolam, Daizepam, Propofol and Haloperidol to control delirium. For sedative drugs doses with their properties.

4.2 Analgesia

4.2.1 Pain must be addressed separately. Better to anticipated pain, if not possible the MICU physician shall recognize, quantify, treat and reassess the patient for pain Remember. Most sedative agents do not provide analgesia.

4.2.2 The assigned staff nurse will monitor and document pain score in patient medical record.

4.2.3 Analgesia shall be initiated with Non-pharmacologic Intervention:

4.2.3.1 Proper position of the patient.

4.2.3.2 Stabilization of fracture

4.2.3.3 Elimination of irritating stimulation.

4.2.3.4 Proper positioning of the ventilator tubing to avoid traction on endotracheal tube.

4.2.4 If non-pharmacologic methods fall for a mechanically ventilated patient, then add analgesic drug from the following opioids: Fentanyl, Morphine, for analgesia drugs' doses with their properties.

4.3 Neuromuscular Blockage agent (NMBA)/ Muscle Relaxants

4.3.1 There are non-depolarizing Muscle Relaxants (atracurium, pancuronium, vecuronium, rocuronium) and Depolarizing Muscle Relaxants (succinylcholine). But former are preferable drug of choice in ICU, if needed, according to the following indication:

4.3.1.1 Facilitation of Mechanical Ventilation e.g. ARDS

4.3.1.2 Tetanus-treat muscle spasms

4.3.1.3 Raised ICP

4.3.1.4 To decrease oxygen consumption.

4.3.2 Because of its unique metabolism, atracurium is recommended for patients with significant hepatic or renal disease and cardiovascular disease (contraindication for vagolysis), although pancuronium is contraindicated in these cases.

4.3.3 MICU physician will chose the drug according the patient's condition and write orders in patient medical record.

4.3.4 For neuromuscular blocking drugs' doses with their properties.

5. MATERIAL AND EQUIPMENT:

5.1 Infusion Pump

5.2 Mechanical Ventilator

5.3 Suction Catheter of various size

5.4 Cardiac Monitor

6. RESPONSIBILITIES:

6.1 Physician

6.2 Nurse

7. APPENDICES:

N/A

8. REFERENCES:

8.1 Guidelines for Adult ICU Care/ Ministry of Health, General Directorate of Health Centers- Riyadh, 2013

9. APPROVALS:

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