



Management of Pain and Agitation: Mechanical Ventilation Anticipated For Greater Than 48 Hours

Orders apply to adult patients in intensive care units (15 years of age and older). Mark the ☒ for desired orders. If ☐ are blank, order is inactive. All pre-printed doses are based on normal renal and hepatic function and must be assessed for adjustment against the individual patient's renal and hepatic function and for interactions with other medications.

Name _____

Clinic Number _____

Room Number _____

Height: _____ cm Weight: _____ kg Age: _____

Allergy module reviewed. ☐ No additional allergies identified, **or**Choose one: ☐ Additional allergies identified and MICS Allergy updated, **or**☐ Additional allergies. List (include reaction): _____

please update MICS Allergies.

ALERT

This order set does not apply to patients receiving neuromuscular blocking agents nor to patients receiving noninvasive mechanical ventilation.

In patients with endotracheal intubation and mechanical ventilation anticipated for less than 48 hours, consider using order set MC1156-405 "ICU Management of Pain and Agitation in Patients with Endotracheal Intubation and Mechanical Ventilation Anticipated for Less than or Equal to 48 Hours".

MEDICATIONS:**1. Pain: Choose A or B.**

Target pain rating less than 4.

A. Mean Arterial Pressure greater than 70 mmHg:**Morphine (Duramorph®) IV**

- ☐ 1. If pain greater than or equal to 4, give loading dose of _____ mg. Repeat dose of _____ mg every 5 minutes for pain greater than or equal to 4 (maximum 30 mg in any one hour). (2 – 5 mg) (2 – 5 mg)
2. If pain greater than or equal to 4 after 5 total doses in any one hour, begin continuous infusion at _____ mg per hour. Repeat doses of _____ mg every 5 minutes for pain greater than or equal to 4 (maximum 30 mg in any one hour). (2 – 10 mg) (2 – 5 mg)
3. If pain greater than or equal to 4 after 5 total doses in any one hour after continuous infusion, increase continuous infusion by 1 mg per hour every hour until pain rating less than 4 (maximum 15 mg per hour).

☐ Other _____**Daily Interruption of Continuous Infusion (analgesia and sedation must be stopped at the same time)**

- ☐ 1. Stop continuous infusion every 24 hours at 0730. Hold until patient awake and can follow commands with pain less than 4 or until pain greater than or equal to 4.
2. If pain greater than or equal to 4, give loading dose of _____ mg. Repeat dose of _____ mg every 5 minutes for pain greater than or equal to 4 (maximum 30 mg in any one hour). (2 – 5 mg) (2 – 5 mg)
3. If pain greater than or equal to 4 after 5 total doses in any one hour, resume continuous infusion at half the previous infusion rate. Repeat dose of _____ mg every 5 minutes for pain greater than or equal to 4 (maximum 30 mg in any one hour). (2 – 5 mg)
4. If pain greater than or equal to 4 after 5 total doses in any one hour after continuous infusion, increase continuous infusion by 1 mg per hour every hour until pain rating less than 4 (maximum 15 mg per hour).

B. Mean Arterial Pressure less than 70 mmHg or if allergic to Morphine (Duramorph®):**Fentanyl (Sublimaze®) IV**

- ☐ 1. If pain greater than or equal to 4, give loading dose of _____ mcg. Repeat dose of _____ mcg every 5 minutes for pain greater than or equal to 4 (maximum 600 mcg in any one hour). (25 – 50 mcg) (25 – 50 mcg)
2. If pain greater than or equal to 4 after 5 total doses in any one hour, begin continuous infusion at _____ mcg per hour. Repeat dose of _____ mcg every 5 minutes for pain greater than or equal to 4 (maximum 600 mcg in any one hour). (25 – 100 mcg) (25 – 50 mcg)
3. If pain greater than or equal to 4 after 5 total doses in any one hour after continuous infusion, increase continuous infusion by 25 mcg per hour every hour until pain rating less than 4 (maximum 300 mcg per hour).

☐ Other _____**Daily Interruption of Continuous Infusion (analgesia and sedation must be stopped at the same time)**

- ☐ 1. Stop continuous infusion every 24 hours at 0730. Hold until patient awake and can follow commands with pain less than 4 or until pain greater than or equal to 4.
2. If pain greater than or equal to 4, give loading dose of _____ mcg. Repeat dose of _____ mcg every 5 minutes for pain greater than or equal to 4 (maximum 600 mcg in any one hour). (25 – 50 mcg) (25 – 50 mcg)
3. If pain greater than or equal to 4 after 5 total doses in any one hour, resume continuous infusion at half the previous infusion rate. Repeat dose of _____ mcg every 5 minutes for pain greater than or equal to 4 (maximum 600 mcg in any one hour). (25 – 50 mcg)
4. If pain greater than or equal to 4 after 5 total doses in any one hour after continuous infusion, increase continuous infusion by 25 mcg per hour every hour until pain rating less than 4 (maximum 300 mcg per hour).

2. Agitation (if pain rating less than 4):

Target sedation to 0 on Richmond Agitation Sedation Scale (RASS); see the reverse of sheet.

Lorazepam (Ativan®) IV

- ☐ 1. If RASS score greater than or equal to +1, give loading dose of _____ mg. Repeat dose of _____ mg every 5 minutes if RASS score greater than or equal to +1 (maximum 40 mg in any one hour). (1 – 4 mg) (1 – 4 mg)
2. If RASS score greater than or equal to +1 after 5 total doses in any one hour, begin continuous infusion at _____ mg per hour. Repeat dose of _____ mg every 5 minutes if RASS score greater than or equal to +1 (maximum 40 mg in any one hour). (1 – 4 mg) (1 – 4 mg)
3. If RASS score greater than or equal to +1 after 5 total doses in any one hour after continuous infusion, increase continuous infusion by 1 mg per hour every hour until RASS score equal to 0 (maximum 20 mg per hour).

☐ Other _____**Daily Interruption of Continuous Infusion (analgesia and sedation must be stopped at the same time)**

- ☐ 1. Stop continuous infusion every 24 hours at 0730. Hold until RASS score equal to 0.
2. If RASS score greater than or equal to +1, give loading dose of _____ mg. Repeat dose of _____ mg every 5 minutes if RASS score greater than or equal to +1 (maximum 40 mg in any one hour). (1 – 4 mg) (1 – 4 mg)
3. If RASS score greater than or equal to +1 after 5 total doses in any one hour, resume continuous infusion at _____ mg per hour (half the previous infusion rate). Repeat dose of _____ mg every 5 minutes if RASS score is greater than or equal to +1. (1 – 4 mg) (1 – 4 mg)
4. If RASS score greater than or equal to +1 after 5 total doses after continuous infusion, increase continuous infusion by 1 mg per hour every hour until RASS score equal to 0 (maximum 20 mg per hour).

☐ Other _____**3. ☒ This order set is to be discontinued once the patient is extubated and no longer receiving mechanical ventilation.**

Prescriber's Signature: _____

Prescriber's Pager #: _____

Service Pager #: _____

Prescriber's Printed Name: _____

Date: m m / d d / y y y Time: h h : m m

Part 1 – Pharmacy

Part 2 – Nursing

Part 3 – Order Book

(24 hour clock)

This order set has been developed to reflect the practice patterns of the clinicians who wrote it. It sets forth recommendations as to practice, not rigid rules.

Richmond Agitation-Sedation Scale (RASS)

Score	Term	Description
+4	Combative	Overtly combative; violent; immediate danger to staff
+3	Very agitated	Pulls or removes tube(s) or catheter(s); aggressive
+2	Agitated	Frequent nonpurposeful movement, fights ventilator
+1	Restless	Anxious but movements not aggressive or vigorous
0	Alert and calm	
-1	Drowsy	Not fully alert, but has sustained awakening (Eye opening/eye contact) to voice (> 10 seconds)
-2	Light sedation	Briefly awakens with eye contact to voice (< 10 seconds)
-3	Moderate sedation	Movement or eye opening to voice (but 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

Procedure for RASS assessment

1. Observe patient
 - Patient is alert, restless, or agitated. Score 0 to +4
2. If not alert, state patient's name and say to open eyes and look at speaker.
 - Patient awakens with sustained eye opening and eye contact. Score -1
 - Patient awakens with eye opening and eye contact, but not sustained. Score -2
 - Patient has any movement in response to voice but no eye contact. Score -3
3. When no response to verbal stimulation, physically stimulate patient by Shaking shoulder and/or rubbing sternum.
 - Patient has any movement to physical stimulation. Score -4
 - Patient has no response to any stimulation. Score -5

Sessler, C. (2002). American Journal of Respiratory Critical Care Medicine. The Richmond Agitation-Sedation Scale: validity and reliability in adult intensive care unit patients. 166, 1338-1344.