

Comfort Care Guidelines

- I. Aim:** These guidelines are intended to promote patient comfort, to manage pain and common symptoms at the end-of-life, not to hasten death.
- II. Objectives:**
1. To implement a comprehensive, evidence-based, patient-centered approach to symptom assessment & management of the patient at the end-of-life.
 2. To reduce variability in the provision of end-of-life care between care settings.
 3. To provide timely and effective symptom-based care.
 4. To eliminate errors in dosing, ordering and administration of medications and treatments.
 5. To define monitoring parameters and documentation standards.
- III. Background & Rationale:** Standard practice guidelines for end-of-life serve as a foundation for patient and family-centered care for the seriously ill and dying. Development of uniform practice has the potential to reduce unnecessary variations in care, improve family satisfaction with care, and educate providers. The Comfort Care Order Set for End-of-Life Care and the Guidelines for Providers are intended to explain practice and set standards for care using evidence-based rationale. This endeavor represents a substantial interdisciplinary collaboration at Penn Medicine.
- IV. Prescriber Checklist:**
- ❑ **THIS ORDER SET IS FOR PATIENTS WHO HAVE MET WITH THEIR PRIMARY TEAM AND CHOSEN TO PURSUE COMFORT MEASURES ONLY. Code status should be confirmed as DNR/DNI*.** Verify in electronic medical record that orders are placed for code status and “Comfort care only.”
 - ❑ Consider hospice referral, as appropriate, and consult discharge planning team (CM/SW).
 - ❑ Reconcile all active orders and discontinue those not essential for comfort (i.e., vital signs, lab work, radiology studies, transfusions, and finger stick glucose checks).
 - ❑ Discontinue all medications that are not contributing to comfort.
 - ❑ Consider sublingual, subcutaneous or rectal routes for routine medication administration if no IV access.
 - ❑ Discontinue artificial nutrition and intravenous hydration if consistent with goals of care.
 - ❑ Consult EPS to deactivate implanted defibrillator and/or consider using magnet to disable defibrillator function.
 - ❑ Remove invasive monitoring (A-line, PA catheter) and discontinue bedside monitor and continuous pulse oximetry, where applicable.
 - ❑ If patient is intubated and family have agreed to withdraw life support technology see **Terminal Withdrawal from Mechanical Ventilation (Appendix A)** in this guideline.
 - ❑ Offer Pastoral Care consult and welcome personal clergy to address spiritual distress.
 - ❑ Consider Palliative Care Service consult if refractory pain/symptoms and/or psychosocial-spiritual distress.

*Evaluate each patient case individually as extubation may not be appropriate for every patient on comfort care.

V. Nursing Orders: Comfort Care Measures

- ☐ Assess patient comfort q15-30 mins initially for pain, dyspnea, secretions, delirium/agitation, anxiety/fear and nausea/vomiting, constipation, and fever.
- ☐ Once comfort achieved, assess above symptoms q1hr and PRN.
- ☐ Vital signs (blood pressure, heart rate, temperature) q24hr and PRN.
- ☐ Oral care as needed to promote comfort/moisturizing.
- ☐ Turn and reposition as needed for comfort.
- ☐ For patients experiencing dyspnea, a fan in the room can help relieve symptom.
- ☐ Identify room as using entity-specific signage.
- ☐ Silence any room (monitor/bed) alarms.
- ☐ Remove external monitoring devices not necessary for comfort (ie: monitors, blood pressure cuff, telemetry leads, sequential compression devices, etc.).
- ☐ Liberalize visitation and prepare the room for family/friends.
- ☐ Assess family for psychosocial needs for bereavement and funeral arrangements, consider consulting Social Work or Pastoral Care and welcome personal clergy to address spiritual distress.
- ☐ Offer bereavement tray (call dietary to order).
- ☐ Family members may wish to participate in post mortem care for personal or religious reasons.

VI. Symptom Assessment & Management

a) *Pain*

- ☐ For all assessments, document pain using the one or more of the following.
 - ☐ Pain scale (0-10)
 - ☐ Behavioral Pain Scale
 - ☐ And/or nonverbal signs of pain (grimacing, furrowed brow, guarding, etc.)
- ☐ If patient is comfortable, assess pain at least hourly and as needed.
- ☐ If patient is uncomfortable, bolus and document pain at least every 15 minutes while establishing comfort.
- ☐ Document pain score with each administration/titration of medications.
- ☐ Route of administration:
 - ☐ Enteral tube access: consider liquid formulation.
 - ☐ Difficulty swallowing: consider conversion to sublingual (SL), buccal, or intravenous (IV) administration.
 - ☐ No IV access: consider buccal, SL or subcutaneous (SC) administration.

Select one of the following opioids:

- ☐ **MORPHINE – Refer to APPENDIX B: Morphine Initiation and Titration for Comfort Care**
- ☐ **HYDROMORPHONE – Refer to APPENDIX C: Hydromorphone Initiation and Titration for Comfort Care**
- ☐ **FENTANYL – Refer to APPENDIX D: Fentanyl Initiation and Titration for Comfort Care**

b) Dyspnea Management

- ❑ For all assessments, document dyspnea using the one or more of the following.
 - Patient/clinician-reported dyspnea using 0-10 scale
 - Use of accessory muscles
 - RR>35/min.
- ❑ If patient is comfortable, assess dyspnea at least hourly and as needed.
- ❑ If patient is uncomfortable, bolus and document assessment at least every 15 minutes while establishing comfort.
- ❑ Document dyspnea assessment with each administration/titration of medications.
- ❑ Use opioid bolus and continuous titration (see respective titration charts found in Appendices A, B & C) to decrease dyspnea and alleviate associated symptoms.
- ❑ If anxiety is contributing to respiratory issues, consider lorazepam (see **APPENDIX E: Lorazepam Initiation and Titration for Comfort Care**).
- ❑ Continue nebulizer treatments if previously helpful to patient.
- ❑ If pleural drain in place, maintain and access for comfort.

c) Anxiety

- ❑ For all assessments, document anxiety using:
 - Patient/clinician-reported anxiety using 0-10 scale
- ❑ If patient is comfortable, assess anxiety at least hourly and as needed.
- ❑ If patient is uncomfortable, bolus and document assessment at least every 30 minutes while establishing comfort.
- ❑ Document assessment with each administration/titration of medications.
- ❑ Consider anxiolytic:
 - Initial management:
 - Lorazepam 0.5 mg PO/IV q 30 min as needed
 - For refractory symptoms see **APPENDIX E: Lorazepam Initiation and Titration for Comfort Care**

d) Delirium/Agitation/Restlessness

- ❑ Evaluate and document delirium via CAM/CAM-ICU or unit standard q 12hrs and as needed.
- ❑ Evaluate and document agitation via RASS q 4hr
 - Non-pharmacologic: Remove restraints and discontinue order if family and/or care providers are at the bedside and able to maintain patient safety.
- ❑ Pharmacologic
 - Already on antipsychotic:
 - Continue as scheduled, but discontinue EKG/labs.
 - If not able to take orals, convert patient to IV haloperidol (maximum one-time dose of 10 mg). **Refer to “Pain Agitation Delirium Guideline.”**
 - Not on antipsychotic:
 - Initiate haloperidol 1-2 mg IV bolus as needed for agitation/restlessness. May repeat x1 in 30 minutes after first dose,

then continue q1hr as needed to resolution of agitation; total daily dose not to exceed 30 mg for severe agitation or delirium.

- Persistent agitation: consider scheduling 1-2 mg of haloperidol on a q 6hr schedule

e) *Nausea and Vomiting*

- ❑ Evaluate and document for presence/absence of:
 - Patient-reported nausea/vomiting
- ❑ Initial management:
 - Prochlorperazine 10 mg PO/IV q 6hr as needed
 - Prochlorperazine 25 mg rectal q 6hr as needed
- ❑ Persistent nausea or vomiting:
 - Schedule initial anti-emetic
 - Consider addition of:
 - Ondansetron 8 mg IV q 8hr OR
 - Ondansetron ODT 8 mg SL q 8hr
 - Lorazepam 0.5 mg PO/IV q 4hr as needed
- ❑ Decreased gastrointestinal motility:
 - Metoclopramide 10mg PO/IV q 6hr

f) *Secretions*

- ❑ Oral suction *only* for comfort.
- ❑ Glycopyrrolate 0.2 mg IV q 2hr as needed
- ❑ Hyoscyamine 0.125 mg sublingual q 4hr as needed (max daily dose = 1.5 mg)
- ❑ Scopolamine patch q 72hr if life expectancy >24hrs

g) *Constipation*

- ❑ If no bowel movement for ≥ 3 days, rule out obstruction with KUB if clinically appropriate and consistent with goals of care.
- ❑ **No suspected obstruction:**
 - Senna 8.6mg 2 tablets PO q HS
 - Difficulty swallowing or enteral tube access, consider liquid formulation.
- ❑ **Obstruction or no oral access:**
 - Bisacodyl 10mg suppository PR daily

h) *Fever*

- ❑ Acetaminophen 650mg PO/PR q 4hr PRN
- ❑ Difficulty swallowing or enteral tube access, consider liquid formulation.
- ❑ Ibuprofen 400 mg PO q 6hr PRN
- ❑ Ketorolac 15 mg IV q 6hr PRN (limit to 5 days)

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VII. References

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VIII. Appendixes

Appendix A: Terminal Withdrawal from Mechanical Ventilation

Develop plan in conjunction with critical care MD/NP/RN, respiratory therapist, and patient's family about approach and plan for removal of endotracheal tube. Consider two methods:

1. **Stepwise**: Decrease in ventilatory support before removing endotracheal tube
 - a. If the patient is hypoxic and severe dyspnea is anticipated upon withdrawal of vent support, consider stepwise decrease in ventilator support and discontinuation of vasopressors first to reduce or eliminate respiratory drive.
2. **Immediate extubation**: Immediate withdrawal of ventilatory support and endotracheal tube on current settings
 - a. If the patient is in shock/cardiac failure, consider immediate extubation just after discontinuing vasopressors.

Additional considerations:

- ❑ Place order for extubation (embedded in Comfort Care Order Set).
- ❑ Discuss timing of vasopressor discontinuation.
- ❑ Discontinue IV hydration and enteral feeding.
- ❑ Ensure no paralytic effect (document reversal of paralytic) before starting process.
- ❑ **If the endotracheal tube is left in for clinical reasons or family request, consider using the ventilator settings below (to avoid continuous alarming), once symptoms of dyspnea and discomfort have been alleviated by opioid titration:**
 - Change mode of ventilation to assist control
 - Reduce set respiratory rate to 2 breaths/min
 - Reduce tidal volume to 1/2 current setting (dead space)
 - Reduce Peak Flow to appropriate level
 - Set apnea interval to 60 seconds
 - Set low expiratory minute volume alarm to zero L/min
 - Set low expiratory tidal volume alarm to 100 ml below set tidal
 - Set pressure sensitivity to - 2 cm H₂O (don't use flow sensitivity as auto cycling can occur)
 - Maintain previous PEEP level (PEEP may be increased if clinically indicated)
- ❑ Educate family about common signs and symptoms during life support withdrawal.
- ❑ Offer time for family to perform ceremony, ritual, Pastoral Care visit, or prayers.
- ❑ Assess need to contact Gift of Life for organ donation as per unit protocol.
- ❑ Initiate medication administration 30 minutes prior to ventilator wean or withdrawal.
- ❑ All patients should be comfortable based on RASS, lack of dyspnea, tachycardia and tachypnea prior to ventilator wean or withdrawal.
- ❑ Bolus opioids +/- benzodiazepine to achieve comfort between decreases in ventilatory support and following withdrawal.
- ❑ Assess patient for anxiety or agitation with RASS. If needed, administer benzodiazepine as previously described.

Appendix B: Morphine Initiation and Titration for Comfort Care

Morphine Initiation: Comfort care for an opioid naïve patient		
	PRN Bolus	Infusion Dose
Step 1	Administer Morphine 2 mg IV x 1 ➔ If symptoms persist after 10 min repeat Morphine 2 mg IV bolus x 1 ➔ If Morphine 2 mg IV x2 in 20 min without symptom control, go to Step 2 ➔ If controlled*, continue Morphine 2 mg IV q 10 min PRN	No Infusion. Morphine infusion should not be initiated before Step 3.
Step 2	Administer Morphine 4 mg IV x 1 ➔ If symptoms persist after 10 min, repeat Morphine 4 mg IV bolus x 1 ➔ If Morphine 4 mg IV x2 in 20 min without symptom control, go to Step 3 ➔ If controlled*, continue Morphine 4 mg IV q 10 min PRN	
Step 3	Administer Morphine 6 mg IV x 1 ➔ Is symptoms persist after 10 min, repeat Morphine 6 mg IV bolus x 1 ➔ If Morphine 6 mg IV x2 in 20 min without symptom control, go to the “Morphine: Titration of comfort care infusion” chart and start at Step 1 & bolus dose with the initiation of a Morphine infusion ➔ If controlled*, continue Morphine 6 mg IV q 10 min PRN	
RELY ON FREQUENT BOLUSING TO ACHIEVE RAPID AND EFFECTIVE SYMPTOM CONTROL. *See below for symptom monitoring parameters.		

* Symptom Monitoring Parameters

PAIN – Pain scale (0-10), Behavioral Pain Scale, and/or nonverbal signs of pain
DYSPNEA – Patient/clinician-reported dyspnea scale (0-10); RR<35, use of accessory muscles

OPIOID-TOLERANT PATIENTS

On current intermittent opioid (Morphine): Calculate the total daily dose in the previous 24 hours (include both IV and PO – converted to IV equivalents). Divide by 24 to determine initial hourly dose and then refer to the *Titration of Comfort Care Infusion* chart for corresponding bolus and titration. Consider consultation with Pharmacist for assistance.

On current infusion opioid (Morphine): If patient is comfortable, maintain intravenous infusion at current dose. If patient is *uncomfortable*, bolus every 10 minutes until comfortable and follow the *Titration of Comfort Care Infusion* chart.

Morphine: Titration of comfort care infusion		
IF YOU FEEL THE NEED TO TITRATE THE INFUSION MORE FREQUENTLY THAN 3 TIMES IN 24 HOURS, PLEASE CALL THE COVERING PROVIDER AND/OR THE PALLIATIVE CARE SERVICE FOR ASSISTANCE.		
	PRN Bolus	Infusion Dose
Step 1	Administer Morphine 6 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 6 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 2	Morphine 3 mg/hour
Step 2	Administer Morphine 8 mg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 3	Morphine 3 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 3	Administer Morphine 8 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 8 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 4	Morphine 5 mg/hour
Step 4	Administer Morphine 10 mg IV x 1 q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 5	Morphine 5 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 5	Administer Morphine 10 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 10 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 6	Morphine 8 mg/hour
Step 6	Administer Morphine 12 mg IV x 1 q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 7	Morphine 8 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 7	Administer Morphine 12 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 12 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 8	Morphine 12 mg/hour
Step 8	Administer Morphine 16 mg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 9	Morphine 12 mg /hour
Before Step 9, call covering provider to reassess patient; consider palliative care consult.		
Step 9	Administer Morphine 16 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 16 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 10	Morphine 16 mg/hour
Step 10	Administer Morphine 20 mg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 11	Morphine 16 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 11	Administer Morphine 20 mg IV x 1 and q 10 min PRN → If symptoms persist after 10 min, repeat 20 mg IV bolus → If uncontrolled after bolus x 2 in 20 minutes – go to step 12	Morphine 20 mg/hour
Step 12	Administer Morphine 24 mg IV x 1 and q 10 min PRN → Call palliative care if symptoms are still uncontrolled	Morphine 20 mg/hour
At any step, for very difficult to control symptoms or patient exhibiting signs of opioid toxicity, consider rotation to alternative opioid and/or palliative care consultation.		

Appendix C: Hydromorphone Initiation and Titration for Comfort Care

Hydromorphone Initiation: Comfort care for an opioid naïve patient		
	PRN Bolus	Infusion Dose
Step 1	Administer Hydromorphone 0.4 mg IV x 1 ➔ If symptoms persist after 10 min repeat Hydromorphone 0.4 mg IV x 1 ➔ If Hydromorphone 0.4 mg IV x2 in 20 min without symptom control, go to Step 2 ➔ If controlled*, continue Hydromorphone 0.4 mg IV q 10 min PRN	No Infusion. Hydromorphone infusion should not be initiated before Step 3.
Step 2	Administer Hydromorphone 0.8 mg IV x 1 ➔ If symptoms persist after 10 min, repeat Hydromorphone 0.8 mg IV x 1 ➔ If Hydromorphone 0.8 mg IV x2 in 20 min without symptom control, go to Step 3 ➔ If controlled*, continue Hydromorphone 0.8 mg IV q 10 min PRN	
Step 3	Administer Hydromorphone 1.2 mg IV x 1 ➔ Is symptoms persist after 10 min, repeat Hydromorphone 1.2 mg IV x 1 ➔ If Hydromorphone 1.2 mg IV x2 in 20 min without symptom control, go to the “Hydromorphone: Titration of comfort care infusion” chart and start at Step 1 & bolus dose with the initiation of a Hydromorphone infusion ➔ If controlled*, continue Hydromorphone 1.2 mg IV q 10 min PRN	
RELY ON FREQUENT BOLUSING TO ACHIEVE RAPID AND EFFECTIVE SYMPTOM CONTROL. *See below for symptom monitoring parameters.		

* Symptom Monitoring Parameters

PAIN – Pain scale (0-10), Behavioral Pain Scale, and/or nonverbal signs of pain
DYSPNEA – Patient/clinician-reported dyspnea scale (0-10); RR<35, use of accessory muscles

OPIOID-TOLERANT PATIENTS

On current intermittent opioid (Hydromorphone): Calculate the total daily dose in the previous 24 hours (include both IV and PO – converted to IV equivalents). Divide by 24 to determine initial hourly dose and then refer to the *Titration of Comfort Care Infusion* chart for corresponding bolus and titration. Consider consultation with Pharmacist for assistance.

On current infusion opioid (Hydromorphone): If patient is comfortable, maintain intravenous infusion at current dose. If patient is *uncomfortable*, bolus every 10 minutes until comfortable and follow the *Titration of Comfort Care Infusion* chart.

Hydromorphone: Titration of comfort care infusion		
IF YOU FEEL THE NEED TO TITRATE THE INFUSION MORE FREQUENTLY THAN 3 TIMES IN 24 HOURS , PLEASE CALL THE COVERING PROVIDER AND/OR THE PALLIATIVE CARE SERVICE FOR ASSISTANCE.		
	PRN Bolus	Infusion Dose
Step 1	Administer Hydromorphone 1.2 mg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 1.2 mg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes - go to step 2	Hydromorphone 0.5 mg/hr
Step 2	Administer Hydromorphone 1.6 mg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 3	Hydromorphone 0.5 mg/hr
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 3	Administer Hydromorphone 1.6 mg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 1.6 mg bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 4	Hydromorphone 0.8 mg/hr
Step 4	Administer Hydromorphone 2 mg IV q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 5	Hydromorphone 0.8 mg/hr
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 5	Administer Hydromorphone 2 mg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 2 mg bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 6	Hydromorphone 1.4 mg/hr
Step 6	Administer Hydromorphone 3 mg IV q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 7	Hydromorphone 1.4 mg/hr
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 7	Administer Hydromorphone 3 mg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 3 mg bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 8	Hydromorphone 2 mg/hr
Step 8	Administer Hydromorphone 4 mg IV q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 9	Hydromorphone 2 mg/hr
Before Step 9, call covering provider to reassess patient; consider palliative care consult.		
Step 9	Administer Hydromorphone 4 mg IV x 1 q 10 min PRN ➔ If symptoms persist after 10 min, repeat 4 mg bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 10	Hydromorphone 3 mg/hr
Step 10	Administer Hydromorphone 6 mg IV q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 11	Hydromorphone 3 mg/hr
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 11	Administer Hydromorphone 6 mg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 6 mg bolus ➔ If uncontrolled after bolus x 2 in 20 minutes - go to step 12	Hydromorphone 4 mg/hr
Step 12	Administer hydromorphone 8 mg IV x 1 and q 10 min PRN ➔ Call palliative care if symptoms are still uncontrolled	Hydromorphone 4 mg/hr
At any step, for very difficult to control symptoms or patient exhibiting signs of opioid toxicity, consider rotation to alternative opioid and/or palliative care consultation.		

Appendix D: Fentanyl Initiation and Titration for Comfort Care

Fentanyl Initiation: Comfort care for an opioid naïve patient		
	PRN Bolus	Infusion Dose
Step 1	Administer Fentanyl 25 mcg IV x 1 → If symptoms persist after 10 min, repeat Fentanyl 25 mcg IV bolus x 1 → If Fentanyl 25 mcg IV x2 in 20 min without symptom control, got to Step 2 → If controlled*, continue Fentanyl 25 mcg IV q 10 min PRN	No Infusion. Fentanyl infusion should not be initiated before Step 3.
Step 2	Administer Fentanyl 37 mcg IV x 1 → Is symptoms persist after 10 min, repeat Fentanyl 37 mcg IV bolus x 1 → If Fentanyl 37 mcg IV x2 in 20 min without symptom control, go to Step 3	
Step 3	Administer Fentanyl 50 mcg IV x 1 → Is symptoms persist after 10 min, repeat Fentanyl 50 mcg IV bolus x 1 → If Fentanyl 50 mcg IV x2 in 20 min without symptom control, go to the “Fentanyl: Titration of comfort care infusion” chart and start at Step 1 & bolus dose with the initiation of a Fentanyl infusion If controlled*, continue Fentanyl 50 mcg IV q 10 min PRN	
RELY ON FREQUENT BOLUSING TO ACHIEVE RAPID AND EFFECTIVE SYMPTOM CONTROL. *See below for symptom monitoring parameters		

* Symptom Monitoring Parameters

PAIN – Pain scale (0-10), Behavioral Pain Scale, and/or nonverbal signs of pain
DYSPNEA – Patient/clinician-reported dyspnea scale (0-10); RR<35, use of accessory muscles

OPIOID-TOLERANT PATIENTS

On current intermittent opioid (Fentanyl): Calculate the total daily dose in the previous 24 hours (include both IV and PO – converted to IV equivalents). Divide by 24 to determine initial hourly dose and then refer to the *Titration of Comfort Care Infusion* chart for corresponding bolus and titration. Consider consultation with Pharmacist for assistance.

On current infusion opioid (Fentanyl): If patient is comfortable, maintain intravenous infusion at current dose. If patient is *uncomfortable*, bolus every 10 minutes until comfortable and follow the *Titration of Comfort Care Infusion* chart.

Fentanyl: Titration of comfort care infusion		
IF YOU FEEL THE NEED TO TITRATE THE INFUSION MORE FREQUENTLY THAN 3 TIMES IN 24 HOURS, PLEASE CALL THE COVERING PROVIDER AND/OR THE PALLIATIVE CARE SERVICE FOR ASSISTANCE.		
	PRN Bolus	Infusion Dose
Step 1	Administer Fentanyl 50 mcg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 50 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 2	Fentanyl 25 mcg/hour
Step 2	Administer Fentanyl 62 mcg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 3	Fentanyl 25 mcg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS		
Step 3	Administer Fentanyl 62 mcg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 62 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 4	Fentanyl 37 mcg/hour
Step 4	Administer Fentanyl 75 mcg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 5	Fentanyl 37 mcg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS		
Step 5	Administer Fentanyl 75 mcg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 75 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 6	Fentanyl 50 mcg/hour
Step 6	Administer Fentanyl 100 mcg IV q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 7	Fentanyl 50 mcg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS		
Step 7	Administer Fentanyl 100 mcg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 100 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 8	Fentanyl 75 mcg/hour
Step 8	Administer Fentanyl 150 mcg IV x 1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 9	Fentanyl 75 mcg/hour
Before Step 9, call covering provider to reassess patient; consider palliative care consult.		
Step 9	Administer Fentanyl 150 mcg IV x 1 and q 10 min PRN ➔ If symptoms persist after 10 min, repeat 150 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 10	Fentanyl 100 mcg/hour
Step 10	Administer Fentanyl 200 mcg IV x1 and q 10 min PRN If requiring hourly boluses over a 4-hour period, consider going on to step 11	Fentanyl 100 mcg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS		
Step 11	Administer Fentanyl 200 mcg IV q 10 min PRN ➔ If symptoms persist after 10 min, repeat 200 mcg IV bolus ➔ If uncontrolled after bolus x 2 in 20 minutes – go to step 12	Fentanyl 150 mcg/hour
Step 12	Administer Fentanyl 250 mcg IV x 1 and q 10 min PRN ➔ Call palliative care if symptoms are still uncontrolled	Fentanyl 150 mcg/hour
At any step, for very difficult to control symptoms or patient exhibiting signs of opioid toxicity, consider rotation to alternative opioid and/or palliative care consultation.		

Appendix E: Lorazepam Initiation and Titration for Comfort Care

Lorazepam Initiation: comfort care for a benzodiazepine-naïve patient		
	PRN Bolus	Infusion Dose
Step 1	Administer Lorazepam 0.5 mg IV x 1 ➔ If symptoms persist after 30 min repeat lorazepam 0.5 mg IV bolus x 1 ➔ If Lorazepam 0.5 mg IV x 2 in 1 hour without symptom control, go to Step 2 ➔ If controlled*, continue lorazepam 0.5 mg IV q 30 min PRN	No infusion. Schedule every 4 hour dosing before initiating infusion
Step 2	Administer Lorazepam 1 mg IV x 1 ➔ If symptoms persist after 30 min repeat Lorazepam 1 mg IV bolus x 1 ➔ If Lorazepam 1 mg IV x 2 in 1 hour without symptom control, schedule 1 mg IV q 4h and continue lorazepam 1 mg IV q 30 min PRN ➔ If controlled*, continue Lorazepam 1 mg IV q 30 min PRN ➔ If symptoms persist 24 h after scheduled IV Lorazepam and q 30 min bolus, go Step 3	
Step 3	Administer Lorazepam 2 mg IV x 1 ➔ If symptoms persist after 30 min repeat Lorazepam 2 mg IV bolus x 1 ➔ If Lorazepam 2 mg IV x 2 in 1 hour without symptom control, schedule 2 mg IV q 4h and continue Lorazepam 2 mg IV q 30 min PRN ➔ If controlled*, continue Lorazepam 2 mg IV q 30 min PRN ➔ If symptoms persist after 24 h after scheduled 2 mg IV Lorazepam, go to Step 4	
Step 4	Go to “Lorazepam: Initiation and Titration of comfort care infusion” chart and start at Step 1 & give bolus dose with the initiation of a Lorazepam 1 mg/hour infusion. ➔ If controlled*, continue Lorazepam 2 mg IV q 4h and 2 mg IV q 30 min PRN	
* Symptom Monitoring Parameters ANXIETY – Patient/clinician-reported anxiety scale (0-10)		

If patient experiences paradoxical agitation after Lorazepam, give Haloperidol 1-2 mg IV bolus q 30 min PRN to max one-time dose of 10 mg. Contact Provider and consider Palliative Care Service consult.

BENZODIAZEPINE-TOLERANT PATIENTS

On current intermittent benzodiazepine (Lorazepam): Consider scheduled intermittent IV dosing before initiating infusion. If not controlled on scheduled intermittent therapy, then calculate the total daily dose in the previous 24 hours (include both IV and PO) and refer to the *Lorazepam: Titration of Comfort Care Infusion* for corresponding bolus and titration. Consider consultation with Pharmacist for assistance.

On current continuous benzodiazepine (Lorazepam): If patient is comfortable, maintain intravenous infusion at current dose. If patient is not comfortable, bolus every 30 minutes until comfortable and follow the *Lorazepam: Titration of Comfort Care Infusion* chart below.

Lorazepam: Initiation and Titration of comfort care infusion		
IF YOU FEEL THE NEED TO TITRATE THE INFUSION MORE FREQUENTLY THAN 3 TIMES IN 24 HOURS, PLEASE CALL THE COVERING PROVIDER AND/OR THE PALLIATIVE CARE SERVICE FOR ASSISTANCE.		
	PRN Bolus	Infusion Dose
Step 1	Administer Lorazepam 2 mg IV x 1 and q 30 min PRN ➔ If symptoms persist after 30 min, repeat 2 mg IV bolus ➔ If uncontrolled after bolus x 2 in 60 minutes – go to Step 2	Lorazepam 1 mg/hour
Step 2	Lorazepam 2.5 mg IV x 1 and q 30 min PRN If requiring hourly boluses over a 4-hour period, consider going on to Step 3	Lorazepam 1 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 3	Administer Lorazepam 2.5 mg IV x 1 and q 30 min PRN ➔ If symptoms persist after 30 min, repeat 2.5 mg IV bolus ➔ If uncontrolled after bolus x 2 in 60 minutes – go to Step 4	Lorazepam 1.5 mg/hour
Step 4	Administer Lorazepam 3 IV x 1 and q 30 min PRN If requiring hourly boluses over a 4-hour period, consider going on to Step 5	Lorazepam 1.5 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 5	Administer Lorazepam 3 IV x 1 and q 30 min PRN ➔ If symptoms persist after 30 min, repeat 3 mg IV bolus ➔ If uncontrolled after bolus x 2 in 60 minutes – go to Step 6	Lorazepam 2 mg/hour
Step 6	Administer Lorazepam 4 mg IV x1 and q 30 min PRN If requiring hourly boluses over a 4-hour period, consider going on to Step 7	Lorazepam 2 mg/hour
Before Step 7, call Covering Provider to reassess patient; consider Palliative Care Service consult.		
Step 7	Administer Lorazepam 4 mg IV x 1 and q 30 min PRN ➔ If symptoms persist after 30 min, repeat 4 mg IV bolus ➔ If uncontrolled after bolus x 2 in 60 minutes – go to Step 8	Lorazepam 3 mg/hour
Step 8	Administer Lorazepam 5 mg IV x 1 and q 30 min PRN If requiring hourly boluses over a 4-hour period, consider going on to Step 9	Lorazepam 3 mg/hour
DO NOT TITRATE INFUSION RATE MORE FREQUENTLY THAN EVERY 4 HOURS.		
Step 9	Administer 5 mg IV x 1 and q 30 min PRN ➔ If symptoms persist after 30 min, repeat 5 mg IV bolus ➔ If uncontrolled after bolus x 2 in 60 minutes, Contact Palliative Care	Lorazepam 4 mg/hour
At any step, for very difficult to control symptoms or patient exhibiting signs of toxicity, consider possible paradoxical reaction, initiation of haloperidol, and/or palliative care consultation.		

If patient experiences paradoxical agitation after Lorazepam, give Haloperidol 1-2 mg IV bolus q 30 min PRN to max one-time dose of 10 mg. Contact Provider and consider Palliative Care Service consult.