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Home Care Services

HomeMed • MedEQUIP • Michigan Visiting Care
Michigan Visiting Nurse • Wheelchair Seating Service

PROCEDURE

TITLE: Patient and Caregiver Controlled Analgesia in the Home Care Setting

PURPOSE: To provide guidelines for safe and effective patient controlled analgesia and caregiver controlled analgesia through the use of a programmable infusion device in the home setting.

DEFINITIONS:

- A. **PCA:** Patient Controlled Analgesia is the self-administration of a parenteral opioid and/or local anesthetic by patients through the use of a programmable infusion device.
- B. **CCA:** Caregiver Controlled Analgesia is the administration of a parenteral opioid and/or local anesthetic by a designated caregiver to a patient who cannot self-administer due to functional limitations. Procedures within this policy pertaining to PCA will apply to CCA as well.
- C. **Designated Caregiver:** A responsible adult involved in providing care to a patient in the home setting who has been trained in the appropriate administration of CCA. Competent adult patients will select their caregivers. Alternatively, legal representatives for adult patients will select appropriate caregivers. Caregivers for children should be biological parent(s), legal guardian(s), or their designate(s).
- D. **Home Care Clinician:** Nurse, pharmacist, or physician providing support/oversight to care being provided in the home setting. (Examples include: nurse from the visiting nurse agency, pharmacist or nurse from the infusion provider, and primary prescriber).
- E. **Primary Prescriber:** Attending physician, House Officer(s), physician assistants, and nurse practitioners primarily responsible for the care of the patient as legally authorized under state or federal law.
- F. **Basal Rate:** The rate of continuous infusion of an opioid and/or local anesthetic.
- G. **Bolus Dose:** An amount of opioid and/or local anesthetic administered as a single, as-needed dose, which is rapidly infused via programmable infusion device.
- H. **Bolus Lockout:** The minimum time interval between bolus doses.
- I. **Dose Limit:** The maximum amount of an opioid and/or local anesthetic that may be administered in a given time interval (usually 1 hour or 4 hour interval), and includes the cumulative amount given from both basal and bolus doses during the interval.

PROCEDURE:

- A. Prescribing PCA orders
 - 1. Elements of prescription
 - a. Drug name(s)
 - b. Drug amount(s) per unit dispensed (and total amount authorized must be indicated both as spelled word (e.g. one hundred mg) as well as Arabic numerals for all C-II prescriptions).
 - c. Concentration
 - d. Quantity of units authorized (or authorize refills through specific date if Rx is not a controlled substance)
 - e. Route of administration (IV, Epidural, Subcutaneous, Peripheral Nerve, IT)

- f. Basal Rate, Bolus Dose, Bolus Lockout, Dose Limit
 - g. Dose ranges and titration parameter for orders where titration is indicated (the titration component should indicate both the overall range of acceptable dosing, as well as the time and dosing limits on each incremental titration)
 - h. If Rx is for C-II, indicate "Patient is Terminal", if this is the circumstance
 - i. Patient name, age, and address
 - j. Prescriber name, address, and (for C-II) DEA number
2. Pharmacists will review PCA orders for appropriateness and obtain all necessary clarifications as required by law and HCS policy regarding physician orders.
 3. Prescribers and Home Care Clinicians will ensure that patients selected for home PCA are appropriate for such therapy and that any caregivers assisting with administration have received adequate training.
 4. Orders for opioids via Home PCA are not acceptable when they are being prescribed concomitantly with other parenteral opioid delivery methods.
 5. Prescribers must forward original copies of any Class II Controlled Substance prescriptions to the dispensing pharmacy.
 6. Prescriptions will be transcribed to a HomeMed Prescription Template for PCA (see Exhibit 1). This transcribed order will be signed by a pharmacist. **A second HomeMed clinician will co-sign the transcribed order**, unless the order must be processed under urgent circumstances where a second clinician is not available.
 7. Electronic Infusion Device Programming Sheets attached to the Prescription in the Medical Record (see Exhibit 2). The initial dosing information (basal rate and, if ordered, bolus dosing, lockout, and/or dose limit settings) will be recorded on this sheet at the time of dispensing. **A second HomeMed clinician will co-sign the programming sheet, unless the order must be processed under urgent circumstances where a second clinician is not available.** A copy of these documents will be given to the patient and both sets of documents (home and chart-copy) will be updated in the event of prescribed changes to dosage settings.
- B. Electronic Prescription Order Entry**
1. Prescriptions will be entered into the electronic order entry system and the accuracy of this entry will be reviewed and initialed (on hardcopy, or with electronic signatures) by a pharmacist. **A second Home Care Clinician will also review and initial the electronic order entry**, unless the order must be processed under urgent circumstances where a second clinician is not available.
- C. Controlled Substance Record-Keeping**
1. Record-keeping for PCA orders requiring the dispensing of controlled substances will comply with established HomeMed procedures as well as Federal and State laws and regulations.
- D. Drug Preparation and Dispensing**
1. All standard procedures for sterile compounding will apply to the preparation of PCA products. The HomeMed Medication Preparation Manual standards, or other appropriate pharmacy references will be followed whenever possible.
 - a. Preservative free components will be used for all preparations intended for peripheral nerve, epidural, or intrathecal routes of administration.
 - b. The compounded products will be formulated in units such that container changes will occur every 1 – 4 days whenever possible and will never exceed a 7-day interval.

- c. The quantity of units dispensed will, whenever possible, ensure that an extra unit is available and may be used emergently in the unforeseen circumstance where the integrity of the currently infusing unit becomes compromised.
- d. Accuracy of compounded products will be verified by a pharmacist.
- e. In the event of an order change requiring a change in components or concentration, new product will be compounded and dispensed.
- f. An auxiliary label will be affixed to each compounded product alerting "See Dosing Flow Sheet for Current Rate" (See Exhibit 3)

E. Ancillary Supplies

- 1. Standard supplies will be dispensed with all PCA orders to facilitate safe administration per standard HomeMed procedures.
 - a. Two Electronic Infusion Devices (one primary and one back-up) will be dispensed to all patients on PCA.
 - b. Sufficient quantities of electronic infusion device tubing will be supplied such that the tubing may be changed with every bag change (or every 3 days for daily bag changes).
 - c. An Electronic Infusion Device Programming Sheet (see Exhibit 2) will be completed by a HomeMed Clinician and reviewed by a second HomeMed Clinician for accuracy (initialing required by both on programming sheet). This will be attached to a copy of the prescription. The initial dosing information (basal rate and, if ordered, bolus dosing, lockout, and/or dose limit settings) will be recorded on this sheet at the time of dispensing. (A copy of the prescription and programming sheet will be also be kept in the HomeMed Medical record, and both the home and medical record copies of the programming sheet will be updated for titration changes throughout the therapy).
 - d. Educational materials detailing methods for safe administration will be provided to caregivers at the initiation of therapy (see Exhibit 4).

F. Electronic Infusion Device Programming

- 1. Electronic Infusion Devices will be programmed using the appropriate programming mode (e.g. Pain Management Program for Gemstar pumps).
- 2. Concentration of the medication will be programmed into electronic infusion device for all PCA containing a single medication (other than diluent). For PCA containing multiple medications, the infusion rates will be entered in mL/hour (no concentrations will be used).
- 3. Electronic infusion device programming will be completed prior to dispensing, and as needed for titration and order changes after dispensing, using the prescription and Electronic Infusion Device Programming Sheets as a guide. **The pump reprogramming must be performed by two clinicians**, at least one of which is a HomeMed pharmacist (reprogramming in the home may be accomplished with telephone / read-back procedure between nurse and pharmacist).
- 4. Prior to start of infusion
 - a. If a preprogrammed electronic infusion device was dispensed directly from HomeMed, the program that has been entered will be reviewed for accuracy by a second Home Care Clinician.
 - b. In the event that a pump was not dispensed by HomeMed (i.e. patient already possesses a HomeMed electronic infusion device), the pump program will be reviewed by a) 2 clinicians, or b) 1 clinician and the caregiver (see below).

G. Patient / Caregiver Training

- 1. Patients and caregivers will be provided with written and verbal drug information regarding the appropriate use of the medication(s) dispensed, the connection of the infusion, operation

of the infusion pump (including bolus cord), the signs of medication toxicity, and the reasons for which they should contact a Home Care Clinician or Primary Prescriber. (See Exhibit 4)

2. Patients and caregivers will be instructed that the bolus button may only be pushed by the patient (for PCA) or by the designated caregiver (for CCA).
3. All training will be documented according to established HomeMed Procedures.

H. Initiation of Infusion

1. Initiation of PCA will occur only after adequate patient and/or caregiver training has been completed.
2. Electronic infusion device tubing will be primed with compounded drug product.
3. Initial connection to the infusion will be done by **2 clinicians whenever possible**, and when not possible, by 1 clinician and 1 caregiver. Prior to connection, these 2 individuals will:
 - a. Review accuracy of label on compounded drug product against the prescribed order (drug, diluent, amounts, concentration, infusion instructions, and route of administration).
 - b. Review accuracy of electronic infusion device programming sheet against prescribed order, (checking for all elements of the prescription, including: concentration, basal rate, bolus dose, bolus lockout, dose limit, and container volume).
 - c. Review accuracy of electronic infusion device program against the programming sheet.

I. Clinical Monitoring

1. At the time of the referral for PCA therapy, the pharmacist will confirm the level of clinical monitoring by HomeMed clinicians, which is requested by the prescriber. If no monitoring is required, the pharmacist will confirm that an appropriate alternative monitoring system has been established, and will document this plan with the initial referral (in the start of care note within the progress notes section of the HomeMed Medical Record).
2. When clinical monitoring is required by HomeMed, the requirements will be detailed on a patient-specific Care Plan for pain management per established procedures.
 - a. The care plan will establish criteria and goals for assessing response to PCA, adverse events resulting from PCA, compliance with prescribed order, patency and integrity of parenteral access site/device, and appropriate use and storage of medication and supplies. The care plan will establish a frequency for assessment. Assessment will be obtained via information obtained from the patient, caregiver, visiting nurse, or prescriber. When goals are not met, clinicians will work with caregivers and/or visiting nurses to provide appropriate interventions, and will communicate progress and significant clinical events to prescriber as necessary.
 - b. When the care plan requires pain assessment, this will be accomplished using established pain scoring scales (See Exhibit 5).
 - c. When the care plan requires assessment of sedation, this will be accomplished using an established sedation scoring scale (See Exhibit 6).
 - d. PCA orders may include a titration component (to basal or bolus dosing), at the discretion of the prescriber, to facilitate attainment of measurable care plan goals which may include parameters such as: number of bolus doses per given time period, pain score, sedation score, respiratory rate, mobility of extremities, and maintenance of bowel/bladder control.
 - e. PCA therapy may be stopped at the discretion of the Home Care Clinician when the patient's condition warrants. The Home Care Clinician will notify the prescribing physician should this situation occur, and implement appropriate interventions.

- f. Documentation of all clinical monitoring and interventions will be provided in the HomeMed Medical Record.

J. Order Changes

1. Titration Orders

- a. Titration orders may be included on an original PCA prescription. Titration orders define parameters, which when met, allow for a change in the basal rate, bolus dose, lock out interval, or dose limit. The titration component should indicate both the overall range of acceptable dosing, as well as the time and dosing limits on each incremental titration. Assessment of the parameters will be made by a Home Care Clinician as established in the care plan, or through an alternate method as established by prescribers who elect not to have HomeMed Clinicians provide this service.
- b. The limits of the titration should be clearly indicated on the original order, the HomeMed prescription template, the electronic prescription entry, and the compounded product label.
- c. When changes in the programming of the electronic infusion device are necessary to accommodate titration orders, 1) A Home Care Clinician at the patient's home will contact a Home Care Pharmacist to review current dose settings and patient's clinical response 2) these **two clinicians will agree on the new dosage settings** and ensure that they are within the original parameters prescribed, 3) **together they will ensure the accuracy of the updates to the dosage settings on the home and medical record copies of the Electronic Infusion Device Program Sheet** (see Exhibit 2), and 4) the Home Care Clinician in the patient home will use this sheet to reprogram the electronic infusion device, obtaining verbal read back of accuracy from the pharmacist.
- d. Documentation of the rate or dosage titration will require the following steps: 1) a Home Care Clinician will update the home copy of the Electronic Infusion Device Programming Sheet with the date and time, new dose settings, pain/sedation score or other reason for change, change per current or new order, and initials of nurse and pharmacist who made the change (see Exhibit 2), 2) a pharmacist will update the medical record copy of the Electronic Infusion Device Programming Sheet with the identical information, 3) a pharmacist will update the electronic entry of the prescription with the new dose settings (using "AT" (attention) screen in CHIP or other appropriate method for available software application), 4) a pharmacist will update the Medication section of the patient Problem Summary List within CareWeb to indicate the current infusion rate, and 5) a HomeMed clinician will document the change in the progress notes section of the HomeMed Medical Record using a Status Event Record.

2. Prescription Changes

- a. Prescribers must provide a new written order for the following prescription changes:
 - i) basal rate, bolus settings, and dose limits which are different than doses, ranges, or limits prescribed in the previous prescription, or
 - ii) choice of medication, or
 - iii) concentration of preparation, or
 - iv) diluent used in preparation
 - v) authorization of additional quantity (refills) for Controlled Substances
- b. In emergent situations, verbal orders may be accepted by pharmacist or nurse (immediately reduced to writing and read back to prescriber), but the prescriber must provide a written copy, on the next business day, for any changes involving Class II controlled substance order changes.

- c. Upon receipt of the new order, all of the procedures listed in the above (under Titration Orders) will be applicable.
- d. When the new prescription requires a change in components (drug or diluent), or in concentration, then new compounded product must be dispensed. When the new prescription allows the same components and concentration, but indicates a change in infusion parameters, then it is at the pharmacists' discretion whether to compound and dispense new product or to adjust the infusion device program and labeling of previously dispensed product.

Exhibits:

- 1. HomeMed Prescription Template for PCA
- 2. Electronic Infusion Device Programming Sheet will be printed for patients on A3 (12 x 18.11) paper
- 3. Auxiliary label alerting "See Dosing Flow Sheet for Current Rate"
- 4. PCA/CCA Administration Instructions and Drug Information (Administration of PCA Infusions Using the GemStar® Pump)
- 5. Pain Scoring Scales
- 6. Sedation Scoring Scale

UMHHC/HCS References:

- 1. [Patient Education Process UMHHC-HCS 200.013](#)
- 2. [Care Planning Process UMHHC-HCS 200.011](#)
- 3. [Processing Controlled Substances UMHHC-HCS 243.011](#)
- 4. [Receipt of Prescription Medication Orders Utilizing Standard Prescription Order Forms UMHHC-HCS 243.012](#)
- 5. [Medication, Supply, Equipment, and Patient Care Orders for Home Care Patients UMHHC-HCS 243.013](#)
- 6. [Parenteral Infusion Device Programming Sheets UMHHC-HCS 243.031](#)
- 7. [Pharmaceutical Admixture Processing UMHHC-HCS 233.029](#)
- 8. [Status Event Record Processing HM UMHHC-HCS 243.029](#)

Approval and Revisions:

- 1. June 2009 New procedure

HOME INFUSION PCA PRESCRIPTION

EXHIBIT 1



NAME: _____
CPI #: _____
ADDRESS: _____
HT: _____ WT: _____ SEX: [] M [] F
DOB: _____

DATE ORDERED: _____ [] ALLERGIES REVIEWED (SEE MED PROFILE)

<p>DRUG(S): _____</p> <p>PREPARED AS:</p> <p>_____ MG –OR- MCG (CIRCLE ONE)</p> <p>QS TO _____ ML WITH</p> <p><input type="checkbox"/> DEXTROSE 5% WATER</p> <p><input type="checkbox"/> 0.9% SODIUM CHLORIDE</p> <p>FINAL CONCENTRATION:</p> <p>_____ MG/ML –OR- MCG/ML –OR- % (CIRCLE ONE)</p>	<p>ROUTE OF ADMINISTRATION</p> <p><input type="checkbox"/> INTRAVENOUS</p> <p><input type="checkbox"/> SUBCUTANEOUS</p> <p><input type="checkbox"/> EPIDURAL (PRESERVATIVE FREE PREPARATION REQUIRED)</p> <p><input type="checkbox"/> PERIPHERAL NERVE (PRESERVATIVE FREE PREPARATION REQUIRED)</p> <p>INITIAL PCA SETTINGS</p> <p>BASAL RATE: _____ MG/HOUR –OR- MCG/HOUR –OR ML/HOUR (CIRCLE ONE)</p> <p>BOLUS DOSE: _____ MG –OR- MCG –OR- ML (CIRCLE ONE)</p> <p>LOCKOUT INTERVAL = _____ MIN</p> <p>DOSE LIMIT: (DOSE LIMIT= BASAL+BOLUS DOSES)</p> <p>_____ HOUR LIMIT= _____ MG –OR- MCG –OR- ML (CIRCLE ONE)</p>	<p>FIRST DOSE ADMINISTERED</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>DELIVERY METHOD</p> <p>[X] INFUSION PUMP</p> <p>USING PROGRAMMING MODE:</p> <p><input type="checkbox"/> CONTINUOUS</p> <p><input type="checkbox"/> BOLUS ONLY</p> <p><input type="checkbox"/> CONTINUOUS + BOLUS</p> <p>MAXIMUM DISPENSING QUANTITY:</p> <p>_____ MG - MCG - ML (CIRCLE ONE)</p> <p>(ARABIC NUMERAL)</p> <p>_____ MG - MCG - ML (CIRCLE ONE)</p> <p>(NUMERIC WORD)</p> <p>(EQUALS _____ DISPENSING UNITS)</p> <p><input type="checkbox"/> PATIENT HAS TERMINAL ILLNESS AND PARTIAL DISPENSING IS ALLOWABLE BY PHYSICIAN</p> <p>Rx EXPIRES ON: _____</p>
START DATE: _____	RX RENEWAL DATE: _____ QUANTITY/DURATION: _____	
HOME START DATE: _____	UNDER HOMEMED RX #: _____ PRESCRIBER: _____ AUTHORIZING RPH: _____	

TITRATION -SEE BELOW NO TITRATION ORDERED

TITRATION (AS PRESCRIBED BELOW) IS ALLOWABLE TO ACHIEVE AND MAINTAIN THE FOLLOWING CLINICAL GOALS:

PAIN SCORE < ____ (2-10) SEDATION SCORE > ____ (1-4) RESP RATE > _____, OR < ____ GROSS MOTOR OR BOWEL/BLADDER FUNCTION

TITRATION FREQUENCY: TITRATION CHANGES MAY NOT OCCUR MORE FREQUENTLY THAN EVERY _____ HOURS, MINUTES, DAYS

BASAL RATE: BY INCREMENTS OF _____ MG/HOUR OR MCG/HOUR OR ML/HOUR (CIRCLE ONE);
WITHIN A RANGE OF _____ TO _____ MG/HOUR OR MCG/HOUR OR ML/HOUR (CIRCLE ONE)

BOLUS: DOSE BY INCREMENTS OF _____ MG OR MCG OR ML (CIRCLE ONE);
WITHIN A RANGE OF _____ TO _____ MG OR MCG OR ML (CIRCLE ONE)

BOLUS LOCKOUT INTERVAL: BY INCREMENTS OF _____ MINUTES; AND WITHIN A RANGE OF _____ TO _____ MINUTES

DOSE LIMIT (BASAL + BOLUS): HOMEMED CLINICIAN MAY ADJUST TO ACCOMMODATE TITRATION CHANGES ABOVE

CALL _____ (PRESCRIBER) AT _____ (PHONE/PAGER) IF ABOVE CLINICAL GOALS NOT ACHIEVABLE WITH THESE THIS ORDER

<p>CATHETER TYPE</p> <p><input type="checkbox"/> PICC <input type="checkbox"/> Infusion Port</p> <p><input type="checkbox"/> ML <input type="checkbox"/> Peripheral</p> <p><input type="checkbox"/> Broviac <input type="checkbox"/> Other: _____</p> <p><input type="checkbox"/> Hickman</p> <p><input type="checkbox"/> Pheresis Number of Lumens: _____</p>	<p>DRESSING TYPE AND FREQUENCY</p> <p><input type="checkbox"/> TM <input type="checkbox"/> Gauze/tape</p> <p>If known, specify brand: _____</p> <p>_____ x Per Week, & PRN</p>	<p>FLUSH SOLUTIONS</p> <p><input type="checkbox"/> 0.9% Sodium Chloride, _____ mL</p> <p><input type="checkbox"/> Heparin 10 units per mL, 5mL</p> <p><input type="checkbox"/> Heparin 100 units per mL, 5mL</p> <p><input type="checkbox"/> Heparin 1000 units per mL, _____ mL</p> <p><input type="checkbox"/> _____</p>	<p>FLUSH VOLUME</p> <p><input type="checkbox"/> 2.5 mL</p> <p><input type="checkbox"/> 5 mL</p> <p><input type="checkbox"/> 10 mL</p> <p><input type="checkbox"/> _____ mL</p> <p><input type="checkbox"/> RPh may change flush solution, dose, frequency, PRN</p>	<p>FLUSH SOLUTIONS SEQUENCE</p> <p>FLUSH IV PCA LUMEN ONLY WITH PHYSICIAN APPROVAL</p> <p>WHEN AUTHORIZED, FLUSH USING S-A-SH TECHNIQUE</p>
<p>EQUIPMENT / SUPPLIES / NURSING</p> <p><input checked="" type="checkbox"/> Ancillary Supplies and Equipment Necessary to Complete Therapy, PRN</p> <p><input checked="" type="checkbox"/> HomeMed Nursing Services</p> <p><input type="checkbox"/> Ancillary Supplies Per Laboratory Orders, PRN</p> <p><input type="checkbox"/> _____</p>		<p><input checked="" type="checkbox"/> Dispense flush solutions (max qty ea. =999 monthly) PRN to maintain venous access per protocol during therapy (see above) and thereafter (see flush directions below), until catheter removed or through _____ (date).</p> <p>Protocol for Routine Flushing of Non-Infusing/Capped Catheter is:</p> <p><input type="checkbox"/> Daily <input type="checkbox"/> Twice Daily <input type="checkbox"/> Weekly <input type="checkbox"/> Monthly <input type="checkbox"/> Other:</p> <p><input type="checkbox"/> Use heparin concentration and volume indicated in flush solutions/volume sections above.</p> <p><input type="checkbox"/> Use saline concentration and volume indicated in flush solutions/volume sections above.</p>		

CULTURE RESULT(S) & / or DIAGNOSIS: _____	ICD-9 _____	LAB ORDERS / NOTES: Call abnormal lab results to 1-800-862-2731. Fax all labs to 734-971-2221
PHYSICIAN: DEA NUMBER: ADDRESS: 1500 E. Medical Center Drive, Ann Arbor, MI 48109	ORDER OBTAINED BY: _____	
FOLLOW-UP PHYSICIAN: (initial, last name, MD/DO)	DOUBLE CHECKING CLINICIAN: (SIGNATURE)	
FOLLOW-UP SERVICE: _____		



Home Care Services
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NAME: EXHIBIT 2
CPI #:

PAIN MANAGEMENT PROGRAM FOR GEMSTAR® INFUSION PUMP

Medication _____ Concentration _____

<p>Pump programming instructions are detailed below. See back of this sheet for instructions for restarting the pump and for changing the medication container (bag change). For assistance in operating this pump, contact HomeMed at 1-800-862-2731. FOLD OUT THIS SHEET TO SEE ANY SETTING CHANGES Home Care Clinicians must make all pump programming changes. The Home Care nurse must contact HomeMed pharmacist and together (using "read back" procedure) agree on new settings, program pump, and update this programming sheet. A duplicate record of original and all updates will be maintained in HomeMed Medical record by the pharmacist.</p>	<p>START: _____ Date _____ Time</p> <p>Status: Pain Score _____ Sed Score _____ RR _____ Other _____</p> <p>By: _____ RN/Rph and _____ Rph</p> <p>Authorized per PREVIOUS or NEW order (circle one)</p>	<p>Changed: _____ Date _____ Time</p> <p>Status: Pain Score _____ Sed Score _____ RR _____ Other _____</p> <p>By: _____ RN/Rph and _____ Rph</p> <p>Authorized per PREVIOUS or NEW order (circle one)</p>	<p>Changed: _____ Date _____ Time</p> <p>Status: Pain Score _____ Sed Score _____ RR _____ Other _____</p> <p>By: _____ RN/Rph and _____ Rph</p> <p>Authorized per PREVIOUS or NEW order (circle one)</p>	<p>Changed: _____ Date _____ Time</p> <p>Status: Pain Score _____ Sed Score _____ RR _____ Other _____</p> <p>By: _____ RN/Rph and _____ Rph</p> <p>Authorized per PREVIOUS or NEW order (circle one)</p>
	<p>TO START: 1) INSERT TUBING INTO THE PUMP, then 2) Press [ON/OFF] key</p>	<p>Action Required:</p>	<p>Action Required:</p>	<p>Action Required:</p>
<p>A. UNIT SELF TEST IN PROGRESS and then USING BATTERIES</p>	<p>Press [YES/ENTER] key</p>	<p>Press [YES/ENTER] key</p>	<p>Press [YES/ENTER] key</p>	<p>Press [YES/ENTER] key</p>
<p>B. 1= RESUME PROG 2= CLR PROG & SHIFT 3= CLR PROG SHIFT & HIST</p>	<p>Press [#2] key to CLR PROG & SHIFT</p>	<p>Press [#2] key to CLR PROG & SHIFT</p>	<p>Press [#2] key to CLR PROG & SHIFT</p>	<p>Press [#2] key to CLR PROG & SHIFT</p>
<p>C. 1 = TPN 2 = PAIN MANAGEMENT 3 = INTERMITTENT 4=CONTINUOUS 5= WEIGHT DOSED 6 = mL/HR ONLY 7= VARIABLE TIME</p>	<p>Press [#2] key for PAIN MANAGEMENT</p>	<p>Press [#2] key for PAIN MANAGEMENT</p>	<p>Press [#2] key for PAIN MANAGEMENT</p>	<p>Press [#2] key for PAIN MANAGEMENT</p>
<p>D. SELECT: 1= CONTINUOUS 2 =BOLUS ONLY 3=CONT + BOLUS</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>
<p>E. SELECT: 1= mg/mL 2= mcg/mL 3= mL</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>
<p>F. (this step will bypass if mL is selected in step above) CONCENTRATION _____ mg/mL or mcg/mL (mg or mcg will display per previous choice)</p>	<p>_____ mg/mL or mcg/mL (Press [ENTER] when done)</p>	<p>_____ mg/mL or mcg/mL (Press [ENTER] when done)</p>	<p>_____ mg/mL or mcg/mL (Press [ENTER] when done)</p>	<p>_____ mg/mL or mcg/mL (Press [ENTER] when done)</p>
<p>G. SET (BASAL) RATE _____ mg/hr or mcg/hr or mL/hr (mg or mcg or mL will display per previous choice)</p>	<p>_____ mg/hr or mcg/hr or mL/hr (Press [ENTER] when done)</p>	<p>_____ mg/hr or mcg/hr or mL/hr (Press [ENTER] when done)</p>	<p>_____ mg/hr or mcg/hr or mL/hr (Press [ENTER] when done)</p>	<p>_____ mg/hr or mcg/hr or mL/hr (Press [ENTER] when done)</p>
<p>H. PROGRAM A LOADING DOSE? YES or NO</p>	<p>Press [NO] key</p>	<p>Press [NO] key</p>	<p>Press [NO] key</p>	<p>Press [NO] key</p>
<p>I. SET BOLUS DOSE _____ mg or mcg or mL (mg or mcg or mL will display per previous choice)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>
<p>J. BOLUS LOCKOUT INTERVAL 0 Minutes</p>	<p>_____ minutes (Over-write "0", then press [ENTER])</p>	<p>_____ minutes (Over-write "0", then press [ENTER])</p>	<p>_____ minutes (Over-write "0", then press [ENTER])</p>	<p>_____ minutes (Over-write "0", then press [ENTER])</p>
<p>K. DOSE LIMIT (= basal + bolus total): 1 =4 HOUR LIMIT 2=1 HOUR LIMIT 3=# BOLUSES/HR 4=NO LIMIT SEL</p>	<p>Press [1] 4 hr limit or [2] 1 hr limit (Do not use Choices 3 or 4)</p>	<p>Press [1] 4 hr limit or [2] 1 hr limit (Do not use Choices 3 or 4)</p>	<p>Press [1] 4 hr limit or [2] 1 hr limit (Do not use Choices 3 or 4)</p>	<p>Press [1] 4 hr limit or [2] 1 hr limit (Do not use Choices 3 or 4)</p>
<p>L. SET 4 (or 1) HOUR LIMIT _____ mg -or- mcg -or- mL (4 hour or 1 hour and mg or mcg or mL will display per previous choice)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL (then [ENTER] when done)</p>
<p>M. CONTAINER SIZE 0.0 mg or mcg (correct unit will be blinking) IN _____ mL (autofills for 1 or 2 in Step E) (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL IN _____ mL (autofills for 1 or 2 in Step E) (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL IN _____ mL (autofills for 1 or 2 in Step E) (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL IN _____ mL (autofills for 1 or 2 in Step E) (then [ENTER] when done)</p>	<p>_____ mg or mcg or mL IN _____ mL (autofills for 1 or 2 in Step E) (then [ENTER] when done)</p>
<p>N. AIR SENSITIVITY 1=ON 2=2mL 3=OFF</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>	<p>1 2 3</p>
<p>O. REVIEW PROGRAM ▼</p>	<p>Press [▼] key repeatedly to review</p>	<p>Press [▼] key repeatedly to review</p>	<p>Press [▼] key repeatedly to review</p>	<p>Press [▼] key repeatedly to review</p>
<p>P. REVIEW COMPLETE - PRESS ENTER</p>	<p>Press [ENTER], then [START] key to begin</p>	<p>Press [ENTER], then [START] key to begin</p>	<p>Press [ENTER], then [START] key to begin</p>	<p>Press [ENTER], then [START] key to begin</p>

FOLD

PUMP SERIAL NUMBER(S): _____ LOCK LEVEL _____

ORIGINAL COPY TO PATIENT
UMHS HOME CARE SERVICES 2850 S INDUSTRIAL SUITE 50
ANN ARBOR, MI 48104 800-862-2731

YELLOW COPY TO HOMEMED PATIENT RECORD
M Pharmacy Medication Management Risk Interventions PUA Procedure
Workgroup GEMSTAR pain program DRAFT 020509.doc

RESTARTING THE GEMSTAR® PUMP PROGRAM

INSERT TUBING INTO THE PUMP	
PRESS THE ON/OFF KEY TO TURN PUMP ON	
UNIT SELF TEST IN PROGRESS	
USING BATTERIES	Press [YES/ENTER] key
Screen display: 1 = RESUME PROGRAM 2 = CLR PROG & SHIFT 3 = CLR PROG,SHIFT & HISTORY	Press [#1] key to RESUME PROGRAM
PROGRAM REVIEW	Press [▼] key to review
WHEN REVIEW COMPLETE	Press [YES/ENTER] key * REMOVE AIR FROM TUBING BY PRESSING THE PURGE KEY BEFORE CONNECTING TO THE IV CATHETER *
	Press [CHANGE] key
	Press [#1] key for NEW CONTAINER
	Press [START] key

FOLD

PAIN SCORING SCALES

Numeric Rating Scale : Ask the patient to rate their pain intensity on a scale of 0 (no pain) to 10 (the worst pain imaginable). Some patients are unable to do this with only verbal instructions, but may be able to look at a number scale and point to the number that describes the intensity of their pain.

Wong-Baker FACES Pain Rating Scale: Ask the patient to choose the face that best matches how she or he feels or how much they hurt.



From Wong DL, Hockenberry-Eaton M, Wilson D, Winkelstein ML, Akmann E, DeVito-Thomas PA: Whaley and Wong's Nursing Care of Infants and Children, ed. 6, St. Louis, 1999, Mosby, p. 1153.

FLACC Scale: This behavior scale can be used with patients who are unable to self-report pain. Each of the five categories (Faces, Legs, Activity, Cry, Consolability) is scored from 0-2 and the scores are added to get a total from 0-10.

	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, clenched jaw, quivering chin
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back & forth, tense	Arched, rigid, or jerking
Cry	No Cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or "talking to."	Difficult to console or comfort

IF YOU ARE CONNECTED TO YOUR PUMP AT ALL TIMES AND NEED TO CHANGE YOUR IV BAG:

	Press [STOP] key * ON THE DAY YOU CHANGE YOUR TUBING, REMOVE AIR BY PRESSING THE PURGE KEY BEFORE CONNECTING THE IV TUBING TO THE IV CATHETER *
	Press [CHANGE] key
	Press [#1] key for NEW CONTAINER
	Press [START] key

Sedation Score

Procedure for a sedation assessment- Observe the patient	Scoring
* Patient awake, then check if patient is alert	Score = 0
*Patient appears sleepy or is asleep but arouses easily. Say patient's name. If patient responds to voice, follows commands, or in infants, open eyes.	Score = 1
*Patient is asleep, and does not respond to noise or calling name. Gently touch/stimulate by stroking or rubbing patient's arm/leg while saying patient's name loudly. If this increase in stimulus is required for the patient to arouse.	Score = 2
*Patient asleep, and does not respond to name or gentle touch. Shake patient's shoulder, massage back or move extremities while calling name loudly. If patient awakens, but immediately falls back to sleep and unable to interact.	Score = 3
*Patient asleep, & does not awaken to ↑ stimulus, apply noxious stimuli (eg sternal rub, < 5 sec nail bed pressure)	Score = 4

See reverse side for pump programming details

**SEE PUMP PROGRAMMING SHEET
FOR CURRENT SETTINGS**

**SEE PUMP PROGRAMMING SHEET
FOR CURRENT SETTINGS**

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FOR CURRENT SETTINGS**

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**SEE PUMP PROGRAMMING SHEET
FOR CURRENT SETTINGS**



1-800-862-2731

Administration Of PCA Infusions Using the GemStar® Pump

Drug Name: _____

Volume and Rate: See Prescription and Pump Programming Sheet

Schedule: Continuous Infusion and/or Bolus

KEY POINTS:

- 1. Always check the label on your medication with your prescription you received from HomeMed. Check your name, drug name, dose and how frequently the drug should be given. If the information does not match, call HomeMed immediately.**
2. Always wash your hands with an antibacterial soap or antiseptic hand gel before any procedure for 15 seconds. Do not touch anything dirty, such as your clothes, glasses or skin after washing your hands. If you do, rewash them.
3. Remove your medication from the refrigerator **at least 2 hours** before using.
4. Check the bags and syringes for leaks, expiration dates, color changes and floating materials. If any of these occur, set aside and use another. Notify HomeMed.
5. Work at a comfortable pace. The risk of contamination increases if you rush.
6. Your IV tubing should be changed every 72 hours if you are changing your bag daily. If you change your bag every 2 or more days, then you should change your tubing with each new bag. Labels will be provided.
7. Any changes to your pump program must be done by a visiting nurse who will work with your HomeMed pharmacist to ensure that the change is appropriate and accurate.

GENERAL PROCEDURES:

1. Place a trash can next to your work area.
2. Wash your hands by first wetting your hands and wrists under running water. Scrub vigorously with antibacterial soap for 15 seconds. Work lather between fingers, under nails, over the palms and back of hands. Rinse hands well by keeping your hands up with fingers pointing up towards the ceiling so that the dirty water runs toward your elbows. Dry your hands with a clean paper towel from the tips of fingers down. Turn off the faucet with the paper towel.
3. Gather your supplies and place in a corner of your work area.



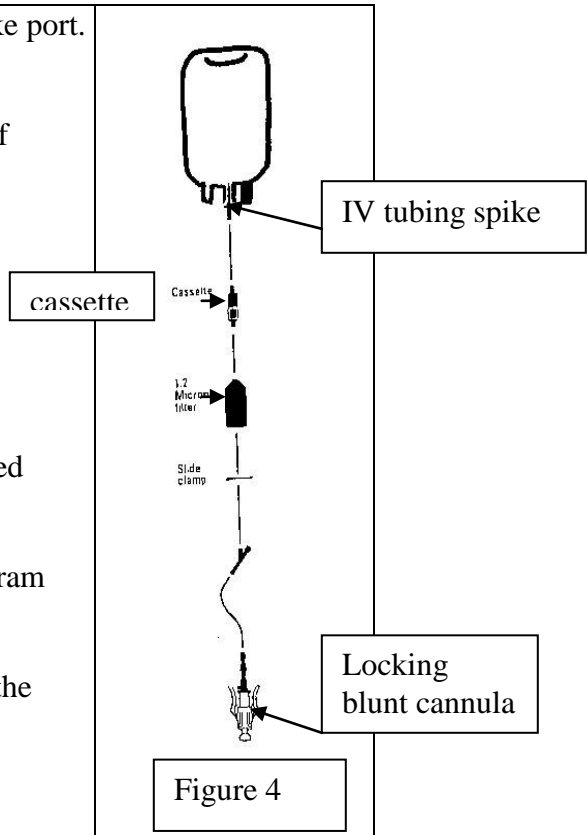
**Wash your
hands**

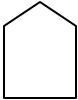
SUPPLIES:

- (1) Prefilled medication bag
 - (1) GemStar® IV tubing without filter (remove from package)
 - GemStar® pump with bolus cord
 - (1) Locking blunt cannula (winged adaptor) (for all tubing changes)
 - (2) alcohol wipes
 - Household cleaner (such as bleach, alcohol or dish soap) & paper towels
4. Place a clean paper towel on your work surface or clean it with a household cleaner. Let the area air dry.
 5. Place the supplies on your clean work area.

PREPARING YOUR IV TUBING

1. Remove the white tab on the IV bag to expose the spike port.
2. Remove the spike cover on the end of the IV tubing (figure 4). **Do not touch the spike.** Insert the spike of the IV tubing into the spike port of the IV bag using a pushing-twisting motion.
3. Insert the IV tubing cassette (figure 4) into the pump. Press on cassette until you hear a click. Make sure all four cassette latches are clearly visible after the cassette is installed.
4. Attach bolus cord to pump by plugging into port labeled **[BOLUS]**.
5. Turn the GemStar® pump on. Review the pump program with the instruction sheets given to you by *HomeMed*.
6. Prime the tubing on the GemStar® pump by pressing the **[PURGE]** key. The screen will display the following prompts:



SCREEN DISPLAY	WHAT TO DO
<p>PRIME THE SET?</p> <p>YES OR NO</p>	<p>Press the [YES/ENTER] key to begin priming.</p>
<p>TO PRIME, PRESS AND HOLD THE PURGE KEY</p>	<p>Press and hold the [PURGE] key until fluid fills the blue filter with pointed end up. Make sure all air is removed from the container, cassette and tubing.</p> 
<p>PRIME COMPLETE?</p> <p>YES OR NO</p>	<p>When the [PURGE] key is released, you will see this display. If there is no air in the tubing, press [YES/ENTER] key. If you continue to see air in the tubing, press the [NO] key and continue to prime the tubing.</p>

After you have finished priming the tubing:

6. Open the packaging of the locking blunt cannula, being careful not to touch the end that does not have a protective cover. Twist this open end of the locking blunt cannula onto the end of the IV tubing (figure 4).

STARTING YOUR MEDICATION

1. **Vigorously** scrub the end of the cap on your catheter with an alcohol wipe.
2. Remove the clear protective cap from the locking blunt cannula attached to the IV tubing.

3. With one hand, hold your catheter by the hub and with your other hand squeeze the “wings” of the locking blunt cannula together and insert it into the cap of your catheter (figure 5).

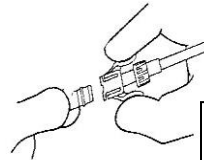


Figure 5

4. Open the clamp on your catheter.

5. Push the green [START] key on the GemStar® pump to begin the infusion. Make sure the pump is infusing by checking the screen. There should be arrows moving across the screen.
6. Once your pump has started infusing, place the IV bag and pump into the backpack/fanny pack.

STOPPING YOUR MEDICATION

1. If you need to stop your infusion because your bag is empty, or for any other reason, press the red **[STOP]** key.
2. If you will be changing your bag, but not your tubing (tubing only needs to be changed every 72 hours for daily bag changes), then leave the tubing connected to your catheter and skip to “CHANGING AN IV BAG OR CONTAINER” instructions below.
3. If you will be changing your tubing **and** your bag, remove the locking blunt cannula from the end of the IV pump tubing. Do this by holding the catheter by the hub with one hand, and using the other hand to squeeze the “wings” of the locking blunt cannula together, and then pulling gently (figure 5).

CHANGING AN IV BAG OR CONTAINER

1. Wash your hands by first wetting your hands and wrists under running water. Scrub vigorously with antibacterial soap for 15 seconds. Work lather between fingers, under nails, over the palms and back of hands. Rinse hands well by keeping your hands up with fingers pointing up towards the ceiling so that the dirty water runs toward your elbows. Dry your hands with a clean paper towel from the tips of fingers down. Turn off the faucet with the paper towel.

2. Gather your supplies and place in a corner of your work area.

SUPPLIES:

- (1) Prefilled medication bag
- (1) GemStar® pump
- (2) alcohol wipes
- (1) Locking blunt cannula (if doing tubing change)
- Household cleaner (such as bleach, alcohol or dish soap) & paper towels



3. Place a clean paper towel on your work surface or clean it with a household cleaner. Let the area air dry.
4. Open the backpack/fanny pack and place empty medication bag and pump on the work area.
5. If you are changing both your tubing and your bag, follow the instructions for “PREPARING YOUR IV TUBING” above. If you are reusing tubing and only doing a bag change, continue with procedures below.
6. Remove the spike from the empty medication bag. **Do not touch the spike.**
7. Remove the tab from the new medication bag.
8. Insert the IV tubing spike into the new medication bag by using a twisting/pushing motion.
9. Press the **[CHANGE]** key, then select # **[1]** NEW CONTAINER.
10. Press the **[START]** key to begin your infusion.
11. Place the IV bag and pump in your carrying pack.

TROUBLE SHOOTING - REMOVING AIR FROM THE IV TUBING

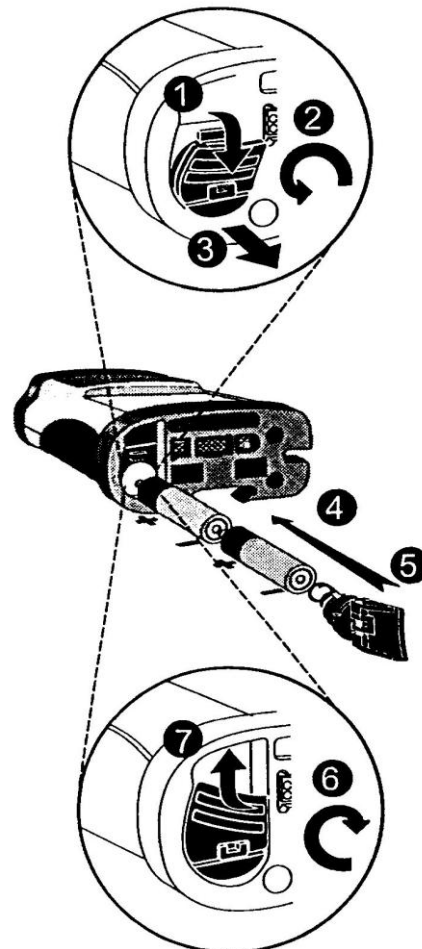
If you need to remove air from the IV tubing:

1. Press the [**SILENCE**] key if the pump is alarming. Then press the [**STOP**] key.
2. **Disconnect the IV tubing from the patient.** Keep the end of the locking blunt cannula sterile. If the tubing is dropped or touches any unsterile object, you will need to change the locking blunt cannula.
3. Press the [**PURGE**] key. Make sure to disconnect IV tubing from the patient.
4. Press and hold the [**PURGE**] key until the air is removed from the IV tubing. Once all the air is removed, release the [**PURGE**] key.
5. When the priming is complete (there is no air in the IV tubing), press the [**YES/ENTER**] key to return the pump to the stop mode.
6. **Vigorously** scrub the end of the catheter cap with an alcohol wipe and reinsert the locking blunt cannula.
7. Press the [**START**] key and follow the instructions on the screen.

TROUBLESHOOTING - CHANGING THE BATTERIES







The GemStar® pump requires two AA-size batteries. If you need to change the batteries, always replace both batteries. To insert or replace batteries:

1. Press the **[SILENCE]** key.
2. Press **[STOP]** key.
3. Flip the tab on the bottom of the pump. (#1 on the diagram)
4. Hold onto the tab and turn the battery door to the left (#2 & 3 on diagram).
5. Remove the old batteries and insert new batteries.
6. Replace the battery door (#5 on the diagram).
7. Turn the door to the right (#6 on diagram).
8. Make sure the battery door is secured under the slot.
9. Flip down the tab of the battery door to lock in place (#7 on diagram).
10. Make sure battery door is flush with the bottom of the pump.
11. Screen on pump will display after new batteries inserted: UNIT SELF TEST IN PROGRESS
12. USING BATTERIES Press **[ENTER]**
13. Press # **[1]** key to RESUME PROGRAM
14. Press the **[Start]** key to restart your infusion



TROUBLESHOOTING - INFUSION PUMP KEY GUIDE

Listed below are some important keys on your infusion pump. You will need to become familiar with these keys in order to operate your pump.

Pump key	What it does
	<p>Press the [START] key to begin your infusion. As the pump delivers the medication, you will see the amount infused displayed on the screen.</p>
	<p>The [YES/ENTER] key allows you to enter the correct program to infuse your medication. The screen will tell you when to press this key.</p>
	<p>If you need to stop your pump, press the [STOP] key.</p>
	<p>To quiet an alarm, press the [SILENCE] key. The screen will tell you what the alarm means.</p>
	<p>Press the [HELP] key if you are unsure as to how to correct the alarm problem. Step-by-step instructions will guide you on how to correct the alarm condition. Displays shift totals.</p>
	<p>Press the [BACK-UP] key to exit the help screen or to return to the previous screen.</p>

TROUBLESHOOTING - PUMP ALERTS, ALARMS

The GemStar® pump uses screen messages and audible beeps to let you know about conditions that need your attention. Below you will find some of the most common alerts and alarm messages displayed by the pump and tips on how to solve the problem.

Screen Display	Cause	Solution
LOW BATTERIES	Pump detects drop in battery power	<ol style="list-style-type: none"> 1. Press the [SILENCE] key 2. Press [STOP] key 3. Replace batteries
START	Pump is programmed but has remained in the stop mode for more than 3 minutes	<ol style="list-style-type: none"> 1. Press the [SILENCE] key 2. Press the [START] key or turn the pump off
CHECK CASSETTE	Cassette not installed, or installed improperly	<ol style="list-style-type: none"> 1. Press [SILENCE] key 2. Press [STOP] key 3. Reinstall the cassette 4. Press [START] key to begin infusion.
DIST. OCCLUSION	A blockage has been detected in the IV tubing BELOW the pump (i.e. between the pump and the catheter)	<ol style="list-style-type: none"> 1. Press the [SILENCE] key 2. Press the [STOP] key 3. ✓ IV tubing for kinks or blockages BELOW the pump and correct 4. ✓ that all clamps are open 5. Press firmly down on the cassette 6. Press the [START] key
END OF INFUSION	Pump has delivered container amount programmed	<ol style="list-style-type: none"> 1. Press the [SILENCE] key to mute alarm for 2 minutes 2. Clamp your catheter 3. Press the [STOP] key
PROX. OCCLUSION	A blockage has been detected in the IV tubing ABOVE the pump (i.e. between the pump and the medication container)	<ol style="list-style-type: none"> 1. Press the [SILENCE] key Press firmly down on the cassette. 2. Press the [STOP] key 3. IV tubing for kinks or blockages ABOVE the pump and correct 4. that all clamps are open 5. for blockage in the bag and IV spike 6. Press the [START] key

AIR-IN-LINE	Air has been detected in line	<ol style="list-style-type: none">1. Press [SILENCE] to mute alarm for 1 minute2. Press [STOP]3. Check line connections Disconnect IV tubing from patient and follow the prime procedure4. Reconnect the pump set to the patient-access device5. Press [START] to begin delivery
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TROUBLESHOOTING - FLUSHING CATHETER

YOUR INTRAVENOUS CATHETER LUMEN CONNECTED TO THE PCA SHOULD NOT BE FLUSHED ROUTINELY.

CATHETERS THAT ARE INSERTED INTO VEINS SHOULD ONLY BE FLUSHED WITH PRESCRIBER PERMISSION. ADDITIONAL LUMENS SHOULD BE FLUSHED AS DIRECTED ON FLUSH LABELS.

CATHETERS THAT ARE INSERTED INTO PERIPHERAL NERVES or EPIDURAL SPACE or SUBCUTANEOUS SPACE SHOULD NEVER BE FLUSHED.

IF YOU HAVE BEEN INSTRUCTED TO ADMINISTER SALINE LOCK FLUSH INTO YOUR VENOUS CATHETER, FOLLOW THIS PROCEDURE:

1. Hold the prefilled saline syringe upward (figure 1).
2. **Do not remove the cap.** Press on the plunger. (figure 1). **DO NOT** pull back on the plunger.
3. Remove the protective cap from the end of the prefilled syringe (figure 2).
4. Attach a blunt needle to the syringe by:

Twisting the green cap off the blunt needle. Attach the needle to the syringe by turning the needle clockwise. Do not remove the gray cap that protects the blunt needle.

5. Hold the syringe with the needle pointing upward. If bubbles appear, gently tap the sides of the syringe. The bubbles will rise to the top of the syringe.
6. Push the plunger to the 5 mL mark to push all the air out of the syringe (figure 3).
7. If you are instructed to disconnect from your IV you will need to flush with heparin lock flush after saline flush.

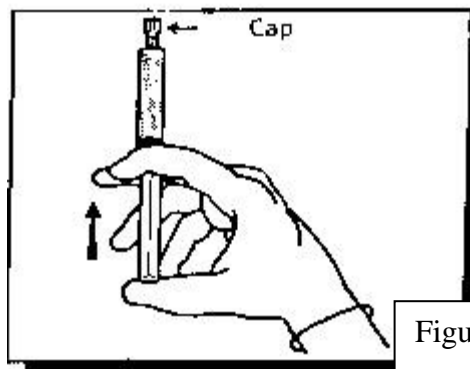


Figure 1

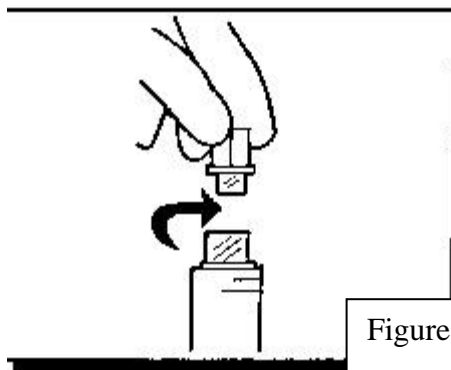


Figure 2

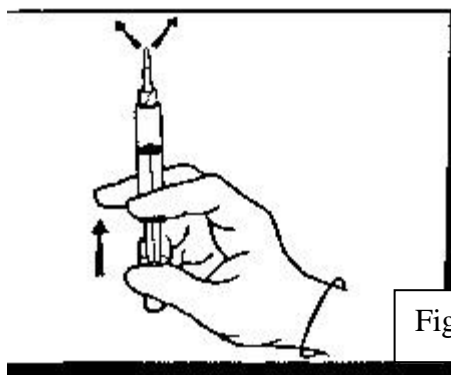


Figure 3

INFUSION PUMP CARE

1. **DO NOT** place the pump in any fluids or cleaning solutions.
2. **AVOID** dropping or hitting the pump. If the pump is dropped or hit, always recheck the program.
3. **NEVER** use sharp objects such as pens, pencils, fingernails, paper clips or needles to clean the pump.

4. If the pump needs cleaning, use a soft cloth dampened with a mixture of household bleach and water (1 part bleach to 10 parts of water). Clean the pump optics surface (across from the pump latch in the cartridge channel), with a cotton swab moistened with the bleach solution at least once a month. Dry the pump after cleaning.



5. You may wash the backpack in regular detergent in your washing machine. After washing, dry under low heat in your dryer.
6. **NEVER** use the pump in the presence of flammable or explosive vapors.
7. **ALWAYS** avoid sources of high intensity electromagnetic radiation such as X-ray machines. While infusing medications with the GemStar® pump stand at least 10 feet away from cell phones or two-way radios that are being used.

IF YOU WISH TO USE AN ANTISEPTIC HAND LOTION OR GEL

Do **NOT** use if your hands are visibly soiled or have body fluids
(such as blood) on them

Off-brand hand gels can be less expensive

Always check the label for the gel or lotion to contain either ethyl alcohol (ethanol),
normal propyl alcohol (n-propyl) or isopropyl alcohol in concentrations
between 60-90%

About Patient (or Caregiver) Controlled Analgesia (PCA)

For the treatment of some types of serious pain, analgesic medication can be administered through an electronic infusion pump. This pump is programmed to give the medication through a catheter (most frequently this is an IV catheter, but could also be a subcutaneous, epidural, or peripheral nerve catheter). If your prescriber allows you to administer your own pain medication, your orders may allow dosage adjustments to give you optimal pain control. This type of infusion is known as Patient Controlled Analgesia (PCA). For younger patients, and older adults who have cognitive or physical impairments, a designated adult will assist the patient in providing Caregiver Controlled Analgesia (CGA).

The PCA pump can work in three ways:

- 1) Bolus only: The pump is programmed such that a dose of medication is administered only when the pump bolus button is pushed by the patient or caregiver. A certain amount of time will be required between bolus doses (lockout time) to avoid over dosage. After pushing the bolus button, it usually takes about 5 to 10 minutes for the medication to start working. It can take up to 30 minutes for it to reach full effect.
- 2) Basal Rate Only: The pump can be programmed to administer a continuous flow of pain medication.
- 3) Basal Rate plus Bolus: The pump is programmed to administer a continuous flow of pain medication and extra doses can be given by pushing the bolus button.

Frequently asked questions about Patient (Caregiver) Controlled Analgesia:

1. Who can push the PCA bolus button?

The patient or a designated caregiver may push the button. Our homecare policy requires that patients and caregivers:

- receive instruction on assessing pain & PCA use
- demonstrate understanding of pain & safe PCA use
- are given permission to use the PCA for your family member by the homecare clinician

2. If the patient is waking up in pain... can a caregiver push the PCA bolus button a few times during sleep so that the patient does not wake up in pain?

No one should press the PCA button for a patient while they are asleep. This is unsafe. When one is asleep, it is difficult to tell if they are overly sedated, unless they are awakened. When someone is sedated, it is unsafe to give extra pain medicine. If the patient is frequently waking up in pain, notify the homecare clinician or physician.

3. If the patient hurts more when moving and /or getting out of bed, can the PCA bolus button be pushed to prevent the pain?

Pain often increases with movement, so it is a good idea to give a PCA dose 10-15mins before activity is planned. This gives the medicine enough time to start working. Remember; never press the PCA button if the person is asleep.

4. When can the bolus PCA button be pushed?

When a person is in moderate to severe pain or prior to a painful activity, such as getting out of bed.

5. How can I tell if a person is in pain?

There are a number of ways to determine if a person is in pain:

Pain is often assessed on a scale of 0-10, with 0 being no pain and 10 being the worst pain. Depending on the patient's age, you should use one of the methods described on the last page of the handout to obtain a pain score.

6. How can I tell if the person is receiving too much pain medication?

Too much pain medication may cause side effects. The specific side effects will depend on the type of medication. In general, the dose may need to be decreased if a patient experiences lack of motor coordination, loss of bowel or bladder function, or excessive sedation. Your prescription will indicate acceptable limits for these side effects. If you are asked to report a sedation score, use a following chart:

Sedation Scale

Sedation assessment requires the evaluation of a patient’s response to a graded stimulus

Procedure for a sedation assessment- Observe the patient	Scoring
• Patient awake, then check if patient is alert	Score = 0
•Patient appears sleepy or is asleep but arouses easily. Say patient’s name. If patient responds to voice, follows commands, or in infants, open eyes.	Score = 1
•Patient is asleep, and does not respond to noise or calling name. Gently touch/stimulate by stroking or rubbing patient’s arm/leg while saying patient’s name loudly. If this increase in stimulus is required for the patient to arouse.	Score = 2
•Patient asleep, and does not respond to name or gentle touch. Shake patient’s shoulder, massage back or move extremities while calling name loudly. If patient awakens, but immediately falls back to sleep and unable to interact.	Score = 3
•Patient asleep, & does not awaken to ↑ stimulus, apply noxious stimuli (eg sternal rub, < 5 sec nail bed pressure)	Score = 4

7. Why is monitoring respiratory rate important?

One rise and fall of the chest is counted as one breath. A caregiver can aid the respiration rate count by placing the hand lightly on the chest to feel it rise and fall. Count the number of respirations for a 30-second interval and multiply by 2.

Normal respirations are characterized by a rate ranging from 12 to 20 breaths per minute. Call your Home Care Clinician or physician if the patient’s respiration rate is less than 12 and he/she is sleepy or has mental clouding.

8. When should I call the homecare clinician or physician?

Call for one or more of the following:

- a. pain is not relieved
- b. excessive sleepiness
- c. slow breathing (less than 10 or greater than 30 breaths per minute)
- d. severe restlessness
- e. other side effects, such as, nausea, vomiting, itching

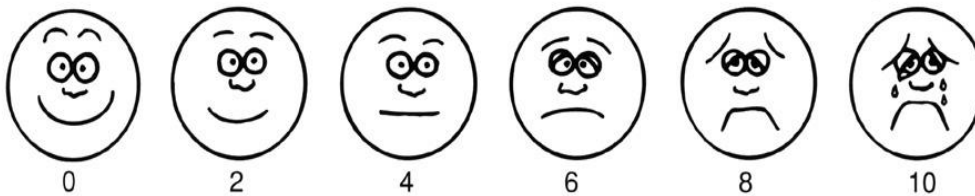
Exhibit 5

PAIN SCORING SCALES
Numeric Rating Scale

Ask the patient to rate their pain intensity on a scale of 0 (no pain) to 10 (the worst pain imaginable). Some patients are unable to do this with only verbal instructions, but may be able to look at a number scale and point to the number that describes the intensity of their pain.

Wong-Baker FACES Pain Rating Scale

Ask the patient to choose the face that best matches how she or he feels or how much they hurt.



From Wong DL, Hockenberry-Eaton M, Wilson D, Winkelstein ML, Ahmann E, DiVito-Thomas PA: Whaley and Wong's Nursing Care of Infants and Children, ed. 6, St. Louis, 1999, Mosby, p. 1153.

This scale can be used with young children (sometimes as young as 3 years of age). It also works well for many older children and adults as well as for those who speak a different language. Explain that each face represents a person who may have no pain, some pain, or as much pain as imaginable. Point to the appropriate face and say:

- (0) "This face is happy and does not hurt at all."
- (2) "This face hurts just a little bit."
- (4) "This face hurts a little more."
- (6) "This face hurts even more."
- (8) "This face hurts a whole lot."
- (10) "This face hurts as much as you can imagine, but you don't have to be crying to feel this bad."

FLACC Scale

This behavior scale can be used with patients who are unable to self report pain. Each of the five categories (Faces, Legs, Activity, Cry, Consolability) is scored from 0-2 and the scores are added to get a total from 0-10. Behavioral pain scores need to be considered within the context of the patient's physiological status, anxiety and other environmental factors.

	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, clenched jaw, quivering chin
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back & forth, tense	Arched, rigid, or jerking
Cry	No Cry (awake or asleep)	Moans or whimpers, occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or "talking to." Distractible	Difficult to console or comfort

Exhibit 6

University of Michigan Sedation Scale (UMSS)

Sedation assessment requires the evaluation of a patient's response to a graded stimulus

Procedure for a sedation assessment	Scoring
Observe patient	
<ul style="list-style-type: none"> • Patient awake, then check if patient is alert. 	Score = 0
<ul style="list-style-type: none"> • Patient appears sleepy or is asleep but arouses easily. Say patient's name. If patient responds to voice, follows commands, or in infants, open eyes. 	Score = 1
<ul style="list-style-type: none"> • Patient is asleep, and does not respond to noise or calling name. Gently touch/stimulate by stroking or rubbing patient's arm/leg while saying patient's name loudly. If this increase in stimulus is required for the patient to arouse. 	Score = 2
<ul style="list-style-type: none"> • Patient asleep, and does not respond to name or gentle touch. Shake patient's shoulder, massage back or move extremities while calling name loudly. If patient awakens, but immediately falls back to sleep and unable to interact. 	Score = 3
<ul style="list-style-type: none"> • Patient asleep, & does not awaken to ↑ stimulus, apply noxious stimuli (eg sternal rub, < 5 sec nail bed pressure) 	Score = 4

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Reference:

Malviya, S, Voepel-Lewis, T, Tait, AR, Merkel, S, Tremper, K, and Naughton, N, Depth of sedation in children undergoing computed tomography: validity and reliability of the University of Michigan Sedation Scale (UMSS). British Journal of Anaesthesia, 2002;88(2):241-245.