Safe Medication Practice in Palliative Care; First Do No Harm.

Development of documentation to safely prescribe and administer Continuous Subcutaneous Infusions (CSCI) in Palliative Care.”

Tony Hall¹, Carol Reid², Carol Douglas³ and Veronica Connors³

¹ School of Pharmacy; Griffith University,
² Medication Systems Stream, SMMU, MSQ
³ Palliative Care Team, RBWH
Oxford Textbook of Medicine describes Terminal Care as “a characteristic mixture of tough clinical science and compassion”.

All the work of the professional team is to ‘enable the dying person to live until he dies’ (Oxford Textbook of Palliative Medicine).

tends to impose a conservative, evidence-based approach where risk is eliminated as much as possible.
System

Decision on appropriate treatment

Transfer of verified information

Monitor for response

Administration of medicine (re-assessment, preparation, administration and recording)

Distribution and storage of medicine

Provision of medicine information

Record medicine order (prescribe)

Review of medicine order

Issue of medicine

Medicines procurement and materials management

Data collection and reporting, audit review of quality and safety

Consumer
Medication Management Cycle – In Hospital Participants

Doctor
- Decision to prescribe medicine
- Medicines procurement and materials management

Pharmacist
- Review of medicine order
- Issue of medicine
- Provision of medicine information
- Data collection and reporting, audit review of quality and safety

Nurse
- Monitor for response
- Administration of medicine (re-assessment, preparation, administration and recording)
- Distribution and storage of medicine

System
- Transfer of verified information
- Decision on appropriate treatment

Consumer
- Record medicine order (prescribe)

Participants
- Doctor
- Pharmacist
- Nurse
Medication Management Cycle – In Hospital
- the result

- Decision to prescribe
- Individual Order entry
- Review order
- Supply medicine
- Supply information
- Distribute
- Administer
- Monitor response
- Transfer information
- Quality audit and review
- Doctor
- Pharmacist
- Nurse
- Claim
- Procure
- Bill
Key messages

- Medication Use Systems are complex and potentially dangerous
- Mistakes are not made by “Bad” People
- The Health Care Professions responsibility does not stop at their involvement with a phase in the medication cycle
- If a patient has an unexpected response to a medication must consider that they did not get the right medication
- If in doubt check
Improving systems

- Change the system to:
  - Reducing error prone situations
  - Make it harder for humans to make mistakes
  - If a mistake does happen put checks and balances in place to detect it early
  - Provide information at point of prescribing
  - Standardise, constrain, force to do it right!
  - Education a ‘poor’ change agent
Risk systems in Palliative Care

- Most ‘risky’ medication group used in palliative care is opioid analgesia
- Risk of ‘double jeopardy’ well recognised in palliative care
- What about hidden system failures?
Incidents involving ‘Graseby’ CSCI reported (in Queensland Health- 2002 – 2004)

- 25 errors reported in 24 months
- One sentinel event leading to patient’s death
- Errors occur during:
  - Prescription
  - Preparation
  - Administration
  - Documentation
  - Monitoring

THESE INCLUDED…..
Types of incidents

- Wrong Drug
- Transcription Errors
- Wrong Route
- Extra Dose
- Dose Omission
- Wrong Administration Rate
- Incorrect Opioid Conversion
- Calculation Errors
- Drug incompatibility
- Equipment failure
- Disconnection
Continuous Sub-Cutaneous Infusions

- Often a combination of different agents
- Individual agents + doses titrated to effect
- Traditionally old fashioned, inaccurate and unreliable pumps used to administer
- Lack of ‘transparency’ of injection contents
- Trust in system that no component fails
Followed on from development of NIMC and other standardised documentation within QH

Aim

- To achieve standardisation of process and improvements in increasing transparency
- To facilitate review

“Do and Review: NOT Set and Forget.” of

- Prescribing
- Administration
- Documentation and
- Monitoring
Strategies for Introduction

- Risk Awareness Training
  - Often a lack of awareness of risk in modern practice environment
    - Led to development of local Champions
    - Use of local evidence

- Training on use of documentation
  - Scenario based training
  - Provision of ‘Examplars’ – worked examples

- Measurement of Outcomes
  - Measure
    - Number of clinical staff educated
    - Number of educational sessions delivered
    - Post implementation audit
Development of Procedure

QH PROCEDURE

Procedure Reference:
QH Graseby Syringe Driver Subcutaneous Medication Infusion Chart

Effective Date: 21/05/2007

Title: Guidelines for use of the QH Graseby Syringe Driver Subcutaneous Medication Infusion Chart

Description: QH Graseby Syringe Driver Subcutaneous Medication Infusion Chart

Target Audience: All nursing, medical and pharmacy staff who are authorised to access and use patient medication charts


Exceptions: The QH Graseby Syringe Driver Subcutaneous Medication Infusion Chart is intended to be used as a record of orders and administration of subcutaneous medication infusions using a Graseby syringe driver

ITEMS COVERED IN THIS PROCEDURE
1. Medical Officer Prescription
   - Allows up to FOUR medications per order
   - Order is valid for SEVEN days
   - Allows for initial order plus ONE change
   - Clinical Pharmacist review section

2. Daily Clinical Review
   - Order current for SEVEN days however review is required every 24 hrs by an authorised clinician

3. Syringe
   - Identifies the two brands available at QH
   - The correct volume to deliver 48mm over 24 hours is pre-printed

4. Nursing Calculation and Administration Record
   - Calculation for each new infusion must be documented
   - Documentation for each medication to include medication name, strength and volume
   - Normal saline, the preferred diluent, is pre printed
   - Each calculation must be checked and signed by a second nurse
     - Volume to make syringe up to 48mm to be documented here
   - Rate, in mm/hr, must be documented
   - Volume in syringe post priming to be documented, enabling accurate monitoring of rate
   - Syringe size and type to be documented
   - Date when cannula site last changed to be documented

5. Nursing Check
   - Prompts are outlined for both clinical and operational checks, required every four hours
   - Prompts include:
     - Pain score
     - Nursing check
     - Rate
     - Volume
     - Sign

6. Graseby Syringe Driver General Information
   - Alerts nursing staff to the TWO different types of Graseby syringe drivers available and their differences

7. Priming
   - Important points to note when priming the giving set

8. Troubleshooting
   - Provides assistance with problems identified at the fourth hourly checks
   - Provides possible causes and appropriate solutions

9. Opioid Conversion
   - Added to assist clinicians at point of prescribing
**NURSING CHECK RECORD**

- **ICU Patient Identification Label**
- **Medical History**
- **Physical Exam**
- **Allergies**
- **Laboratory Data**
- **Other**

**SAFETY**

- **Medication Administration**
- **Skin Integrity**
- **Pain Management**
- **Pressure Ulcer Prevention**
- **Wound Care**
- **Infection Control**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**
- **Intravenous Therapy**
- **Respiratory Management**
- **Pharmacology**

**GASSEBY SYRINGE DRIVER SUBCUTANEOUS MEDICATION INFUSION CHART**

**Important Note**

There are two baseline syringe driver models. It is important that differences are noted and care taken in ensuring the RATE is set correctly.

**GASSEBY NS 16A**
- Blue color plate, delivers dose in milliliters (mls) per hour
- To calculate RATE, take the milligrams of the drug in the syringe barrel and divide by 24 hours. This will equal a rate of 2 mg per hour.

**GASSEBY NS 26**
- Green color plate, delivers dose in milliliters (mls) per 24 hours
- To calculate RATE, take the delivery amount, measure the length of the fluid in the syringe barrel and divide by the rate (mls) for 24 hours. For example, 45 ml divided by 10 mg/hour and make this rate (mls) for 24 hours. For example, 45 ml divided by 10 mg/hour and 24 hours.

**PRIMING THE GIVING SET**

A continuous volume administration is used to connect the pump to the infusion set. There is no need to change the giving set with each syringe. Sures are recommended to drop-in a standard for the duration of use for a syringe set based on infection control principles.

- Do not prime the line with normal saline solution (NS 0.9%). Use the contents of the syringe.
- After priming the extension set, the remaining volume of drug will not last 24 hours as the dose calculated for the 24 hour period does not include average for this purpose.
- If changing the concentration, then the extension tubing must be changed and replaced.
Implementation

- Training undertaken by Medication Safety Officer
- Palliative Care team followed up on all CSCI’s prescribed for Palliative Care patients and provided direct feedback to Drs and RNs
Pre and Post Audit

- Pre introduction audit
- Post introduction audit
- Follow up audit
  - Good use of Pain Score
  - Good use of observation record
  - Poor use of Prescribing review
  - Mixed use of infusion formulation
    - reflected dose of medication prescribed not dose and volume of injection added
  - Debate about decision support information included
Ongoing development

- Input from pilot site and other users
- Led to further review
  - Prescribing review dropped
  - Ability to accommodate prescription changes increased
- Changes in availability of commonly used infusion device has led to suggestion for ‘universal’ form
Learnings

- Educational alone is a relatively poor change management strategy
- Needs a number of different strategies
- Need to seek widest possible engagement early in development
  - ‘White Knight’ v.s. ‘White Ant’
- Utilisation of local evidence the most useful motivator for change
Thanks

- Karen Davies - Medication Safety Officer
  RBWH
- Medical and Nursing staff on pilot study ward