CANCER NURSING IN THE CAPITAL:

STANDARD FRAMEWORK GUIDE:

Standard Topic

Care of the Patient with a Syringe Driver

Outcome to be achieved:

- Equipment is safe and well maintained.
- Staff are trained in the use of equipment (technical procedures) and care of a patient with a syringe driver.
- Patients are provided with information and are able to give informed consent.
- Staff are aware of Drug Compatibility Data and competent to use it.
- Risk management documentation (syringe driver check list) is used in conjunction with equipment.
- Patients with syringe drivers are transferred safely between care settings.

Rationale:

- Patient safety.
- Optimum control of distressing symptoms.
- Consistency of care across all settings in London.

Assessment:

- Audit of equipment maintenance and safety.
- Assessment of staff competence following training.
- Assessment of patient with respect to their ability to absorb information and to give informed consent.
- Assessment of suitability of syringe driver: i.e. standard indications for use and basic pharmacology.
- Monitoring of continuing use for individual patients.
- Assessment of patient and their needs prior to transfer to a different setting.

Planning:

- Presentation of syringe driver policies and guidelines to local committees for endorsement i.e. local biomedical engineering, clinical governance and pharmacy advisory committees.
- Audit of local policies and guidelines to ensure they meet the minimum standards set by the London Standing Conference.
- References to include information about where to go for help.

Implementation:

Equipment is safe and well maintained

Syringe drivers should be serviced regularly and sent for repair following damage, adverse incidents or failure to run at correct rate.

Wherever possible, only one type of syringe driver should be in use, in each acute or community trust, in order to avoid confusion. Advice on the purchasing of syringe drivers may be sought from the local biomedical engineering department, medical devices trainer or biomedical equipment library.

Practice Criteria

- Manufacturers' instruction manuals and guidelines for care and maintenance of equipment support this standard.
- Annual contractual arrangements for the maintenance and repair of syringe drivers must be in place.
- The servicing, maintenance, repair and incident record for each syringe driver must be logged and held as a permanent record.
- Following an adverse incident, such as immersion in water, accidental damage due to dropping or failure to run at the correct rate syringe drivers should be labelled as being out of service, removed from the clinical area or patient's home and sent for repair. Any such incident must be recorded in the log
- Following use (or every two weeks in the case of continuous use), the syringe driver should be cleaned: The lead screw should be cleaned with a soft toothbrush to remove any dirt and the syringe driver should be wiped over with a mild detergent mixed in water and applied with a damp cloth.
- Unauthorised modification of syringe drivers is dangerous. Any modification, such as permanently fixing the rate at which they run, should only be authorised by the person with overall responsibility for technical servicing, in conjunction with manufacturers, to ensure that safety is not compromised.

General References

- MS16A Syringe Driver/MS26 Syringe Driver: Instruction Manual; Sims Graseby Ltd., Watford, Herts; Issue 3/98 Part No 0105-0549.
- Equipped to care, The safe use of medical devices in the 21st century; Medical Devices Agency; Crown Copyright 2000; ISBN 1 84182 170 5.
- Ed Mallet, J, & Dougherty, L. (2000) The Royal Marsden Hospital Manual of Clinical Nursing Procedures; Fifth edition, 2000; Chapter 20 Infusion Devices; p332, Problem Solving.

Staff are trained in the use of equipment and in the care of a patient with a Syringe Driver

Practice Criteria

- Registered nurses are accountable for their actions when administering medication and must follow the UKCC (now the NMC) Guidelines for the Administration of Medicines.
- Formal training and assessment of competence with respect to the administration of medicines via a syringe driver should be available.
- Nurses should not be setting up or reloading syringe drivers unless they have been trained and assessed as competent. They must record this training in their training and professional development record
- Training and assessment of competence must include the following:
  -Knowledge of the clinical and therapeutic indications for the use of a syringe driver.
  -Knowledge of groups of patients for whom a syringe driver is suitable: i.e. unsuitable for neonates
  -Knowledge of the suitable body sites for insertion of the butterfly needle or infusion device.
  -Knowledge of maintenance and care of equipment.
  -Familiarity with all the equipment needed in order to set up a syringe driver.
  -Calculation of the conversion of medication from the oral to subcutaneous route.
  -Basic understanding of compatibility of drugs commonly used in syringe drivers.
  -Awareness of medication that must be used alone or that is unsuitable for administration using a syringe driver (drugs that have a short half-life are unsuitable and must not be used).
  -Technical competence in drawing up medication to the correct volume or measurement and in priming the giving set.
  -Selection of an appropriate butterfly needle or cannula and correct technique for insertion (Youssef & Atkinson 1990 and Dawkins, Britton et al 2000).
  -Correct use of a syringe driver record chart to monitor the patient and to reduce the risk of adverse incidents-See attached example.
- Staff should have an awareness about where to go for help with syringe drivers: i.e. local Palliative Care Service; local pharmacy advisory service; hospital medical physics department.

General References

- UKCC Guidelines for the Administration of Medicines; October 2000.
- Medical Devices Agency. Equipped to care, The safe use of medical devices in the 21st century; Crown Copyright 2000; ISBN 1 84182 170 5.
- Ed Mallett, J, & Dougherty, L. (200) The Royal Marsden Hospital Manual of Clinical Nursing Procedures; Mallett and L Dougherty; Fifth edition, Chapter 20 Infusion Devices.
- NHS Executive, North West (1998) Pathways in Cancer Care: Palliative Care Pathway, Milestone Five: Education and Training.

- Wilson, V. Guidelines for the use of the MS26 daily rate syringe driver in the community British Journal of Community Nursing, Vol. 5, No 4.

Specific References

- Youssef MS, & Atkinson ME, (1990) Comparison of Teflon cannulae and metal needles for subcutaneous infusion in terminal care. British Medical Journal 300: 847.
- Dawkins L, Britton D et al, (2000) A randomized trial of winged Vialon cannulae and metal butterfly needles. International Journal of Palliative Nursing, Vol 6 No3

SYRINGE DRIVER CHECKLIST

Patient's Name: _____ **Patient's DOB: _____**

Inpatients: Assess the patient and complete this record every 4 hours
Community Patients: Assess the patient and complete this record on every clinical visit

Date	Label Checked (tick)	Time syringe checked	Rate (mm)	Starting Volume (mm)	**Predicted** volume remaining (mm)	Actual Volume Remaining (mm)	Solution 1) Clear 2) Cloudy 3) Crystallised	Position	Site Condition 1) Good 2) Change ?	Battery indicator working Y or N	Initials

Patients are provided with information and able to give informed consent

Practice Criteria

- Staff should explain the use of a syringe driver to patients and check that the explanation has been understood and that the patient agrees to have the treatment.
- Written information about syringe drivers should be provided for patients and relatives. This information should include contact telephone numbers to be used in the event of a problem with a syringe driver or a symptom management problem.
- If the patient is unable to consent, written information and a verbal explanation about the syringe driver should be given to the relatives/carers and documented in the nursing record.
- Patients and/or their carers should sign a written receipt for the syringe driver, which should include an undertaking to return it to the appropriate service when it is no longer required.
- Use of a syringe driver may be indicated as part of an established care pathway for the last 48 hours of life. If such a care pathway exists, it should be followed. (Ellershaw et al 1997)

General References

- **"**Me and my Driver" Patient information on pain relief; Sims Graseby Ltd, Watford, Herts.
- Comp, Burford, BW, & Stevenson, AM. Information booklet for Patients who are using a Graseby MS26 Syringe Driver; Brompton Hospital, London (not dated).

Specific References

- Ellershaw, J, Foster, A, et al. (1997) Developing an integrated care pathway for the dying patient; European Journal of Palliative Care 1997: 4 (6).

Staff are aware of Drug Compatibility Data and are competent to use it

Practice Criteria

- Nurses setting up a syringe driver must be aware of the UKCC guidelines for the administration of medicines and act in accordance with them.
- Following training and assessment, nurses must have a basic knowledge:
  -Medication which is commonly used and combined for delivery via a syringe driver.
  -Medication which must be used alone in a syringe driver.
  -Medication which is unsuitable for administration via a syringe driver and must not be used (including medication with a short half-life).
  -Suitable diluents for drugs prescribed.
  -Suitable size of syringe for combination of drugs prescribed.
- In Palliative Care especially, drugs are commonly used for purposes at doses and via administration routes falling outside of their product licence. The UKCC guidelines for the administration of medicines must be followed with respect to this.
- Information on drug compatibility can be obtained from the following sources and should be consulted if there is any doubt that the prescription is safe to administer:
  -Locally produced drug compatibility data from the hospital pharmacy.
  -Local or regional Drug Information Service.
  -Local Palliative Care Service.
  -An approved published text on drug prescribing for syringe drivers-see below.
  -Online information from an approved website, such as:-
  www.Palliativedrugs.com
- Breakthrough doses of medication must be given as additional injections. The start/boost button fitted to some makes of syringe driver should never be used to give breakthrough medication. (Wilson,2000)

References-Prescribing texts

- Dickman, A, & Littlewood, C. (2000) The Syringe Driver in Palliative Care, Sixth Edition; A R Publications.
- Twycross, R, Wilcock, A, et al. (1998) PCF1 Palliative Care Formulary; Radcliffe Medical Press.

Other References

- Docherty CA, Hall, EJ, et al. (2001) Drugs and Syringe Drivers: A Survey of adult Specialist Palliative Care Practice in the United Kingdom; Palliative Medicine 15: 149-154.
- Evans, N, & Palmer, A. (1999) Controlling breakthrough pain in Palliative Care; Nursing Standard November 4 1999; Volume 13 No. 7 p53-54.
- Johnson, A, & Patterson, S. (1992) Drugs used in combination in the Syringe Driver-A survey of Hospice Practice; Palliative Medicine 1992 125-130.
- Wilson, V. (2000) Guidelines for the use of the MS26 daily rate syringe driver in the community; British Journal of Community Nursing Vole 5, No 4; 2000.

Risk management documentation (syringe driver record chart) is used in conjunction with equipment

Practice Criteria

- The record should be completed every four hours for patients in clinical settings and at every clinical visit for community patients (UKCC 1998).
- A syringe driver record chart should be used to assist the reporting and investigation of adverse incidents (See example attached to staff training section of this standard).
- Adverse incidents involving syringe drivers must also be reported to the Medical Devices Agency: **www.medical-devices.gov.uk**
- Whenever possible, the patient and/or carer of community patients should be taught how to make checks and advised to report any problems or malfunctioning of the equipment.
- The following data should be recorded on the syringe driver record chart:
  -The name of the patient.
  -The date and time the syringe driver is checked.
  -The rate at which the syringe driver is running.
  -The predicted volume or length of fluid in mm the should be left in the syringe.
  -The actual volume or length of fluid in mm left in the syringe.
  -The condition of the solution in the syringe. This should always be clear and free of crystallisation or precipitate.
  -The position of the butterfly needle or infusion device on the patient's body.
  -The condition of the skin at the butterfly needle or infusion device site. Redness, swelling, heat or pain indicates the need for the site to be changed.
- An additional record of the drugs used in the syringe driver that day (normally a drug added label) should be completed and attached to the delivery tubing or syringe driver.
- Repeated skin reactions may indicate the following actions:
  -Review of the prescription to check that there is enough diluent for the drugs prescribed; that there is no contraindication to the combination of drugs prescribed and that the correct size syringe is used.
  -Review of the butterfly or infusion device. There are hypoallergenic alternatives to the metal butterfly with giving set commonly used. See product information below.
  -Consideration as to whether hyalase or dexamethasone should be used to maintain line patency and reduce skin reactions. (Twycross 1994)
- Any suspected tampering with the rate at which the syringe driver has been set must be investigated, as this may indicate that an attempt has been made by a third party to hasten the patient's death, or to sedate them.

References

- UKCC (1998) Guidelines for records and record keeping.

- Medical Devices Agency. Adverse Incident Reports 2000 Bulletin; MDA DB2000 (01) March 2001.
- Dawkins L, Britton, D, et al. (2000) A randomised trial of winged vialon cannulae and metal butterfly needles; International Journal of Palliative Nursing 6 (3): 110-6.
- Macmillan, A, (1994) A prospective comparison study between a butterfly needle and a teflon cannula for subcutaneous narcotic administration; Journal of Pain and Symptom Management 9 (2) 82-4.
- Twycross, R. Pain relief in advanced cancer, Ch 18 Alternative routes of administration, Churchill Livingstone 1994

Patients with syringe drivers are transferred safely between care settings

Practice Criteria

- If a syringe driver is to be used for a patient transferring between settings, it must be considered at an early stage of discharge planning.
- Syringe drivers should be clearly labelled with details of the service responsible for their servicing and maintenance.
- Following the transfer of a patient from one setting to another, the syringe driver must replaced by one belonging to the new setting. The syringe driver previously used for the patient must be returned to its original provider as soon as is practicable, to avoid loss and to ensure continuity of servicing and maintenance.
- Telephone contact to the new setting should be made to establish that drugs and equipment are available and that staff are aware that the patient has a syringe driver and are trained in its use.
- Patients transferred between settings must have the following items with them:
  -At least 48 hours supply of medication and diluent for the syringe driver, including breakthrough requirements (unless the new setting has this medication as stock).
  -A clearly written prescription chart, signed by the prescribing doctor, to be used as authority to administer the medication.
  -A transfer letter, written by the nurse responsible for the patient's care.
  -At least 48 hours supply of spare equipment for the syringe driver (unless the new setting has all these items in stock): spare battery; needles for drawing up medication and giving breakthrough medication; syringes for the syringe driver and breakthrough medication; infusion devices, with or without giving sets, as appropriate; suitable transparent dressings.
  (Dunne, Sullivan et al; 2000)

References

- Scottish Home and Health Department. (1995) The management of infusion systems Ref. MWY 00128.114.
- Dunne, K, Sullivan, K, et al. An Audit of subcutaneous syringe drivers in a non-specialist hospital; International Journal of Palliative Nursing 2000 Vol. 6 No 5.

Reassessment/Evaluation

- This standard provides a tool for the measurement of the efficacy of local NHS Trust syringe driver policies and guidelines.
- It is planned that awareness of this standard will be audited after one year
- It is planned that this standard will be reviewed at least biannually or in the following circumstances:
  -Following changes to the law governing the administration of medicines, including developments in Nurse Prescribing.
  -Following substantive changes to the organisation or delivery of clinical practice.
  -Following substantial changes to the design of syringe drivers and/or other related equipment.
  -Following major therapeutic advances.

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