Infection Prevention and Control Team (IPCT)

SECTION 25

INFECTION CONTROL GUIDELINES FOR ENTERAL FEEDING

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Title of Policy: Infection control guidelines for enteral feeding


Scope: Organisation wide

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Policy application / Target Audience: Throughout NHS Ayrshire and Arran

RESPONSIBILITIES FOR IMPLEMENTATION

Organisation: Patient Services Management Team and Chief Executive

Directorate: Directors

Corporate: Senior Managers

Departmental: Heads of Wards or Departments

Local: All relevant staff

Policy Statement: It is the responsibility of all staff to ensure that they consistently maintain a high standard of practice in accordance with this guidance when dealing with patients with enteral feeding systems.

Last reviewed: April 2012

Agreed by: Infection Prevention and Control Policy Review Group

Electronic approval by: Professor Robert G Masterton

Executive Medical Director

Date: 26 April 2012
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1.0 INTRODUCTION

Enteral feeding or enteral nutrition is prescribed for adults and children who cannot eat normally. Liquid feed is given through a tube which enters the body in one of 4 ways:

- Through the nose to the stomach – naso-gastric (NG) feeding
- Through the nose to the small bowel – naso-jejunal (NJ) feeding
- Directly into the stomach – gastrostomy or PEG feeding
- Directly into the small bowel – jejunostomy feeding

Feeds normally contain nutrients that can support the growth of microorganisms; therefore, it is essential that good practices are routinely followed to reduce the risk of microbial contamination and subsequent infection.

This guidance is intended to assist in preventing infection associated with enteral feeding.

2.0 SELECTION OF EQUIPMENT

- Use a system that has a hazard reducing design e.g. no parts easily touched during assembly come into contact with the feed
- Use a delivery system that requires a minimum number of connections

3.0 FEED PREPARATION

- Pre-packed sterile ready-to-use feeds should be used in preference to feeds requiring reconstitution, dilution or additions
- Ensure feed is correctly stored in accordance with the manufacturers’ instructions which should normally be displayed on the bag of enteral feed
- Reduce handling by using pre-filled feeding containers
- Do not decant feeds unless absolutely necessary e.g. no other suitable system or feed is available
- If used, the top of cans or bottles must be thoroughly wiped using a 70% Isopropyl alcohol impregnated swab, prior to opening
- If used, bottle openers should be cleaned, dried and stored in a clean dry area after use
4.0 HAND HYGIENE  
(see manual page Section 1 Standard Infection Control Precautions)

Hand hygiene is considered to be the single most important practice in reducing the transmission of infectious agents, including Healthcare Associated Infections (HAIs), when providing care.

Decontaminate hands (see manual page Section 1 Standard Infection Control Precautions).

Do not touch the critical parts when preparing a feed, especially when priming and connecting the administration set to the feeding tube.

Patients must wash and dry their hands thoroughly with soap and water prior to handling of feeds or equipment.

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)  
(see manual page Section 1 Standard Infection Control Precautions)

If there is a possibility of contact with blood and or body fluid during the procedure then suitable protective clothing must worn e.g. non-sterile gloves, disposable plastic apron (see manual page Section 1 Standard Infection Control Precautions).

The use of protective clothing is not routinely required when setting up the administration system.

Areas of broken skin on the hands or forearms must be routinely covered with a waterproof dressing.

6.0 HANGING TIMES

6.1 Sterile feeds

Sterile feeds have a maximum hanging time of 24 hours. Commercially prepared sterile enteral feeds are manufactured to hang in situ for up to 24 hours at room temperature. This would include sterile feeds decanted from a can or a bottle directly into a sterile reservoir set, as long as asepsis has been maintained. The total volume of prescribed feed should be decanted at the outset. Reservoir sets must not be topped up. If the volume prescribed is greater than the maximum capacity of the reservoir set, an additional giving set and reservoir will be required. After 24 hours, any unused feed must be discarded.

6.2 Non-sterile feeds

Non-sterile, reconstituted feeds must have a maximum hang time of 4 hours from the time of reconstitution. Non-sterile, reconstituted feeds must be kept suitably covered and away from sources of heat and direct light.
Any opened but unused feed must be discarded within 4 hours if stored at room temperature, or within 24 hours if stored in a suitable refrigerator.

6.3 Sterile feeds with additives added

Sterile Feeds with additives added must have a maximum hang time of 4 hours. Where sterile feeds have additives added they must be considered as being non-sterile and have a maximum hanging time of 4 hours.

6.4 Water administration

Freshly drawn tap water, from a designated drinking water tap, added to a new unused sterile reservoir set has a maximum hang time of 24 hours. Water for administration must either be freshly drawn from a designated drinking water tap, or if administered to a high risk patient, be sterile. Water for administration must be added to a new unused sterile reservoir set.

7.0 CHANGING OF FEEDING SYSTEM

It is important that the changing of giving sets and associated equipment is clearly documented by nursing staff to ensure that these are changed every 24 hours.

In hospital, the person changing the feeding system must attach and complete a label with the patient’s name, the date and time that the feed/water was set up and the time that the feed is due for completion. Labels must be placed in a manner that will not obscure any of the manufacturer’s instructions on the feed container.

The manufacturers’ expiry date on feed containers must be checked prior to use.

8.0 EQUIPMENT

8.1 Single use devices

Devices that are marked “Single Use” or “Use Once Only” by the manufacturer e.g. giving sets or syringes must not be re-used under any circumstances. Section 1 Standard Infection Control Precautions (see manual page) provides detailed guidance on Single use devices. Single use devices are identified by the following symbol:
8.2 Single patient use devices

Single patient use devices may be re-used on the same patient in line with the manufacturer’s instructions. Clear written instructions on the use of these devices, including re-processing, storage, restrictions on use and any limits on the number of episodes of re-use, must be available locally.

8.3 Syringes

In line with National Patient Safety Agency (NPSA) recommendations, only syringes labelled ‘enteral’ (purple in colour) should be used with enteral feeding systems. These syringes are incompatible with IV systems and reduce the risk of ‘wrong route’ error.

8.3.1 Single Use Syringes

The same syringe may be used to give bolus doses of different liquids e.g. feeds, water, medications, if they are to be administered at the same time. Thereafter, single use syringes must be discarded.

8.3.2 Single Patient Use Syringes

Single patient use syringes are available for use in the patient’s own home. If used in the healthcare environment, these items should be classed as single use devices and appropriately discarded after use (see section 8.1 above).

8.3.3 Decontamination of Baxa Single Patient Use Syringes

These are suitable for use in a patient’s home and must be reprocessed in line with the following guidelines:

- Syringes must only be used for a maximum of 30 times and then discarded
- Syringes must also be discarded if:
  - they are difficult to operate
  - the markings become unclear
  - the device is damaged in anyway
  - the following manual cleaning method is not effective and food or medicine residue is visible
- Clean immediately after use using fresh warm soapy water (domestic washing up liquid)
- Draw soapy water in and out through the plunger several times until all trace of feed or medicine is removed
- Separate barrel and plunger and wash thoroughly in warm soapy water
- Rinse under cold water
- Shake off excess water - tap syringe on a clean paper towel to dislodge any trapped water contained in the syringe tip then wipe dry with a disposable paper towel
- Store in a clean dry container and reassemble when required
If required the device may be reprocessed **following** the manual cleaning by:

- Placing in a dishwasher with barrel and tip separated and the barrel tip uppermost
- Immersion in boiling water for 3 minutes
- Placing in a microwave steam sterilisers for 8 minutes

Ensure devices are thoroughly dried after re-processing

Do not freeze or autoclave Baxa enteral feeding syringes

If the patient or their carer is responsible for re-processing the syringes then clear instructions must be given to them.

### 8.4 Giving sets

Each giving set may only be used for a maximum of 24 hours. Interruptions to the system within the 24 hour period, that do not involve cleaning or disinfecting the equipment or filling the feed reservoir, do not constitute re-use.

When there is a requirement for the system to be temporarily disconnected, it **must** be done at the **patient end**. Care must be taken to protect the giving set from contamination. **Disconnections must be kept to a minimum.**

Giving sets must not be disconnected at the feed end **except** to change the feed reservoir.

**Note:** Where disconnection has taken place, **clinical judgment** should determine whether the giving set requires replacement prior to reconnection to the patient. However, if a giving set has been disconnected and left unsupervised, then the giving set should be replaced prior to reconnection to the patient, as contamination could not be excluded. Where there is doubt as to whether contamination has occurred, the giving set must be replaced

**In addition to the above, all giving sets that have been disconnected for more than 1 hour must be routinely renewed prior to reconnection.**

### 8.5 Bolus adaptors

Bolus adaptors may be used as a means of decanting feed from the container to a suitable bowl (sterile in hospital, clean in community) and as a means of resealing an open container.

**Due to the risk of microbial contamination, catheter tipped syringes must not be used to obtain feed directly via the bolus adapter.**

Where bolus adapters are being used:

- The enteral feed bag must be considered to be a non-sterile feed and must therefore be **used within 4 hours of opening, if stored at room temperature, or 24 hours if stored in a fridge**
- Bolus adapters must be used **on one bag of enteral feed only** and must be discarded when the bag is discarded
• The feed of choice used must be the smallest volume pack available e.g. a tetrapack or 500ml enteral feed bag

8.6 Nasal bridles

This piece of equipment has recently been introduced to secure naso-gastric tubes and prevent accidental removal by the patient. These should be cleaned regularly, especially if contaminated with feed or any body fluids. Staff should follow manufacturers’ instructions for the appropriate cleaning of these items.

8.7 Closure caps

A purple closure cap is placed on the end of a nasogastric tube when feeding is not in progress. These caps should be cleaned regularly and stored in a clean container when not in use, especially if contaminated with feed or any body fluids. Staff should follow manufacturers’ instructions for the appropriate cleaning, storage and replacement of these items. The caps must not be taped onto the feeding pumps.

9.0 FLUSHING THE FEEDING TUBE

Freshly drawn tap water may be used for flushing the tube or for fluid replacement. In line with the Bouchier Report patients whose T-cell function is compromised should not consume tap water. Sterile water in the hospital and cooled boiled water in the community setting should be administered via the enteral feeding tube for these patients. Advice should be sought from medical staff if there is uncertainty to a patient’s T-cell function.

Sterile bottled water should be used for flushing the tube if the patient is at increased risk of infection (e.g. Intensive Care Unit (ICU) or High Dependency Unit (HDU) patient). In an otherwise healthy, immunocompetent patient, freshly drawn tap water taken from a designated drinking water tap may be used.

Sterile bottled water should be used routinely in patients with Jejunal feeding systems in situ e.g. Percutaneous Endoscopic Jejunostomy (PEJ) or Nasojejunal (NJ) tubes.

10.0 DRUG ADMINISTRATION

If there is no alternative and drugs are to be administered via enteral feeding tubes:

• Always flush the tube with water before and after administering drugs
• Aqueous solutions are preferable to elixirs, emulsions or suspensions

If there is any doubt as to the suitability of any medication this should be discussed with the Pharmacy Department.
11.0 ENTERAL FEEDING PUMPS

Enteral feeding pumps should always be used where available.

**Feeding pumps must be kept meticulously clean at all times.**

Feeding pumps must be cleaned before and after use on each patient. During use on the same patient, pumps must be regularly checked and cleaned as required. In the hospital situation this is normally the responsibility of nursing staff.

Pumps should be cleaned in accordance with the manufacturers’ instructions.

12.0 ORAL / NASAL HYGIENE

Regular brushing of the teeth and gums must be encouraged to reduce the bacteria normally controlled by the saliva produced during eating. For patients who are allowed oral diet and fluids, normal hygiene associated with cleaning teeth after meals should be sufficient. For anyone unable to take oral diet and fluids, it is the responsibility of the nursing staff to ensure that oral hygiene is carried out every 2 hours. Teeth/dentures should be cleaned twice daily and the lips kept moist.

For patients with nasogastric feeding tubes, it is important to keep the nasal passages clean and clear.

The patient’s mouth and nose must be monitored daily for any signs of local infection. Treatment, if indicated, will depend on the type of infection.

13.0 PATIENT EDUCATION

Many patients are ultimately able to manage their own enteral tube and feeding equipment. However, it is essential that the patient receives thorough education, assistance and supervision when enteral feeding is to be commenced. This will normally be undertaken by the dietitian working closely and in conjunction with clinical staff.

The patient’s ability to manage the enteral feeding system must be monitored until competence is achieved. Ongoing supervision is important as the patient’s circumstances may change.

14.0 EVIDENCE OF INFECTION AND REPORTING

It is important to be alert for any evidence of infection in patients receiving enteral feeds. Infections may be due to a number of causes including contaminated feed or equipment.

**Systemic infections** may present as fever, lethargy or confusion.
Gastro-intestinal infections are likely to present as diarrhoea, abdominal pain, nausea or vomiting. If a patient is experiencing diarrhoea whilst receiving enteral feeding, it must not be assumed that it is related to the feed. A faecal sample must be obtained timeously and submitted to the laboratories for testing.

Local or percutaneous infections around the site of skin entry may result in induration, swelling, tenderness, pain and even ulceration of the skin.

Early recognition of suspected infection is important to permit early treatment if indicated. Samples of infected areas should be obtained and sent to the laboratories for investigation. All suspected infections in patients must be documented in the patient’s care plan and reported to medical staff.

If required, advice on treatment options can be obtained from a Consultant Microbiologist based at the Area Laboratories at Crosshouse Hospital.

15.0 BIBLIOGRAPHY


3. Epic 2 Guidelines (2003), Guidelines for preventing health care associated infections during enteral feeding in primary and community care, www.epic.tvu.ac.uk/PDF%20Files/epic%202a/Section%204%20Enteral%20Feeding%20June%202003.PDF (last accessed 16th March 2012)