Clinical

Enteral feeding, reducing the risk of infection – Standard Operating Procedure

Document Control Summary

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<th>Status:</th>
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<tr>
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Related Trust Strategy and/or Strategic Aims

Provide high quality services, built on best known practice and evaluated through service user and carer feedback and clear process and outcome measures

Implementation Date: July 2015

Review Date: July 2018

Key Words: Storage, preparation, administration

Associated Policy or Standard Operating Procedures

Infection Prevention and Control Policy

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1. Introduction
This Standard operating procedure is to provide guidance on reducing the risk of infection associated with enteral feeding.

2. Purpose
The purpose of the SOP is to ensure that high standards of infection prevention are maintained and that the storage, preparation and administration of the feeds is carried out following food hygiene legislation and using evidence-based guidelines.

3. Scope
This SOP will apply to all registered and unregistered practitioners who undertake care associated with enteral feeds.

4. Context
Enteral feeding allows the delivery of specially formulated feeds, water, and medication. Enteral feeding can occur when a person is unable to eat or drink sufficient amounts to meet their full nutritional requirements. This can be due to illness, difficulty with swallowing or following treatment relating to the mouth or oesophagus. Enteral feeding can be given through different kinds of tubes. Nasogastric or Nasojejunal feeding tubes are placed through the nose directly into the stomach or bowel. Gastrostomy feeding tubes are placed through an artificial opening through the abdominal wall into the stomach. Different gastrostomies include Percutaneous Endoscopic Gastrostomy (PEG), balloon-retained gastrostomy tube (G-tube) or low profile devices. Jejunostomy tubes are tubes placed directly through the skin into the bowel. Special formulated feed can be administered either via a pump – continuous pump feeding or via a 'bolus' feed. Bolus feeding refers to the delivery of an amount of feed at one go. Bolus feeding can be repeated several times a day. It depends on route of administration which methods would be considered.
5. Other Relevant SOPS
- Standard Precautions and Personal Protective equipment
- Hand hygiene
- Decontamination of Medical Devices
- Mental Capacity Act

6. Risk Elements
There are numerous opportunities for the introduction of contamination which, when added to the fact that the feed itself provides an ideal medium in which bacteria may flourish, means that food hygiene in this context needs to be even more rigorous than usual.

There is now considerable evidence that microbial contamination of enteral tube feeds may not only cause diarrhoea but also contribute to more serious infections including pneumonia and septicaemia which may increase the patient’s length of stay.

In studies 30% of feeds were found to be contaminated with a variety of micro-organisms, largely due to the poor preparation of, or poor administration of feeds with contamination rates higher in the community setting.

The significance of microbial contamination needs to be more widely recognised since enteral nutrition is increasingly being used for patients who are at an increased risk of developing an infection for example the immuno-compromised

7. Sources and Routes of Contamination:
Some of the main sources and routes of microbial contamination include:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Contact</th>
<th>Airborne</th>
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</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Hands of staff</td>
<td>People</td>
</tr>
<tr>
<td>Nose</td>
<td>Clothes of staff</td>
<td>Wound dressings</td>
</tr>
<tr>
<td>Intestine</td>
<td>Equipment</td>
<td>Dust</td>
</tr>
<tr>
<td>Infected lesion</td>
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Microbiology contamination of enteral feeds is cumulative and is related to the many manipulations of the feeds and feeding system between preparation and the end of administration. Micro-organisms can therefore gain access to the feeds during:

- Preparation and mixing of ingredients
- Dilution and decanting of feeds
- Assembly and subsequent handling of the feed systems
- Retrograde contamination

8. Prevention of Contamination:

<table>
<thead>
<tr>
<th>Source of Contamination</th>
<th>Intervention</th>
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<tr>
<td>Preparation of feed</td>
<td>Pre-packed sterile ready to use feeds should be used in preference to feeds requiring re-constitution or dilution/</td>
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<tr>
<td>Source of Contamination</td>
<td>Intervention</td>
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|                         | additions.  
                         | Expiry dates must be checked. |
| Storage of feed         | Store feeds according to manufactures instructions and where applicable, food hygiene legislation  
                         | Once opened, refrigerate until use.  
                         | Label with patient’s name and date and time of opening.  
                         | Discard any remaining feed after 24 hours. |
| Administration of feed  | Wash hands.  
                         | Handling should be kept to a minimum. Use non-touch technique when assembling and handling  
                         | When ready to use feeds are not available, feed may be prepared in advance, stored in a refrigerator and used within 24 hours  
                         | If decanting, reconstituting or diluting feeds, prepare a clean working area and use equipment dedicated for enteral feed use only  
                         | Mix feeds using cooled boiled water or freshly opened sterile water and a non touch technique  
                         | Record batch number of feed in patient’s notes  
                         | Ready to use feeds may be given for a whole administration session up to a maximum of 24 hours  
                         | Administer reconstituted feeds over a maximum 4 hour period |
| At home                 | Educate carers in the method of administration and actions to reduce the risk of introducing infection |

**9. Care of Gastrostomy or Jejunostomy Insertion Site**  
i.e. PEG devices, balloon devices and buttons

- The site should be cleaned with water and dried on a daily basis.  
- The tube should be rotated 360 degrees regularly to prevent adherence  
- If the site looks infected a swab should be taken and sent for culture and sensitivity

**10. Care of Enteral Feeding Tube, Administration/ Giving Sets**  
Ensure that the system selected requires minimal handling to assemble, and is compatible with the patients enteral feeding tube

- Naso-gastric tubes should be changed weekly or as advised by the manufacturers.  
- Gastrostomy or jejunostomy feeding tubes should be replaced at a time interval specified by clinician  
- Change administration sets following manufactures instructions  
- Flush tubing before and after administration of feed  
- Flush tubing before and after administration of drugs. If more than one drug needs to be administered, flush with a small volume of water between each drug
NOTE. Flushing may be carried out using fresh tap water; however for patients who are immune suppressed cooled freshly boiled water or sterile water from a freshly opened container should be used. Use smallest container of sterile water practical. Discard any unused water after each use.

11. Extension Sets
If extension sets are labelled single use they must not be reused.

If the extension sets are labelled “single patient use” they should be decontaminated according to the manufactures instructions and stored in an airtight plastic container together with any other re–usable feeding equipment and labelled with date of opening

The storage container should be washed and dried daily and used for the storage of feeding equipment only

12. Syringes/ Enteral Dispensers
If syringes are labelled single use they must not be reused

For reusable feeding syringes/ enteral dispensers (Single patient use)

- Separate parts and thoroughly wash in hot soapy water
- Rinse under hot water and shake off excess
- Dry using a paper towel
- Place items when dry in an airtight plastic store box
- Follow the manufacturer’s guidance on the number of times syringes can be used before discarding (usually up to one week)
- Wash and dry plastic storage boxes daily
- Label box with date of opening new syringe

13. Feeding Pumps
Wipe pumps with warm soapy water and dry daily and more often if soiled.

If in contact with an infected person or contaminated with blood or body fluids, wipe with warm soapy water, followed by a solution of 0.1% hypochlorite (e.g. Milton)

Pumps should be serviced annually or in accordance with the manufactures instruction.

14. Process for Monitoring Compliance and Effectiveness
This SOP will be reviewed three yearly or earlier in light of new national guidance or other significant change in circumstances.

Compliance with this SOP will be monitored through the mechanisms detailed in the table below. Where compliance is deemed to be insufficient and the assurance provided is limited then remedial actions will be drawn together through an action plan. This progress against the action plan will be monitored at the specified committee/group. The results of the annual audit will be escalated to the appropriate committee/group where appropriate.
15. References


