



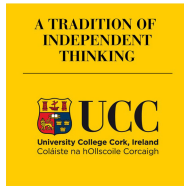
Management of Invasive Devices to Reduce Infections in LTC

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Prevention and Control

2016

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Overview of the session

Standards

Devices in LTC

- Urinary Catheters,
- Enteral feeding devices,
- Subcutaneous infusion devices

Risk of infection related to these devices

Infection Prevention and Control Measures



Standards



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National Standards for the Prevention and Control of HCAI 2009

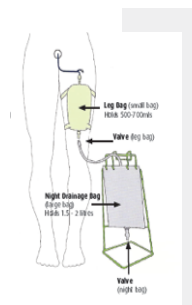
Standard 8- Invasive medical device related infections are prevented or reduced

- All devices to be managed in line with evidence based practice in relation to
 - insertion and removal
 - adherence to hand hygiene, asepsis
 - site care and daily inspection ,
 - documentation in relation to management
 - correct use of equipment -single use
- Training for all involved in managing the device
- IP&C team are consulted regarding introduction of new devices
- Audit of the use & management of devices is undertaken



Urinary Catheter

- Developed in the 1920s by Dr. Frederick Foley
- Urinary catheterisation is defined as an intervention to enable emptying of the bladder by insertion of a catheter.
- The urinary catheter was originally an open system with the urethral tube draining into an open container.
- In the 1950s, a closed system was developed in which the urine flowed through a catheter into a closed bag.



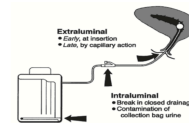
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Risk Factors

The presence of a urinary catheter and the length of time it remains in place are contributory factors to the development of a catheter-associated urinary tract infection (CAUTI).

It has been estimated that the risk of acquiring an infection increases by 5% each day the catheter remains in place.



It is critical that practices and procedures are in place to minimise the risk of infection.

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Prevalence of Urinary Catheters in LTCF's

Facility Type	Care load indicators					HCAI Risk factors				
	male residents	resident >85 years	incontinence	disorientation	impaired mobility	urinary catheter	vascular catheter	pressure sores	other wounds	surgery (<30 days)
GN > 12 months	35	47	62	57	48	5	0	4	10	1
Mixed > 12 months	39	41	65	54	54	8	1	4	11	3
LTCF's < 12 months	36	38	45	33	40	14	1	8	11	4
Intellectually disabled	45	1	52	54	33	3	0	1	9	0
Psychiatric	48	10	43	29	23	2	1	2	2	1
Palliative care	44	9	27	26	60	31	10	9	36	1
Physically Disabled	48	9	78	59	74	7	0	0	2	0
Rehabilitation	40	29	22	17	21	8	2	1	15	5
Other	71	0	78	53	84	2	0	6	39	0
National	37	38	59	53	46	6	0.5	4	11	1

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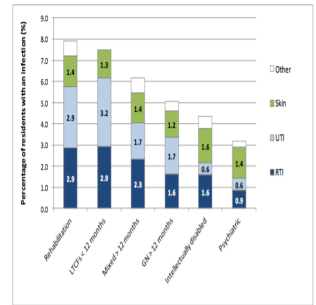
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Urinary Tract Infections in LTC



- UTI were the second most prevalent HCAI, affecting 1.7% of all residents.
- 33% were reported as microbiologically-confirmed UTI.
- LTCF < 12m (3.2%),
- GN > 12m (1.7%)
- Rehabilitation LTCF (2.9%).
- UTI was less prevalent in intellectually disabled (0.6%) and psychiatric LTCF (0.6%)



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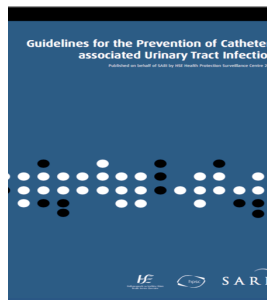
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National Guidelines HPSC

Recommendations

- Implementation
- Avoid urinary catheterisation
- Indications
- Method for catheterisation
- Type of catheter
- Insertion
- Management
- Removal
- Antibiotic prophylaxis
- Surveillance
- Care Bundles
- Education of HCW's
- Education of Residents



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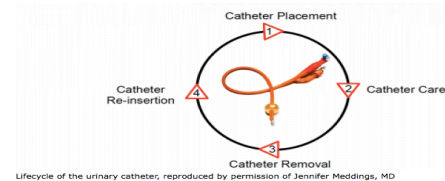


Urinary Catheter Use - Where Possible Avoid Their Use

Place Only When Necessary

Promptly Remove When Not Necessary

Seek the advice of a continence advisor or urology where possible



Lifecycle of the urinary catheter, reproduced by permission of Jennifer Meddings, MD

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Indications for Catheterisation

- To relieve acute urinary retention or bladder outlet obstruction.
- To assist healing of an open sacral or perineal wound.
- To assist in achieving patient immobilisation (e.g., required for unstable thoracic, lumbar spine or pelvic fractures).
- To monitor urinary output (e.g., in critically ill patients or when a patient is unable or unwilling to collect urine).
- During prolonged surgical procedures with general or spinal anaesthesia.
- During regional analgesia for labour and delivery.
- To allow instillation of drugs or during urology investigations (e.g., cystogram).
- For patient comfort during end of life care.
- As an exception, at patient request to improve comfort.

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Methods for Catheterisation

Method of catheterisation	Definition
Indwelling urethral catheterisation	Inserted via the urethra and remains in situ for a short or prolonged period of time
Suprapubic catheterisation	Inserted via the abdomen for a short or prolonged period of time
Intermittent catheterisation	Inserted via the urethra but removed once bladder has drained
Self intermittent catheterisation	Intermittent catheterisation performed by the patient

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Selection of Catheter

- Use smallest catheter size effective for the resident
- Choose an appropriate length to ensure resident safety and comfort
- Catheters should be properly secured to prevent movement and urethral traction
- Randomised controlled trial -No significant additional benefits in reducing symptomatic CAUTI by utilising antimicrobial costed catheters
Pickard et al (2012) Lancet



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Insertion of Urinary Catheters

HCW's performing catheterisation should be trained and assessed as being competent to minimise the risk of infection

- Standard Precaution's -Hand Hygiene & PPE
- ANTT
- Resident preparation
- Meatal cleansing and disinfection
- Maintaining a sterile field
- Single use sterile lubricant or anaesthetic gel
- Closed sterile drainage bag below the level of the bladder
- Documentation

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ANTT Indwelling urinary catheterisation – male or female www.antt.org.uk

Principles of ANTT: Protect key-gates & sites at all times by:

- Risk assessment
- A non-touch technique
- Effective hand cleaning
- Using appropriate infective precautions.

Adapted and used with permission

HF Draft Urinary Catheter Assessment and Management Record

APR: Addressograph Here

Catheter Change History

Date	Change 1	Change 2	Change 3	Change 4	Change 5	Change 6
Time						
Reason for Change						
Can't hold without catheter be considered	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>	Yes <input type="checkbox"/>
Aspic Non Touch Technique	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>	No <input type="checkbox"/>
Hand Cleansing Solution Used						
Lubricant Used						
Name and Type of Catheter						
Size						
Lot/Batch Number						
expiry date						
Volume Spilled Into Solution						
Comments - occlusion, leakage etc						
Change						
Date of Next Planned Catheter Change						



Maintenance of Urinary Catheters

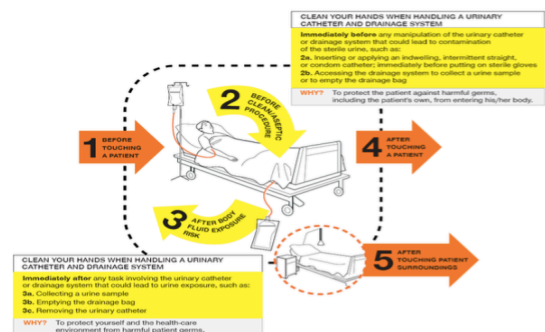
- Standard Precautions – Risk assessment, hand hygiene, PPE
- Closed drainage systems- single use sterile drainage bags including night drainage bags
- Maintain the drainage bag below the level of the bladder and secured to the resident or a catheter stand – avoid contamination of the drainage tap
- Access the closed drainage system ONLY when absolutely necessary
- Empty the drainage bag regularly using a clean container for each resident, avoid touching the drainage tap with the container

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My 5 Moments for Hand Hygiene

Focus on caring for a patient with a Urinary Catheter



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Single-use - Use once
DO NOT REUSE

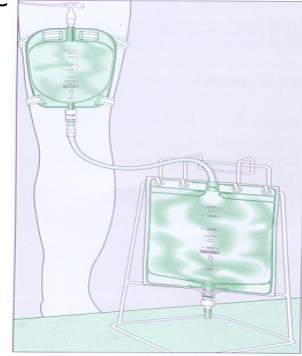


- EN980: graphical symbols for labelling of Medical Devices
- ISO 15223-1:2012 Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements



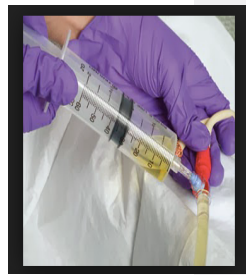
Link Drainage System

Leg bag attached to larger overnight drainage bag
-single use
sterile



Catheter Specimens of Urine

- CSU should ONLY be taken when indicated
- Only taken from the sample port- 53% HCW's were able to correctly identify the sample port as the correct place from where to take the sample
Mc Cann et al (2007)
- 70% Alcohol wipe, allow to dry
- Non- touch technique
- Preferably a needleless collection system



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- The presence of bacteria in urine (bacteriuria) signifies either colonisation (asymptomatic bacteriuria) or infection.
- Bacteriuria can be found in both catheterised and non-catheterised patients 10% - 30% of patients with a catheter in place for greater than 30 days will develop bacteriuria compared to 1% of non-catheterised patients.
- It has been estimated that more than 90% of catheter-associated bacteriuria may reflect colonisation rather than infection.
- A combination of clinical signs and symptoms in addition to a laboratory confirmed bacteriuria are required for a CAUTI.**
- Only dip stick and/or culture the urine if the resident has symptoms of an UTI -Not recommended for asymptomatic residents
- No benefit from treatment
- Increased risk of resistance and CDAD with treating asymptomatic bacteriuria

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Diagnosis & Management of Urinary Tract Infection (UTI) in Long Term Care Residents > 65 years

KEY MESSAGES

- Diagnosis of UTI in residents > 65 years requires a combination of reliable clinical signs and symptoms AND a positive urine culture result.
- Only perform urine dipstick testing or send urine for culture in patients who are symptomatic. Do not perform urine dipstick testing or send urine for culture solely on the basis of urine odour or appearance.
- Residents in long term care facilities have high rates of abnormal dipstick and urine test results WITHOUT infection necessarily being present. Antibiotic therapy in these cases does not reduce mortality or prevent symptomatic episodes, rather it increases side effects and leads to antibiotic resistance.
- DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION

3. SIGNS AND SYMPTOMS OF UTI

Diagnosis of UTI should be based on a full clinical assessment.

- Symptoms & signs suggestive of urinary tract infection include:
 - Dysuria
 - Frequency
 - Urgency
 - New onset incontinence
 - Fever >38°C
 - Suprapubic tenderness
 - Haematuria
- In patients with a urinary catheter loin pain and fever >38°C are significant indicators of a UTI.
- ***DO NOT SEND URINE FOR CULTURE IF THERE ARE NO SIGNS AND SYMPTOMS OF UTI***
- Dipstick urine testing is NOT a reliable way to diagnose UTI. Do not perform dipstick urinalysis if patients are asymptomatic or if a urinary catheter is present as false positives will occur.
- Empiric treatment may be considered in a SYMPTOMATIC patient with a positive dipstick. A urine sample should be sent to the microbiology laboratory for culture and antimicrobial susceptibility testing in these cases.
- A positive urine dipstick result in an asymptomatic patient is not significant and should not be treated.

2. HOW TO INTERPRET URINE CULTURE RESULTS IN RESIDENTS WITHOUT A URINE CATHETER

Microscopy

- White Cells
 - No white cells present indicate no inflammation therefore culture result is unlikely to indicate UTI.
 - White cells $\geq 100/\mu\text{l}$ are considered to represent inflammation.
- Epithelial cells/mixed growth
 - Presence indicates perineal contamination and therefore culture result is unlikely to indicate UTI.
- Red cells
 - May be present in UTI; patients with persistent haematuria post UTI should be referred.

Culture

- Single organism $\geq 10,000$ (10^7) colony forming units (CFU)/mL OR
- $\geq 100,000$ (10^8) mixed growth with one predominant organism OR
- Escherichia coli or Staphylococcus saprophyticus $\geq 1,000$ (10^3) CFU/mL

Usually indicates UTI but only in patients with symptoms

Positive culture/microscopy result and no symptoms = bacteriuria, not infection



Laboratory microscopy should not be used to diagnose UTI in catheterised patients as urine white cells are often elevated due to the presence of the catheter.

- If the urine culture result is positive (see section 2) treat only if the resident has symptoms or signs suggestive of UTI and no other source is identified.
- In the presence of a urinary catheter antibiotics will not eradicate bacteriuria.

4. EMPIRICAL TREATMENT FOR UTI IN RESIDENTS

- Only consider empirical antibiotic therapy in SYMPTOMATIC patients pending urine culture result.
- Choice of empirical therapy should be guided by local resistance rates where available.
- Modify treatment according to culture result when available.
- For treatment of microbiological UTI in patients > 65, please refer to page 9 of the National Guidelines for Antimicrobial Prescribing in Primary Care in Ireland (2011).

4.1. EMPIRICAL TREATMENT OF UTI IN RESIDENTS WITHOUT A URINARY CATHETER

Uncomplicated UTI i.e. no fever or flank pain, first presentations / low risk of resistant organisms

- Trimethoprim 200mg BD
- OR Nitrofurantoin 50-100mg QDS (Avoid in renal impairment) For 7 days

Acute pyelonephritis

- Co-amoxiclav 500/125mg TDS for 14 days
- OR Ciprofloxacin 500mg BD for 7 days

If no response within 24 hours consider hospital referral.

Use of Cephalexin 500mg BD or Co-amoxiclav 500/125mg TDS may also be considered - based on local resistance rates.

4.2. EMPIRICAL TREATMENT OF UTI IN RESIDENTS WITH A URINARY CATHETER

First presentations / low risk of resistant organisms

- Trimethoprim 200mg BD
- OR Nitrofurantoin 50-100mg QDS* (Avoid in renal impairment)

Previous resistance to, or risk of, trimethoprim or nitrofurantoin resistance

- Cephalexin 500mg BD
- OR Co-amoxiclav 500/125mg TDS (Consider based on local resistance rates)

Duration of therapy

- Prompt resolution of symptoms: 7 days
- Delayed response (regardless of whether patient remains catheterised or not): 10-14 days

If an indwelling catheter has been in place for >2 weeks at the onset of UTI and is still indicated, the catheter should be replaced.

5. ANTIBIOTIC PROPHYLAXIS

DO NOT ROUTINELY USE ANTIBIOTIC PROPHYLAXIS TO PREVENT URINARY TRACT INFECTION

- Antibiotic prophylaxis is not recommended for the prevention of symptomatic UTI in catheterised patients.
- Antibiotic prophylaxis is not recommended for urinary catheter changes unless there is a definite history of symptomatic UTI due to catheterisation.
- Antibiotic prophylaxis may be considered in patients for whom the number of urinary infections are of such frequency or severity that they chronically impinge on function and well-being.

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Periurethral or Meatal Care

- Aggressive cleaning may be associated with increased infection
- Routine hygiene during personal care is appropriate
- Soap and water
- Education of the Resident where possible

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Resident Education

Urinary Catheters Your Questions Answered.

What is a urinary catheter?
A urinary catheter is a small, soft hollow tube which is inserted into the bladder. It usually goes into the bladder by the same route that urine comes out.

Why is a urinary catheter needed?
The following are the most common reasons why a urinary catheter is needed:

- There is a blockage in the system from where urine usually flows out.
- There is a risk of urine leaking onto a wound in the buttock area which may delay healing of the wound.
- The bladder is not empty completely when urine is passed.
- It is important to watch closely how much urine is being produced.
- Surgery is planned which is going to last a long time.
- Having labour/delivery, when an epidural is used.
- It is necessary to put drugs into the bladder.
- To provide comfort for the very ill patient.

Urinary Catheters Your Questions Answered.

Care of a Urinary Catheter
Personal hygiene is very important to reduce the risk of getting a urinary tract infection.

- Always wash your hands after handling your catheter.
- Wash the area where the catheter enters the body gently with soap and water 4-6 times a day and after you have a bowel motion (if possible wear a single glove if you have).
- Urine should always go back into the bladder and does not flow into the catheter when it is changed.
- It is very important that the insertion site is checked for redness or pain.
- Urine should always be checked with a sample when you have a bowel motion.
- When changing the catheter tube always wash your hands with soap and water.
- Avoid soap or perfume which may cause irritation.

The Link System

What problems may occur?
Leakages and catheter blockage can occur.
Check if there are any leaks, urine smells, a high temperature, change the site of the urine, check the urine.

You should call your nurse or doctor if you notice any of the following:

- A high temperature
- Feeling unwell
- Pain in your lower abdomen or where the catheter enters the body
- Cloudy, blood stained or offensive smelling urine
- No urine passed in one hour

Maintenance of Urinary Catheter

- Recurrent blockage caused by encrustation occurs in 50% of all Long-term Catheters, this can be associated with:
- Leakage
 - Bypassing
 - Urinary Retention
- An individual care plan for the resident should be designed to minimise the problems of blockage and encrustation
 - Avoid irrigation where possible
 - Aseptic technique
 - Catheter Maintenance Solutions (CMS) are acidic washouts which are given to prolong the use of the catheter life by reducing the pH with the dissolution of encrustation
 - If CMS's are used they must be prescribed on an individual resident basis. An aseptic technique must be used during installation and a new sterile drainage bag attached after the procedure

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Catheter Removal

- The risk of acquiring bacteriuria has been estimated as 5% for each day of catheterisation. The longer the catheter remains in place the higher the risk of infection.
- The clinical need for continuing catheterisation should be reviewed on an ongoing basis and the catheter removed as soon as possible.
- Use of reminders, stop orders, care plans and protocols to aid the earliest removal where possible.
- A systematic review and meta-analysis of the effectiveness of reminder systems to reduce CAUTI, urinary catheter use, and rate of re-catheterisation reported that
 - the CAUTI rate was reduced by 52% with the use of reminder or stop orders
 - duration of catheterisation was reduced by 37% and recatheterisation rates were similar in control and intervention groups
 Meddings et al (2010)

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Changing Long Term Catheters

- Regularly review the need for long term urinary catheterisation
- Change the catheter as per manufactures instructions and based on the individual resident care requirements
- Documentation

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Antimicrobial Prophylaxis

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Antibiotic prophylaxis is not recommended for urinary catheter changes unless there is a definite history of symptomatic UTIs due to catheter change.

Antimicrobial prophylaxis may be considered in patients for whom the number of urinary infections are of such frequency or severity that they chronically impinge on function and well-being.

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Care Bundles

Sample care bundle data collection form and summary table of results

Bundle Criteria	Use a single column for each catheterised patient. Put a tick ✓ if achieved, or ✗ if not achieved, in each box.			Total
	Sample	1	2	
There is a documented assessment for the urinary catheter (UC) i.e., every day for short-term and on a regular basis for long-term.	✓			
The UC has been continuously connected.	✓			
The patient is aware of his/her role in minimising the risk of developing a urinary tract infection, or daily meatal hygiene has been performed by healthcare staff.*	✓			
Empty UC bag often, as a separate procedure, into a clean container.	X			
Hand hygiene performed before & after procedure and apron + gloves worn during procedure.	✓			
Action: request removal / leave in situ.	Leave in situ			

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Education of HCW's

- Education at induction of new staff and regular education of HCWs is recommended in relation to catheter management.
- The education programme should include the following:
 - indications for catheterisation,
 - ongoing management of catheters and
 - removal of catheters when no longer required.
- An Irish study found that 69% of HCWs reported receiving no post- registration education on the prevention of CAUTI. Deficits in knowledge and practice of HCWs that have been identified include:
 - Inappropriate use of a drainage tap to collect urine samples.
 - Inappropriate use of multi-dose lubricant for catheter insertion.
 - Changing catheter bags daily.
 - Poor documentation of care.

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Additional Tools to Reduce Inappropriate Urinary Catheter Use

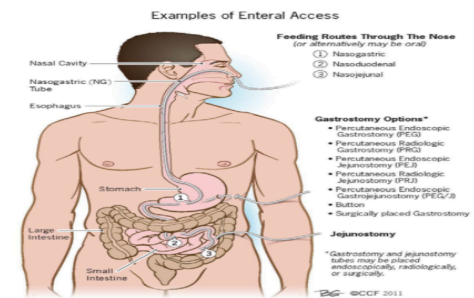
- Condom catheters: may be used for men with incontinence with risk of skin breakdown or for accurate urine output monitoring where required.
- Bladder scanner: if available, may check if resident had urinary retention. This may assist in avoiding urinary catheter insertion.

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What is Enteral Feeding?

Enteral feeding describes methods of providing artificial nutrition via the gastrointestinal tract, route of access are



What is a PEG?

- A gastrostomy feeding tube inserted directly through the abdominal wall into the stomach
- Tube- made of polyurethane or silicone, depending on the tube they can be in place for a number month to a number of years



Guidelines



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Risks & Complications of PEG

- Gastrointestinal complication
- Aspiration pneumonia
- Tube blockages
- PEG site
 - Infection
 - Leakage/irritation
 - Fistula Formation
 - Inadvertent removal



What are the risks of infection in relation to PEG insertion ?

- PEG Site infection – most common complication
- Risk factors for infection
 - Diabetes, obesity, poor nutritional status, long term use of corticosteroids
 - Technique in placement appears to influence development of infection
- Severe complications can include
 - Peritonitis as a progression of a PEG site infection occurs infrequently
 - Necrotising fasciitis is a very rare complication. Excessive traction and pressure on the PEG wound can predispose to development.

• Lynch & Fang (2004)



Infection Prevention & Control

- Standard Precautions- Risk assessment, hand hygiene, PPE
- Selection of Equipment
- Storage, Preparation and Administration of Feeds
- Use of Water in Enteral Feeding
- Care of Equipment
- Site Care
- Education of Residents and HCW's



Hand Hygiene

- Five moments for Hand Hygiene
- Essential prior to preparing, administering and for any subsequent handling of any part of the feeding system



Personal Protective Equipment

- Risk assessment- Standard Precautions.
- Gloves - when dealing with body fluids including gastric fluids and areas of non-intact skin as per Standard Precautions.
- Evidence relating to use of disposable gloves for handling the enteral feeding system
 - 2 studies suggest gloves should be worn one recommends clean hand are acceptable. All 3 studies linked contamination to the amount of manipulation a system required
 - Emphasis on effective hand hygiene and minimal handling of the system
- Healthcare workers should wear a new pair of clean disposable gloves when handling the site and when accessing the feeding system.



Enteral Feeding Equipment

- Pre- packaged , sterile ready to hang feeds should be used in preference to those requiring reconstitution or dilution – lower contamination rates
- Decanting is not advised unless a ready to hang feeding system is unavailable
- The system selected should require minimal handling to assemble,



Storage of Feeds and Equipment

- According to manufacturers instruction and in accordance with relevant food hygiene legislation and principles of HACCP - clean, cool, dry environment, out of direct sunlight, away from extremes of temperature
- Ensure stock is rotated
- Where ready to hang feeds are not available feeds can be stored in a fridge for 24hrs - closed container, labelled - name time & date
- Refrigerator should be checked daily - discard unused feeds, check temperature.
- Ensure refrigerator is cleaned regularly
- Consider the environment where enteral feeding equipment is stored and prepared - maintaining sterility of the product

Administration of Feeds

- Risk of contamination is related to the manipulation of the system - importance of hand hygiene and minimising handling, cleaning working environment
- Maintaining the sterility of the equipment being used - check packaging, date of expiry
- A non-touch technique should be used to connect the feed container to the administration set using the minimum number of connectors possible
- Sterile ready to hang feeds can be left for a max of 24 hours
- Sterile feeds decanted should not hang for longer than 8-12 hours
- Non-sterile reconstituted feeds for 4 hours
- Bacterial contamination has been associated with the re-use of feed bags and administration sets - administration sets should be considered single use and discarded after each session

Decanting of sterile feeds

When necessary

- Decant into a sterile reservoir
- Carried out in clean environment
- Use a non-touch technique
- Do not top up reservoir with feed
- Reservoir disposed after 24 hrs or sooner if decanting

Single-use - Use once DO NOT REUSE

- **EN980**: graphical symbols for labelling of Medical Devices
- **ISO 15223-1:2012** Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General requirements



Syringe Options for Enteral Feeding



Water for Enteral Feeding

- Sterile water should be used for flushing, medication administration
 - In hospital setting
 - for clients who are immunocompromised,
 - increased risk of infection ,
 - feed via gastrojejunostomy, regardless of setting
- Opened bottles of sterile water can become contaminated, should be labelled with the date and time of opening, kept for 24 hours, care with handling, accessed – new syringe each time
- Cooled boiled water may be suitable for some settings e.g. home use, residential setting, day care following risk assessment.
- Freshly drawn water when boiled
 - place in a clean container with a cover
 - store in a fridge,
 - discard after 24hrs

Care of Enteral Feeding Equipment

- Manufactures instructions for use
- Feeding pump and stand should be
 - part of routine cleaning,
 - generally warm water and a neutral detergent,
 - Disinfection not generally required standard precautions – where required clean first then disinfect with a hypochlorite 1,000PPM
 - Between uses and after use prior to storage/use for another resident
 - document
- Single resident use items that are reusable i.e connectors , syringes should be cleaned after each use
 - Generally washed with warm water and detergent , rinsed and dried, stored in a covered container.
- Containers for storage and jugs for water etc process through the dishwasher

Site Care Immediate Post Insertion

Refer to discharging hospital instructions re care post insertion

- Gastrostomy and site are not touched for 6-12 hours after insertion , unless clinically indicated, e.g. signs of leakage, or as per instruction of the hospital.
- Aseptic technique for dressing of the site for 48hrs
 - hand hygiene using alcohol hand rub or an antiseptic hand wash solution.
- Observe site carefully for signs of redness/swelling, bleeding, infection, signs of leakage, irritation, skin breakdown or excessive movement of the tube.
- Management will be influenced by type of tube in place e.g. need for rotation of the tube.

Site Care after 48 hrs -3weeks

- Tract usually takes up to 3 weeks to heal-Clean technique with sterile equipment should be used until this occurs
- Keep the site & tube clean and dry
- No baths until tract has healed
- Follow advice re fixation device and rotation.

Long Term Site Care

- Encourage independence for the client where possible this reduces the risk of cross infection.
- Emphasis on hand hygiene for staff/carer/client carrying out site care.
- Daily cleaning of the area with mild soap & water.
- Dry using a disposable cloth or clean towel.
- Tract should be formed so person can bath/swim.
- Rotate as directed depending on the device.
- Avoid the use of dressings.

Management of Infection

- Observe and assess physically the site daily for signs of infection including
- If signs of infection – swab site for culture and sensitivity
- Results interpreted with clinical signs and symptoms.
- Consider colonisation *versus* infection
- Treat infection with the appropriate antimicrobial
- Clean site at least twice daily
- Dry dressing maybe appropriate
- Topical antibiotics/ creams should be avoided
- Check integrity of tube
- Review procedures

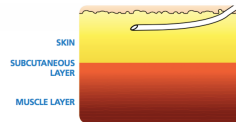
Other considerations

- Chest infections/aspiration pneumonia - Positioning the residents head and shoulders at an angle of at least 30 degrees during feeding and for at least 60mins after feeding will assist in prevention.
- Oral Health- Each resident's oral health should be assessed and an appropriate oral care protocol should be used for every resident.

Education of Residents and HCW's

- Residents and carer's should be educated about, and trained in the techniques of hand decontamination, enteral feeding and the management of the administration system before being discharged from hospital
- Healthcare workers should be trained in enteral feeding and management of the administration system
- Follow-up training and ongoing support of residents and carers should be available for the duration of home enteral tube feeding.

Subcutaneous Fluid Administration



- Hypodermoclysis is a method of subcutaneous fluid administration particularly useful in elderly patients and in palliative care where intravenous access may be difficult. Subcutaneous fluid delivery is an effective method of rehydration and of opioid administration, and can prevent the need for peripheral venous catheterisation and consequently hospitalisation.
- It is a simple procedure to initiate, safe, less distressing for the resident, and does not predispose to peripheral vascular related infections.
- The reported incidence of infection at the delivery site is extremely low.

Insertion Procedure

- Standard Precautions –Risk assessment, hand hygiene
- Clean skin with swab saturated with 70% isopropyl alcohol or Chlorhexidine 2% and alcohol 70% and allow to dry. Do not touch the prepared site again.
- Once device inserted, apply a sterile, transparent semi-permeable dressing to secure the cannula, to allow visualisation of the insertion site and prevent the introduction of infection.
- Remove gloves and carry out hand hygiene.
- Documentation in resident notes:
Record date and time of commencing therapy including site location, needle gauge and signature.
- Label dressing infusion site with date inserted.

EU (Prevention of Sharps Injuries in the Healthcare Sector) Regulations 2014



Sterile non-ported, needle-free safety cannula

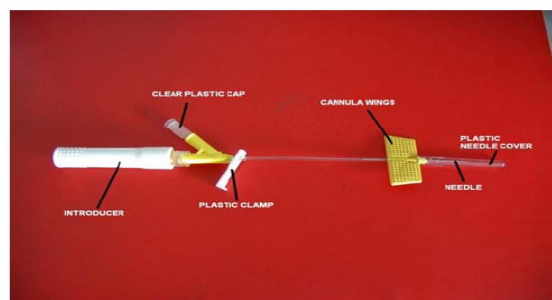


Fig 1. Saf-T Intima

Management of Sub Cut Devices

- Once started, the site should be checked within 30 minutes to 1 hour to assess skin integrity and resident comfort.
- Thereafter, the site should be checked for signs of leakage, edema, signs of inflammation (erythema/redness), poor absorption (hard subcutaneous swelling) or fluid overload every 4 hours.
- No clinical evidence exists to recommend how often the site should be changed. Always refer to manufactures instructions. Case study evidence suggests that routine changing of the infusion site every 72-96 hrs is safe practice -Jain et al, 1999.
- The infusion site must be changed immediately regardless of it's duration if pain, redness, edema, blood or leakage is observed.
- If subcutaneous fluids are administered intermittently, the infusion administration set should be changed for every infusion.
- Administration set should be changed every 24 hours.
- Discard the administration set immediately if contaminated or if damaged in any way.

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Remember A,B,C,D,E of Device Care

- **A**septic insertion and proper maintenance of devices is paramount
- **B**est practice – standard precautions and minimal handling of the device
- **C**losed systems
- **D**o not use the device unless indicated
- **E**arly removal where possible

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