ENHANCED HEALTH IN CARE HOMES

WORKING TOGETHER TO IMPROVE QUALITY

Infection Prevention & Control

Standard Precautions

Clostridium *difficle*

MRSA

This presentation will discuss

- Awareness of Infection Prevention precautions
- Isolation precautions PPE
- MRSA + Clostridium difficile -risk assessment, diagnosis and management

Healthcare-Associated Infections (HCAI)

HCAI - Infections that develop as a result of any contact in a healthcare setting, can have many causes, but the most common ones are

- Contaminated hands of healthcare workers
- Contaminated surfaces
- Contaminated medical devices
- Failure of staff to comply with local policies, procedures and guidelines.

Standard Precautions

‘Key procedures that should be used as part of the everyday care of all patients to minimise the transmission of infection to staff and between patients’

(Wilson 2002)

Standard Precautions

- Hand hygiene
- Protective clothing
- Sharps safety
- Decontamination of equipment
- Decontamination of the environment
- Body fluid spillage
- Linen
- Safe handling of waste

‘Bare below the elbows’

To help facilitate effective hand hygiene ALL STAFF within a clinical area must be Bare Below The Elbows.

- Hands and arms up to the elbow / mid forearm should be exposed and free from clothing / jewellery with the exception of one smooth ring
- Nails must be, short and free from nail varnish
- False nails or acrylic nails are not allowed
- A water-based hand lotion or cream should be used to prevent hands becoming dry and sore (at least 3 times daily)
- Cover cuts with waterproof dressings

Alcohol hand rub is the gold standard for hand decontamination

Hand washing with liquid soap and warm water remains an essential element of hand hygiene and must be done when -

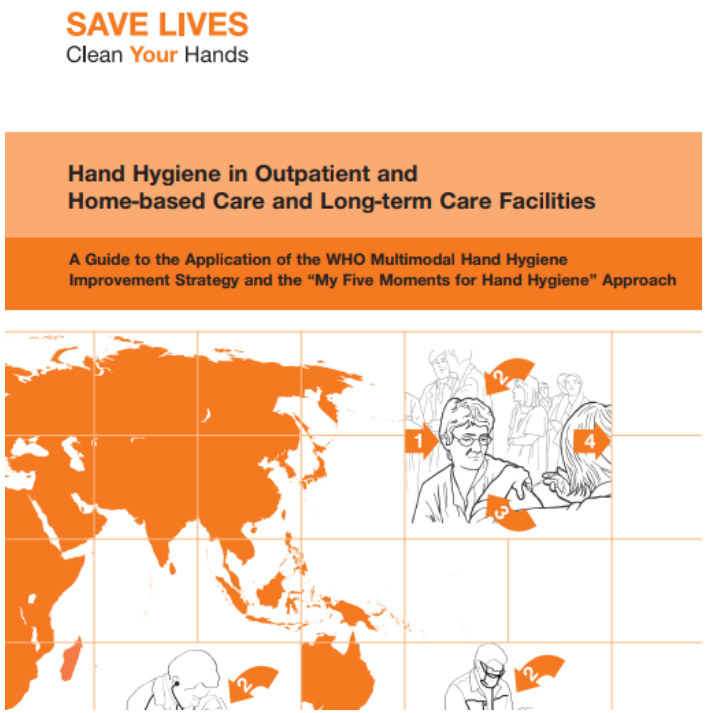
- Hands are visibly soiled
- There is actual or potential exposure to body fluids
- There is a known case of norovirus, Clostridium Difficile or other diarrhoeal illness
- When a patient is vomiting

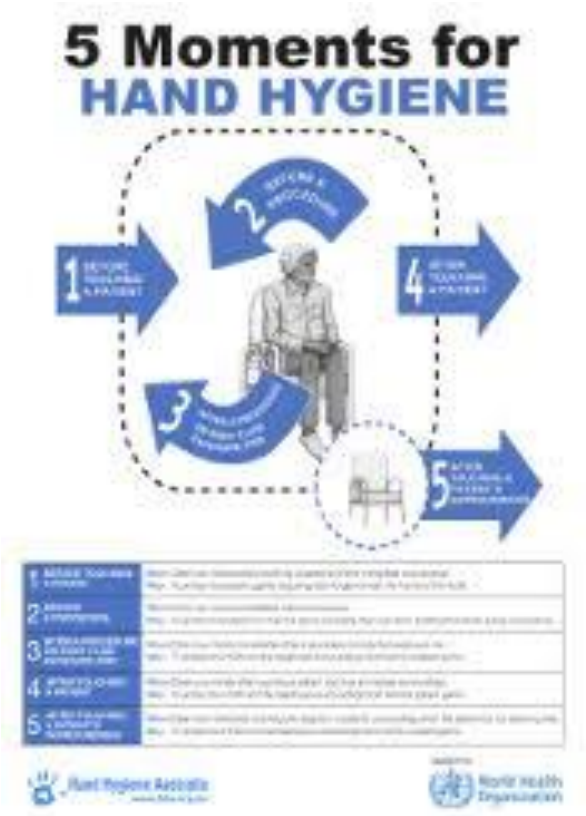
DO NOT use alcohol rub

This includes visitors to affected areas

Hand Hygiene in Outpatient and Home-based Care and Long-term Care Facilities

SAVE LIVES – Clean Your Hands

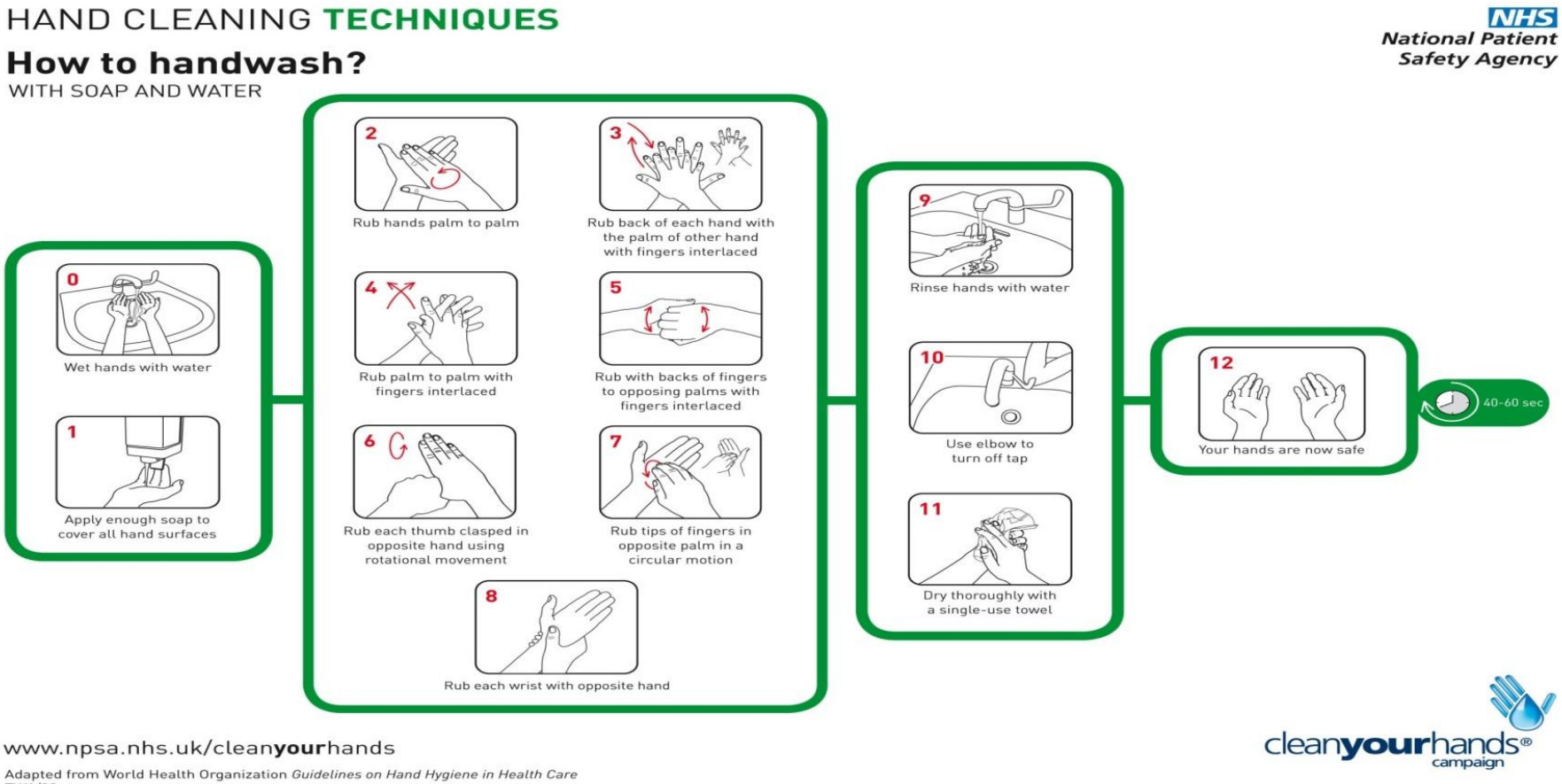




http://www.who.int/gpsc/5may/hh_guide.pdf

When to Wash - ‘Five moments for hand hygiene’

Hand washing technique



Personal Protective Equipment - PPE

- PPE is a risk assessment each time
- Used to minimise risk of acquiring pathogens on hands or clothing

Examples: Contact with blood and or body fluids use gloves and apron

- Gloves need not be worn to enter an isolation room if contact with infectious material is not anticipated – risk assessment
- Gloves are NOT an alternative to handwashing
- Don’t forget to consider goggles, mask or face visor

Sharps

What is wrong ?

Sharps safety

- Cover cuts / abrasions.
- Do not re-sheath needles.
- Dispose of sharp at point of use.
- Ensure sharps bin lid is on firmly / date / sign.
- No more than 2/3 full.
- Safe storage of bin.

Sharps Safety

SHARPSGUARD®
Sharps Injury

ALLOW IT TO BLEED

WASH IT
with soap, under running water

COVER IT
with a waterproof dressing

REPORT IT

Poster05.v4

Download app for 24/7 Support

The Application of Innovation

Safety, Service and Support - Every Day, Affordably & Responsibly

SHARPSGUARD®
In Use - Your Responsibility

1 Ensure container is situated at the point of use

2 Use temporary closure in between use

3 Lock (final closure), complete label for disposal

Poster02.v4

Download app for 24/7 Support

The Application of Innovation

Safety, Service and Support - Every Day, Affordably & Responsibly

Decontamination

Cleaning of the healthcare environment is an integral part of any Infection Prevention and Control programme and everyone has a part to play in this

All healthcare worker could have some part of their job that entails cleaning, be it the general environment or clinical equipment in between patients

Dancer, 2009, Rutala 2008,
Dancer, 2008, Pratt 2007,
Huslage 2010

Decontamination

It is accepted that increased cleaning may reduce additional costs associated with HCAIs by 76% (Rampling 2001)

In the healthcare environment areas near the patient and high touch surfaces have been found to harbour microorganisms, increasing the risk of infections

The room lottery: why your room can make you sick

So what explains this lottery?

The key information you have not been told is the Multi Drug Resistant Organism (MDRO) status of the previous room occupants.

One of the rooms was previously occupied by a patient with C. difficile, and if you choose this room, your risk of developing C. difficile infection doubles.

It’s not just C. difficile – this same association has been demonstrated for MRSA, VRE, Acinetobacter baumannii and Pseudomonas aeruginosa

Underpinning this association is the uncomfortable fact that cleaning and disinfection applied at the time of patient discharge is simply not good enough to protect the incoming patient.

Risk of organism acquisition from prior room occupants: a systematic review and meta-analysis. Journal of Hospital Infection Nov 2015, Mitchell et al.

How to clean including principles of cleaning

1. Wash and dry hands
2. Perform a risk assessment and choose the appropriate PPE
3. Select the correct wipe for the task. Only take one
4. Remove any heavy soiling as this can reduce the effectiveness of disinfectant wipes
5. Wipe all surfaces including the underneath, paying special attention to high touch surfaces

1. Wipe from top to bottom, going from a clean to dirty area using an 'S' shaped motion (Overlap slightly and return outside the surface, to avoid missing areas)
2. Dispose of wipe between each separate surface or if it becomes dry or soiled
3. Remove PPE then wash and dry hands
4. Apply indicator tape/note if this is local policy

Why is this the best way to clean?

- When wiping in a 'S' shaped pattern from clean to dirty, you will never wipe over a previously cleaned area. This reduces the amount of microorganisms that you can transfer from a dirty area onto a clean area.

- Unfolding the wipe and using it flat on the surface maximises the area cleaned and minimises the amount of hand contact onto a potentially contaminated surface.

S Shaped pattern

Wear recommended PPE.

Remove one wipe from the bucket.

Working from clean to dirty, wipe in an 'S' shaped pattern, taking care not to go over the same area twice.

Change wipe if it becomes dry or soiled and discard. Let the surface air dry.

Body Fluid Spillage

- Many occupational exposures to blood borne viruses (BBV) result from failure to adhere to basic rules concerning decontamination, waste disposal etc.
- Dealing with spills of blood or body fluid may expose the healthcare worker to blood-borne viruses or other pathogens
- The task can be carried out safely if the pathogens in the spillage are first destroyed by the disinfectant.

Blood and Blood Stained Body Fluid Spillages

The most efficient way to deal with a body fluid spill is to absorb it.

- Chlorine-releasing granules will absorb the spill, and at the same time release chlorine to disinfect it.
- For larger blood or blood-stained body fluid spills treat with a liquid hypochlorite (10,000 ppm)
- Alternative specialised spillage kit may be used in areas where Chlorine is not available or impractical to use

NB - When dealing with blood stained urine spillages the urine may promote the release of free chlorine from the treated area when hypochlorite or other chlorine-containing compounds are applied.

IMPORTANT

- Chlorine based disinfectants can cause irritation to the eyes, skin or mucous membranes if used in poorly ventilated areas.
- Use cold water only to dilute the solution.
- Chlorine based disinfectants must not be applied directly to acidic bodily fluids such as urine or vomit as chlorine vapour will be released so do not use Chlorine based disinfectants on urine spillages
- COSHH regulations apply to chlorine disinfectants and to the microorganisms that may be present in the spillage. COSHH assessments should be available.
- If solution is discarded in a toilet, always flush the toilet immediately.
- Chlorine may corrode metals unless residual is rinsed off afterwards.
- Chlorine will bleach and damage fabrics and carpets.

STEP BY STEP - BLOOD SPILLS

Chlorine releasing granules (do not use for large spillages of urine)

1. Put on disposable gloves and apron
2. Cover fluid completely with chlorine granules
3. Leave for 2 minutes
4. Remove granules and discard into infectious waste bag
5. Wash the area with detergent and water
6. Remove and dispose of PPE – wash hands

STEP BY STEP - BLOOD SPILLS

Hypochlorite solution (do not use for large spillages of urine)

1. Put on disposable gloves and apron
2. Cover spill with paper towels
3. Pour hypochlorite (10,000ppm chlorine) over the paper towels
4. Leave for 2 minutes
5. Remove towels and discard into a clinical waste bag
6. Wash area with detergent and water
7. Remove PPE and wash hands

Linen

- Used linen may become contaminated with micro-organisims from residents with infections or soiling with body fluids.
- Linen is decontaminated in the laundry process by detergent, dilution and mechanical action
- The wash must ensure all linen reaches the required temperature for the required amount of time (validated industrial washer)
- Care must be taken that items do not accidently go with linen to laundry (teeth, glasses, sharps)

Safe handling of Linen

- Wear a plastic apron during bed making and discard after
- Wash hands after contact with soiled linen
- Place linen carefully into an appropriate linen bag
- Use a red algenate (water soluble) bag for soiled linen

Safe Handling of Waste

A waste policy should:

- Ensure a safe environment for both staff, visitors and residents
- Ensure the organisation fulfils its legal and statutory obligations regarding the collection, disposal, classification, transportation and packaging requirements of Healthcare Risk Waste and infectious matters (Clinical Waste), Healthcare Waste (Hazardous) and Healthcare Waste (Domestic Waste)
- Ensure the organisation commits to minimising the impact of environmental pollutants in relation to any of its activities
- Ensure that everyone who generates waste in the organisation is responsible for, and takes ownership of, the correct disposal of that waste

The Definition of waste

Clinical waste

- Contains viable micro-organisms or their toxins which are known or reliably believed to cause disease in humans or other living organisms
- Contaminated with a medicine that contains a biologically active pharmaceutical agent
- Sharps
- Body fluid or other biological material containing or contaminated with a dangerous substance.

Most clinical waste is classified as hazardous.

https://www.rcn.org.uk/professional-development/publications/pub-004187

- **Healthcare waste** is generated by clinical activity and is infectious or potentially infectious

- **Hazardous waste** is waste that can cause harm to the environment or human health

- **Offensive waste** (sometimes referred to as hygiene waste) is non-infectious but may cause offence due to the presence of recognisable health care waste items, body fluids, or odour

Assessing waste for Segregation

- Much health care waste can be classed as non-hazardous, offensive waste by using the assessment process
- The term offensive is used because some items of non-hazardous health care waste may cause offence to those coming into contact with it (incontinence or sanitary pads
- Historically, many health care staff have segregated waste as infectious in an attempt to either be extra cautious - ‘just in case scenario’

Table 2.1 Assessment for infectious properties

Waste contains	Proposed general classification	Examples of waste	Exception to this rule
Urine, faeces, vomit and sputum.	**Offensive** (where risk assessment had indicated that no infection is present, and no other risk of infection exist).	Urine bags, incontinence pads, single-use bowls, nappies, PPE (gloves, aprons and so forth).	Gastrointestinal and other infections that are readily transmissible in the community setting (for example, *verocytotoxin*-producing *Escherichia coli* (VTEC), campylobacter, Norovirus, salmonella, chicken pox/shingles)[1] . Hepatitis B and C, HIV positive patients – only if blood is present[1].
Blood, pus and wound exudates.	**Infectious** unless assessment indicates no infection present. If no infection, and no other risk of infection, then offensive.	Dressings from wounds, wound drains, delivery packs.	Blood transfusion items. Dressings contaminated with blood/wound exudates assessed not to be infectious. Maternity sanitary waste where screening or knowledge has confirmed that no infection is present and no other risk of infection exists.

Management and safe disposal of clinical waste

Yellow	Infectious waste, must be incinerated
Orange	Infectious waste, can be treated to render safe prior to disposal
Purple	Cytotoxic / Cytostatic waste, must be incinerated by licensed facility
Yellow / Black	Offensive / Hygiene waste, can be land filled on licensed site
Black	Domestic waste, may be land filled / recycled

- National Guidance in place
- Colour coded system used to segregate health care waste
- Ensure you know and follow your organisation's policy on waste management

Transmission Based Precautions

Intended to supplement Standard Precautions in patients with known or suspected colonisation or infection of highly transmissible or epidemiologically important pathogens.

These additional precautions are used when the route of transmission is not completely interrupted using Standard Precautions.

- Contact Precautions – (with patient and/or environment)
- Droplet Precautions – (Resp secretions coughing sneezing
- Airborne Precautions – (Inhalation of micro-organisms or droplet nuclei)
- Enteric Precautions – (Faecal-oral)

Contact Precautions – Isolation room

- Perform hand hygiene before touching patient and prior to wearing gloves (WHO 5 Moments)
- PPE: Wear gloves when touching the patient and the patient's immediate environment or belongings. Wear an apron if substantial contact with the patient or their environment is anticipated

- Perform hand hygiene after removal of PPE: use soap and water when hands are visibly soiled (e.g., blood, body fluids), or with patients with known or suspected infectious diarrhoea
- Daily Chlor-cleaning and terminal clean on discharge

Examples: MRSA, ESBL, VRE

Droplet Precautions (large droplet) – Isolation room

- Perform hand hygiene before touching patient and prior to wearing gloves (WHO 5 Moments)
- PPE: Wear surgical mask for large droplet (aerosol generating procedures), for close contact with the patient. Gloves and apron if contact with patient or contaminated environment.
- Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials, removal of gloves
- Daily Chlor-cleaning and terminal clean on discharge
- Travels approximately 3 – 6 feet

Examples: Influenza, Bordetela pertussis, and for first 24 hours of abx therapy: Meningococcal meningitis, group A streptococcus

Airborne Precautions (small droplet) – isolation room

- Perform hand hygiene before touching patient and prior to wearing gloves (WHO 5 Moments)
- PPE: FFP 3 Mask with aerosol generating procedures. If substantial spraying of respiratory fluids is anticipated, gloves, gown, goggles or face shield should be worn
- Practice respiratory hygiene and cough etiquette as small droplets travel longer distance
- Perform hand hygiene after touching the patient and after contact with respiratory secretions, after removal of gloves

Examples: TB, Varicella, Measles

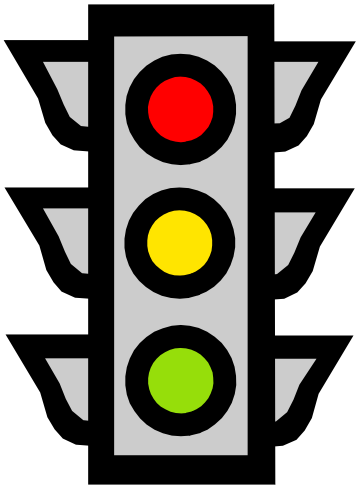
Enteric Precautions – Isolation Room

- Perform hand hygiene before touching patient and prior to wearing gloves (WHO 5 Moments)
- PPE: Wear gloves when touching the patient and the patient's immediate environment or belongings. Wear an apron if contact with the patient or their environment is anticipated
- All patients encouraged to wash hands
- Perform hand hygiene after removal of PPE *note:* use soap and water

Examples: Undiagnosed diarrhoea, Salmonella, C Diff, Shigella, Norovirus

Signs to watch out for!

All Staff & visitors



Stop!

Proceed to the nurse's desk

How do you inform your staff that isolation precautions are in place?

Some care homes use a ‘Daffodil’ for C diff or a ‘Rose’ for MRSA.

Be aware of the difficulties within a residential home

MRSA- Risk Assessment

- Healthcare contact / recent hospital admission
- Antibiotic history
- Dependency level / co-morbidities

MRSA - Management

- MRSA Management, Screening & suppression policy
- Contact precautions
- Commence Care Plan
- Commence suppression therapy if applicable
- Review antimicrobials

Clostridium difficile - risk assessment

- Waterlow score
- Recent antibiotics (last 2 - 3 months)
- Age
- Known colonic / bowel disease
- History of bowel surgery /scopes
- Previous history of *C difficile*
- Previous history of GDH positive
- Recent PPIs, laxatives
- NG or PEG feeding

Specimen Testing

- All cases of diarrhoea aged 2 years and above should be investigated for CDI unless good clinical or epidemiological reasons not to
- CDI test is two step process—GDH test & Toxin Test
- Anti-motility agents should not be prescribed in acute CDI await results of the specimen
- Recovery is determined by the patient returning to ‘normal’ bowel pattern for them

Do not send a specimen to test for a negative

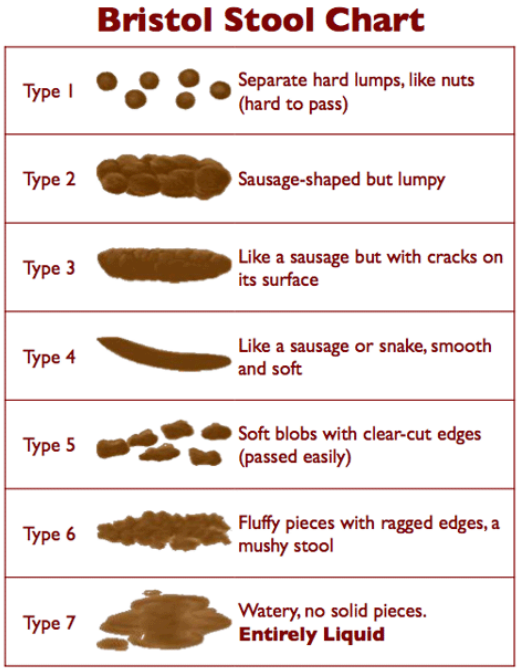
Collect on plastic wrap and transfer to vial until liquid reaches fill line.

Remove spoon from lid and discard.

Replace cap on vial tightly and shake for a minute. Place vial in refigerator until ready to ship.

Clostridium *difficile*- Management

- Commence CDI care pathway
- Contact precautions / Enteric precautions
- Review antibiotics
- Review PPIs and other implicated drugs (anti –motility, laxatives)
- **Monitor stool chart**
- **Monitor severity score daily**
- Treating the patient not the lab results
- DO NOT retest stool for clearance



Driving Forces

Getting Ahead of the Curve. A strategy for combating infectious diseases 2002.

Winning Ways: working together to reduce health care associated infection in England 2003.

Towards cleaner hospitals and lower rates of infection: A summary of action 2004.

Saving lives: a delivery programme to reduce health care associated infection including MRSA. 2005.

Essential Steps to Safe, Clean Care: Reducing health care associated infections 2006.

The Health Act: Code of Practice for the Prevention and Control of Health Care Associated Infections. 2008

Everyone counts: Planning for patients 2013/14, Zero Tolerance – Guidance on Post Infection Review MRSA

Clostridium difficile infection objectives for NHS organisations in 2014/15 (now 2015/16)

‘Prevention of infection is a key role for all healthcare professionals, including nurses. Infection prevention must be underpinned by an understanding of how infection can be spread and by complying with strategies that promote infection control’

Pegram A, Bloomfield J (2015) Infection prevention and control. Nursing Standard.

Remember
Infection Prevention is
Everyone's responsibility

Any questions ?