



Sharing is it always Caring ???



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No Not Always!!



Learning Outcomes

- Overview of the infections associated with poor injection practices
- Understand the rational for ensuring safe injection practices
- Respiratory Hygiene

Injections uses- approx 16 billion administered annually

- Prevention
- Diagnosis
- Treatment

Outbreaks Associated with Poor Injection Practices

- 49 outbreaks since 2001
- Hep B/C – 21 outbreaks
- Bacterial Infections mainly bacteraemia- 28 outbreaks
- WHO estimate 5% of all new HIV cases annually related to unsafe healthcare injections
- Settings- acute but also approx 90% in OPD's-e.g. pain management clinics
- In addition in excess of 150,000 patients required notification for follow up testing

Follow Safe Injection Practices

- Medications are injected directly or indirectly into the patient's bloodstream
- Any germs that have entered the medication vial or syringe can cause serious infections in the patient
- Germs also can be introduced at the time of injection (e.g. contaminated injection port)



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Follow Safe Injection Practices

1. Needles and syringes are single use devices. They should not be used for more than one patient.
2. Do not administer medications from a single-dose vial or IV bag to multiple patients.
3. Perform hand hygiene and cleanse the access port before injecting into it.

Saline bags are always single patient use



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Impact of non- compliance on Patients

- Death
- Prolonged follow up/treatment
- Costs
- Litigation

TRANSMISSION OF PATHOGENS VIA CONTAMINATED EQUIPMENT OR MEDICATIONS



Main Challenge to compliance

- Re-use of syringes/needles
- Mismanagement of medication
- Narcotic theft
- A survey of 5,446 HCW in the US showed-
- 6% re-used single use vials
- 15% used the same syringe to re-enter a vial numerous times for the same patient
- 6.5% saved vials for another patient
- About half of this occurred in a hospital setting

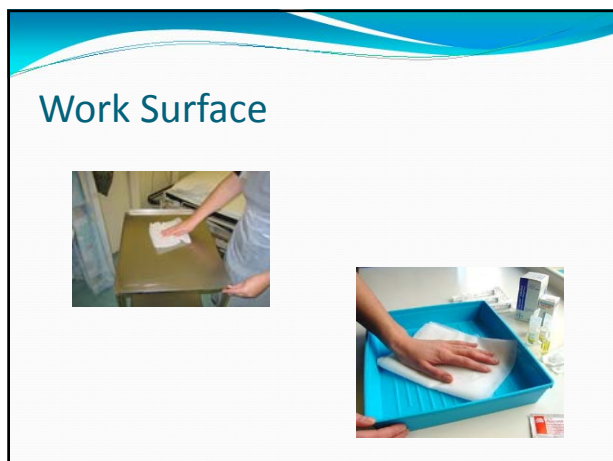
Rational for poor practice

- Prevent waste
- Medication shortages/costs

Principles of Safe Injection Practices

- Dedicated area/surface
- Hand Hygiene
- PPE
- ANTT
- Single use vials
- Single use syringe/needle
- Waste disposal







Hand hygiene and glove use- risk assessment

GLOVES & HAND HYGIENE
= CLEAN HANDS



GLOVES WITHOUT HAND HYGIENE
= GERM TRANSMISSION



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ANTT

Remember...

The principles of ANTT are simple:

- A**lways decontaminate hands effectively.
- N**on-touch-technique always
- T**ake appropriate precautions with equipment
- T**ake steps to protect key-parts at all times.

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Single Use Vials

- Use for single patient
- Discard immediately
- Never return to stock
- If a second re-entry is required, use new needle/syringe
- Do not pool left over contents

Multi- Dose Vials

- Not recommended
- Only where absolutely necessary
- Discard if sterility is compromised
- Do not leave multi dose vials at the patients bed side
- New needle/syringe each time
- Disinfect septum before each access
- Label with opening date/patients name/dispose of within 28 days
- Check alternatives with pharmacy

All Vials

- Discard if sterility is compromised
- Use the smallest vial available
- Audit clinical areas for re-use



Sharps Disposal



Assure safety

- Ensure appropriate preparation in a designated area
- Administration
- Maintain sterility during all stages to minimise infection risk

Equipment

- Dispose of single use items after one use



Glucose Monitoring Equipment

- Alert HIQA revised July 2016
- Procedure must be undertaken in a manner which minimise transmission of BBV's particularly HEP B
- **Outbreaks** as a result of use occur due to poor IPC practice/ including cleaning of glucose monitoring equipment/surfaces re-use of lancing devices/inappropriate use of PPE particularly gloves

Findings from HIQA Reports

Increasing reports of non compliance to **Standard 3.**

Environment and Facilities management were cited in recent unannounced hospital inspections

- *"Small red stains were visible on the surfaces of two glucometer holders"*
- *"Used blood sampling lancets were observed in two holders for BGM. A glucometer was also observed to be unclean"*
- *"a commode and glucometer holder were unclean on the CCU"*
- *"A red stain was visible on the back surface of a glucometer and on the outer surface of a container containing testing strips" (2014)*

- Be aware of specific equipment in use
- Follow manufactures instructions for use/ decontamination/storage
- Dispose of single use equipment after use
- Monitoring equipment- individualise- do not share
- In healthcare settings specifically designed glucose monitors should only be used by trained staff
- Audit practice to ensure compliance

Glucometers

- Ensure cleaning after each use with detergent wipes
- Prevent contamination of equipment-don't stock pile.
- Dispose of used items appropriately after each patient

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Case Study of the Chain of Infection

- Deirdre was a 71 year old woman resident in a care home.
- One morning she told a care worker that she was feeling unwell. Her symptoms included epigastric pain, nausea and vomiting.
- In the following 2 weeks, her symptoms progressed to include anorexia, fatigue and jaundice.
- During the period, Alison, another resident in the care home also been to develop the same symptoms.

Ref Breaking the Chain of Infection HSEland 2016

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Case Study of the Chain of Infection contd

- Both Deirdre & Alison were diagnosed with the blood borne virus Hepatitis B and were immediately transferred to an acute hospital.
- Both Deirdre and Alison died of the HCAI

Ref Breaking the Chain of Infection HSEland 2016

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Case Study of the Chain of Infection

- FINDINGS OF THE INVESTIGATION
- The investigation revealed that 15 of the 38 residents who underwent daily blood sugar testing were also infected with Hepatitis B infection.
- THE INVESTIGATION REVEALED
- 1. The glucometer was not decontaminated between each patient use.
- 2. The spring loaded barrel of the finger stick device was not used as per the manufacturers instructions.



Ref Breaking the Chain of Infection HSEland 2016

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Case Study of the Chain of Infection

- THE INVESTIGATION REVEALED contd.
- 3. Insulin and other multi-dose medications were not labelled with resident names or the dates on which those vials were opened.
- 4. the anonymous staff survey that was conducted revealed
 - some staff members were observed reusing needles.
 - some staff failed to change gloves between sampling different patients blood.

Ref Breaking the Chain of Infection HSEland 2016

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Device associated HBV transmission among persons with Diabetes



Blood contamination of finger stick device used for multiple persons

Blood contamination of shared glucose testing meters



Slide from Dr. Perez; SHEA 2010 conference

Best practice: Safe Use of Insulin Pens

IMB Safety Notice SN 2010 (16) Circulation date: December 2010

- Insulin pens must never be shared between patients
- New needle each injection
- Must be individually labelled
- Must not be stored at patient bedside
- Should be discarded 4 weeks after opening or by their expiry date

Insulin pens are designed to be safe for a single patient to use a single pen multiple times with a new needle for each injection

Phlebotomy

Training

- Annual on safe injection practices- the aim should be to be to reduce gaps in knowledge with regards IPC/reduce staff tolerance of poor practice
- Ensure patients/relatives are educated

Risk Management

- Breaches should be reported to support patient safety/learning
- Clusters of infection should be reported
- Public Health will investigate if necessary

Guidelines

- Ensure local current guideline in place on safe injection practice
- Increase staff awareness

[illegible]

Respiratory hygiene and cough etiquette

Respiratory hygiene & cough etiquette (CDC 2007)

- Evolved because of lessons learnt during SARS epidemic in 2003
- The strategy is targeted at people with undiagnosed transmissible respiratory illness.
- The term “cough etiquette” came from source control measures for TB
- Strategy reinforced during Swine flu Pandemic in 2009

Respiratory hygiene and cough etiquette cont'd

Require healthcare facilities to;

- Encourage HCWs/visitors to wear a surgical mask for close contact with patients with respiratory illness
- Offer Flu vaccine to HCWs and persons “at risk”
- Undertake point of care risk assessment (PCRA)
- Implement **Droplet Precautions** when required
- Be aware of people travelling back from China or the Arabian Peninsula with acute respiratory symptoms and follow current guidance see www.hpsc.ie

Current threats

- World experiencing evolving emergence of two exceptional new virus infections
 - Novel Coronavirus
 - Termed **Middle East Respiratory Syndrome Coronavirus (MERS CoV)**
 - **Avian Influenza A (H7N9)**
- Unusual global situation
 - Unrelated viruses
 - Both highly pathogenic
 - Both considered to have potential to evolve and spread



References

- HIQA Safety Alert revised July 2016, Risk Management of Blood Glucose monitoring in Designated Centres
- The Joint Commission- Sentinel Alert Issue 52, June 16, 2014
- CDC Grand Rounds: preventing Unsafe Injection practice in the U.S. Healthcare System , may 31, 2013/62 (21) 423-425
- National Standard Precautions Guidelines Draft version 1.0 April 2009
- WHO 2010, WHO best practices for injections and related procedures and toolkit
- [CDC -The One & Only Campaign - Injection Safety](#)

Thank you
