Safe Injection Practices:
Our staff don't do that…or do they?

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Safe Injection Practices: Disclosure Statement

- Wake AHEC requires all speakers to disclose any relevant financial conflicts of interest.

- Tammra Morrison, RN, BSN is a Healthcare Associated Infections (HAI) Nurse Consultant, North Carolina Division of Public Health and discloses that she is a major stock shareholder with Merck Pharmaceuticals.

Objectives

- Describe consequences of unsafe injection practices notifications, infections, and outbreaks.
- List three simple guidelines required for assisted blood glucose monitoring and medication administration.
- Describe the impact of injection safety noncompliance

What is the One & Only Campaign?

- The One & Only Campaign is a public health campaign, led by the Centers for Disease Control and Prevention (CDC) and the Safe Injection Practices Coalition (SIPC), to raise awareness among patients and healthcare providers about safe injection practices. The campaign aims to eradicate outbreaks resulting from unsafe injection practices.

Healthcare Associated Infection (HAI)

- Any infection by any pathogen acquired as a consequence of a healthcare intervention or which is acquired by a healthcare worker in the course of his or her duties.
- CLABI's (central line associated blood infection), CAUTI's (catheter associated UTI's) , SSI (surgical site infections)
- Cdiff, MRSA, CRE (Carbapenem-resistant Enterobacteriaceae), GAS (Invasive Group A Strep), etc.

Reporting/Documentation Tips

- Complete as much in NCEDSS as you can
- **Always** mark: survived or deceased
- **Always** mark if patient had group social or living arrangements, i.e. barracks, daycares, schools
  - Especially important for those >65
  - LTCFs, SNFs require additional investigation measures

Best Practice

#1 Friday, May 16, 2008

NC Division of Public Health contacted by repeat blood donor

- No illness
- HCV detected after blood donation
- No traditional risk factors for HCV infection
- Several medical procedures during recent months, including myocardial perfusion study (MPS) at "Clinic A"

Clinic A Description

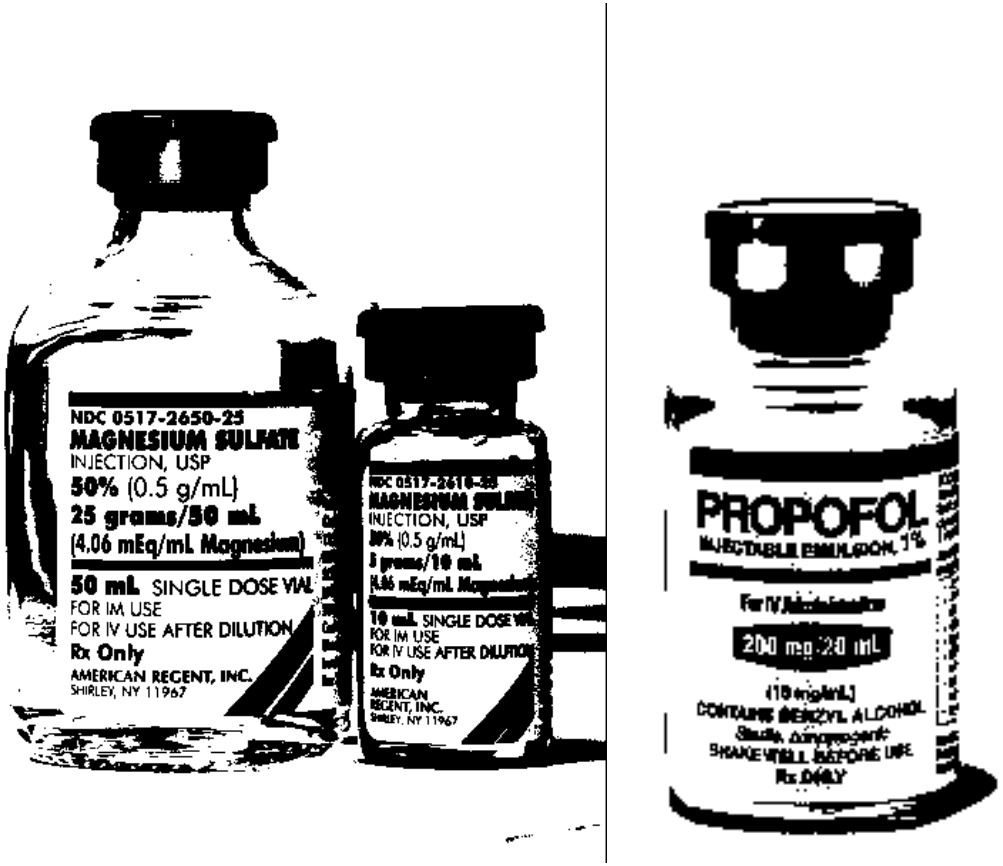
- Single-physician cardiology clinic
- 3–8 MPS performed per day
  - No other invasive procedures
  - No other injected medications
- One nuclear technologist responsible for IV placement, medication infusions
  - Began employment June 2007

Clinic A Description, continued

- Operating for 7 years
- Not in compliance with North Carolina infection control rules
  - No staff member had completed state-approved infection prevention course
  - No written infection prevention policy
  - No infection prevention orientation for staff

Observation of Myocardial Perfusion Procedures

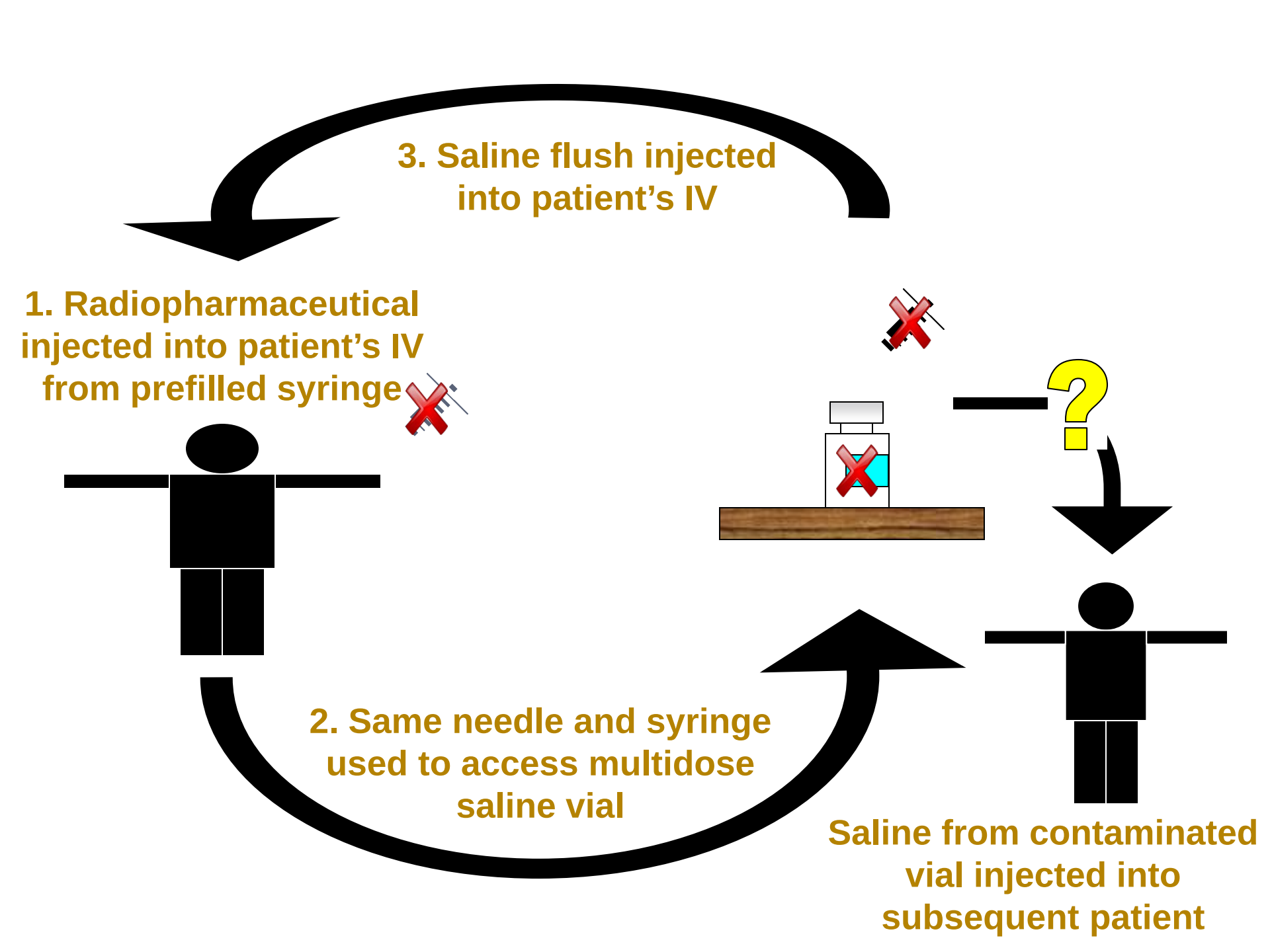
- Saline from 30 mL multidose vials used to flush radiopharmaceuticals
- Saline vials routinely re-entered with a contaminated needle and syringe



Read the label:

Unless the term "multi-dose vial" is printed on it, it is *not* a multi-dose vial

Adapted from J. Perz AORN Injection Safety Webinar, April 17, 2013


3. Saline flush injected into patient's IV
1. Radiopharmaceutical injected into patient's IV from prefilled syringe
2. Same needle and syringe used to access multidose saline vial
Saline from contaminated vial injected into subsequent patient

Five New Infections Identified

- 2 patients (December 2007)
- 3 patients (June 2007)
- One likely source patient identified from each cluster

Conclusions

- Transmission of HCV occurred during myocardial perfusion studies performed at Clinic A
- Transmission was likely due to unsafe injection practices
  - Reentering saline vials with used needle and syringe
  - Reuse of contaminated multidose saline vials

Immediate Response

- Notified >1,200 patients
  - Largest direct patient notification ever undertaken by NC Division of Public Health
- Facilitated testing of exposed patients
- Took >600 calls from public in first 6 months

Legal Actions

- Drafted specific HCV control measures (effective April 1, 2012)
- Strengthened NC infection control rules
  - Require designated staff member for each noncontiguous healthcare facility to complete infection control course
  - Add "safe injection practices" to list of topics covered in state-approved courses

HCV in Baby Boomers

- Highest prevalence among persons born 1945–1964
- "…growing reservoir of infected individuals who can serve as a source of transmission to others if safe injection practices and other basic infection control precautions are not followed"

Perz et al, Hepatology 2012.'Accepted Article', doi: 10.1002/hep.25688

Role of Healthcare-Associated Transmission: Beyond Outbreaks

Among patients ≥55:

- Those with acute HBV or HCV are 2.7x more likely to report having had injections in a health care setting
- Approximately 37% of acute HBV and HCV infections attributable to unsafe injections in health care settings

Perz et al, Hepatology 2012.'Accepted Article', doi: 10.1002/hep.25688

Hepatitis B Outbreaks in Assisted Living and Nursing Home Facilities

- Increasing problem
- 30 HBV outbreaks in assisted living/nursing home care settings reported to CDC during 1996-2011
- >90% linked to assisted monitoring of blood glucose (AMBG)

Use of fingerstick devices for multiple residents	Sharing of blood glucose meters	Sharing of insulin pens

Criminal Charges in NV: Unsafe Injection Practices

- Provider charged with negligence in unsafe injection practices in Nevada, although no patients have yet to test positive
- Convicted in 2013 of 27 criminal counts
  - Sentenced to life in prison with the possibility of parole after 18 years.
- The clinics were found to be ***reusing*** syringes ***and*** anesthesia vials with multiple patients

Unsafe Injection Practices Have Devastating Consequences

Excuses for Unsafe Practices

- We've always done it this way and we've never had a problem.
- That's not how I trained.
- It's wasteful and expensive; I can't afford it.
- You can't *really* transmit hepatitis that way!

Adapted from E. Lutterloh: Your Best Shot: Training Your Staff to Give Safe Injections

Indirect Contact Transmission

- Transfer of an infectious agent through a contaminated intermediate object or person
  - Hands of healthcare personnel
  - Patient care devices (e.g., glucometers)
  - Instruments (e.g., endoscopes) that are not adequately reprocessed
  - Medications and injection equipment

http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007.pdf

Survey of 5,500 U.S. Healthcare Professionals

- 1% "sometimes or always" reuse a syringe on a second patient
- 1% "sometimes or always" reuse a multidose vial after accessing it with a reused syringe
- 6% use single-dose/single use vials for more than one patient

: http://www.cdc.gov/injectionsafety or http://www.ajicjournal.org/article/PIIS0196655310008539/abstract

Survey of 595 Residents and Attending Anesthesiologists, NY

- 49% used the same vial of medication for more than one patient
- 25% did not always use a new needle and syringe when drawing medication from a vial
- 8% of residents and 2% of attendings reuse syringes on different patients

Anesthesiology News, Clinical Anesthesiology,; January 2012; 38(01). Available at: http://www.anesthesiologynews.com

Begin with the end in mind

Three Simple Rules for Assisted Blood Glucose Monitoring and Insulin Administration

1 FINGERSTICK DEVICES SHOULD NEVER BE USED FOR MORE THAN ONE PERSON

- Restrict use of fingerstick devices to a single person. They should never be used for more than one person.
- Select single-use lancets that permanently retract upon puncture. This adds an extra layer of safety for the patient and the provider.
- Dispose of used lancets at the point of use in an approved sharps container. Never reuse lancets.

2 BLOOD GLUCOSE METERS SHOULD BE ASSIGNED TO ONLY ONE PERSON AND NOT BE SHARED

- Whenever possible, assign blood glucose meters to a single person.
- If blood glucose meters must be shared, they should be cleaned and disinfected after every use, per manufacturer's instructions, to prevent carry-over of blood and infectious agents.
- If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared.

3 INJECTION EQUIPMENT SHOULD NEVER BE USED FOR MORE THAN ONE PERSON

- Insulin pens should be assigned to only one person and labeled appropriately. They should never be used for more than one person.
- Multiple-dose vials of insulin should be dedicated to a single person whenever possible.
- Medication vials should always be entered with a new needle and new syringe. Never reuse needles or syringes.
- For information and materials about safe insulin pen use, visit www.ONEandONLYcampaign.org.

Always practice proper hand hygiene and change gloves between each person.

Simple Rules for Safe Diabetes Care

1. Fingerstick devices should never be used for more than one person

2. Multi-dose vials of insulin should be dedicated to a single person

3. Blood glucose meters should be assigned to an individual person
   - If shared, must have manufacturer's instructions for cleaning *and* disinfection

4. Injection equipment (e.g., insulin pens, needles and syringes) should never be used for more than one person

Safe Injection References

http://www.cdc.gov/injectionsafety/

www.OneandOnlyCampaign.org

http://epi.publichealth.nc.gov/cd/diseases/hai.html

Acknowledgments

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