Nebraska Department of Health and Human Services
Division of Public Health

Becoming a Safe Injection Champion

Nebraska Department of Health (NE DHHS) sponsored training for healthcare professionals and safe injection practices
This program was funded from an Epidemiology and Laboratory Capacity Grant
NE DHHS is one of ten federally funded partner states to promote safe injection practices in an effort to reduce infections caused by unsafe practices related to injectable medications and poor infection control

Objectives
The participant will be able to:
- Identify the correct equipment and its use for injection administration
- Identify 3 areas where medications may be mishandled
- Name 4 correct processes for maintaining a clean or sterile environment for medication preparation or administration
- Identify 2 areas where oversight or perceptions of cost saving may put patients at risk for unsafe practice
- Relate 2 best practices for blood glucose testing and medication pen administration
- List 3 principles of outcomes research and quality assessment methods to the evaluation of pharmaceutical care

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<th>Slide #</th>
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Section 1
What It Means To Be An Injection Safety Champion

Safe Injection Champion Program
- Nebraska Department of Health (NE DHHS) sponsored training for healthcare professionals and safe injection practices
- This program was funded from an Epidemiology and Laboratory Capacity Grant
- NE DHHS is one of ten federally funded partner states to promote safe injection practices in an effort to reduce infections caused by unsafe practices related to injectable medications and poor infection control

Structure
- Register to be a Safe Injection Champion
- Take the Safe Injection Course
- Receive Continuing Education Credit (Optional)
- Educate staff on safe injection practices
- Monitor practice at place of employment
- Receive recognition for your facility for following best practices
Helping People Live better Lives.

Opening Message

Evelyn McKnight

Evlene McKnight

Helping People Live better Lives.

Section 2

Why Safe Injection Practices Must Be Followed

Hundreds of patients infected in a variety of settings (mostly outpatient)
Thousands of patients have required bloodborne pathogen testing after potential exposure
Lawsuits
Criminal Charges
Loss of licensure
Facility closing
See examples on the next slide from the Updated Outbreaks and Notifications List

Unsafe Injection Practice Leads to Outbreaks and More

Results in serious consequences:
- Hundreds of patients infected in a variety of settings (mostly outpatient)
- Thousands of patients have required bloodborne pathogen testing after potential exposure
- Lawsuits
- Criminal Charges
- Loss of licensure
- Facility closing
- See examples on the next slide from the Updated Outbreaks and Notifications List

Examples of Outbreaks

<table>
<thead>
<tr>
<th>Setting</th>
<th>Pathogen</th>
<th>Year</th>
<th>Patient Notification (# notified)</th>
<th>Infection Control Breaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical Center</td>
<td></td>
<td>2014</td>
<td>N/A</td>
<td>Yes (1,100)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1) Reuse of syringes to access medication vials used for &gt;1 patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2) Improper reprocessing of reusable medical equipment</td>
</tr>
<tr>
<td>Pain Management Clinic</td>
<td>Hepatitis B Virus</td>
<td>2013</td>
<td>Multiple procedural and infection control breaches</td>
<td></td>
</tr>
<tr>
<td>Oral Surgery Clinic</td>
<td>Hepatitis C Virus</td>
<td>2013</td>
<td>Multiple procedural and infection control breaches</td>
<td></td>
</tr>
<tr>
<td>Oral Surgery Office(s)</td>
<td></td>
<td>2012</td>
<td>No</td>
<td>Use of common-source bag of saline to prepare flush; suboptimal procedures for central line access and preparation of chemotherapy</td>
</tr>
<tr>
<td>Hematology Oncology Clinic</td>
<td></td>
<td>2012</td>
<td>Yes (&gt;300)</td>
<td>Use of common-source bag of saline to prepare flush; suboptimal procedures for central line access and preparation of chemotherapy</td>
</tr>
<tr>
<td>Oral Surgery Office(s)</td>
<td></td>
<td>2012</td>
<td>No</td>
<td>Use of common-source bag of saline to prepare flush; suboptimal procedures for central line access and preparation of chemotherapy</td>
</tr>
<tr>
<td>Hematology Oncology Clinic</td>
<td></td>
<td>2011</td>
<td>Yes (2,345)</td>
<td>Use of common-source bag of saline to prepare flush; suboptimal procedures for central line access and preparation of chemotherapy</td>
</tr>
<tr>
<td>Oral Surgery Office(s)</td>
<td></td>
<td>2011</td>
<td>Yes (~8,000)</td>
<td>Use of common-source bag of saline to prepare flush; suboptimal procedures for central line access and preparation of chemotherapy</td>
</tr>
</tbody>
</table>

Headlines from Across the Country

- Erode public confidence
- Make patients less likely to seek preventative care if they perceive healthcare as being unsafe.

Clinic Closed for “Unsafe Infection Control Practices”

- 16 patients with bloodstream infections
- 470 patients notified and advised to undergo bloodborne pathogen testing

Clinic Closed for “Unsafe Infection Control Practices”

JACKSON, Miss. (AP) — A clinic in north Mississippi gave cancer patients less chemotherapy or cheaper drugs than they were told and reused the same needles on multiple people as part of a multimillion-dollar Medicare and Medicaid fraud, a 15-count indictment alleges.

Helping People Live better Lives.

September 9, 2011
Transmission of Viral Infections

The ABCs of Hepatitis

- **A** stands for acute. Hepatitis A is typically contracted through the ingestion of food or water contaminated with fecal matter. It can also be transmitted through sexual contact.
- **B** is for blood-borne. Hepatitis B is transmitted through blood-to-blood contact, such as sharing needles or using contaminated needles.
- **C** is for chronic. Hepatitis C is contracted through blood-to-blood contact, often through shared needles.

**Risk of Infection After Needle Stick**

<table>
<thead>
<tr>
<th>Source</th>
<th>Risk</th>
<th>Odds</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV</td>
<td>6.0 – 30.0%</td>
<td>1/3</td>
</tr>
<tr>
<td>HBsAg+</td>
<td>22.0 – 30.0%</td>
<td>1/3</td>
</tr>
<tr>
<td>HCV</td>
<td>1.0 – 6.0%</td>
<td>1/3</td>
</tr>
<tr>
<td>HIV</td>
<td>0.3%</td>
<td>1/300</td>
</tr>
</tbody>
</table>

**Transmission of Infections**

- **HBV** infection is more common among intravenous drug users, hemophiliacs, recipients of contaminated blood, and those with chronic liver disease.
- **HCV** infection is more common among injection drug users, hemophiliacs, and recipients of blood transfusions.
- **HIV** infection is more common among injection drug users, hemophiliacs, and recipients of blood transfusions.

**A Growing Problem?**

- "...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)

Unsafe injection practices can result in:

A. Outbreaks
B. Lawsuits
C. Facility closures
D. Criminal charges
E. All of the above

Knowledge Check

Unsafe injection practices harm patients, families, and facilities where the breach occurred. There is always time to practice safety.
Injection Safety represents the intersection of 3 major components of an overall safety program:

- Employee Safety
- Medication Safety
- Healthcare-Associated Infections Preventions

**Standard Precautions**

- Hand hygiene
- Use of personal protective equipment
- Respiratory hygiene and cough etiquette
- Safe injection practices
- Safe handling of potentially contaminated equipment or surfaces in the patient environment

**What is a Safe Injection?**

- Measures taken to perform injections in an optimally safe manner for patients, healthcare personnel, and others
  - Does not harm the recipient
  - Does not expose the provider to any avoidable risks
  - Does not result in waste that is dangerous for the community
- Includes practices intended to prevent transmission of infectious diseases
  - Between one patient and another
  - Between a patient and healthcare provider
  - Prevents harm such as needlestick injuries

**Where are the Risks?**

- Injection Equipment
- Medication Containers
- Medication Preparation
- Medication Storage
- Sharps Safety
- Drug Diversion
- Point of Care Devices

**Unsafe Practice Alert! Direct Equipment Reuse**

- Medical assistant administered flu vaccine from the same syringe to >1 patient
  - Children between age 6 months and 35 months put at risk
- Patient notification conducted and bloodborne pathogen testing advised

**Section 3.a Injection Equipment**

- Medical assistant administered flu vaccine from the same syringe to >1 patient
  - Children between age 6 months and 35 months put at risk
- Patient notification conducted and bloodborne pathogen testing advised

**CDC Recommendations**

- Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens)

**Children told to be tested for HIV after flu vaccines reused**

Safe Injection Practice Research

A panel of physicians and nurses - 690 survey respondents:

- 12% of physicians and 3% of nurses indicated reuse of syringes for >1 patient
- 5% of physicians indicated this practice usually or always occurs
- A higher proportion of oncologists reported unsafe practices in the workplace

Kossover-Smith, et al, One needle, one syringe, only one time? A survey of physician and nurse knowledge, attitudes, and practices regarding safe injection practice, AJIC 45 (2017) 1018-23

Outbreak!

- “Double dipping” – syringe that has been used to inject IV medication into a patient, reused to enter a medication vial that was used for subsequent patients
- >2000 patients notified and bloodborne pathogen testing recommended

CDC Recommendations
- Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient

Can I Change ONLY the Needle?

- Do NOT withdraw IV push medications from commercially available, prefilled flush syringes.
- Prefilled syringes of saline and heparin are regulated by the US Food and Drug Administration as devices, not as medications. They are approved for flushing of vascular access devices
- They are NOT approved for the reconstitution, dilution, and/or subsequent administration of IV push medications and such use is considered “off label”
- Prefilled flush syringes are not tested for product safety when used in this manner
- Warnings intended to limit the use of prefilled syringes for medication preparation and administration appear on some syringe barrels, clearly stating “IV flush only”

Saline or Heparin Syringes

- Do NOT dilute or reconstitute IV push medications by drawing up the contents into a commercially available, prefilled flush syringe.

Unsafe Practice Alert!

- A hospital telemetry unit nurse had been reusing saline flush prefilled syringes in the intravenous (IV) lines of multiple patients
- The nurse frequently left a partially-filled syringe near a computer work station
- The nurse reported reusing syringes during the previous 6 months, believing this was a safe, cost-saving measure provided no fluids were withdrawn into the syringe before injection of the saline flush
Medication/Insulin pens are designed for reuse on a single patient

- Label with the individual name on the barrel
- Do not store pens with a needle attached
- Change needle after each administration
- Never store pens for multiple patients together

Outbreak! Medication Pen

- Diabetes educator used insulin pens for >1 patient
- 2,345 patients notified and recommended to undergo bloodborne pathogen testing

Outpatient Clinic

Thousands of Wisconsin clinic patients exposed to HIV

August 30, 2011

Changing the needle makes a syringe safe for reuse. Syringes can be reused as long as an injection is administered through an intervening length of IV tubing. If you don't see blood in the IV tubing or syringe, it means that those supplies are safe for reuse.

Once they are used, both the needle and syringe are contaminated and must be discarded!

Knowledge Check

A syringe may be re-used if:

A. The needle is changed
B. The medication was injected into an IV line and not directly into a patient skin or vein
C. A syringe should never be reused
D. If no blood is seen it is safe to reuse a syringe

Each time a syringe or needle is reused a pathogen can be transmitted to a patient or can contaminate a medication vial.

Single-use/Single-dose

Liquid medication intended for parenteral administration for use in a single patient for a single case, procedure, or injection.

May be vials, ampules or intravenous bags
Using Single-use or Single-dose Containers

- Size/volume does not matter: sole criteria—if manufacturer label says single use
- Typically lack an antimicrobial preservative.
- Rubber septum must be disinfected with alcohol prior to entry and allowed to dry
- Always enter with a new sterile needle and a sterile syringe
- Discard container immediately after use

Single Dose Medication Vials CANNOT:

- Be used for a second patient or during a second case
- Be returned to a medication cabinet if punctured
- Have remaining medication withdrawn and pooled with the partial contents of other vials
- Have a needle left in the septum of the vial for multiple draws

Multi-dose Vials (MDV)

Definition: Liquid medication (injection or infusion) that contains more than one dose of medication

- Labeled by manufacturer
- Typically contain a preservative
- Preservatives do not protect from contamination

Handling of Multi-dose Medications

Multi-dose medications should:

- Be dedicated to a single patient when possible
- Always be entered with a sterile needle and sterile syringe
- Have the rubber septum disinfected with alcohol prior to each entry and allowed to dry
- Have a label with the date of initial entry
- Be discarded within 28 days of opening or according to manufacturer’s instructions
- Always be discarded if sterility is compromised

Outbreak!

- Hepatitis C Outbreak in Hematology/ Oncology Clinic — Nebraska, 2002
- Gastroenterologist reported 4 patients with recent HCV infection to health department
- All received chemotherapy at same clinic
- Close to 1,000 patients tested: 99 infected
- Same syringe was used to draw blood from patients’ central line and then to draw catheter-flushing solution from 500-cc saline bags used for multiple patients

Knowledge Check

If a single dose vial has enough medication for 2 doses it is appropriate to save the second dose for another patient.

A. True
B. False

Single dose vials do not have a preservative and should never be used for more than one patient.
Section 3.c
Medication Preparation

Use Aseptic Technique
- Handle, prepare, and store medications and injection equipment/supplies (e.g., syringes, needles and IV tubing) to prevent microbial contamination.

Aseptic technique includes:
- Using a new sterile syringe and sterile needle to draw up medications while preventing contact between the injection materials and the non-sterile environment.
- Proper hand hygiene before handling medications.
- Disinfecting the rubber septum with alcohol prior to piercing it.

Scrubbing the Hub
- Scrub access port with appropriate antiseptic (chlorhexidine, povidone iodine, an iodophor, or 70% alcohol)
- Requires friction
- Wait at least 10 seconds to allow the diaphragm to dry before inserting any device into the vial or accessing the medication
- Access port only with sterile devices

Knowledge Check
Needleless connectors
A. Can be a source of contamination
B. Must be scrubbed prior to accessing the line
C. It is important to allow 10 seconds of drying time prior to access
D. All of the above

Medication Preparation
Do not bring medication to the immediate patient treatment area.

Rationale:
- Decreases the temptation to reuse the vial with a contaminated syringe
- If brought to a room it is best practice to discard!

Medication Preparation Room
- Designated clean area
- Well lit
- Refrigerator log
- No food
- Handwashing/AHR
- Nothing on floor
- Sharps container
- Limited access
- Must be separate from used supplies and equipment (e.g., glucose meters)
Environmental Surfaces of Medication Preparation Area Must be Kept Clean

Reused Vacutainer holders in contact with gauze.

Blood contamination

FAQ: Bar Code Technology

Our hospital uses bar code technology that requires scanning of medication vials and drawing up medication in the patient room. If multi-dose vials (e.g., insulin) are dedicated for single-patient-use only, can they be accessed in the patient room?

- All medication preparation should occur in a dedicated medication preparation area, away from immediate patient treatment areas.
- If there is a need to access multi-dose vials in the patient room (e.g., for the purposes of bar-coded medication administration) the vial must be:
  - Dedicated for single-patient-use only.
  - The patient should be housed in a single-patient room.
  - All medication preparation should be performed in a designated clean area that is not adjacent to potential contamination sources (e.g., sink, used equipment).
- Following preparation, the vials should be stored, in accordance with manufacturer’s instructions, in a manner to prevent inadvertent use for more than one patient and/or cross-contamination.

Knowledge Check

Key points for a medication preparation area include all BUT:

A. Can be a mixed use area
B. Must have a sharps container
C. Must have a means for hand hygiene
D. Must have limited access

Glove Use

<table>
<thead>
<tr>
<th>Key Elements</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>When</td>
<td>Gloves are usually not needed for routine intradermal, subcutaneous or intramuscular injections</td>
</tr>
<tr>
<td>Change</td>
<td>Do not wash or decontaminate gloves</td>
</tr>
<tr>
<td>After treatment</td>
<td>Do not wear outside of treatment area, charting, or hallways</td>
</tr>
</tbody>
</table>

Preparing IV Bags “In Advance”

United States Pharmacopeia (USP) Convention:

- 1 hour time limit from preparation (spiking bag) until beginning administration
  - Precludes microbial growth in the event of contamination
  - Organism replication can occur within 1-4 hours

Multiple Syringe Administration

Best Practice:

- Prepare single syringe and administer at bedside before preparing the next syringe
  - OR
- Label each syringe as it is being prepared, prior to any additional syringes
  - AND
- Bring only one patient’s labeled syringe(s) to the bedside for administration
Adding Two Medications

When preparing more than one medication in a single syringe for IV push administration, **limit preparation** to the pharmacy.

- **Risk**: Drug incompatibilities
  - Unless required for immediate use, compounding more than one drug in a single syringe should be carried out in the pharmacy, in a USP compliant clean room.

What About Numbing a Large Area of Skin or Incremental Doses of Intravenous Medication?

- The safest practice is for a syringe and needle to be used only once to administer a medication to a single patient, after which the syringe and needle should be discarded.
- When not feasible, reuse of the same syringe and needle for the same patient should occur as part of a single procedure with strict adherence to aseptic technique.
- In such situations it is essential that the syringe never be left unattended and that it be discarded immediately at the end of the procedure.

Labeling

Label all clinician-prepared syringes of IV push medications or solutions, unless prepared at bedside and immediately administered.

- **Manufacturer's expiration date**: The date after which an **unopened** multi-dose vial should not be used
- **Beyond-use date (BUD)**: The date after which an **opened** multi-dose vial should not be used
  - Beyond-use date should never exceed the manufacturer’s original expiration date
  - Unless indicated by the manufacturer, the BUD is 28 days from the day the vial is opened

Appropriate Label

- **Patient Identification**
- **Medication name and dose**
- **Initials of person preparing**
- **Appropriate date**
  - Beyond use date
  - Expiration date
HELPING PEOPLE LIVE BETTER LIVES.

Label Placement

- Place label on **vial** and not **box** when opened.

**LABEL?**

USP General Chapter <17>, pg. 8

Knowledge Check

If the manufacturer’s expiration date is less than 28 days from the beyond use date on a multi-dose vial, the vial:

A. May be used until the beyond use date
B. Must be discarded at the manufacturer’s expiration date
C. Not used if the vial expires this close to expiration
D. May be used only once and then discarded

The beyond use date (BUD) should be placed on a vial after it is used because pathogens can multiply in a multi-use vial once it has been punctured. The manufacturer’s expiration supersedes the BUD to ensure effectiveness of the medication.

Sharp Storage

Section 3.d

- Do not supply sharps in individual clinic rooms
- Medications should be prepared in central area
- Minimizes risk of syringe, needle, or medication vial reuse
- Unused supplies should be stored in clean areas separated from equipment being used
- Check for expiration dates and rotate stock
- Do not carry supplies in pockets
- Storage should be kept secure to protect from tampering or theft
- Consider risk assessment

- Store supplies away from sinks and under sink cabinets
- Use individually wrapped items instead of loose in glass or metal jars or drawers. Examples include cotton pads/balls, and gauze pads.
- Never store supplies in external cardboard packing boxes.
- Remove from packing box in a designated dirty area and then transport supplies in a clean manner to where they will be stored.
- Keep drawers, trays and cupboards and closets clean and dust free.
- Do **NOT** remove packaging from syringes and store

Injection safety supplies can be stored:

- A. Under sinks
- B. External cardboard containers
- C. Removed from wrappers and packaging
- D. None of the above

**Injection safety supplies must be kept clean and free from contamination, dust and liquids that may penetrate the packaging.**

Knowledge Check

Prevent Contamination

- Store supplies away from sinks and under sink cabinets
- Use individually wrapped items instead of loose in glass or metal jars or drawers. Examples include cotton pads/balls, and gauze pads.
- Never store supplies in external cardboard packing boxes.
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Sharps Safety

- Dispose of sharps only in approved containers
- Do not recap or bend needles prior to disposal
- Replace containers when fill line is reached
- Secure sharps containers to prevent spilling
- Provide containers within easy reach
- Make container easily visible in room

OSHA Standard

- Functional: Durable, closeable and resistant to opening after final closure, puncture resistant, leak resistant, sufficient number and size, (accommodates the largest sharp used in the area), stable on horizontal surface, biohazard label
- Accessible: Conveniently located, at location of use, crash carts, laundry
- Visible: Readily visible, vertical height where can see opening
- Accommodating: Routinely replaced and not allowed to be overfilled.
- Inappropriate places: Corners, backs of doors, inside cabinet doors, areas over where people may sit, near light switches, etc. where container subject to impact or dislodgment by pedestrian traffic

Circumstances and Timing of Percutaneous Injuries Involving Hollow Bore Needles

- During or after disposal, 52%
- After use, before disposal, 19%
- During disposal, 11%
- During use, 53%
- In transit to disposal, 8%
- Improper disposal, 9%
- Unknown/no data, 9%
- Injury or removal of needle, 27%
- Activation of safety features, 5%
- Reuse needle, 5%
- Transfer/procure specimen, 5%
- Needle in/on skin, 4%
- Aseptic transfer, 4%
- Transfer/inject/withdraw, 4%
- Collapsed sharps, 3%
- Aseptic shuler, 2%
- Aseptic process, 2%
- Other, 2%

OSHA Bloodborne Pathogen Standard

- “Safer medical devices, such as sharps with engineered sharps injury protections and needleless systems” constitute an effective engineering control, and must be used where feasible.”

The CDC estimates that healthcare workers sustain nearly 600,000 percutaneous injuries annually involving contaminated sharps.
Where Do You Have Sharps?

- Clinic rooms where dentists, podiatrists, physicians perform examinations
- Clean utility rooms
- Clean storage closets
- Resident rooms
- Medication carts
- IV trays

Look for Areas of Risk

- 72 home health care (HHC) nurses completed a 152-item self-administered risk assessment
- Nine (13%) of the HHC nurses experienced 10 needlesticks in the 12-month period before the study
- Only 4 of the needlesticks were reported to the nurse’s employer
- Devices most frequently associated with needlesticks were hollow-bore and phlebotomy needles, including 3 needles with safety features
- Exposure was most commonly attributed to patient actions, followed by disposal-related activities

Best Practices

- Use single-dose vials in place of multi-dose vials whenever possible
- Correctly label all syringes and vials when used
- Never reenter a syringe that has been used (double-dipping)
- Discard outdated medications

Safety Steps for Successful Administration

- Before Administration
  - Read the label. If a single-dose vial has already been accessed, throw it away. If a multiple-dose vial has already been accessed, make sure it is not past the “beyond-use-date” noted on the vial.
  - When in doubt, throw it out.

- During Administration
  - Use aseptic technique.
  - Use a new needle and syringe for every injection.
  - Hand Hygiene before handling medication.
  - Disinfect the vial by rubbing diaphragm with alcohol – even for newly opened vials.
  - Draw up in a clean medication preparation area.

- After Administration
  - Discard all used needles and syringes, single-dose and multiple-dose vials in the patient treatment area in designated containers.
  - Discard prepared or opened syringes involved in emergency situations.

Its Not Just “The Right” Thing To Do, It Is Required

Occupational Safety and Health Administration (OSHA)
- Authority to enact Federal standards for safe or healthful employment and places of employment.
- A specific standard applies to needlesticks, injection safety and the risk of acquiring a blood borne pathogen (BBP)
- The standard is located at: https://www.osha.gov/DATA/PROGRAMS/OSHA_activities/OSHA_activities.html#needlestick_injuries

Regulatory Requirements

- Many regulatory and surveying agencies have injection safety requirements
  - Center for Medicare and Medicaid Services (CMS) and agencies surveying for them (e.g. The Joint Commission, DNS)
  - State Health Departments
- Includes all types of healthcare facilities
  - Ambulatory: See AAAHC example next slide
  - Acute care: CMS Hospital Infection Control Worksheet
  - Long Term Care: Ref: S&C 17-09-ALL
Accreditation Association for Ambulatory Healthcare (AAAHC)

- D. The infection prevention and control program reduces the risk of health care-acquired infection as evidenced by education and active surveillance, consistent with:
- 
- G. A written sharps injury prevention program must be present in the organization. Such a program will include:
  1. Documentation of new employee orientation, annual staff education, and additional education as needed
  2. Disposal of intact needles and syringes into appropriate puncture-resistant sharps containers, in accordance with current state and federal guidelines
  3. Placement of sharps containers in appropriate care areas, secured from tampering
  4. Replacement of sharps containers when the fill line is reached
  5. Handling, storage, and disposal of filled sharps containers in accordance with applicable regulations

Center for Clinical Standards and Quality/Survey & Certification Group, Long-Term Care

Section 1: Injection Practices and Sharps Safety

- I.1. Appropriate personnel receive training and competency validation on injection safety procedures at time of employment.
- I.2. Appropriate personnel receive training and competency validation on injection safety procedures at least every 12 months.

Knowledge Check

The time of greatest risk of a needlestick from a hollow bore needle is:

A. During disposal of the needle
B. When passing the needle
C. Collecting a specimen
D. Insertion or removal of the needle

Extra caution must be used at insertion and removal of hollow bore needles as 27% of needlesticks occur at this point of use.
Helping People Live better Lives.

**U.S. Outbreaks Associated with Drug Diversion, 1983-2013**

- **1985**: 3 cases of *Pseudomonas pickettii* bacteremia associated with a pharmacy technician at a Wisconsin hospital.
- **1992**: 45 cases of HCV infection associated with a surgical technician at a Texas ambulatory surgical center.
- **1999**: 26 cases of *Serratia marcescens* bacteremia associated with a respiratory therapist at a Pennsylvania hospital.
- **2004**: 45 cases of HCV infection associated with a surgical technician at a Texas ambulatory surgical center.
- **2006**: 9 cases of *Achromobacter xylosoxidans* bacteremia associated with a nurse at an Illinois hospital.
- **2008**: 5 cases of HCV infection associated with a radiology technician at a Florida hospital.
- **2009**: 18 cases of HCV infection associated with a surgical technician at a Colorado hospital.
- **2011**: 25 cases of gram-negative bacteremia associated with a nurse at a Minnesota hospital.
- **2012**: 45 cases of HCV infection associated with a radiology technician at hospitals in New Hampshire, Kansas, and Maryland.

**Prevent**
- Healthcare facilities are required to have systems in place to guard against theft and diversion of controlled substances.
- All staff need to understand and comply with protocols, acting in ways to minimize unauthorized access or opportunities for tampering and misuse.
- Policies need to include items from ordering of controlled substances to wasting unused supplies.

**Detect**
- Systems can include:
  - Active monitoring of pharmacy and dispensing record data
  - Camera surveillance in high-risk areas
  - Implementing a clearly defined process for controlling and accounting for keys
  - Rules against sharing pass codes
  - Utilizing bar codes for tracking
  - Deploying secure and locked delivery carts
  - Using tamper resistant packaging

**Respond**
- For staff, this can be summarized as "see something, say something."
- Appropriate response at the institutional level includes:
  - Assessment of harm to patients or other healthcare workers
  - Consultation with public health officials when tampering with injectable medication is suspected
  - Prompt reporting to enforcement agencies.

**Lack of Oversight**
- Culture at the work place may not support individuals speaking up in positions perceived to be lower in authority when they see non-compliance
  - Radiology techs, medical assistants, dental practices
  - Non-compliance may result in licensing board disciplinary action or malpractice suits
- Correct equipment is not always available or utilized
- Assurance from employer/ supervisor that a practice is safe will not protect you

**Regulatory or accreditation agencies, e.g. CMS, Joint Commission, Federal Drug Administration**
Steps for Evaluating a Breach

Resource available:
https://www.cdc.gov/hai/outbreaks/steps_for_eval_of_breach.html

Add Double Layers of Protection

Question medication preparation outside of a designated area
Question if you see a syringe removed from a pocket
Question when a syringe is removed from a needle
Question any unlabeled syringe or vial
Question all your locations about storage of injection equipment and medications

Knowledge Check

If a physician gives direction to divide a single use vial for multiple patients that action can be completed and meets appropriate safety standards.

A. True
B. False

Employer advice does not supersede safety standards of practice and places the employee at legal risk and the patient in harms way.

Unsafe Practice Alerts

The CDC reports 15 Hepatitis B outbreaks in the last 10 years associated with unsafe blood glucose monitoring
Health fair in New Mexico (2010): reused fingerstick lancets potentially exposing 2,000+ individuals
Assisted Living in North Carolina: reused lancets and shared glucose meters with 8 Hepatitis B infections (all hospitalized, 6 fatal)

Blood Glucose Meters

Blood glucose meters should be assigned to an individual and not shared
If meters are shared, the device should be cleaned and disinfected after every use with an EPA-registered disinfectant (per manufacturer’s instructions)
If the manufacturer does not specify how it should be cleaned and disinfected, it should not be shared
Infection Control

Blood Glucose Meters can become contaminated with blood and, if used for multiple residents, must be cleaned and disinfected after each use according to manufacturer’s instructions for multi-patient use.

Staff must not carry blood glucose meters in pockets.

Blood glucose meters must be cleaned per manufacturer’s instructions using an EPA registered product. Single use monitors must be stored to ensure they are used on the correct resident without cross-contamination from other equipment.

NOTE: If the facility failed to clean and disinfect, per device manufacturer’s instructions, and blood glucose meters are used for more than one resident, surveyors must cite this tag and utilize the guidelines in Appendix Q as it may constitute immediate jeopardy.

Recommended Practices:
- Never use on more than one person
- Use auto disabling single-use finger stick devices for assisted monitoring of blood glucose
- Wear gloves during blood glucose monitoring and any other procedure that involves potential exposure to blood or body fluids
- Perform hand hygiene before and after glove use
- Avoid handling test strip containers with soiled gloves to avoid contamination
- Dispose of sharps in approved containers
- Personal Protective Equipment
Knowledge Check

Blood glucose meters:
A. Best practice is to dedicate for each patient
B. If shared, must have a label identifying FDA approval
C. Must be cleaned after each use
D. All of the above

Blood glucose meters have been identified as a source of outbreaks. Appropriate use of each type of meter is critical for prevention of infections.

Section 5

Take Action

- Develop a written infection prevention and control plan
  Ensure injection safety is part of your risk assessment
- Provide new employee and annual re-education
- Conduct quality assurance monitoring

Audit Point of Care Testing

- Do you have a policy which includes protocols for performing finger sticks and point of care (POC) testing?
- Is there training and competency validation on point of care testing at time of employment and annually?
- Is there an audit which monitors staff adherence to safe point of care testing practices?
- Are the supplies available to perform safe POC testing (single use lancets, POC device dedicated to resident or labeled for multi-resident use)?
- If POC device is used with multiple residents is it cleaned using manufacturers guidelines?

Equipment Cleaning Tool Assessment


60 Second Checklists

- Available at: http://www.oneandonlycampaign.org/partner/colorado
  - Insulin Pen Safety
  - Fingerstick Lancing Device
  - Blood Glucose Meter Safety
**Road Map to Controlled Substance Diversion Prevention**

- Complete Toolkit for Drug Diversion Prevention includes policies and audit tools

**Routine Evaluate Your Injection Safety Process**

- Find this checklist at:
  - [http://www.oneandonlycampaign.org/content/print-materials](http://www.oneandonlycampaign.org/content/print-materials)

**Use Guidelines**

**CDC Website**

- Available at: [http://www.cdc.gov/injectionsafety/](http://www.cdc.gov/injectionsafety/)

**Institute for Safe Medication Practices**

**One and Only Campaign**

- One and Only Campaign:
  - National CDC-led coalition made up of healthcare-related organizations
  - Goal is to promote safe injection practices in all US healthcare settings

- Multi-media resources available:
  - Includes social media: Facebook and Twitter
  - Print and video
  - [http://www.oneandonlycampaign.org](http://www.oneandonlycampaign.org)
Avoid ever having to use the Patient Notification Toolkit because of an unsafe practice at your facility

What to include in a letter
- Where it happened
- Possible symptoms
- Corrective actions taken
- 24-hour contact number
- Assurance that the correct patients are being contacted
- Plan of action/next steps

Key concerns from patients
- What happened
- When it happened
- What symptoms
- What to do next
- Who is paying for what
- Who's liable
- How/where it happened
- Possible symptoms
- Who is liable
- Corrective actions taken
- 24-hour contact number
- Assurance that the correct patients are being contacted
- Plan of action/next steps

Time of the letter
- Factual, clearly stated
- Apologetic, empathetic
- Personal, urgent
- Soft/neutral
- Accommodating to the potentially infected
- Assuring that things will be taken care of

CDC Patient Notification Toolkit

Sample Patient Letter B – Disease Transmission Identified, Issued by Health Department

Available at:
http://www.cdc.gov/injectionsafety/pntoolkit/index.html

Most Outbreaks are Never Detected

Asymptomatic infection
Under-reporting of cases
Under-recognition of Healthcare as risk
Long incubation period; difficult to identify single healthcare exposure
Barriers to investigation; resource constraints

Injection safety is a basic part of a patient safety, infection prevention program

Outbreaks are:
- Very difficult to find and track to the source
- Costly to patients, providers and the healthcare system
- Result in patient/family anxiety waiting for test results

Make every injection a safe injection
Encourage your patients to voice any safety concerns
Consider the consequences for those who contract a preventable infection due to a poor injection practice

Pledge

I WILL USE A NEW NEEDLE.
I WILL USE A NEW SYRINGE.
FOR YOU.

THIS IS THE ONE AND ONLY TIME THEY WILL BE USED

#1tandonlypledge

Thank You for Becoming a Safe Injection Champion

From the Patient

Evelyn McKnight

CDC website downloaded 2/3/2017: https://www.cdc.gov/injectionsafety/pntoolkit/slide45.html
Continuing Education Credit

Please follow link on Nebraska HAI webpage

http://dhhs.ne.gov/publichealth/HAI/Pages/SafeInjection.aspx

Contact

Nebraska Safe Injection Program Coordinator
One and Only Campaign: Nebraska page
http://www.oneandonlycampaign.org/partner/nebraska

Nebraska DHHS
HAI Page: Healthcare Professionals
http://dhhs.ne.gov/publichealth/HAI/pages/HealthcareProfessionals.aspx