Safe Injection Practices

Last Updated 2015
Objectives

• Discuss the risks associated with unsafe injection practices
• Promote use of the Injection Safety Checklist
• Discuss a safety culture for healthcare workers
• Describe methods to create an institution-wide program for injection safety
• List resources for a Safe Injection Practices (SIP) program
Hepatitis B and C Outbreaks Associated with Unsafe Infection Practices

- 44 outbreaks of hepatitis B and C were identified in non-hospital settings in the U.S. from 2008-2014
  - Six outbreaks were in California
    - 2678 persons notified and screened
    - 27 cases of Hepatitis B or C identified
  - The outbreaks occurred in
    - 2 skilled nursing facilities
    - 2 assisted living facilities
    - 1 pain management clinic
    - 1 outpatient dialysis clinic

CDC, 2015
Hepatitis B and C Outbreaks Associated with Unsafe Infection Practices -2

- According to CDC, the California outbreaks occurred because of injection safety breaches at the facilities, including:
  - Reuse of syringes
  - Contaminated medication vials used for more than one patient
  - Use of single-dose vials for more than one patient
What are Safe Injection Practices?

• A set of measures to perform injections in an optimally safe manner for patients, healthcare providers, and others.
• Prevent transmission of infection from
  – Patient to provider
  – Provider to patient
  – Patient to patient
Safe Injection Practices are Part of Standard Precautions

- Hand hygiene
- Use of personal protective equipment
- Safe injection practices
- Safe handling of potentially contaminated equipment or surfaces in the patient environment
- Respiratory hygiene and cough etiquette
Safe Injection = No Infection

Injection safety includes:

1. Safe production
   • sterile medication
2. Safe preparation
   • right dose, prepare in a clean area
3. Safe administration
   • adherence to standard precautions
4. Safe disposal:
   • minimize risks to the patient and healthcare provider
Aseptic Technique During the Preparation and Administration of Injected Medications

- Perform hand hygiene
- Medications should be drawn up in a designated clean medication area, **not** adjacent to areas where potentially contaminated items are placed
Needles and Syringes: One Time Use Only

- Used for only one patient
- Includes manufactured prefilled syringe
  - Cartridge devices
  - Insulin pens

CDC One and Only Campaign
(http://www.oneandonlycampaign.org/)
Injection Safety for Diabetic Patients

- Insulin pens containing more than one dose of insulin are only meant for one person
- For glucose testing, clean the glucometer after every use
Always Clean the Tops of Medication Vials Before Entry

• Cleanse access diaphragms of medication vials using friction, with 70% alcohol, and allow the alcohol to dry before inserting a device into the vial

• Clean the tops of the vials with alcohol even when they have lids or caps

• Manufacturers guarantee the sterility of medications and IV solutions
  – this may not include a guarantee of sterility of the outside of the container or medication vial
Single-Dose Vials are for One Patient and Only Once

- Carefully read the vial label to determine if it is single-use
- Never enter a medication vial with a used syringe or needle
- If the vial says “single-dose” and has already been accessed, throw it away
- Single use medications should not be stores for future use
- Discard according to the manufacturer’s expiration date
- When in doubt, throw it out!

[Sources: cdc.gov/injectionsafety]
Multi-Dose Vials (MDV)

- Limit the use of multi-dose vials
  - When possible, dedicate them to a single patient
- A multiple–dose vial is recognized by its FDA-approved label
- Discard MDV when the beyond-use date has been reached
- Any time the sterility of the vial is in question, throw it out!

[cdc.gov/injectionsafety](https://www.cdc.gov/injectionsafety)
Multi-Dose Vials (MDV) -2

- Multi-dose vials used for more than one patient must be kept in a centralized medication area.
- Multi-dose vials should never enter the immediate patient treatment area (e.g., patient rooms, operating rooms).
- Multi-dose vials should be dated by the healthcare worker when first opened and discarded within 28 days.
  - Exception: if the manufacturer specifies a different expiration date for an opened vial.
Use Bags of Intravenous Solutions for One Patient Only

- Do not use bags of intravenous solution as a common source of supply for more than one patient
- Everything from the medication bag to the patient's IV catheter is a single interconnected unit
The Injection Safety Checklist

- Used to assess your facility’s injection safety practices
- Download and share the CDC Injection Safety Checklist (www.cdc.gov/injection safety/PDF/SIPC_Checklist.pdf)

### INJECTION SAFETY CHECKLIST

The following Injection Safety checklist items are a subset of items that can be found in the CDC Infection Prevention Checklist for Outpatient Settings: Minimum Expectations for Safe Care.

The checklist, which is appropriate for both inpatient and outpatient settings, should be used to systematically assess adherence of healthcare personnel to safe injection practices. (Assessment of adherence should be conducted by direct observation of healthcare personnel during the performance of their duties.)

<table>
<thead>
<tr>
<th>Injection Safety</th>
<th>Practice Performed?</th>
<th>Answer is No, document plan for remediation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids or contaminated equipment.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens).</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>The rubber septum on a medication vial is disinfected with alcohol prior to piercing</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Single dose (single-use) medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Medication administration tubing and connectors are used for only one patient.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Multi-dose vials are dated by HCP when they are first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Note: This is different from the expiration date printed on the vial.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-dose vials are dedicated to individual patients when ever possible.</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Multi-dose vials to be used for more than one patient are kept in a centralized medication area and do not enter the immediate patient treatment area (e.g., operating room, patient room/cubicle).</td>
<td>Yes No</td>
<td></td>
</tr>
<tr>
<td>Note: If multi-dose vials enter the immediate patient treatment area, they should be dedicated for single-patient use and discarded immediately after use.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RESOURCES**


[1 Needle, One Syringe, Only One Time.]
Sharps Safety

- Contaminated sharps devices can puncture or cut skin
- Approximately 385,000 needle sticks and other sharps-related injuries occur in hospital-based healthcare personnel each year
Needle Sticks and Exposure to Blood or Other Bodily Secretions

If you are stuck by a used needle or exposed to blood or other bodily secretions:

• Wash the needle stick site or cut with soap and water until clean
• Flush splashes to the nose, mouth, or skin with water
• Irrigate eyes with clean water, saline, or sterile irrigant
• Report the incident to your supervisor immediately
• Immediately seek medical evaluation per your facility's policy
Sharps Injuries in Healthcare

Injuries occur most frequently due to inappropriate sharps disposal practices by healthcare workers. These include:

- Insufficient maintenance of sharps containers in every area
- Improper design of sharps disposal container
- Inappropriate placement of sharps disposal container
- Overfilling sharps disposal container
Sharps Disposal Container Requirements

• Must be puncture-resistant, durable during installation and transport, and of appropriate size and shape for the task

• Must be clearly visible

• Must be easy to access by being placed in an upright position and easy to operate

• Must have ease of storage and assembly, require minimal worker training requirements, be easy to operate, and have a flexible design

CDC Injection Safety Workbook
Reduce the Risk of Blood Contact

Follow Cal-OSHA requirements and CDC guidelines

• Establish an exposure control plan
• Use labels and signs to communicate hazards
• Provide information and training to workers
• Make available hepatitis B vaccinations to all workers who may have occupational exposures to blood or body fluids
• Identify and use engineering controls
• Implement the use of universal precautions
CDC Recommendations for Improving Injection Safety at Healthcare Facilities

- Designate someone to provide ongoing oversight for infection control issues
- Develop written infection control policies
- Provide training
- Conduct quality assurance assessments
- Establish culture of safety

CDC Injection Safety Workbook
Establishing a Culture of Safety

• Introduce workers to a safety culture when they are first hired
• Have written safety guidelines and policies
• Engage worker participation in safety planning
• Provide appropriate safety devices and protective equipment; include healthcare workers in the selection process
Organizational Steps to Ensure Safe Injection Practices

- Step 1-2: Develop Organizational Capacity, Assess Program Operation Processes
- Step 3-4: Prepare Baseline Profile of Injuries and Prevention Activities, Determine Intervention Priorities
- Step 5-6: Develop and Implement Action Plans, Monitor Performance Improvement

CDC Injection Safety Workbook
Step 1: Develop Organizational Capacity

- Create an institution-wide injection safety program
- Engage a leadership team focused on eliminating unsafe injection practices
- Create an administration commitment to the program
- Involve senior-level management
- Involve a small core group of clinical staff on team
Step 2: Assess Program Operation Processes

- Assess the safety culture
- Analyze existing data
- Develop a feedback system
- Promote individual accountability for safety
- Determine educational needs of workers
Step 3: Prepare Baseline Profile of Injuries and Prevention Activities

• How many unsafe injection practices have been reported?

• In the past year, what proportion of injuries occurred due to the following circumstances?
  – Manipulating needle in patient
  – Manipulating needle in IV line
  – Recapping, discarding sharp into container, discarding sharps improperly
Step 4: Determine Intervention Priorities

- Injection safety should have priority attention
- Establish an action plan for performance improvement
- List priorities for improvement, as identified in the baseline assessment
- Specify which interventions will be used
- Identify performance improvement measures
- Establish time lines and define responsibilities
Step 5: Develop and Implement Action Plans

- The baseline profile will identify the strengths and weaknesses of the organization’s injection safety and injury prevention programs.
- Team can create a list of priorities for performance improvement and then decide how to accomplish the necessary tasks.
- Team should be sure that the areas for process improvement are clear and measurable.
- To increase the likelihood of success, only a few improvements should be taken on at a time.
Step 6: Monitor Performance Improvement

- Develop a checklist of activities
- Create and monitor a timeline for implementation
- Schedule periodic reviews for assessing performance improvements
Summary

• Safe injection practices prevent infection transmission and outbreaks of bloodborne diseases to both patients and healthcare providers

• Healthcare facilities should evaluate their injection safety practices and, as needed, implement a 6-step program to improve injection safety
Resources

- [CalOSHA Frequently Asked Questions](http://www.dir.ca.gov/dosh/Safe%20Patient%20Handling%20FAQ.pdf)
- [CDC Injection Safety](www.cdc.gov/injectionsafety)
- [CDC One and Only Campaign](https://www.cdc.gov/injectionsafety/1anonly.html)
Safe Injection Practices Coalition (SIPC)

The Safe Injection Practices Coalition (SIPC) is a partnership of healthcare-related organizations, patient advocacy organizations, industry partners, and other public health partners, led by the Centers for Disease Control and Prevention (CDC)

CDC The One & Only Campaign
(https://www.cdc.gov/injectionsafety/1anonly.html)
Questions?

For more information, please contact any HAI Liaison Team member.

Thank you.