

Safe Injection Practices

Last Updated 2017

Basics of Infection Prevention
Healthcare-Associated Infections Program
Center for Health Care Quality
California Department of Public Health



Objectives

- Describe how injection safety **protects patients**
 - Discuss risk of unsafe injection practices
 - Promote use of the Injection Safety Checklist
- Describe how injection safety **protects health care workers**
 - Discuss a safety culture
 - Describe methods to create a facility-wide injection safety program to protect health care workers
- Review Safe Injection Practices (SIP) resources

Hepatitis B and C Outbreaks Associated with Unsafe Infection Practices

- CDC aware of 44 outbreaks of hepatitis B and C in non-hospital settings in U.S., 2008-2015
- Outbreaks occurred due to injection safety breaches
 - Reuse of syringes
 - Contaminated medication vials used for more than one patient
 - Use of single-dose vials for more than one patient

CDC, 2015

Hepatitis Outbreaks Associated with Unsafe Infection Practices in California

- 6 outbreaks, 2008-2015
 - 2678 persons notified and screened
 - 27 cases of Hepatitis B or C identified
- Multiple settings
 - 2 skilled nursing facilities
 - 2 assisted living facilities
 - 1 pain management clinic
 - 1 outpatient dialysis clinic

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
 - Provider to patient
 - Patient to patient
 - Patient to provider



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, prepared in a clean area
3. Safe administration
 - adherence to standard precautions
4. Safe disposal:
 - minimize risks to patients and health care providers

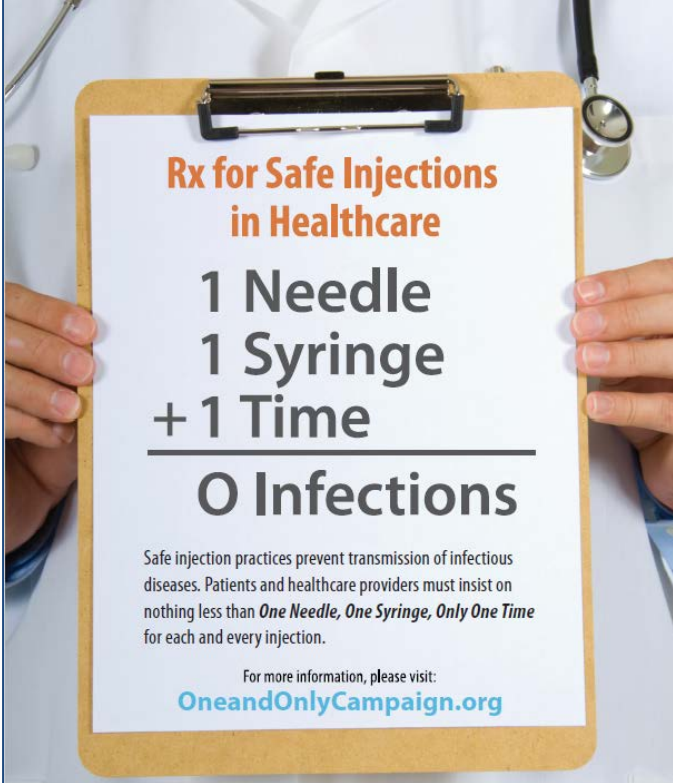
Aseptic Technique During the Preparation and Administration of Injected Medications

- Perform hand hygiene
- Draw up medications in a designated clean medication area
 - Area must **not** be adjacent to areas where potentially contaminated items are placed



Needles and Syringes: One Time Use ONLY

- **Needles** used for only one patient
- **Syringes** used for only one patient
 - Includes manufactured prefilled syringes
 - Cartridge devices
 - Insulin pens



**Rx for Safe Injections
in Healthcare**

**1 Needle
1 Syringe
+ 1 Time**

0 Infections

Safe injection practices prevent transmission of infectious diseases. Patients and healthcare providers must insist on nothing less than *One Needle, One Syringe, Only One Time* for each and every injection.

For more information, please visit:
OneandOnlyCampaign.org

The *One & Only Campaign* is a public health effort to eliminate unsafe medical injections. To learn more about safe injection practices, please visit OneandOnlyCampaign.org.

For the latest news and updates, follow us on Twitter @injectionsafety and Facebook/OneandOnlyCampaign.

**1 ONE NEEDLE,
ONE SYRINGE,
ONLY ONE TIME.**

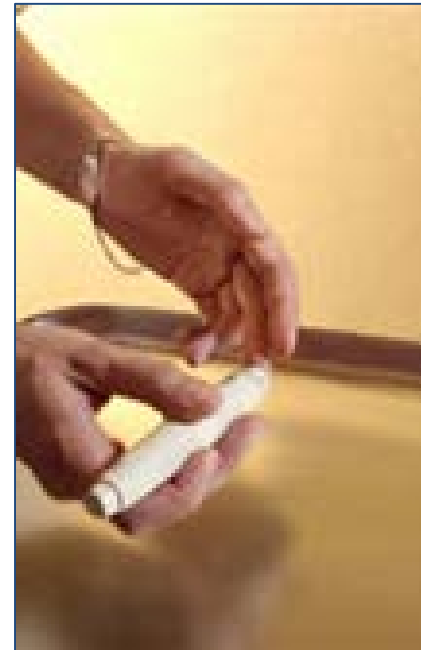
Safe Injection Practices Coalition
www.ONEandONLYCampaign.org

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
- Allow the alcohol to **dry** before inserting a device into the vial
- Clean the tops of vials with alcohol even if they have lids or caps
 - Manufacturers guarantee sterility of medications and IV solutions but not the **outside** of medication vials or containers

Single-Dose Vials: One Patient and Only Once

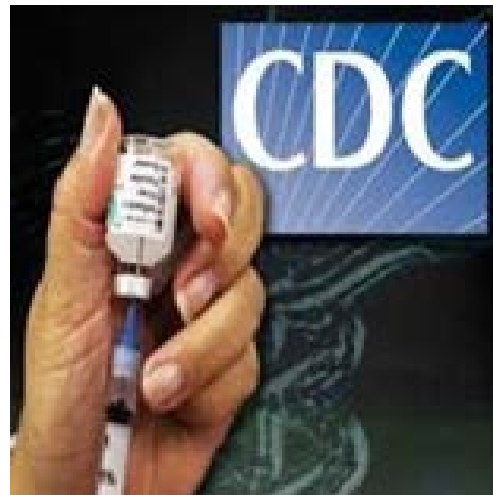
- Carefully read the vial label to determine if it is single-use
- Never enter a medication vial with a used syringe or needle
- If the vial says “single-dose” and has already been accessed, throw it away
- Single use medications should not be stored for future use
- Discard according to the manufacturer’s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

CDC Injection Safety

[cdc.gov/injectionsafety](https://www.cdc.gov/injectionsafety)

Multi-Dose Vials

- 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 multi-dose vials when the beyond-use date has been reached
- Any time the sterility of the vial is in question, throw it out !



CDC Injection Safety

[cdc.gov/injectionsafety](https://www.cdc.gov/injectionsafety)

Multi-Dose Vials -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 health care worker when first opened and discarded within 28 days
 - Unless the manufacturer specifies a different expiration date for an opened vial shorter than 28 days

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

- Use to assess your facility's injection safety practices
- Download and share with all staff

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.)

Injection Safety	Practice Performed?	If answer is No, document plan for remediation
Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids or contaminated equipment.	Yes No	
Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens).	Yes No	
The rubber septum on a medication vial is disinfected with alcohol prior to piercing	Yes No	
Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient.	Yes No	
Single dose (single-use) medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.	Yes No	
Medication administration tubing and connectors are used for only one patient.	Yes No	
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. Note: This is different from the expiration date printed on the vial.	Yes No	
Multi-dose vials are dedicated to individual patients when ever possible.	Yes No	
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). Note: If multi-dose vials enter the immediate patient treatment area they should be dedicated for single-patient use and discarded immediately after use.	Yes No	

Sharps Safety

- Contaminated sharps devices can puncture or cut skin
- Approximately 385,000 needle sticks and other sharps-related injuries occur in hospital-based health care 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

https://www.cdc.gov/sharpsafety/pdf/sharpsworkbook_2008.pdf

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

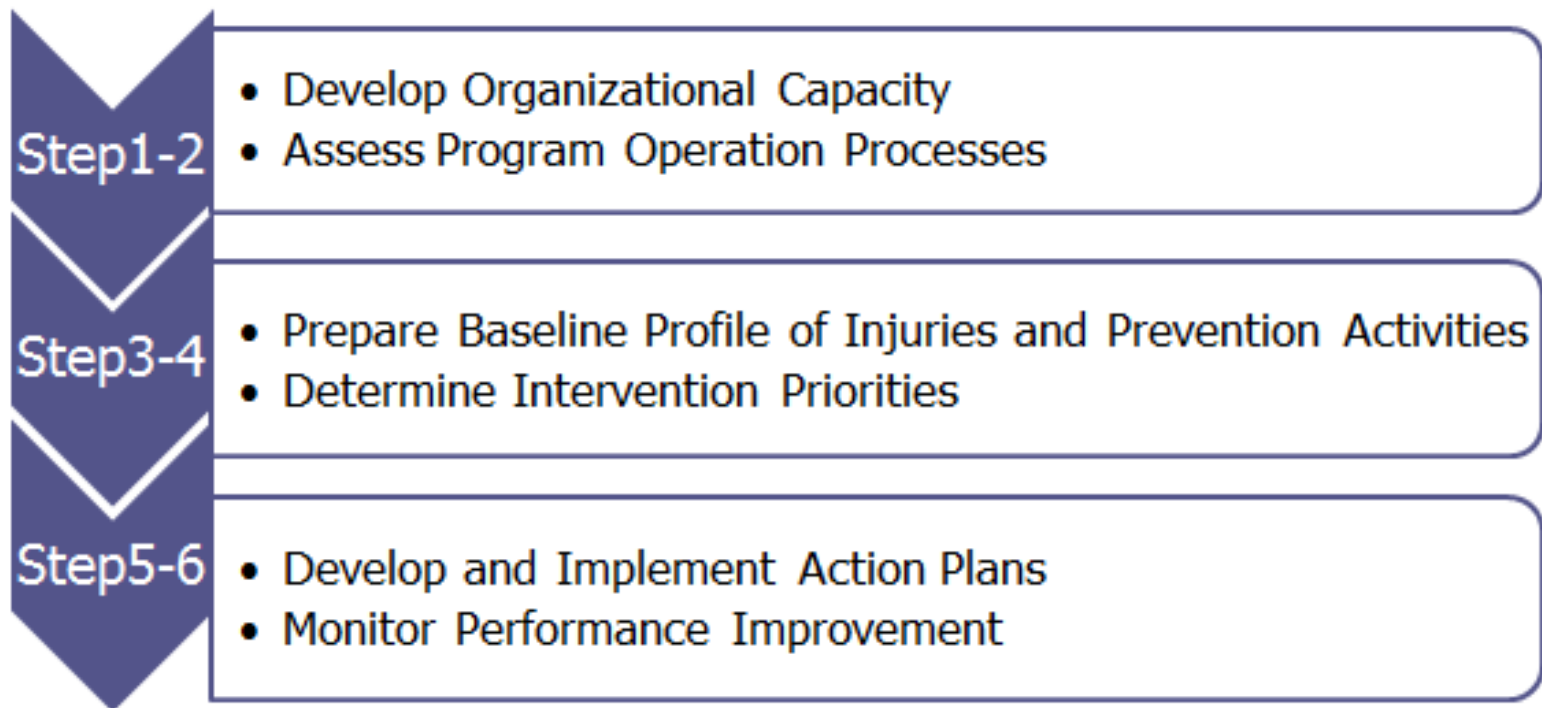
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Establishing a Culture of Safety

- 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



CDC Injection Safety Workbook

https://www.cdc.gov/sharpssafety/pdf/sharpssworkbook_2008.pdf

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

Safe Injection Practices Coalition (SIPC)

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



CDC One & Only Campaign

<https://www.cdc.gov/injectionsafety/1anonly.html>

Summary

- Safe injection practices prevent infection transmission and outbreaks of bloodborne diseases to both patients and health care providers
- Health care facilities should evaluate their injection safety practices and, as needed, implement a 6-step program to improve injection safety

Additional Resources

- CalOSHA frequently asked questions
<http://www.dir.ca.gov/dosh/Safe%20Patient%20Handling%20FAQ.pdf>

Questions?

For more information,
please contact any
HAI Program Liaison IP Team member

Or email

HAIProgram@cdph.ca.gov