Injection Safety

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Basics of Infection Prevention
2-Day Mini-Course
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 SIP program

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Hepatitis B and C Outbreaks Associated with Unsafe Infection Practices

- 44 outbreaks of hepatitis B and C were identified in non-hospitals settings in the US from 2008-2014
- Of these, 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
  - A pain management clinic
  - An outpatient dialysis clinic

CDC, 2015

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California Hepatitis Outbreaks - Cause

- 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

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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

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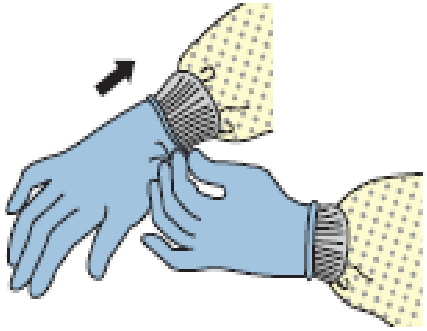
Safe Injection Practices Are Part of Standard Precautions

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



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"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

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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

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Needles and Syringes – One Time Use Only

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

www.oneandonlycampaign.org

Injection Safety for Diabetic Patients

- Insulin pens that contain more than one dose of insulin are only meant for one person

- For glucose testing, clean the glucometer after every use

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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

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Single-dose Vials Are for One Patient & Only Once

- Single-dose medications should be used only for a single patient.
  - Carefully read the label of the vial of medication to determine if single use
- Never enter a medication vial with a used syringe or needle
- If 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

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When in doubt throw it out!

Limit the Use of 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 MDVs when the beyond-use date has been reached
- Any time the sterility of the vial is in question, throw it out

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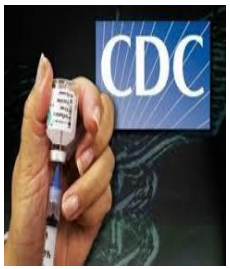
When Multi-dose Vials ARE Used…

- 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, including
  - Patient rooms/cubicles and
  - Operating rooms
- Multi-dose vials should be dated by the healthcare worker when first opened and discarded within 28 days
  - Unless the manufacturer specifies a different (shorter) expiration date for an opened vial



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Bags of Intravenous Solutions Should be Used 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 Injection Safety Checklist: www.cdc.gov/injectionsafety/PDF/SIPC_Checklist.pdf

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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 whenever 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	

RESOURCES

Checklist: **http://www.cdc.gov/HAI/pdfs/guidelines/ambulatory-care-checklist-07-2011.pdf**

Guide to Infection Prevention for Outpatient Settings: Minimum Expectations for Safe Care: **http://www.cdc.gov/HAI/pdfs/guidelines/standatds-of-ambulatory-care-7-2011.pdf**

1 ONE NEEDLE, ONE SYRINGE, ONLY ONE TIME.

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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

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If You Are Accidently 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

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Why Sharps Injuries Occur in Healthcare

Injuries occur most frequently due to inappropriate sharps disposal practices by healthcare workers, such as

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

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Sharps Disposal Containers

Sharps disposal containers must

- Be puncture-resistant, durable during installation and transport, and of appropriate size and shape for the task
- Be clearly visible
- Be easy to access by being placed in an upright position and easy to operate
- Have ease of storage and assembly, require minimal worker training requirements, be easy to operate, and have a flexible design

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www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf

Reduce the Risk of Blood Contact

Follow CalOSHA requirements & 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/body fluids
- Identify and use engineering controls.
- Implement the use of universal precautions

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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 a "culture of safety"

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www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf

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
- Make available appropriate safety devices and protective equipment. Include healthcare workers in the selection process

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Organizational Steps to Ensure Safe Injection Practices

Step1-2
- Develop Organizational Capacity
- Assess Program Operation Processes

Step3-4
- Prepare Baseline Profile of Injuries and Prevention Activities
- Determine Intervention Priorities

Step5-6
- Develop and Implement Action Plans
- Monitor Performance Improvement

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Work Book One Sharp Safety
www.cdc.gov/sharpssafety/pdf/sharpsworkbook_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

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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

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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

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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

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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.

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Step 6: Monitor Performance Improvement

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

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Summary

- Safe injection practices prevent the infection transmission / 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

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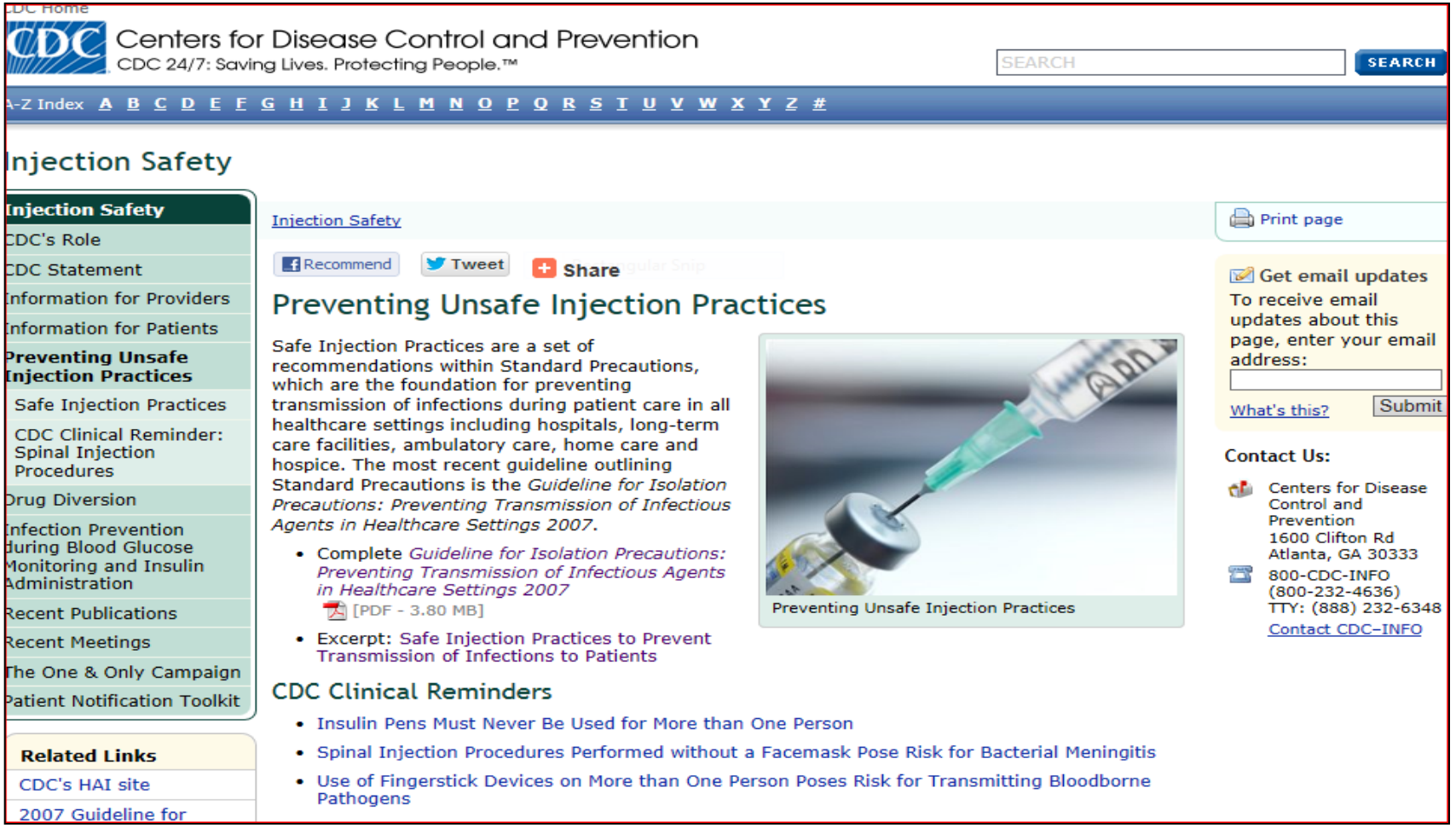
Resources



www.cdc.gov/injectionsafety
www.cdc.gov/injectionsafety/1anOnly.htm

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A workbook designed for:

- Infection Control & Occupational Health Personnel
- Healthcare Administrators
- Sharps Injury Prevention Committees

www.cdc.gov/sharpssafety/pdf/sharpsworkbook_2008.pdf

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)

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www.oneandonlycampaign.org/content/coalition

Cal/OSHA

The California Department of Industrial Relations Division of Occupational Safety and Health, better known as Cal/OSHA, protects workers from health and safety hazards on the job in almost every workplace in California through its research and standards, enforcement, and consultation programs.

www.dir.ca.gov/dosh/Safe%20Patient%20Handling%20FAQ.pdf

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Safe Injection Practices Coalition
www.ONEandONLYcampaign.org

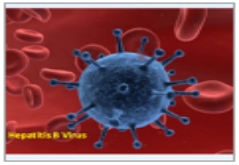
About the Campaign | Safe Injection Practices | Healthcare Provider Information | Patient Information | Campaign Resources | News | Contact Us

California

www.oneandonlycampaign.org/partner/california

News & Events

» How Can We Prevent Hepatitis B and C Outbreaks in Healthcare Settings?



CDC released a report in February 2015 summarizing healthcare-associated outbreaks of hepatitis B and C in non-hospital settings in the United States during the years of 2008-2014. In California, outbreaks were reported from long-term care and assisted living facilities, a pain management clinic, and an outpatient dialysis clinic. To learn more about hepatitis B and C outbreaks in healthcare settings and how to prevent them click here

» Are Your Botox Injections Safe?

Do you know if Botox injections given by your provider are safe? Every unsafe injection can expose you to diseases like hepatitis B or C and HIV.

Botox injections are utilized for cosmetic treatments and for certain medical conditions. According to the American Society of Plastic Surgeons, the number of Botox injections has dramatically increased in the past several years. For more info click here

» As You Use Insulin Pens, Keep Your Safety in Mind

Insulin pens should be utilized once for a single patient. The CDC guideline includes various approaches for safely using insulin pens. For instance, insulin pens that contain more than one dose of insulin are only meant for one person. If someone shares his or her insulin pen, the chances of exposure to bloodborne viruses such as hepatitis B, C, and HIV are extremely high. Learn more about infection prevention during blood glucose monitoring and insulin administration, click here

» Are Injections Performed Safely At My Healthcare Facility?

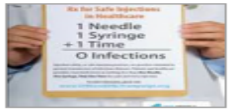
To ensure that all healthcare workers understand and adhere to safe injection practices, CDC has recommended the following steps for each healthcare facility:

- Designate someone to provide ongoing oversight for infection control issues
- Develop written infection control policies

INJECTION SAFETY IS EVERYONE'S RESPONSIBILITY

The Centers for Disease Control and Prevention (CDC) data demonstrates that in recent years, unsafe injection practices have affected more than 150,000 patients in the United States, including an estimated 11,500 in California. CDC recommends that healthcare providers NEVER administer medications from the same syringe to more than one patient, even if the needle is changed." It is your right to know that your provider will use a new syringe and new needle every time. The California One & Only Campaign encourages healthcare organizations and individuals to promote public awareness of safe injection practices. For more information about injection safety click here

NEW HEALTHCARE WORKERS AND DANGEROUS MISCONCEPTIONS



How do you educate a new healthcare worker about safe injection practices? There is a misconception among some that by changing a needle, the syringe can be used for more than once. Another misconception is about single-dose vials; for instance, it is assumed that single-dose vials for large volumes that appear to contain multiple doses can be used for more than one

Questions?

For more information, please contact
The HAI Program at
HAIProgram@cdph.ca.gov

Thank you

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