Injection Safety

Basics of Infection Prevention
2-Day Mini-Course
November 2017

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

Hepatitis B and C Outbreaks Associated with Unsafe Injection Practices

- 44 outbreaks of hepatitis B and C were identified in non-hospital settings in the US from 2008-2014
- Of these, 6 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

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

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/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 syringes
  - Cartridge devices
  - Insulin pens

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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

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 & 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

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

When Multi-dose Vials *Are* Used…

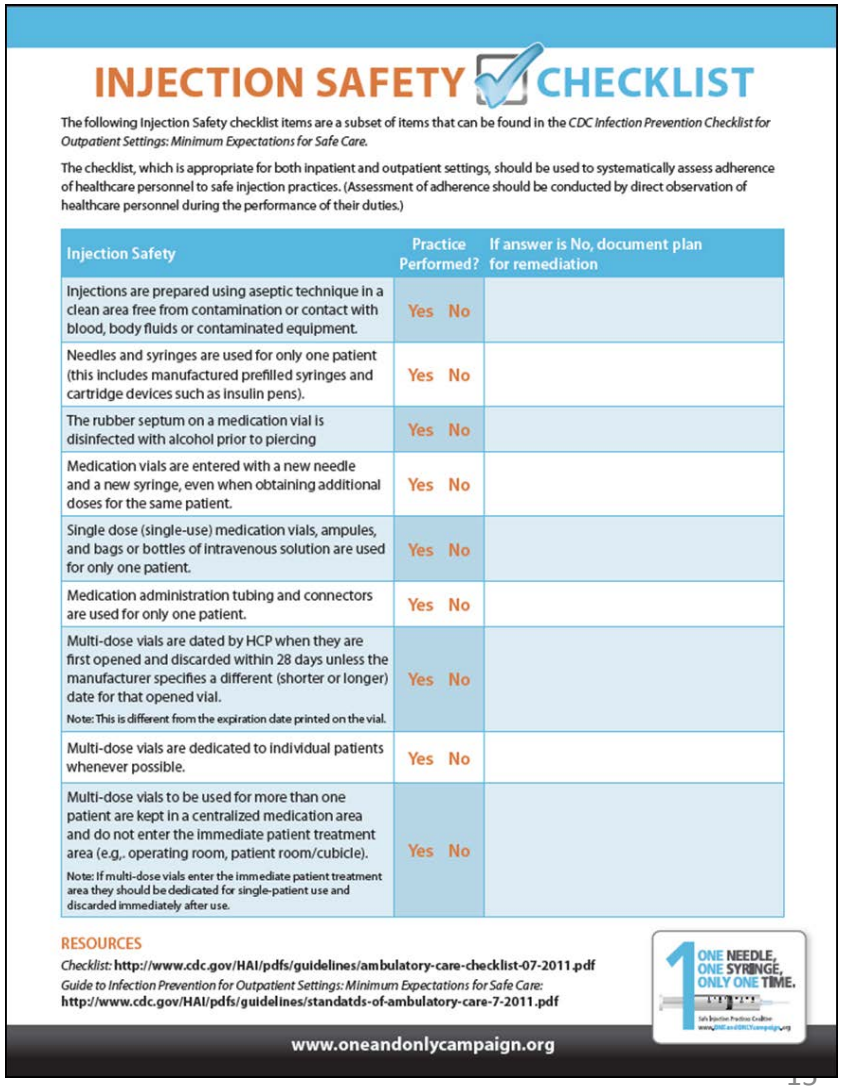
- Multi-dose vials used for more than one patient must be kept in a centralized medication area
- Multi-dose vials should never enter the immediate patient treatment area, including:
  - Patient rooms/cubicles and
  - Operating rooms
- Multi-dose vials should be dated by the healthcare worker when first opened and discarded within 28 days
  - Unless the manufacturer specifies a different (shorter) expiration date for an opened vial

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

One and Only Injection Safety Checklist

- Used to audit your facility's injection safety practices
- Download and share the Injection Safety Checklist: www.cdc.gov/injectionsafety/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.)

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**

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

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 sterileirrigant
- Report the incident to your supervisor immediately
- Immediately seek medical evaluation per your facility's policy

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

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

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

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”

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

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

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

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 time line for implementation
- Schedule periodic reviews for assessing performance improvements

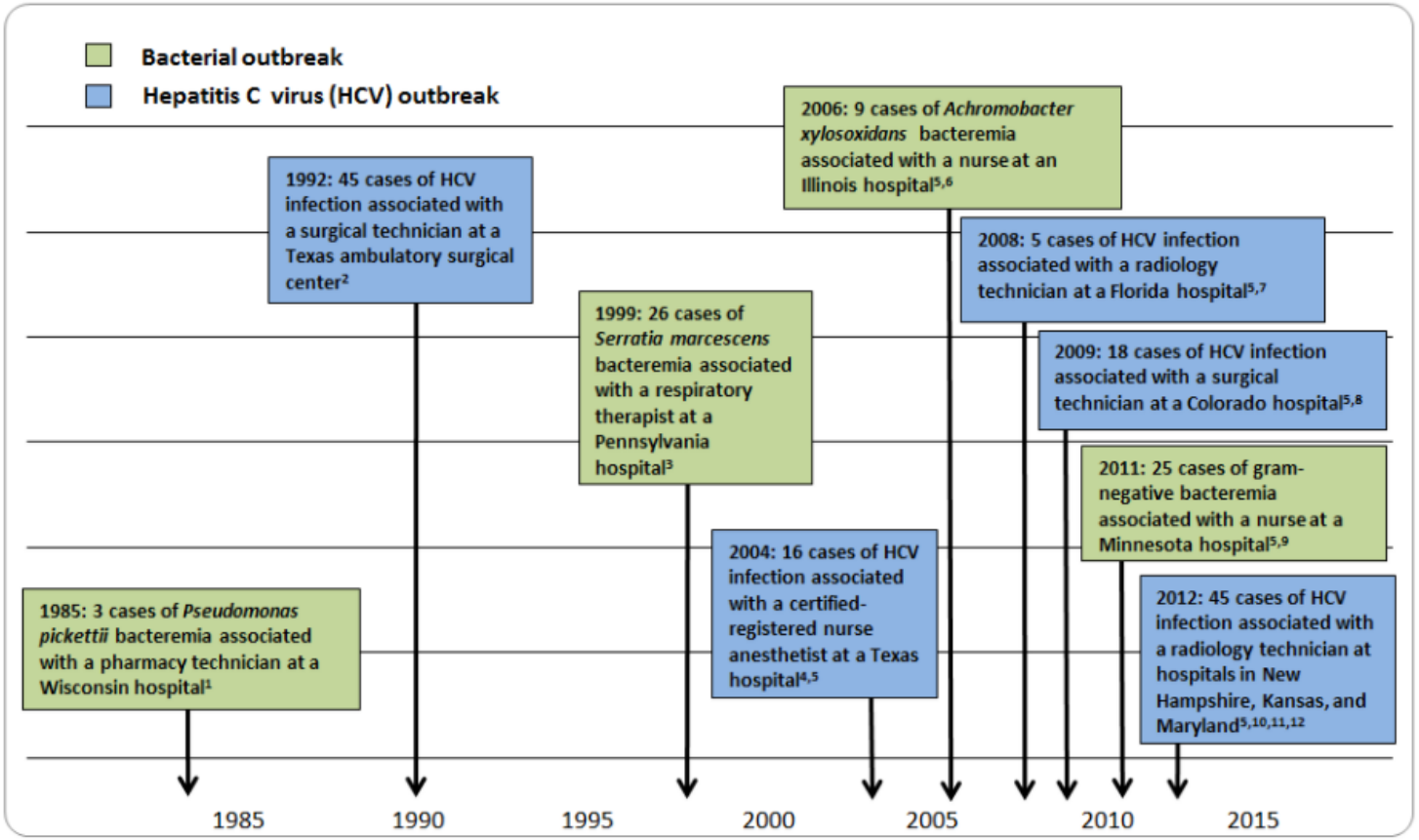
Summary

- 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

Drug diversion

- Illegally obtaining or using prescription medications
- Increase in diversion events driven by opioid epidemic
- Diversion by healthcare workers may result in:
  - Substandard care delivered by an impaired healthcare provider,
  - Denial of essential pain medication or therapy, or
  - Risks of infection (e.g., with hepatitis C virus or bacterial pathogens) if a provider tampers with injectable drugs.

Outbreaks related to drug diversion events



https://www.cdc.gov/injectionsafety/drugdiversion/drug-diversion-2013.html

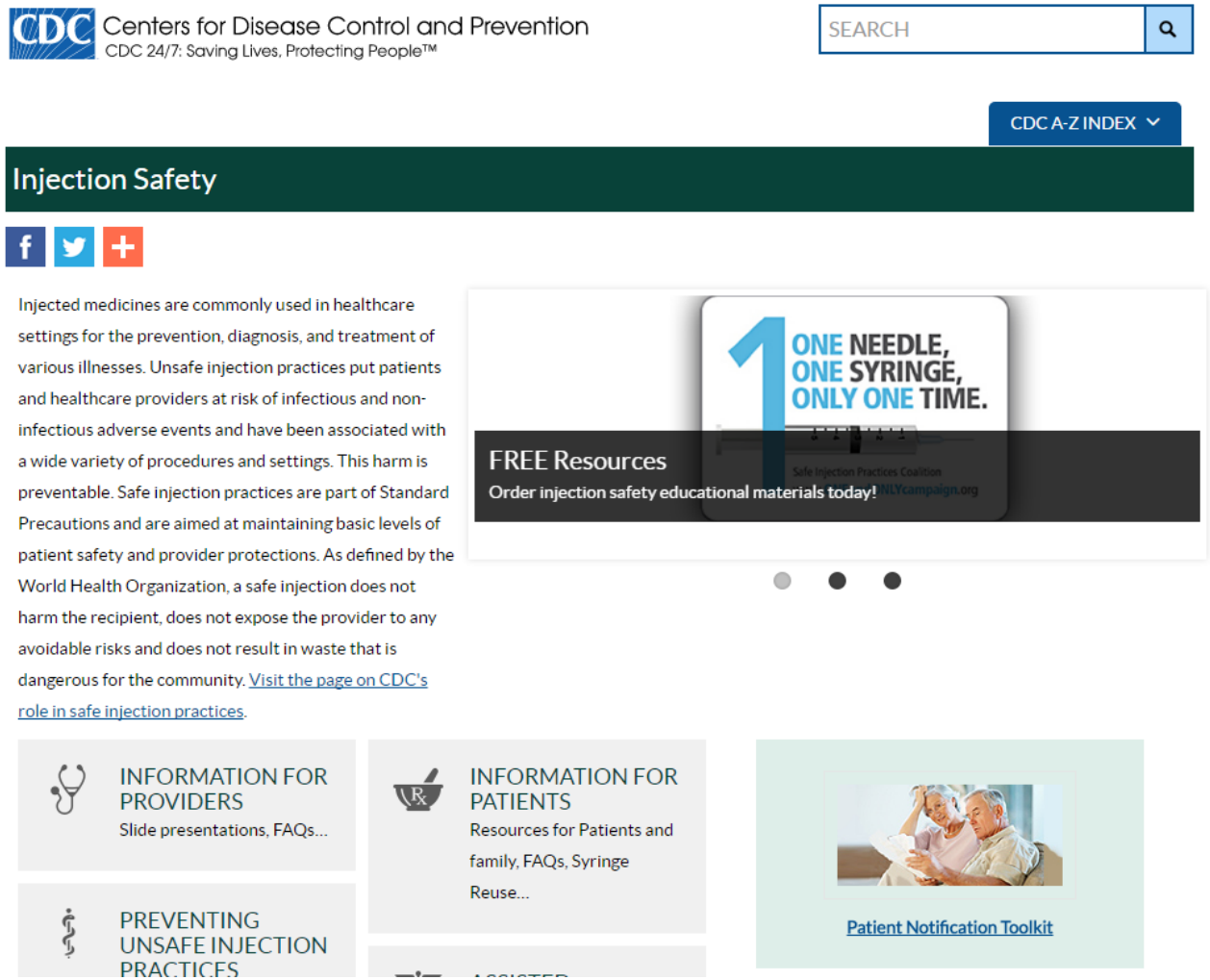
Response to drug diversion events

- Assess harm to patients
- Consult with public health officials when tampering with injectable medication is suspected
- Promptly report event to law and other enforcement agencies (DEA, FDA)

Prevention of drug diversion

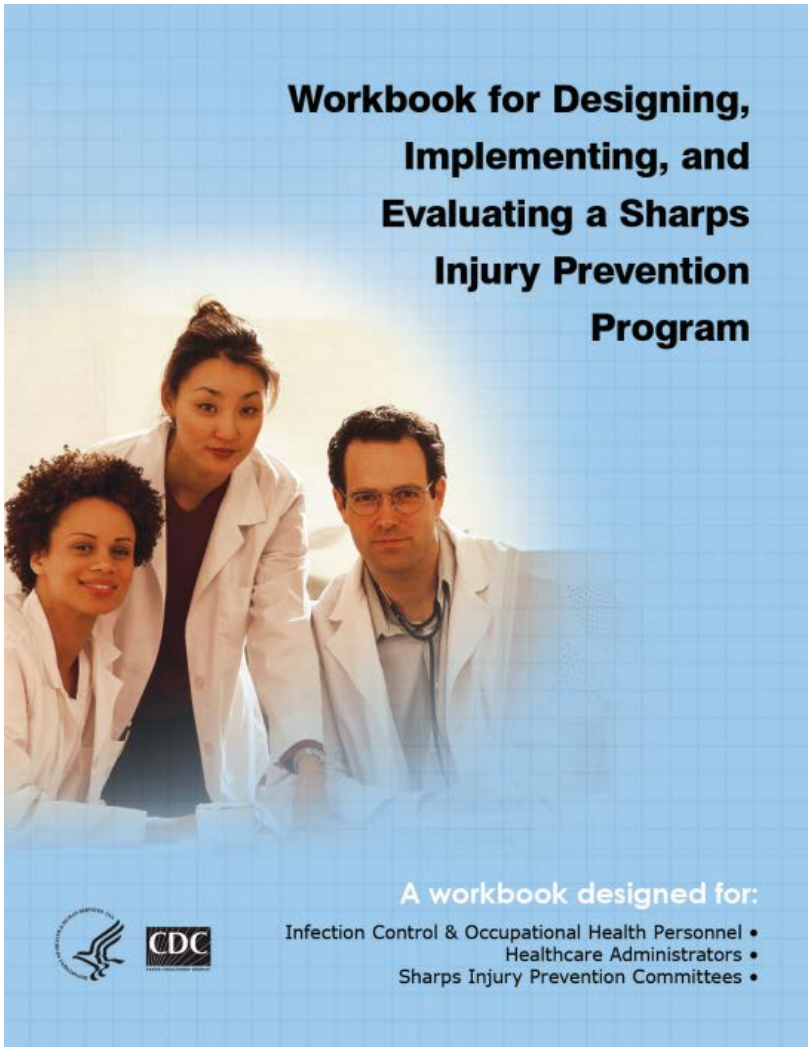
- Drug diversion monitoring program, including narcotic log
- Train staff to recognize signs of drug abuse, requirements to report misconduct, and what constitutes “significant loss” of medication
- Environmental controls
  - Where to store medications; who has access
  - How to handle unused medications

Resources



www.cdc.gov/injectionsafety

Resources, cont.



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)

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

One and Only Partner State

California

News & Events

» Injection Safety Newsletter

Check out the *California One and Only Campaign* newsletter by clicking here.

» Injection Safety is Everyone's Responsibility

The Centers for Disease Control and Prevention (CDC) estimate that in recent years, unsafe injection practices have affected more than 150,000 patients in the United States, including 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. To become a member of the California One & Only Campaign, click here

» Hepatitis B and C Outbreaks in California

USE AN INJECTION SAFETY CHECKLIST

It is every patient's right to receive a safe injection. Are healthcare workers always following safe injection practices at YOUR facility? Safe injection practices are a set of measures that define how to give injections in a safe manner for patients and healthcare providers. The California One &Only Campaign encourages healthcare workers to review and use the Injection Safety Checklist to assess their practices. The checklist, developed by CDC and the Safe Injection Practices Coalition, includes nine observations to help healthcare workers ensure they are adhering to safe injection practices during the care of patients. To download and share the Injection Safety Checklist, click here

WHEN IN DOUBT, THROW IT OUT!

www.oneandonlycampaign.org/partner/california

Questions?