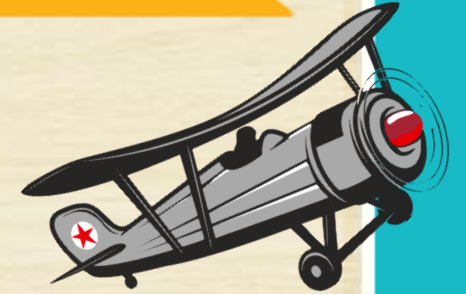




Module D

Safe Injection Practices

MODULE D



Injection Islands



Objectives



- Discuss the consequences of unsafe injection practices



- Describe outbreaks



- Discuss safe injection best practices



- Describe One and Only Campaign



Outbreaks in Outpatient Settings



Outbreaks and patient notifications have occurred in a variety of settings including:

- Primary care clinics
- Pediatric offices
- Cosmetic surgery centers
- Pain remediation clinics
- Cancer (oncology) clinics
- Pain Management clinic
- Dental practices

Infection Prevention breaches included but may not have been limited to the following:

- Reuse of syringes
- Failure to properly reprocess reusable equipment
- Lack of aseptic technique while preparing medications
- Reuse of single dose vials
- Drug diversion by a healthcare provider



NC Viral Hepatitis Outbreaks



<u>Healthcare Setting</u>	<u>Breach in Infection Prevention</u>
Long Term Care	Assisted blood glucose monitoring (ABGM) Exposed - 504 Infections - 31 Deaths - 6
Cardiology Clinic	Syringe reuse and contaminating multi-dose vials Exposed - 1200 Infections - 5



Reported To CDC 2008-2017



Knowledge Check

Which of the following statements is correct?

- A. CDC reports that most outbreaks occur in the hospital
- B. Outbreaks of HIV are the most common type of outbreak
- ✓ C. CDC reports that most outbreaks occur in non-hospital settings and are associated with breaches in infection prevention, including unsafe injection practices



Dental Outbreaks 2002-2013



Study	Year Reported Practice Setting	Pathogen (# infected)	# Notified for Screening	Dental Treatment Provided	Known or Suspected Mode of Transmission
2007 Redd and Colleagues	2002 Oral surgeon's practice	HBV (1)	27	Extractions with IV Sedation	Environmental contamination with blood due to lack of adequate cleaning
2013 Radcliffe and Colleagues	2009 Free dental clinic conducted in school gymnasium	HBV (5)	>1,500	Extraction and restorations	Multiple infection breaches including inadequate preparation and sterilization of instruments
2015 Bradley	2013 Oral surgeon's practice	HCV (1)	5,810	Extraction, bone graft, implant with IV sedation	Multiple infection breaches including unsafe injection practices; improperly sterilized dental equipment and environmental contamination



Why Do Outbreaks Happen?



CDC

MMWRTM

Morbidity and Mortality Weekly Report

www.cdc.gov/mmwr

Weekly May 16, 2008 / Vol. 57 / No. 19

Viral Hepatitis Awareness — May 2008

May 2008 marks the 13th anniversary of Hepatitis Awareness Month in the United States. May 19 is World

Acute Hepatitis C Virus Infections Attributed to Unsafe Injection Practices at an Endoscopy Clinic — Nevada, 2007

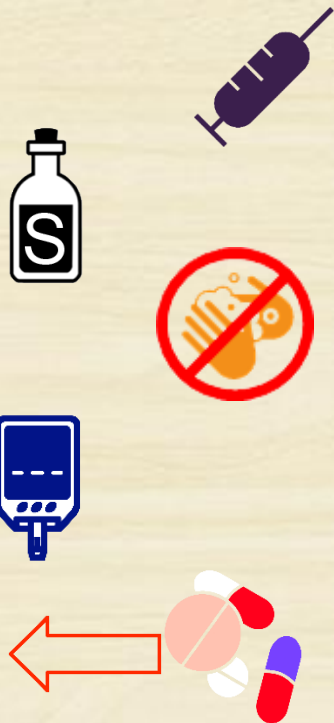
On August 1, 2008, the Nevada State Health Division



The Big Five



THE BIG 5



1. Syringe re-use, directly or indirectly
2. Inappropriate use of single dose or single use vials
3. Failure to use aseptic technique (contamination of injection equipment)
4. Unsafe diabetes care/ assisted blood glucose monitoring (ABGM)
5. Drug diversion



Syringe Re-use

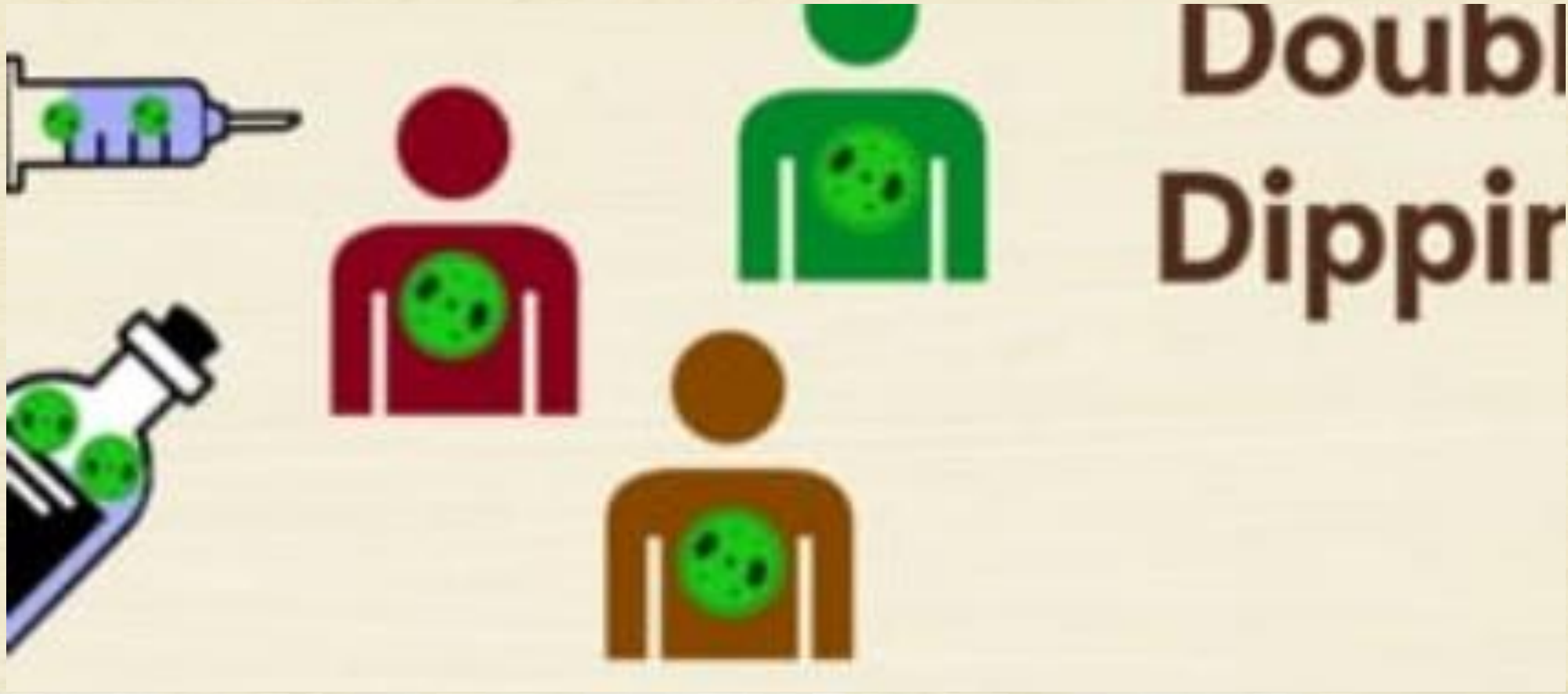


Most common cause of outbreaks is inappropriate use of syringes:

- Direct reuse:
 - Using the same syringe to administer medication to more than one patient, even if the needle is changed or the injection was administered through an intervening length of tubing
- Indirect reuse or “double dipping”:
 - Accessing a medication vial or bag with a syringe that has already been used to administer medication to a patient, then reusing the contents from the vial or bag for another patient



Syringe Re-use






Endoscopy Center, Nevada (2008)



- 9 clinic-associated hepatitis C virus cases
- 106 possible clinic-associated cases
- 63,000 potential exposures
- \$16–21 million total cost




MMWRTM
 Morbidity and Mortality Weekly Report
www.cdc.gov/mmwr




Weekly May 16, 2008 / Vol. 57 / No. 19

<p>Viral Hepatitis Awareness — May 2008</p> <p>May 2008 marks the 13th anniversary of Hepatitis Awareness Month in the United States. May 19 is World Hepatitis Day, which recognizes the importance of global commitments to prevent liver disease and cancer</p>	<p>Acute Hepatitis C Virus Infections Attributed to Unsafe Injection Practices at an Endoscopy Clinic — Nevada, 2007</p> <p>On January 2, 2008, the Nevada State Health Division (NSHD) contacted CDC concerning surveillance reports</p>
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Dangerous Misperceptions



-  1. Changing the needle makes a syringe safe for reuse.
-  2. Syringes can be reused as long as an injection is administered through an intervening length of IV tubing.
-  3. 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!



Inappropriate Use of Single-dose/Single-use Vials



- Vials labeled as single use:
 - **NO PRESERVATIVE**
 - Can be accessed one time only and for one patient only and remaining contents must be discarded
- CDC is aware of at least 19 outbreaks involving single dose vial use
 - All occurred in outpatient settings with almost half in pain remediation clinics



Single Dose Vials: CDC Position Statement, 2012



- Vials labeled by the manufacturer as “single dose” or “single use” should only be used for a single patient
- Ongoing outbreaks provide ample evidence that inappropriate use of single-dose/single-use vials causes patient harm.
- Leftover parenteral medications should never be pooled for later administration
 - In times of critical need, contents from unopened single dose vials can be repackaged for multiple patients in accordance with standards in United States Pharmacopeia General Chapter <797>



When Failure To Use Aseptic Technique Happens!



- Two women diagnosed with HBV infection, receiving chemotherapy at the same physician practice
- Multidisciplinary team investigation
- Office closed; physician license suspended
- 2,700 patients notified
- 29 outbreak-associated cases of HBV



Knowledge Check

Which of the following statements is false?

- A. Syringes can be used on more than one patient if the needle is changed.
- B. Single dose vials can be used more than one time if it has not been contaminated
- C. Blood glucose meters do not have contact with patients and do not need to be cleaned
- D. If there is no visible blood the syringe is safe to reuse.
- ✓ E. All the above



Unsafe Diabetes Care



Sharing of blood glucose meters without cleaning and disinfection between uses

Use of fingerstick devices or insulin pens on multiple persons



Failure to perform hand hygiene or change gloves between procedures



Drug Diversion



5. Drug diversion

- Substandard care delivered by an impaired provider
- Denial of essential pain medication or therapy
- Risks of infection
 - Bloodborne pathogen
 - Bacterial contaminants

D

Safe Injection Practices



Year	Cases	Outbreak
2018	12	HCV infections associated with an emergency department nurse
2018	6	Sphingomonas paucimobilis bacteremia associated with a nurse at a cancer center
2015	7	HCV infections associated with a nurse at a hospital
2014	5	Serratia marcescens bacteremia associated with a nurse in a post-anesthesia care unit at a hospital
2012	45	HCV infections associated with a radiology technician at hospitals in NH, Kansas and Maryland
2011	25	Gram negative bacteremia associated with a nurse at a Minnesota hospital
2009	18	HCV infection associated with a surgical technician at a Colorado hospital
2008	5	HCV infections associated with a radiology technician at a Florida hospital
2006	9	Achromobacter xylosoxidans bacteremia associated with a nurse at an Illinois hospital
2004	16	HCV infections associated with a certified registered nurse anesthetist at a Texas hospital
1999	26	Serratia marcescens bacteremia associated with a respiratory therapist at a Pennsylvania hospital
1992	45	HCV infections associated with a surgical technician at a Texas ambulatory surgical center
1985	3	Pseudomonas pickettii bacteremia associated with a pharmacy technician at a Wisconsin hospital



Safe Injections: Best Practices



Misuse of single-dose/single-use vials

- Never administer medications from the same syringe to multiple patients
- Do not reuse a syringe to enter a medication vial or solution
- Limit the use of multi-dose vials and dedicate them to a single patient whenever possible



Syringe reuse (direct and indirect)

- Do not administer medications from a single dose vial or IV solution bag to more than one patient, more than one time



Safe Injections: Best Practices



Failure to use aseptic technique

- Use aseptic technique when preparing or administering medications
 - Keep contaminated items and surfaces away from the preparation area.
 - Designate a 'clean' medication preparation area that is not adjacent to contaminated items
 - Perform hand hygiene before handling medications.



Unsafe diabetes care

- Use insulin pens and lancing devices for only one patient
- Dedicate glucometers to a single patient. If they **MUST** be shared, clean and disinfect after each use



Safe Injections: Best Practices



Drug Diversion

- Institute drug diversion monitoring systems and security measure to assist in averting and/or identifying diversion activity.





Safe Injections: Best Practices



The following Dental practices that are critical for patient safety:

- **Never** administer medications from the same syringe to more than one patient, even if the needle is changed or if you are injecting through an intervening length of IV tubing.
- After a syringe or needle has been used to enter or connect to a patient's IV, it is contaminated and should **not** be used on another patient or to enter a medication vial.



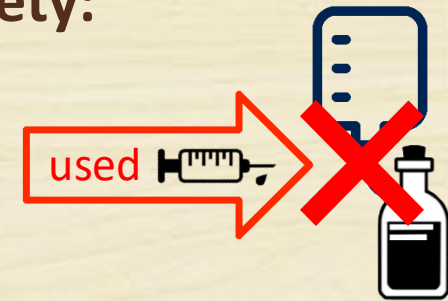


Safe Injections: Best Practices



The following Dental practices that are critical for patient safety:

- **Never** enter a medication vial, bag, or bottle with a used syringe or needle.
- **Never** use medications packaged as single-dose or single-use for more than one patient—this includes ampoules, cartridges, and bags or bottles of intravenous solutions.
- Assign medications packaged as multi-dose vials to a single patient whenever possible.





Safe Injections: Best Practices



The following Dental practices that are critical for patient safety:

- **Never** use bags or bottles of intravenous solution as a common source of supply for more than one patient.
- Follow proper infection control practices during the preparation and administration of injected medications.
- **Never** combine the leftover contents of a syringe or single-use vials for later use.





Safe Injections: Best Practices



The following Dental practices that are critical for patient safety:

- When using a dental cartridge syringe, needles and anesthetic cartridges are considered **single-use disposable items** and should be used for one patient only and then discarded. The metal dental cartridge syringe is a reusable item and should be cleaned and heat sterilized between patients.

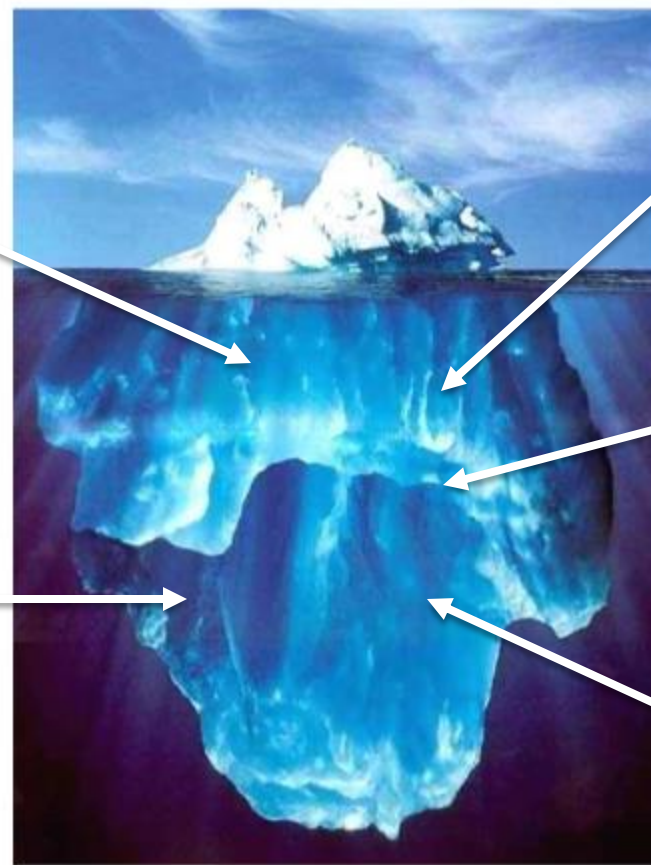




Most Outbreaks are Never Detected

Asymptomatic
infection

Long incubation
period;
difficult to identify
single healthcare
exposure



Under-reporting of
cases

Under-recognition of
healthcare as risk

Barriers to
investigation,
resource constraints



Survey of Physician and nurse Practices around injection safety

- 370 Physicians
- 320 Nurses
- Eight States Included
 - NC, NY, NJ, Nevada, Colorado, Tennessee, Wisconsin, Montana
- Types of healthcare settings:
 - Acute care, long term care, outpatient settings

<https://www.sciencedirect.com/science/article/pii/S0196655317306806?via%3Dihub>

D

Survey findings

Topic Is Acceptable Practice	Physician Response	Nurse Response
Reuse of syringe for > one patient	12.4%	3.4%
Reentering a vial with a used needle/syringe	12.7%	6.7%
Using SDVs for multiple patients	34%	16.9%
Using source bags as diluent for multiple patients	28.9%	13.1%



Knowledge Check

True or False?

Because there have been so many outbreaks, ALL healthcare providers do the right thing every time with safe injection practices.

True

False



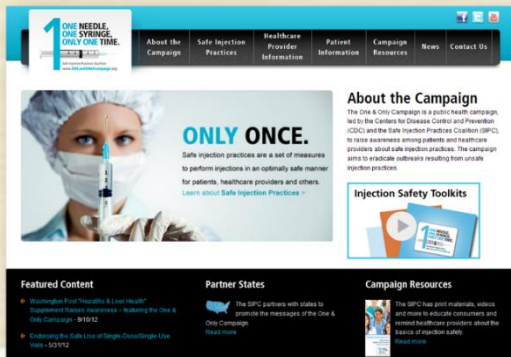


Best Practice



Knowledge → Prevention

- Designate someone to provide ongoing oversight
- Develop written infection control policies
- Provide training
- Conduct quality assurance assessments





One and Only Campaign



About the Campaign

Safe Injection Practices

Healthcare Provider Information

Patient Information

Campaign Resources

News

Contact Us



HELP ENSURE PATIENT SAFETY.
MAKE EVERY INJECTION A SAFE ONE.



About the Campaign

The *One & Only Campaign* is a public health campaign, led by the Centers for Disease Control and Prevention (CDC) and the Safe Injection Practices Coalition (SIPC), to raise awareness among patients and healthcare providers about safe injection practices. The Campaign aims to eliminate infections resulting from unsafe injection practices.

Become a Member

If you are interested in becoming a *One & Only Campaign* Member, please [Contact Us](#).

Featured Content

- ▶ [Getting Medical Care? How to Avoid Getting an Infection](#)
- ▶ [New CDC Safe Healthcare Blog- One Nurse's Plea: Report Signs of Drug Abuse](#)

Spread the Word

Do your part to make healthcare safe, one injection at a time. Order FREE materials from the CDC.
[CDCInfoOnDemand/InjectionSafety](#)

Translated Campaign Resources

The One & Only Campaign has translated print materials in Spanish and Japanese!
[Access translated resources here.](#)

Sign up for email updates:

[SIGN UP](#)

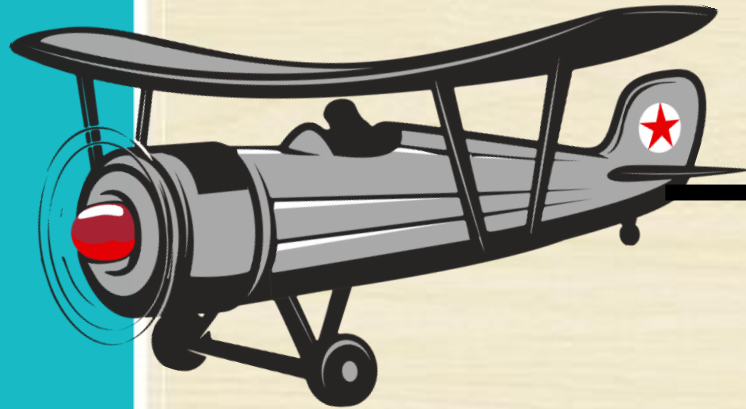
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Campaign Resources

- Print Materials
- Audio & Visual
- Social Media
- Toolkits





Questions?

