

Safe Injection Practices

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



Objectives

- Discuss risks due to unsafe injection practices
- List safe injection practices
- Describe how to create a safety culture
- Describe how an Injection Safety Checklist can be used when giving vaccines
- Locate resources for a Safe Injection Practices program

What are Safe Injection Practices?

A set of steps to perform injections in an optimally safe manner for patients, healthcare workers, and others



Hepatitis B and C Outbreaks Due to Unsafe Injection Practices

- 61 hepatitis outbreaks reported to CDC, 2008-2017
 - 58 (95%) occurred in non-hospital settings
- Of these, 9 were in California
 - Facility types included:
 - Skilled nursing facilities and assisted living facilities
 - Pain management and infusion clinics
 - Dialysis clinics
- 4,298 Californians were sent notices and tested
- 44 new cases of hepatitis B or C identified

[Centers for Disease Control and Prevention. \(2017\). Healthcare-associated hepatitis B and C outbreaks \(≥2 cases\) reported to the Centers for Disease Control and Prevention in 2008-2017. \(PDF\) \(https://www.cdc.gov/hepatitis/outbreaks/pdfs/HealthcareInvestigationTable.pdf\)](https://www.cdc.gov/hepatitis/outbreaks/pdfs/HealthcareInvestigationTable.pdf)

Causes of California Hepatitis Outbreaks

- Unsafe injection safety practices
 - Reuse of syringes on more than one patient
 - Contaminated medication vials used for more than one patient
 - Use of single-dose vials for more than one patient
- Unsafe medical care practices
 - Unsafe blood glucose monitoring practices
 - Poor environmental cleaning
 - Mix of clean equipment with dirty equipment

Other Causes of Hepatitis Outbreaks Investigated by CDC

- Not properly disinfecting equipment between patients
- Using the same finger stick device on more than one patient
- Using a single saline bag for more than one patient

Unsafe Injection Practices at an Employee Influenza Vaccination Clinic, 2015

- Employees were put at risk when a contracted nurse reused syringes at an influenza vaccination event
 - Pre-filled syringes were sent to the nurse
 - In spite of this, the nurse used multiple-dose vials and two syringes she had stored for a different event
 - During the event, she changed the needle between each person, but used the same two syringes on all 67 employees

Notes from the Field: Injection Safety and Vaccine Administration Errors at an Employee Influenza Vaccination Clinic — New Jersey, 2015

(http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6449a3.htm?s_cid=mm6449a3_e)

Common Reasons For Unsafe Injection Practices

- Lack of safe injection policies at healthcare facility
- Staff are poorly trained or unaware of safe injection practices
- Healthcare worker is rushed or takes a shortcut
- Healthcare worker learned safe injection practices at one time but has forgotten

Safe Injection Practices

- Steps to perform injections in an optimally safe manner
- Prevent transmission of infection from
 - Patient to healthcare worker
 - Healthcare worker to patient
 - Patient to patient



Safe Injection Practices Are Part of Standard Precautions

Standard precautions also include:

- Hand hygiene
- Personal protective equipment (examples: gloves, gowns, masks)
- Safe handling of soiled equipment or surfaces
- Respiratory hygiene and cough etiquette



Safe Injection = No Infection

Injection safety includes:

1. Safe production
 - Sterile medications from manufacturer
2. Safe preparation
 - Prepare in a clean area
3. Safe administration
 - Follow standard precautions
4. Safe disposal
 - Minimize risks to the patient and healthcare worker

The Injection Safety Checklist

- Used to assess your facility's injection safety practices
- Download and share the [Injection Safety Checklist \(PDF\)](http://www.cdc.gov/injectionsafety/PDF/SIPC_Checklist.pdf)

(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. <i>Note: This is different from the expiration date printed on the vial.</i>	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). <i>Note: If multi-dose vials enter the immediate patient treatment area they should be dedicated for single-patient use and discarded immediately after use.</i>	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>



Aseptic Technique for Preparing Injected Medications

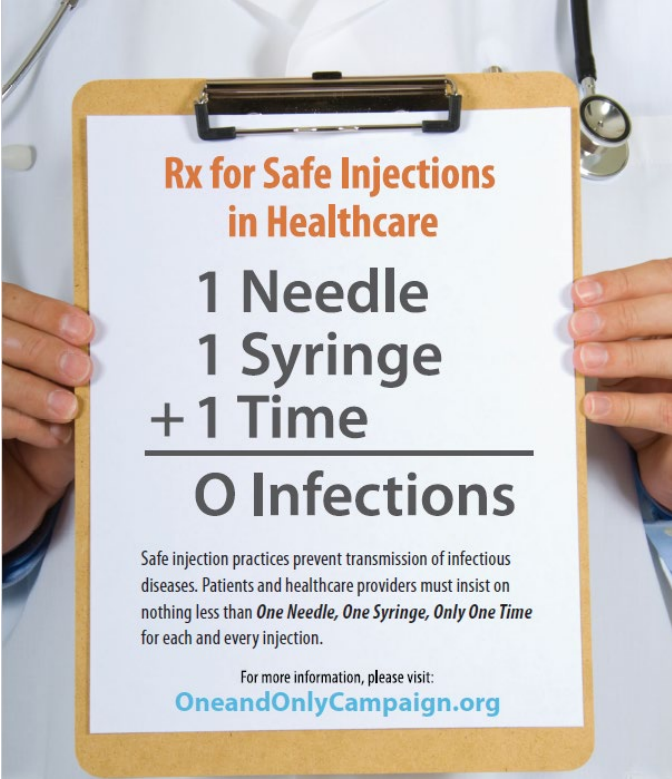
- Perform hand hygiene
- Draw up medications in a clean medication area
 - The designated medication area should **not** be near areas where contaminated items are placed

Needles and Syringes: **One Time Use Only**

- Use needles for only one patient
- Use syringes only one time
- Use manufactured prefilled syringes for only one patient

[CDC One and Only Campaign](http://www.oneandonlycampaign.org)

(www.oneandonlycampaign.org)



**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

Always Clean the Tops of Medication Vials Before Entry

- Cleanse the septum, the rubber top of a medication vial, using friction with 70% alcohol
- Allow the alcohol to dry before inserting a needle or device into the vial

Note: Clean the tops of vials with alcohol even if they have lids or caps

- Manufacturers guarantee that medications and solutions are sterile
- They do not guarantee that the outside of the container or medication vial is sterile



Single-dose Vials: One Patient & Only Once

- Use single-dose medications for only one patient
- Read the label on medication vials carefully! Determine if single use
- Never enter a medication vial with a used syringe or needle
- If the vial says single-dose, throw it away after it has been accessed
- Do not store single-dose medications for future use
- Discard unused single-dose medications when expired



When in doubt throw it out!

Limit the Use of Multi-dose Vials

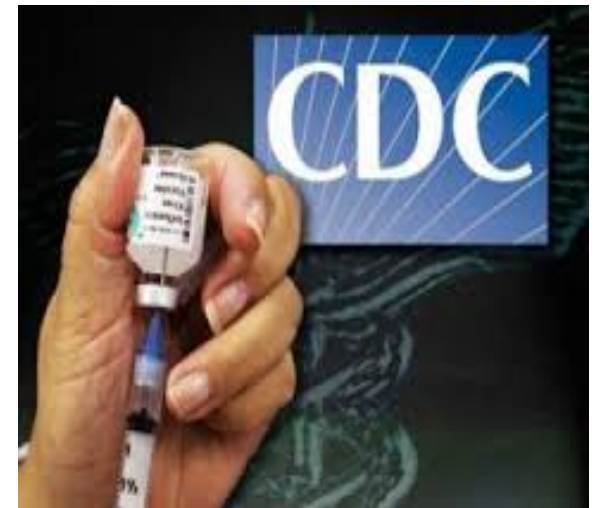
- Limit the use of multi-dose vials
 - When possible, dedicate them to a single patient
- A multi-dose vial is recognized by its FDA-approved label
- Discard multi-dose vials when the beyond-use date has been reached
- Any time the sterility of the vial is in question, throw it out!



When Multi-dose Vials ARE Used...

For multi-dose vials used for more than one patient:

- Keep in a medication area
- Never take into a patient treatment area (including patient rooms or cubicles, operating rooms)
- Date the multi-dose vial when first opened
- Discard within 28 days (unless the manufacturer recommends a different expiration period)



Vaccination Safety Tips

- Use manufactured single-dose, pre-filled syringes if possible (preferred)
- If multi-dose vials of vaccine must be used, ensure:
 - All safety precautions are taken to avoid contamination of multi-dose vials
 - Correct dose is administered
- Prepare vaccine in a clean, designated space (away from contaminated or dirty areas)
- Do not pre-draw vaccines before patients arrive at clinic

[CDC Vaccine Storage and Handling Toolkit](#) (PDF)

(<http://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf>)

Special Considerations for Diabetic Patients

- Diabetic patients use needles frequently in the care and management of their disease
- Never allow reuse of insulin pens on more than one patient
 - **It is not safe to change the needle on insulin pens for use on more than one patient**
- Lancets used for blood glucose testing are designed for one patient only
 - Using lancets or lancet holders on multiple patients leads to infections

Schaefer et al. Diabetes Care. 2013 Nov;36(11):e188-9

www.newsday.com/news/health/south-nassau-hospital-alerting-4-247-patients-of-possible-blood-contamination-1.7359969

Sharps Safety



- Contaminated sharps devices can puncture or cut skin
- Approximately 385,000 needle sticks and other sharps injuries occur in hospital-based healthcare workers each year

Why Sharps Injuries Occur in Healthcare

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

- 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

- Use of sharps disposal containers requires minimal training
- Sharps containers must be
 - Puncture-resistant
 - Durable during installation and transport
 - An appropriate size and shape for the task
 - Clearly visible
 - Easy to access
 - Placed in an upright position
 - Easy to operate
 - Easy to store and assemble



Action Steps for Needle Stick or Other Exposure to Blood or Body Fluid

- Immediately wash the site with soap and water until clean
- For splashes to the nose, mouth, or skin, flush with water
- Irrigate eyes with clean water, saline, or sterile irrigant
- Immediately report the incident to your supervisor
- Immediately seek medical evaluation per your facility policy

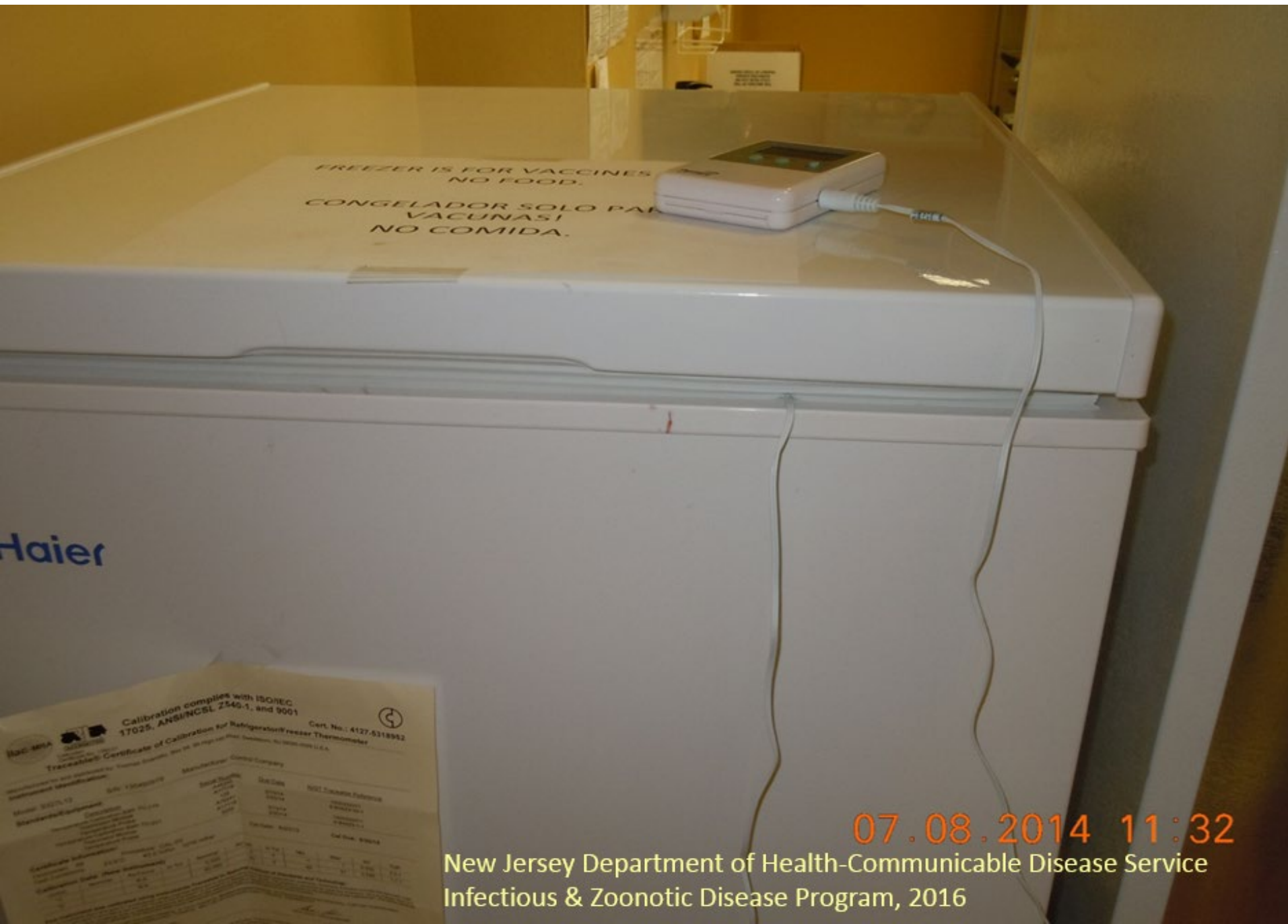
**EXERCISE: IDENTIFY THE UNSAFE
PRACTICE ACTIVITY**

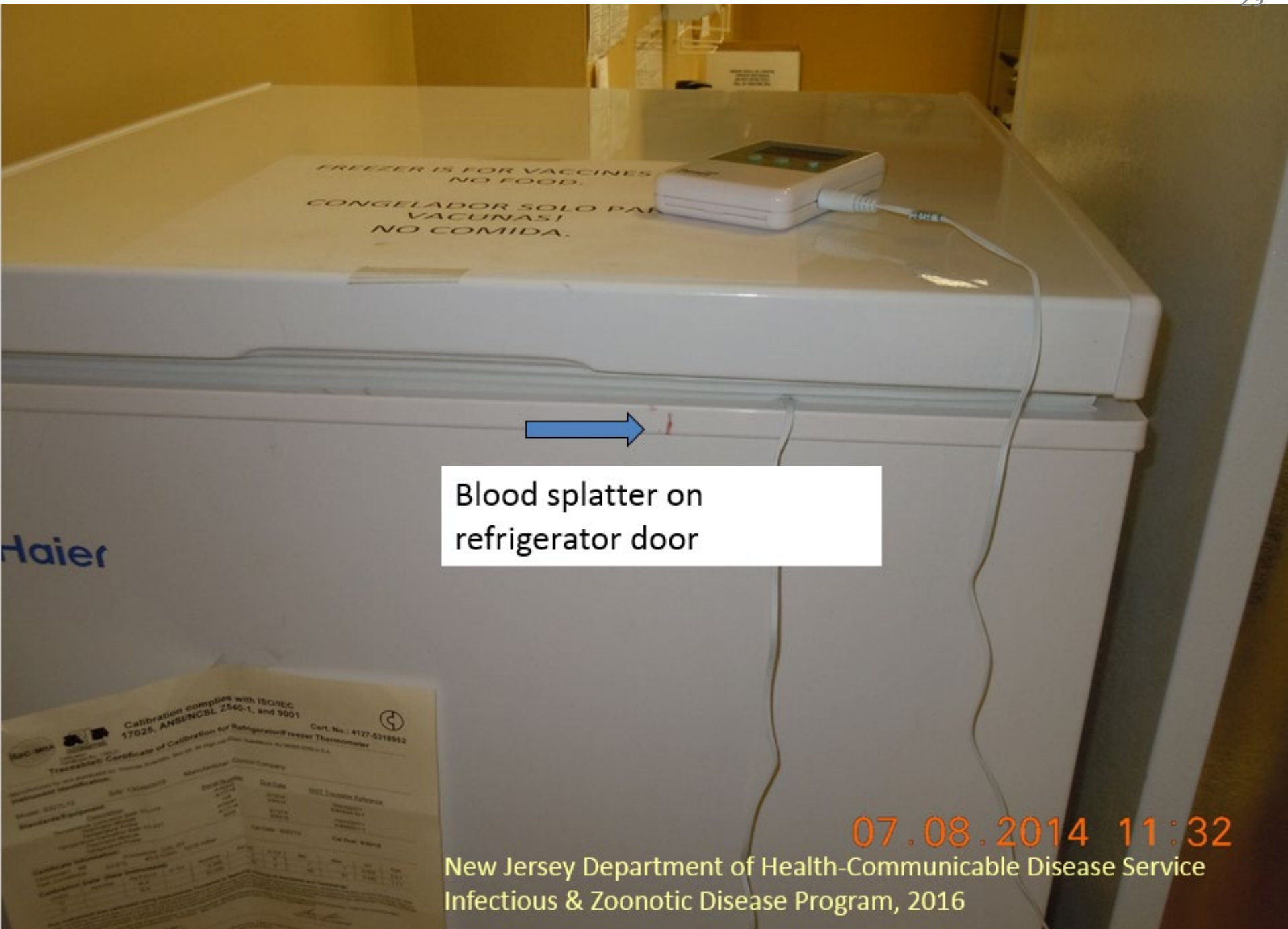


New Jersey Department of Health-Communicable Disease Service
Infectious & Zoonotic Disease Program, 2016



Prefilled syringes in patient exam room







New Jersey Department of Health-Communicable Disease Service
Infectious & Zoonotic Disease Program, 2016

Multiple unwrapped prefilled syringes next to the sink (and personal items)

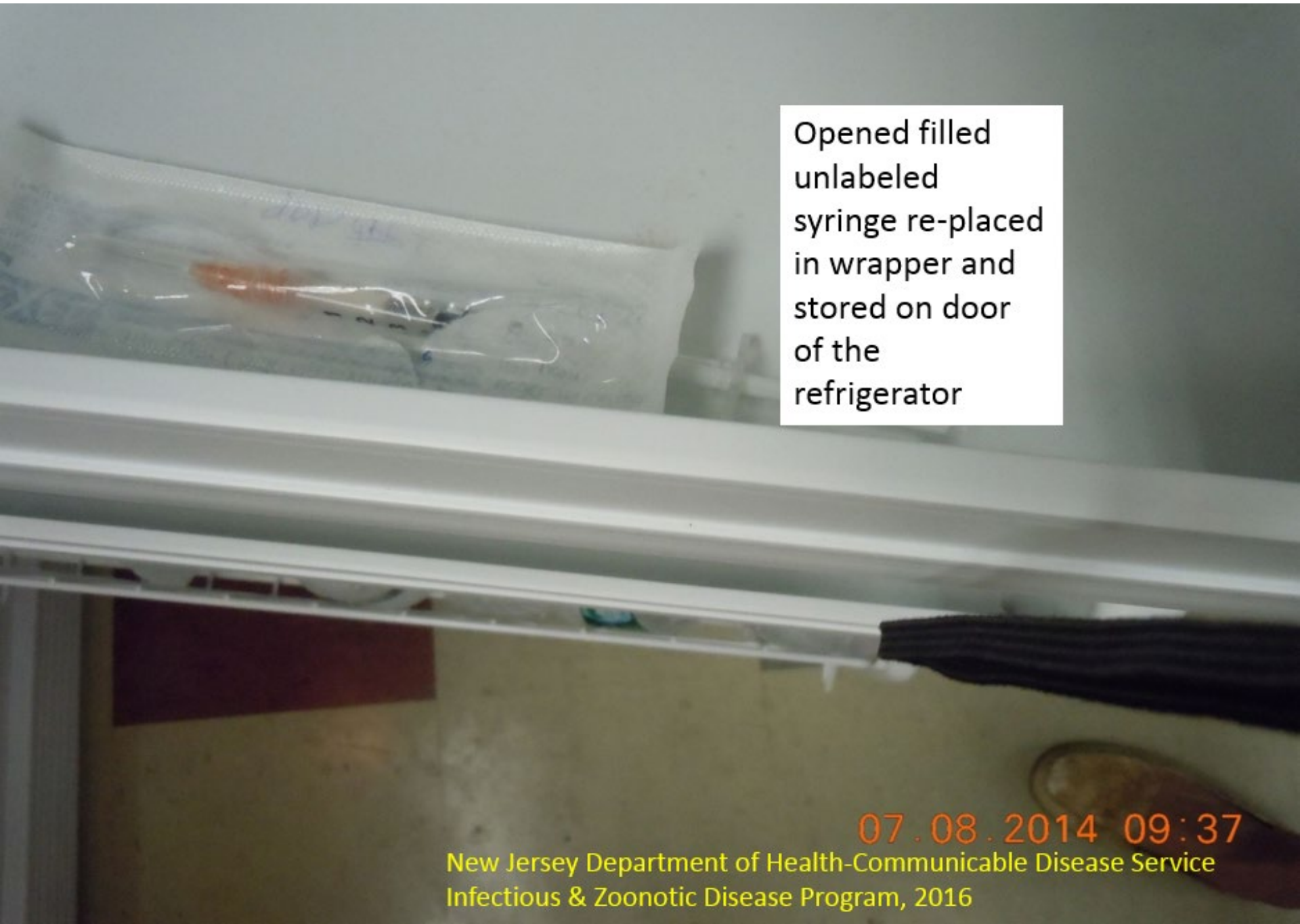


New Jersey Department of Health-Communicable Disease Service
Infectious & Zoonotic Disease Program, 2016



07.08.2014 09:37

New Jersey Department of Health-Communicable Disease Service
Infectious & Zoonotic Disease Program, 2016



Opened filled
unlabeled
syringe re-placed
in wrapper and
stored on door
of the
refrigerator

07.08.2014 09:37

New Jersey Department of Health-Communicable Disease Service
Infectious & Zoonotic Disease Program, 2016

Summary

- Safe injection practices reduce the risk of infections
 - They protect both patients and healthcare workers
- Evaluate your facility's injection safety practices
 - Use the injection safety checklist
- Always follow Standard Precautions
 - Every time
 - With every patient

Where Can I Learn More?



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](#).

[CDC One and Only Campaign](http://www.ONEandONLYcampaign.org)

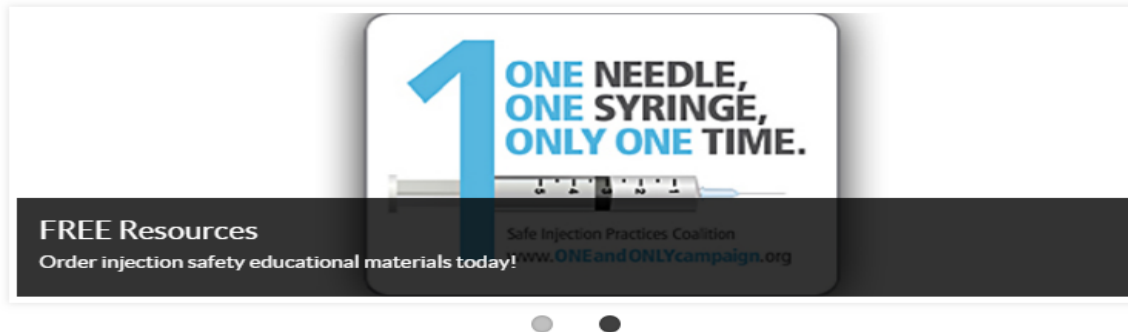
(www.ONEandONLYcampaign.org)

[CDC Injection Safety](http://www.cdc.gov/injectionsafety)www.cdc.gov/injectionsafety[CDC One and Only Campaign](http://www.cdc.gov/injectionsafety/1anOnly.html)www.cdc.gov/injectionsafety/1anOnly.html

Injection Safety



Injected medicines are commonly used in healthcare settings for the prevention, diagnosis, and treatment of various illnesses. Unsafe injection practices put patients and healthcare providers at risk of infectious and non-infectious adverse events and have been associated with a wide variety of procedures and settings. This harm is preventable. Safe injection practices are part of Standard Precautions and are aimed at maintaining basic levels of patient safety and provider protections. As defined by the World Health Organization, a safe injection does not harm the recipient, does not expose the provider to any avoidable risks and does not result in waste that is dangerous for the community. [Visit the page on CDC's role in safe injection practices.](#)



1 ONE NEEDLE, ONE SYRINGE, ONLY ONE TIME.

FREE Resources
 Order injection safety educational materials today!

Safe Injection Practices Coalition
www.ONEandONLYcampaign.org



INFORMATION FOR PROVIDERS

Slide presentations, FAQs...



INFORMATION FOR PATIENTS

Resources for Patients and family, FAQs, Syringe Reuse...



PREVENTING UNSAFE INJECTION PRACTICES

Guidelines, Recommendations...



ASSISTED MONITORING OF BLOOD GLUCOSE

CDC Clinical Reminders: Insulin Pens, Fingerstick Devices, FAQs...



PUBLICATIONS

Injection Safety Related Publications...



RISKS OF HEALTHCARE-ASSOCIATED INFECTIONS FROM DRUG DIVERSION

Outbreaks, Resources, Reports, News...



MEETINGS

Ambulatory Surgical Centers (ASCs)...

[Patient Notification Toolkit](#)
[Guide to Infection Prevention for Outpatient Settings:](#)
[Minimum Expectations for Safe Care](#)

Cal/OSHA

- Protects workers from health and safety hazards on the job
- Laws for almost every workplace in California, including healthcare



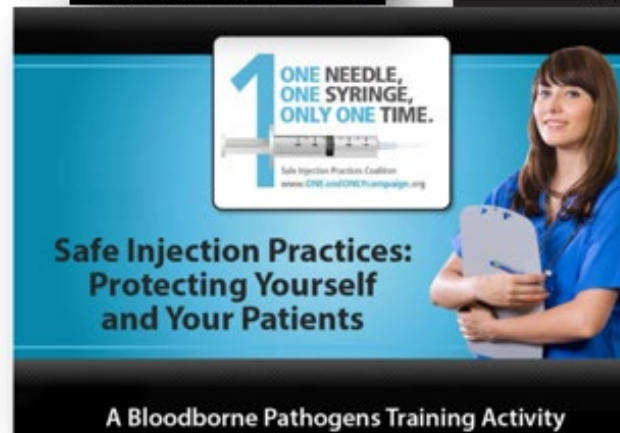
[Cal/OSHA Hospital Patient and Health Care Worker Injury Protection Act](#)

[Safe Patient Handling FAQs \(PDF\)](#)

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

One and Only Campaign Resources

- Injection Safety Checklist
- Videos
- PowerPoints
- Brochures
- Articles
- Posters
- + More!



INJECTION SAFETY CHECKLIST		
Injection Safety	Practice	Is anyone in the environment doing this incorrectly?
Insulin pens are prepared using aseptic technique and do not contain more than one dose of insulin.	Yes No	
Insulin pens have been confirmed to contain only insulin, with no other substances or contaminants.	Yes No	
Needles and syringes are used for only one patient. This includes manufacturer-provided cartridges and cartridges drawn up into insulin pens.	Yes No	
The rubber septum on insulin injection vials is disinfected with alcohol before use.	Yes No	
Insulin vials are not shared 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 syringes or bottles of intravenous solutions are used for only one patient.	Yes No	
Reusable administration tubing and connections are used for only one patient.	Yes No	
Health care staff are asked to tell when they see this sign and the goal within 30 days unless the organization qualifies as a Patient Safety or Stronger Care for that signpost only.	Yes No	
How this signpost has been implemented at your site.	Yes No	
Health care staff are instructed to instruct patients whenever possible.	Yes No	
Health care staff are to be used for more than one patient and kept in a container until after use.	Yes No	
Do not use the reusable patient treatment drug (e.g., antibiotic vials, antibiotic vials).	Yes No	
How this signpost has been implemented at your site.	Yes No	

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

[CDC One and Only Injection educational materials](http://www.oneandonlycampaign.org/content/print-materials)

(<http://www.oneandonlycampaign.org/content/print-materials>)

Questions?