

# Bloodborne Pathogens & Needlestick Prevention

presented by:

CCH Infection Prevention & Employee Health

OSHA Standards  
29 CFR 1910 1030

April 2020

Question:  
How many exposures  
are there in one day in  
the US?

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Answer: 600



- What are ways you think of to reduce needle stick?
- What are ways you can reduce other exposures?



# Bloodborne Pathogens

Healthcare workers have the potential to come in contact with blood and body fluids. There are many diseases spread through blood and body fluid with the most common bloodborne pathogens being:

- Hepatitis B virus (HBV)
  - Hepatitis B
- Hepatitis C virus (HCV)
  - Hepatitis C
- Human immunodeficiency virus (HIV)
  - Acquired immunodeficiency syndrome (AIDS)



# Bloodborne Pathogens

Every person in this facility can prevent disease caused by contact with pathogens found in blood and other potentially infectious materials (OPIM) by following infection control measures.

Infection control measures include:

- Education
- Policies and procedures
- Personal Protective Equipment (PPE)
- Training on when/how to use proper PPE

“ For 26 years I was a staff nurse and loved my practice. But one day at work in the summer of 1998, I was stuck by a needle protruding from a sharps container. I didn't know it then, but my life was changed forever that day. A few months later I learned that the fatigue, weight loss, and other symptoms were due to Hepatitis C and HIV, that I had contracted from that needlestick. In the beginning, I didn't know if I'd survive or what my life would be like. One thing I was sure of is that this injury was preventable – and I didn't want to see this happen to anyone else. ”

**KAREN DALEY**

ANA PRESIDENT 2010 - 2014

Question:  
How many pathogens  
including Bloodborne  
Pathogens can be transmitted  
by a needle stick?

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# Answer: 60... yes, 60!

- 26 viruses
- 18 bacteria
- 3 fungi
- 13 parasites

In the last 8 years 2 Healthcare works have died of malaria due to needle sticks.

# HIV

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HIV is spread through sexual contact, blood, or OPIM. HIV attacks the immune system by targeting white blood cells. A person may not show symptoms of HIV for many years; however, an infected person can still spread the pathogen to others. In most cases, being HIV positive leads to AIDS.

While there is no cure for AIDS there are treatment options available to control the symptoms.

# HIV

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A person can be tested to see if they've been infected by HIV. The tests seek to determine if the body has had an immune response to HIV and due to this the test will not work right away.

On average it takes 20 days for the test to detect an immune response; however, most people will show a response in 3 months. Rare cases have occurred where it's taken up to 6 to 12 months after infection for an immune response.

# HIV

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HIV is not spread by:

- Contact with telephones, or toilet seats
- Mosquito bites
- Eating food prepared by an individual with HIV
- Shaking hands, hugging, being coughed on, or being sneezed on
- Donating blood

For health care workers, the risk of infection from contact with HIV on the job is very low.

There is no vaccine to stop the spread of HIV.

# Hepatitis B

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HBV is the most common disease spread through contact with blood or OPIM. Symptoms include:

- Enlarged liver
- Yellow tinge to the skin or the whites of the eyes (jaundice)
- Loss of appetite
- Nausea
- Abdominal pain
- Dark urine
- Extreme fatigue

Many people infected with HBV do not show symptoms; however, HBV can be spread whether the person is showing symptoms or not.

# Hepatitis B

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Hepatitis B infection is a serious risk for health care workers; however, the risk of infection drops to almost zero if the health care worker has had a successful series of hepatitis B vaccines.

The most common ways HBV is spread includes:

- Sexual contact
- IV drug use
- Mother to baby

# Hepatitis C

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Like HBV, HCV attacks the liver. The majority of people infected with HCV do not appear to have symptoms; however, the disease can still be spread to others.

A person can have HCV for a long time before any symptoms (fatigue, loss of appetite, and abdominal pain, etc.) begin.

# Hepatitis C

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There is no vaccine for Hepatitis C. HCV can be spread in a variety of ways, including:

- The reuse or inadequate sterilization of medical equipment
- Transfusion of unscreened blood/blood products
- Mother to baby
- Illegal injected drug use (most common way HCV is transmitted).

Complications of hepatitis (both HBV and HCV) account for the majority of liver transplants in the US.

# Outbreaks and Patient Notification

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- Nurse in Washington State
  - Negative HCV in 2013 when she donated blood
- Early 2018 2 people identified by Public Health to have HCV (strain similar suggesting same source) with no risk factors.
  - After further investigation by Public Health & the hospital. Both patients had been to the same ER and received IV narcotics from the same nurse between 12/6/17-12/16/17.
- Hospital investigation revealed a nurse that accessed the Pyxis more often than any other nurse and tested her for HCV.

# Outbreaks and Patient Notification

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- ▶ Infected at least 13 patients, none of which had personal risk factors to attribute to the infection



Cora Weberg

# Bloodborne Pathogen Standard

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- March 1992
- Exposure Control Plan- Facility
- Post Exposure Procedures
- Annual BBP training

# Exposure Control Plan

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- Updated Annually
- Located on the Intranet Infection Control Policy

## Observe standard precautions:

- Treating all blood and body fluids as if they are infectious
- Proper cleanup and decontamination
- Proper Disposal
- Identifying exposure prone procedures

## Engineering and work practice controls:

- Safer medical devices
- Sharps disposal containers
- Hand hygiene

## PPE: Properly Fit

### Examples:

- Gloves
- Masks
- Safety goggles
- Face shields
- Gowns



# Needlestick Safety & Prevention

- January 2001
- safe sharp devices as technology provides that eliminate or reduce exposure to BBP
- employee input on identifying, evaluating and selecting effective engineering and work practice controls.
- maintain an exposure log of employee exposures.



# Injection Safety Guidelines

- One Needle, One Syringe, ONE time
- **NEVER** administer medications from the same syringe to more than one patient
- **NEVER** enter a vial with a used syringe or needle
- single dose vials – single patient
- **DO NOT** use IV bags/solution as common source for saline



# Sharps Safety

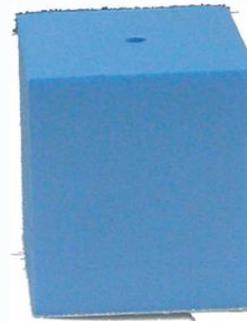
- Dispose of all sharps in biohazard container
- 2/3 full
- gloves worn while handling all specimens
- safety designed sharps

## **Never attempt to:**

- Bend or break needles
- Remove needles from sharps containers
- Recap needles after use

# Sharps Containers

*ALL NEEDLES MUST BE COVERED  
BEFORE DISPOSAL*



*Only recap using device*

# Standard Precautions

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Another way CCH protects workers from the spread of disease through contact with blood or OPIM is by using standard precautions. Standard precautions are used by all health care worker and with all patients.

Standard precautions are:

- Hand hygiene
- Use of Personal Protective Equipment (PPE)
- Sharps safety
- Safe injection practices
- Sterile instruments and devices
- Clean and disinfect surfaces

# Standard Precautions

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Personal Protective Equipment (PPE) includes:

- Gloves
- Masks
  - Procedure mask
  - N95
  - PAPR
  - CAPR
- Eye protection
- Face shields
- Gowns to protect worker's skin and clothing

# Standard Precautions

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Protect yourself and reduce the risk of exposure to bloodborne pathogens by practicing proper hand hygiene.

- Use an alcohol-based hand rub
- Wash hands with soap and water
  - Wearing gloves does not replace hand hygiene
- Remove gloves prior to leaving a patient room
- Following the removal of gloves use hand hygiene

# Standard Precautions

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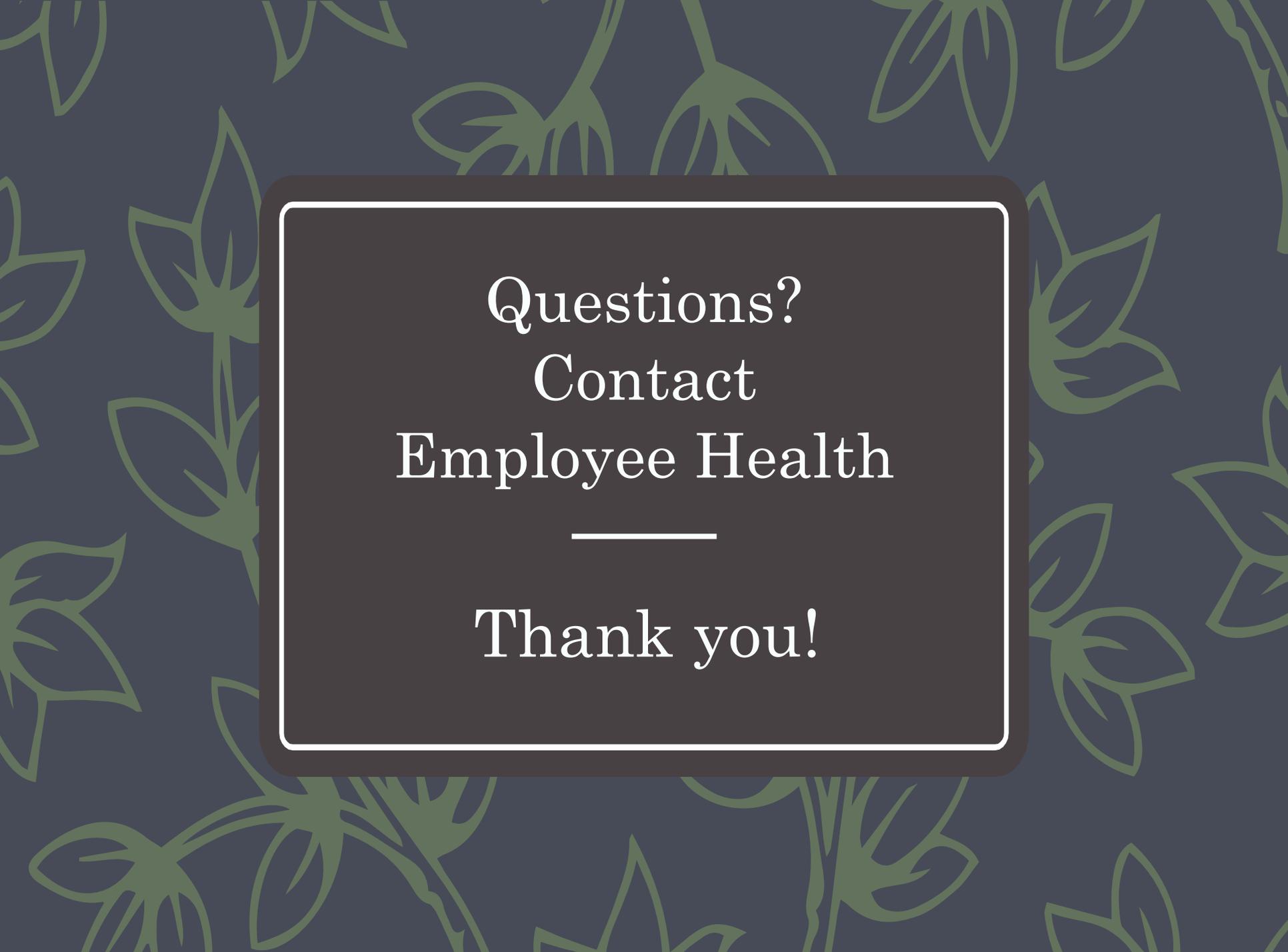
Proper hand washing procedures include:

- Wash your hands with clean, running water
- Turn off the tap and apply soap
- Lather your hands by rubbing them together with the soap
  - Be sure to lather the back of your hands, between your fingers, and under your nails
- Scrub your hands for 20 seconds
- Rinse your hands well under clean, running water
- Dry your hands using a clean towel or air dry them.



# Post Exposure Protocol

- Immediately flood exposed area with water, clean wound with soap or disinfectant.
- Report to supervisor, Go ER for 24 hr Medical opinion/evaluation.
- Baseline testing by Employee Health for Hep B, Hep C and HIV
- Follow up testing at 6 wks,3 months,6 months.
- Source Pt testing for Hepatitis B & C, Rapid HIV test.



Questions?  
Contact  
Employee Health

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Thank you!