

WORKPLACE SOLUTIONS

From the National Institute for Occupational Safety and Health

Reducing Work-Related Needlestick and Other Sharps Injuries Among Law Enforcement Officers

If you experience a needlestick from a used or potentially contaminated needle/sharp, wash the needlestick/sharps injury site with soap and water. Report it to your supervisor. Then seek immediate evaluation by a medical professional (emergency department, urgent care, occupational/employee health service, primary care provider).

Summary

Law enforcement officers include those working in corrections, policing, and probation and parole. Work tasks may expose officers to needlesticks and other sharps injuries, putting them at risk for hepatitis B and C (HBV, HCV) and human immunodeficiency virus (HIV). The National Institute for Occupational Safety and Health (NIOSH) recommends steps for employers and employees to reduce the risk of sharps injuries.

Introduction

Sharps

Sharps is a medical term for devices with sharp points or edges that can puncture or cut skin, as defined by the Food and Drug Administration [FDA 2018a,b].

Sharps can include syringes and needles, lancets, scalpels, infusion needle sets, connection needles, auto injectors, or homemade tattooing devices (such as ball point pen casings with sewing needles and/or metal guitar strings).

Contaminated Sharps

According to the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens (BBPs) Standard, 29 CFR¹ 1910.1030 [OSHA 2001], contaminated sharps could be any contaminated object that penetrates the skin (needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires).

Bloodborne Pathogens (BBPs)

BBPs are microorganisms that are present in human blood and can cause

¹Code of Federal Regulations. See CFR in References.

disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

Needlesticks and Other Sharps Injuries

Percutaneous injuries are injuries that puncture the skin, such as from needlesticks and other sharps. A sharps injury is a penetrating puncture or cut wound from a needle, scalpel, or other sharp object that may result in exposure to (1) blood or other potentially infectious body fluids or (2) illicit substance residue (on the needle). A needlestick injury is a penetration of the skin by a needle or other sharp object that has been in contact with another person's blood, tissue, or other body fluid before the injury [OSHA 2001; CDC 2011]. Sharps and needlestick injuries may occur during searches of persons and property.



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

Reporting Needlestick and Sharps Injuries

Prompt reporting of sharps injuries to your supervisor is critical for initiating prompt post-exposure follow-up and should be strongly encouraged [NIOSH 2008]. Surveys have shown that approximately 3.8%–8% of police officers reported having a needlestick injury [Cepeda et al. 2017; Davis et al. 2014]. Sharps injuries, as with many occupational injuries, are often unreported. There are several reasons why officers may not report sharps injuries, including not being aware of the procedure for reporting a sharps injury, not having time (being granted leave) to receive medical follow-up testing or treatment, or hesitancy to report possible unsafe work practices. Law enforcement officers may also consider the injury to be low risk and therefore not report it.

It is important to report needlestick or sharps injuries because these injuries have the potential to transmit BBPs such as HBV, HCV, and HIV[†] [CDC 2020c; NIOSH 2016, 2021]. Seeking treatment is imperative to the officer's health, since the use of **post-exposure prophylaxis (PEP)** could reduce the chance of transmission and infection. A survey of first responders in 2018–2019 revealed that approximately half of the 112 respondents who reported ≥ 1 needlestick injury reported receiving no medical services after a needlestick injury [Carter et al. 2020].

Approximately 60%–80% of persons who inject drugs have HCV, and 9% of new HIV cases are a result of syringe sharing [Conklin 2018]. Chronic HBV infection has been identified in 3.5%–20.0% of persons who inject drugs in a variety of settings, and 22.6% of persons who inject drugs have evidence of past infection [Nelson et al. 2011].

In addition, reporting injuries can help identify patterns of injuries and inform prevention measures to reduce the potential for future sharps injuries among law enforcement officers.

The Centers for Disease Control and Prevention (CDC) has fact sheets about the transmission and treatment of hepatitis B [CDC 2016b], hepatitis C [CDC 2020a], and HIV [CDC 2020b]. Also see information about the Ryan White Act in the Resources Section.

Sharps Hazards in the Workplace: Corrections

Sharps injuries may occur when correctional officers perform pat down searches of incarcerated or detained persons (IDPs) as IDPs move between areas of the facility (such as after returning from visitation, a work detail, or an outside medical trip; or when being admitted to an isolation or segregation unit).

[†]For detailed information about the risk of seroconversion, see CDC [2018, 2020e], and Kuhar et al. 2013 in the References.

Pat-down searches generally involve officers using their hands to lightly press against an IDP's body in search of contraband items such as homemade weapons, drugs, drug paraphernalia (which may include needles), or prison contraband. IDPs may conceal contraband in inconspicuous places such as within the waistband, inside sewn-in fabric pockets, or underneath clothing, etc. Officers are required to collect these devices and retain them as evidence.

Officers must also search underneath mattresses and dismantle the contents stored within IDPs' lockers to properly inspect all items. Blind searches of areas such as metal beds and lockers present a high risk of a sharps injury. Correctional employees may also be required to search common areas (where IDPs often hide prison contraband).

Workers in correctional facilities are at additional risk of infection because rates of infectious diseases are far higher among the incarcerated population compared with the general population (5 times higher for HIV, and 17–28 times higher for HCV) [Healthy People 2020; Flanigan et al. 2009].

Sharps Hazards in the Workplace: Policing

Police officers may encounter contaminated sharps and needles when searching a suspect's person (frisk), property, vehicle, or home. For example, searches may occur as the result of a traffic stop, or executing a search warrant at a private residence, or while arresting a subject. Executing a residential search warrant may require police officers to search inside drawers, cabinets, garbage containers, etc. Needles and sharps may be encountered while searching in and underneath furniture and household goods.

Police officers could also encounter contaminated sharps while retrieving an identification card (from a purse or a pocket) if the suspect is in handcuffs or is incapacitated. Officers may also encounter used needles in community settings or while patrolling on foot in parks, on sidewalks or streets, etc.

Sharps Hazards in the Workplace: Probation and Parole

Probation and parole officers may encounter contaminated sharps or needles when searching the person, property, or home of a person on parole or probation supervision. A person on parole or probation is often required to report to an office setting to meet with their assigned officer. If the person on parole or probation is taken into custody from the office setting, the officer must conduct a pat-down search before transporting the person to a detention center.

Case Study

NIOSH investigators reviewed policies from a police department in Ohio regarding BBPs and exposures to blood or other potentially infectious materials (OPIM). They also analyzed the police department's needlestick injury and exposure incident reports from 2011–2016. Thirteen needlestick injuries were reported among a force of approximately 1,000 officers during a 6-year period. Most needlestick injuries occurred during pat-down searches of a suspect and during searches of a suspect's property or vehicle. Nine of 11 source persons with test results were found to have hepatitis C [NIOSH 2017].

Recommendations

In the case study, NIOSH investigators recommended that the police department implement a comprehensive BBP exposure program. NIOSH staff also recommended that the police department regularly train all employees in search techniques and require reporting of all needlesticks and other sharps injuries [NIOSH 2017].

In general, employers and workers should follow OSHA's BBPs standard* [OSHA 2001] to prevent needlestick/sharps injuries. NIOSH recommends the following safety measures to reduce needlestick/sharps injuries:

What Employers Can Do

Planning

- Implement a comprehensive BBP Exposure Control Plan that complies with the OSHA BBPs Standard including BBP training. (For a model Exposure Control Plan, see page 4 of **Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards** [OSHA 2003].)
- Ensure that employees are up to date on their HBV vaccinations. It is important to know whether the employee had a titer or blood draw to test immunity to HBV after the vaccine series, in the event of a needlestick/sharps injury.
- The requirement for consent for HIV testing of a source case depends on state law [CDC 2020d].
- Ensure that employees are familiar with needlestick injury protocols and your organization's reporting requirements.

Ensure that all employees receive training in the following:

- Exposure control plan and definition of BBPs
- **Sharps disposal.** The U.S. Food and Drug Administration (FDA) recommends that used needles and other sharps be immediately placed in FDA-cleared sharps disposal

containers. FDA-cleared sharps disposal containers are made from rigid plastic and come marked with a line that indicates when the container should be considered full, which means it's time to dispose of the container to prevent needlestick/sharps injuries or exposures [FDA 2018b]. Secure containers in emergency response vehicles so that they do not spill, and keep containers in correctional facilities in secure locations.

- **OSHA's definition of a needlestick injury for OSHA recordkeeping purposes.** A needlestick injury is defined as penetration of the skin by a needle or other sharp object that has been in contact with another person's blood, tissue, or other body fluid before the injury [OSHA 2001; CDC 2011].
- **Personal protective equipment (PPE).** Ensure the following measures:
 - Employees are trained in proper procedures for putting on and removing PPE.
 - Employees understand that single-use nitrile gloves are not puncture resistant.
 - Employees are trained in the use of gloves that meet the ASTM Standard F2878–19 for puncture resistance to needles (if these types of gloves are provided [ASTM 2019]).
 - Employees wear properly fitted gloves.

Treating injuries

- Keep information about the nearest urgent care or occupational health clinic available, and consider the following:
 - The need for accessibility after hours and on weekends.
 - The facility's capability of handling sharps injuries/exposure incidents.
 - Establish a working relationship in advance, so that employers can be assured that these injuries will be treated as urgent cases by a competent provider.
- Arrange immediate first aid (e.g., wash the needlestick/sharps injury site, cover with a bandage) for employees who experience a needlestick/sharps injury.
- Arrange immediate evaluation by a licensed healthcare provider, preferably a provider familiar with post-exposure protocols.

Reporting injuries

- Have a plan for employees to promptly report needlestick injuries and ensure that the plan includes medical follow-up and testing of the source case (if known).
- Establish a sharps injury risk reporting system to track each incident for documentation and follow-up to help prevent future incidents.

*For more information on the BBP, including coverage of state and local employees, see **State Plans | Occupational Safety and Health Administration** ([osha.gov](https://www.osha.gov))

- Establish and maintain a separate sharps injury log[§] to track/report the device involved in the incident (not the injury to the person).
- Report injuries. OSHA requires needlestick injuries to be recorded on the OSHA Form 300 (Log of Work-Related Injuries and Illnesses) if the sharp is known to be contaminated with another person's blood or OPIM.[†]
- Ensure that employees also report near-miss needlestick/sharps injuries to supervisors for documentation and follow-up to help prevent future incidents.^{**}

Provide recommended tools and PPE

- Provide officers with access to and training on handheld tactical search mirrors and flashlights for conducting searches in hard to see areas, such as underneath mattresses.
- Consider providing tools (e.g., tongs) to pick up sharps, so employees don't use their hands.
- Provide officers with access to sharps containers that are closable, puncture-resistant, crush-resistant, leak-proof, color coded, and clearly marked at the level where the container is full (and should be replaced) [FDA 2018b].
- Provide for final disposal of sharps containers (e.g., having a company pick them up).
- Provide all necessary PPE for officers to use, appropriate for the work-related task an officer may perform.
- Provide single use nitrile gloves, which are used to prevent dermal (skin) exposure to blood and other body fluids. While single-use nitrile gloves do not provide puncture resis-

[§]1910.1030(h)(5)(i) The employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:

- 1910.1030(h)(5)(i)(A) The type and brand of device involved in the incident,
- 1910.1030(h)(5)(i)(B) The department or work area where the exposure incident occurred, and
- 1910.1030(h)(5)(i)(C) An explanation of how the incident occurred.
- 1910.1030(h)(5)(ii) The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR part 1904.
- 1910.1030(h)(5)(iii) The sharps injury log shall be maintained for the period required (5 years) by 29 CFR 1904.33.

[†]1904.8(a) Basic requirement: Record all work-related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material (as defined by 29 CFR 1910.1030). Enter the case on the OSHA 300 log as an injury. To protect the employee's privacy, do not enter the employee's name on the OSHA 300 log (see the requirements for privacy cases in paragraphs 1904.29(b)(6) through 1904.29(b)(9)).

^{**}OSHA defines a near miss as an incident in which no personal injury was sustained, but where (given a slight shift in time or position) injury could have easily occurred. OSHA encourages employers to investigate near misses to define the problem, disseminate solutions to affected workers, and help prevent future workplace incidents by alerting professionals to hazards and unsafe conditions.

tance, gloves are part of standard precautions when coming into contact with blood or body fluids [BOP 2017].

- Consider providing needle puncture-resistant gloves that meet the ASTM Standard F2878–19 for puncture resistance to needles [ASTM 2019; BOP 2017].

What Employees Can Do

Take proper safety measures:

- Complete required training pertaining to search techniques, evidence-collection techniques, and sharps/needlestick injury prevention and reporting.
- Search common areas with the same precautions as individual areas.
- Before conducting a frisk or pat-down search, ask the person if they have anything sharp concealed on their person, within their pockets, etc.
- Within the correctional environment, metal detectors (walk-through or handheld) may be used by employees to detect some types of sharps.
- Use tactical search mirrors and flashlights to search areas that are not readily visible (under mattresses, crevices, edges of shelving, door frames, etc.).
- Do not pass needles/sharps between officers.
- Do not pass items (evidence/contraband) between officers while handling sharps and needles.
- Notify your supervisor about any needlestick/sharps hazards you observe while working, so the hazards can be identified and corrected.
- Wear all necessary PPE. Consider using gloves that meet ASTM Standard F2878–19 for puncture resistance to needles for additional protection [ASTM 2019; BOP 2017]. Puncture resistant gloves may not provide protection against BBPs or chemical (illicit drug) permeation unless the manufacturer data provides performance data for virus penetration using a method such as ASTM 1671 (virus) and ASTM D6978–19 (chemical).

Report needlestick/sharps injuries:

- If you experience a needlestick from a potentially used/contaminated needle, you may have been exposed to a BBP. Wash needlesticks and cuts (injury site) with soap and water [CDC 2016a; NCCC 2021].
- This exposure requires immediate evaluation within hours. It is ideal to start treatment as soon as possible (and ideally within 48–72 hours).
 - Seek care from a licensed healthcare provider at an occupational health clinic, urgent care, emergency department, or your healthcare provider for appropriate treatment.

- Refer to your employer’s protocol for reporting guidance which may include local options for seeking care.

- Promptly report the needlestick/sharps injury to your supervisor, in addition to any needlestick/sharps near-misses (to help prevent future incidents).

Follow steps for safe sharps handling, transportation, and disposal:

- Do not recap, shear, or disassemble syringes for any reason.
- Use FDA-cleared sharps containers that are closable, puncture-resistant, crush-resistant, leak-proof, color coded, labeled to warn of hazardous waste inside the container, and clearly marked with a line that indicates when the container should be considered full.
- Replace or exchange sharps containers when they reach the full line as labeled by the manufacturer. (Final disposal [e.g., having a company pick up the containers] should be the responsibility of the employer.)
- Dispose of all regulated waste in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

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Resources

State and Federal Law: BBP Reporting and Notification

In considering this document’s recommendations, employees and employers should be aware of applicable state and local laws that may impact their implementation. Many states have enacted laws that require the notification or reporting of exposure to infectious diseases, including BBPs, to law enforcement officers, correctional officers, and others who respond to victims of emergencies during the course of their professional or volunteer duties. Some states require treating medical facilities to report exposure to BBPs for correctional officers only. Other states require such reporting for correctional employees and police officers. In some states, the only reportable disease identified by law is HIV; in other states, HIV, HBV, and HCV are specified; some states include all diseases included in the NIOSH list of potentially life-threatening infectious diseases to which emergency response employees may be exposed, discussed below.^{††}

^{††}Some states require law enforcement officers who know or suspect that

Part G of Title XXVI of the Public Health Service Act requires medical facilities receiving and treating the victims of an emergency or ascertaining the cause of the victims’ death to notify and respond to requests from emergency response employees (ERE) (such as law enforcement officers) pertaining to any determinations that the victim or deceased had a potentially life-threatening infectious disease. Such notification allows EREs to receive timely diagnosis and post-exposure medical treatment. NIOSH has developed and published a **list of potentially life-threatening infectious diseases**, including BBPs, and **accompanying guidelines for use by medical facilities** [NIOSH 2013, 2020].

Resources

NIOSH

Personal protective equipment

Bloodborne infectious diseases

Strategies for sharps disposal containers

CDC

Sharps Safety for Healthcare Settings gives resources for developing a sharps injury prevention program and teaching tools for training healthcare staff in preventing sharps injuries

FBI

Handbook of Forensic Services

FDA

Describes FDA-approved **Sharps Disposal Containers** and things that can be used as alternative containers if FDA-approved containers are not available.

OSHA

Bloodborne Pathogens and Needlestick Prevention web page explains the BBPs standards, describes sharps injuries and how to prevent them, and also illustrates how to select safe syringes and dispose of sharps safely.

Protecting Yourself When Handling Contaminated Sharps fact sheet describes safe medical devices, sharps disposal, and disposal containers.

U.S. Public Health Service

Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis | National Prevention Information Network | Connecting public health professionals with trusted information and each other (cdc.gov)

another person has an infectious disease, including BBPs, to report the case to the local health authority.

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