NEEDLESTICKS: Avoiding Exposure
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A healthcare worker’s main focus is to take care of their patients. But, it is also important for them to remember to protect their own health while on the job. There are many potential risks when a patient’s treatment involves the use of needles and healthcare workers must be aware of how to stay safe while providing care. Although the proper personal protective equipment, work practice controls, and engineering controls can help reduce their risks, it is also necessary to select and use safer needle devices. Selecting safer needle devices, and using the controls set in place to protect employees will help eliminate any chance of a needlestick injury endangering the life of a healthcare worker.
Training Materials

Collect all of the necessary materials and supplies before training begins. Here are some suggested materials and supplies:

- A training location that is free of distractions, has good lighting, and a comfortable temperature.
- Desks and chairs arranged so that everyone will be able to see the viewing screen, the facilitator, and each other.
- The video, a VCR, and a TV with a remote. Make sure the video is rewound.
- An employee handbook and pen/pencil for each trainee. Each handbook includes a quiz at the back, which can be used to test comprehension and document training.
- Other supplies and equipment you may need - blackboard chalk, paper, handouts, transparencies, overhead projector, markers, notepads, etc.
- Additional information, such as a copy of the regulation or other reference tools.
Preparation

A successful presentation requires preparation and planning. Give yourself several days before the training session to get organized.

• Locate and schedule the training site as soon as possible.

• Notify trainees of the training date and time, the training schedule, and proper dress.

• Obtain all necessary equipment and supplies.

• Make sure you know how to operate the TV, VCR, and other equipment. Check to ensure that it is working properly. Replace or repair any damaged equipment.

• Review all training materials, including the Facilitator’s Guide, handouts, and any other reference materials.

• Prepare your presentation, including a lesson plan or outline of the training. Include the training goals and objectives. Some presentation guidelines are included on the next page. A sample lesson plan has been included on page “f” of this Facilitator’s Guide.

• A day or so before conducting the training session, you may want to have participants take the quiz as a pre-test. The results of this test can help you to determine weak areas to focus on during the training session.

• Preview the videotape. Note any key points you want to expand upon in your training.
Presentation Guidelines

How you present the training course can have a great impact on learning. By following these simple presentation guidelines and keeping your objectives in mind, you can effectively and efficiently get the most out of your training session.

Organize Training Time Efficiently
In today’s busy work climate it can be difficult to find the time needed for training, so it is important to be organized and well-prepared when you do schedule training sessions. Whether you use Summit’s suggested lesson plan or not, it is important to have a lesson plan prepared that you can implement comfortably. This ensures that time spent in training is productive and beneficial for everyone.

Stress the Purpose and Goals of Training
Training needs to be goal-oriented. State the purpose of training in a clear, specific manner - whether it’s to reduce injuries, increase production, improve quality, improve working conditions, etc. Review the goals and objectives of the training so trainees know what is expected of them.

Capture Their Attention
Training needs to be interesting and compelling to hold trainees’ attention. To help motivate learners, give them specific evidence that their effort makes a difference and provide feedback on their progress. Also, remember that the first experience with a new subject usually forms a lasting impression on the learner. By making that experience a positive one, you can help ensure your audience retains the information learned.
Make New Learning Experiences Pleasant
For some adults, past experiences with education were unpleasant and not helpful. Adults learn best when they feel comfortable. By making the learning environment open and friendly, you can help adults to feel secure in their new learning experience. Offer support and feedback as often as possible, and be ready to provide extra attention to those who may require it.

Ask If There are any Questions
When most adults learn new information that conflicts with what they already know, they are less likely to integrate those new ideas. It is very important to make sure participants fully understand the training and do not have any unresolved questions. Provide for a question and answer period so participants can resolve those questions and/or answer questions throughout the training session.
Lesson Plan

As a qualified trainer, your job is to effectively communicate a great deal of information in a well-organized manner. By preparing a lesson plan, you can ensure that each minute of the training session is productive. Summit has provided a suggested lesson plan for your use.

1. Program Objective
   This guide reviews *Needlesticks: Avoiding Exposure*. In it, we will cover:
   - Diseases and Exposure Routes
   - Exposure Control Plan
   - Best Work Practices
   - Safer Needle Devices
   - Exposure Procedures
   - Sharps Injury Log

2. Show the Video: “Needlesticks: Avoiding Exposure”

3. Discussion and Demonstration
   To help relate the training to your site, you may wish to incorporate your own discussion topics and exercises. Key issues you might consider include:
   - What type of PPE is required to be worn in the facility?
   - If a needlestick occurs while a patient is present, how should the employee react?
   - What paperwork needs to be filled out in the event of a needlestick injury?
4. Use Handbooks to Reinforce Training
The handbooks increase comprehension and reinforce the information learned in the video program by explaining the main points and expanding on the original material. For increased employee information retention, go over one section at a time and stop to answer questions. The quiz at the back of the Facilitator’s Guide is provided to document employee training. Answers to the quiz are provided on a separate page.

5. Questions and Answers
Provide for a Q&A session to answer any questions. It may be necessary to review some of the material when providing answers. The employee handbook, equipment manuals, and other reference tools may be helpful.

Other relevant Summit titles that might be of interest:
Bloodborne Pathogens
Lab Safety
First-Aid: React & Respond
First Aid
Frequently Asked Questions

What should I do if I am stuck by a potentially contaminated or dirty needle?
First thing to do is not panic. Immediately wash the wound with soap and water and inform your supervisor of the incident. Fill out any necessary paperwork and, if possible, identify the source patient. The employer should seek the patient’s consent to be tested for HIV, Hepatitis B, and Hepatitis C infections, but you should be tested for these as well. Report to employee health services, the emergency department, or any other designated treatment facility for testing. In addition, you will want to receive follow-up testing at six weeks, three months, six months and, depending on the risk, one year.

What is an ECP?
The ECP is an Exposure Control Plan put in place by your employer to help eliminate or cut down the risk of exposure to bloodborne pathogens and needlestick injuries for employees. This written plan is reviewed and updated annually or more frequently under some circumstances. Any healthcare worker may be asked their opinion on how to better prevent exposure. Everything will be noted and your employer will decide on the best prevention methods. You may request a copy of this written plan. It must be provided to you within 15 working days of your request.
Introduction

Your job requires a certain amount of skill, dexterity and hand eye coordination, but even possessing these skills cannot make up for the element of chance.

Each year, an estimated 600,000 to 800,000 needlesticks and other sharps-related injuries are sustained by hospital-based and other healthcare personnel; that’s an average of approximately 1,500 to 2,000 sharps injuries per day.

And although accidents happen, you can severely cut down your risk of becoming another statistic of needlestick injuries by simply taking precautions and utilizing both preventative action and safer medical devices.

In this handbook we will discuss:

- Diseases and Exposure Routes
- Exposure Control Plan
- Best Work Practices
- Safer Needle Devices
- Exposure Procedures
- And, the Sharps Injury Log

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As professionals in the health care industry, you should be well aware of the diseases that can be transmitted through blood and other potentially infected materials, as well as the potential routes of exposure. But let’s review, just to be safe.

Your skin acts as a natural barrier to bloodborne pathogens. You can wash bloodborne pathogens off of your skin without harm. It’s only when a bloodborne pathogen finds a way THROUGH the skin – through a body opening such as the eyes, mouth and nose – or through a break in the skin – that you could become infected.

Surgical personnel are at risk of exposure to bloodborne pathogens if they receive a cut from sharp surgical instruments. The most common method of exposure for healthcare workers, however, is an NSI or needlestick injury.

Every time a healthcare worker sustains a needlestick injury, he/she is at risk of contracting a bloodborne pathogen.
There are over 20 diseases (see Figure A below) that can be contracted through NSIs or other sharps related injuries, including malaria and syphilis, but the three you should be most concerned with are HIV, Hepatitis B and Hepatitis C.

As you know, HIV, or the Human Immunodeficiency Virus causes AIDS. The virus attacks your immune system and leaves you vulnerable to other diseases like cancer and pneumonia. Although most healthcare professionals fear exposure to HIV as a result of needlestick injuries, the chances of actually being infected are small. Approximately 1 in 300 healthcare workers will contract HIV from an accidental needlestick or other sharps related injury.

Figure A

Hepatitis B  HIV / AIDS
Herpes   Hepatitis C   Leptospirosis
Brucellosis Blastomycosis
Cryptococcosis Toxoplasmosis
Malaria   Tuberculosis
Cutaneous Gonorrhea Diphtheria
Mycobacteriosis Mycoplasma Caviae
Rocky Mountain Spotted Fever
Syphilis  Sporotrichosis
Streptococcus Pyogenes
Babesiosis  Staphylococcus Arueus
The risk of being exposed to Hepatitis B (HBV) and Hepatitis C (HCV) however is much greater due to its prevalence in the patient population. As you know, Hepatitis B and C are both diseases that cause an inflammation of the liver. Both can cause long term health issues, even death. People infected with HBV and HCV may appear asymptomatic, or they may exhibit symptoms like fatigue, nausea, vomiting, jaundice, fever, abdominal pain and dark urine. The good news is that there is a vaccine for Hepatitis B. This vaccine must be made available to all health care workers at no cost to the employee. You have the right to decline vaccination for Hepatitis B; however it is strongly recommended that every health care employee get vaccinated sooner rather than later. And as the saying goes, “It’s better to be safe, than sorry,” right?

But good news is often followed by bad news and the bad news is that presently there is no vaccine for Hepatitis C.

So now you know what you’re up against, but what do you do to protect yourself from potential exposure to blood-borne pathogens? It all starts with a “game plan.”
This plan is designed to eliminate or cut down the risk of exposure for employees, including doctors, nurses, phlebotomists and housekeeping personnel.

The ECP is reviewed and updated annually or more frequently, whenever new or modified procedures and/or technologies are adopted by your employer. It should also be reviewed and updated whenever employee positions are revised in such a way that creates new potential exposures. These reviews must also include an examination of the most recent technological advances available to prevent potential exposure to needlesticks and other sharps injuries.

Working in the health care industry, you are routinely exposed to bloodborne pathogens which is why your employer must provide you with a written exposure control plan, or ECP.
The ECP will also include information provided by non-managerial, healthcare workers who are potentially exposed to injuries from contaminated sharps. This means that you and your co-workers will be asked your opinion on how to better prevent exposure in your workplace. Your input will then be noted and utilized to revise your employer’s Exposure Control Plan.

Copies of the ECP and the procedures to follow if an exposure occurs should always be available for you to refer to when you have questions. If you have further questions regarding your facility’s ECP, talk to your supervisor. You may also request a hard copy of the Exposure Control Plan. Should you request a hard copy, it must be provided to you within 15 working days of your request.

A “game plan” is a blueprint for prevention. Without the ECP, you wouldn’t know how to take the next step on the road to needlestick injury prevention.
As a healthcare worker, you no doubt know the importance of utilizing standard precautions – a combination of universal precautions and body substance isolation to treat all blood and other body fluids as if they are infectious.

Your employer is also aware of the importance of taking universal precautions. That’s why he/she provides you with personal protective equipment, free of charge. But while gloves, gowns, aprons, masks and safety glasses may protect you in most circumstances, PPE will not necessarily protect you from a needlestick injury. Therefore, it is important to utilize Work Practice Controls and Engineering Controls, in addition to PPE to further protect and prevent needlestick injuries in the workplace.
Work Practice Controls reduce the likelihood of exposure by alternating the manner in which a task is performed. What does this mean for you? It means that contaminated needles should not be bent, recapped, or removed unless your employer can demonstrate that no alternative is practical or that such an action is required by a specific medical or dental procedure. Such bending, recapping or needle removal must then be accomplished through the use of a mechanical device or a one-handed technique.
Plan for the safe handling and disposal of needles before you use them. Remember to immediately dispose of all contaminated sharps in the proper manner. Never set contaminated sharps down with other garbage or on a patient’s bed.

In addition to work practice controls, utilize engineering controls, or measures that isolate or remove the bloodborne pathogens hazard from your workplace. This includes items like sharps disposal containers and safer medical devices.

Sharps disposal containers should be distinguishable from other containers. They should be puncture resistant, leak-proof, and properly labeled with the biohazard symbol. They should also be located in convenient areas to assist in immediately disposing of contaminated sharps.
Although work practice controls and engineering controls like sharps containers are very effective in preventing needlestick injuries, the most effective way to eliminate needlestick injuries is to utilize safer medical devices.

Avoid the use of needles where safe and effective alternatives are available. Jet injectors, for example, can substitute for syringes and needles. Instead of suturing, utilize glues, adhesives and hypoallergenic needleless film devices to close wounds.

There is a whole world of safer medical devices out there for health care workers and although the elimination of the sharp and/or needle is by far the most effective way to prevent a needlestick injury, there are times that that just isn’t an option. So, what do you do then?
Most needlestick injuries result from unsafe needle devices rather than carelessness by healthcare workers.

Overall, the FDA urges the use of needleless systems or recessed needle systems to reduce the risk of needlestick injuries whenever appropriate.

When you have a procedure that requires you to use a needle, however, the best way to prevent needlestick injuries is to utilize safer needle devices. These devices have built-in safety controls to help prevent injuries before, during and after use.

Many innovations have been made in the field of safer needle devices in an effort to prevent needlestick injuries.
Here are a few to consider:

Needleless Devices are exactly what they sound like. They contain no needles. Needleless I.V. connector systems, for example, use a blunt cannula for use with pre-pierced ports...and valved connectors that accept tapered or luer ends of I.V. tubing. These I.V. setups minimize occupational exposure to needles and bloodborne pathogens by taking the needle right out of the equation.

Self-sheathing needles have shields attached to disposable syringes and vacuum tube holders. Initially, the sleeve is located over the barrel of the syringe with the needle exposed for use. After the device is used the user slides the shield forward over the needle where it locks in place and provides a guard around the used needle. In addition to self-sheathing needles, disposable scalpels with sliding blade shields are also available.
Some needles utilize retractable technology, meaning that the needles or sharps retract into the syringe, vacuum tube holder, or back into the device. Examples of retractable technologies include syringes with retractable needles, blood collection devices and retractable finger/heel-stick lancets.

Self blunting technology is available for phlebotomy and winged-steel “butterfly” needles. With a self-blunting needle, a blunt cannula, or tube, seated inside the phlebotomy needle is advanced beyond the needle tip before the needle is withdrawn from the vein.

Hinged safety features, or hinged or sliding shields are also available on phlebotomy needles, winged steel needles and blood gas needles.
Remember: Speak up! If your job requires you to utilize needles regularly, help your employer select and evaluate devices with safety features that reduce your risk of sustaining a needlestick injury. When selecting safety needle devices, pick those devices that provide a barrier between your hands and the needle after use. Whatever device you utilize should allow or require your hands to remain behind the needle at all times. The device you choose should be easy to use and practical. It should perform reliably and effectively. And, it should be acceptable to healthcare workers and, yet, not adversely affect patient care.
Exposure Procedures

If you have taken all the proper precautions against needlesticks – using PPE, work practice controls, engineering controls and safer medical devices, the chances of sustaining a needlestick should be minimal.

Sometimes things go wrong, however and accidents happen. So it’s important to know what to do in case you sustain a needlestick injury.

If you are stuck by a contaminated or dirty needle, don’t panic! Wash the wound with soap and water immediately. Then alert your supervisor of the incident. You and your supervisor should initiate the injury reporting system used in your workplace. Make sure you document the exposure in detail, for your own records as well as for the employer and for workers’ compensation.
If possible, identify the source patient - the patient whose blood you were potentially exposed to. Have your workplace seek the patient’s consent to be tested for HIV, Hepatitis B and Hepatitis C infections.

Report to employee health services, the emergency department, or any other designated treatment facility and get tested immediately and confidentially for HIV, Hepatitis B and Hepatitis C infections.

If the source patient is unknown or tests positive for HIV, Hepatitis B or Hepatitis C, you’ll need to receive Post Exposure Prophylaxis (PEP), or post exposure treatment, in accordance with the Centers for Disease Control and Prevention, or CDC’s, guidelines. The sooner you start your PEP, the better chance you’ll have against infectious diseases like HIV.
Plus, you’ll want FOLLOW-UP with post-exposure testing at six weeks, three months, six months and, depending on the risk, at one year. Receive monitoring and follow-up on your post exposure treatment plan and make sure you practice safe sex until your follow-up testing is complete.

Needlestick injuries can be traumatic, regardless of the outcome. You may want to consider counseling...and don’t be afraid to seek additional information or a referral to an infectious disease specialist if you have any questions.
Sharps Injury Log

One of the main keys to needlestick injury prevention is documentation of the need for safer medical devices.

Hospitals need to be able to identify high risk areas and evaluate devices being utilized in the workplace.

That’s why OSHA, the Occupational Safety and Health Administration amended the bloodborne pathogens standard to include specific recordkeeping for sharps related injuries.

OSHA requires employers to maintain a confidential sharps injury log that contains, at a minimum, the type and brand of device involved in the incident, the department or work area where the exposure occurred, and an explanation of how the incident occurred. The information recorded on the sharps injury log must be recorded and maintained in a way that protects the privacy of the injured employee. In addition, all sharps injury logs should be kept for a period of at least five years.
OSHA’s recordkeeping standard also requires needlestick injuries to be recorded on the OSHA 300 Log of Work-Related Injuries and Illnesses and the OSHA 301 Injury and Illness Incident Report. These reports may be utilized instead of a separate sharps injury log provided sharps related injury forms are kept separate from the rest of the work related injury and illness forms.

This information is also utilized by hospital committees and administrators when re-evaluating the exposure control plan and choosing new methods and/or technologies to better protect employees. Procedures only change if there is evidence that they need to. That’s why it is extremely important to report needlestick injuries and record them in the sharps injury log!
In this handbook, we have reviewed what bloodborne pathogens are and how they are transmitted.

We have learned what the exposure control plan is, and we’ve discussed the importance of personal protective equipment, work practice controls and engineering controls.

We have discussed the variety of safer needle devices available to help prevent needlestick injuries.

We’ve explored the procedures to follow should you sustain a needlestick injury and the importance of tracking these accidents on the sharps injury log.

Accidents happen, but prevention is the key to not becoming another needlestick statistic.

Speak up...take action...document...and you’ll be on your way to safer medical devices and a safer workplace.
To review your knowledge of *Needlesticks: Avoiding Exposure*, answer the questions below.

Your name                   Date

1. Which type of diseases can you contract from a needlestick injury? Select all that apply.
   a. heart disease
   b. HIV
   c. Hepatitis B
   d. Hepatitis C

2. How often should a written exposure control plan be reviewed and updated?
   a. At least annually
   b. Whenever new or modified procedures and/or technologies are adopted by your employer
   c. Whenever employee positions are revised in a way that creates new potential exposures
   d. All of the above

3. If you request a hard copy of the Exposure Control Plan, your employer has one month to provide it to you.
   a. True       b. False

4. Although PPE, work practice controls, and engineering controls can help reduce the risk of needlestick injuries, what is the most effective way to eliminate needlestick injuries?
   a. Using sharper medical devices
   b. Using safer medical devices
   c. Stay calm and focused
5. Most needlestick injuries are the result of unsafe needle devices.
   a. True    b. False

6. When selecting a safer needle device, what are some requirements the new device should contain to keep you safe? Select all that apply.
   a. Provide a barrier between your hands and the needle
   b. A cap for recapping the needle after use
   c. Should allow your hands to remain behind the needle
   d. Ease of use, practical and perform reliably and effectively

7. What steps should be taken if you are stuck by a contaminated or dirty needle?
   a. Don’t panic
   b. Wash the wound with soap and water immediately
   c. Alert your supervisor
   d. Document the exposure in detail
   e. All of the above

8. After a needlestick injury you should have follow-up testing at six weeks, 3 months, 6 months, and depending on the risk at one year.
   a. True    b. False

9. OSHA does not require employers to maintain confidential sharps injury logs.
   a. True    b. False

10. Information recorded on the sharps injury log and the work-related injuries and illnesses log is used when re-evaluating the exposure control plan.
   a. True    b. False
Quiz Answers

1. b HIV
c Hepatitis B
d Hepatitis C

2. d All of the above

3. b False

4. b Using safer medical devices

5. a True

6. a Provide a barrier between your hands and the needle
c Should allow your hands to remain behind the needle
d Ease of use, practical and perform reliably and effectively

7. e All of the above

8. a True

9. b False

10. a True
As an added bonus, this wallet-sized perforated card will be included in every Needlesticks: Avoiding Exposure Employee Handbook.

Front of Card

Exposure Procedures

If you are stuck by a contaminated or dirty needle, follow the procedures listed below:

• Don't panic
• Immediately wash the area with soap and water
• Alert your supervisor of the incident
• Document the exposure in detail, for your own records as well as for the employer and for workers' compensation
• If possible, identify the source patient whose blood you were potentially exposed to, and seek consent to have their blood tested
• Get yourself tested for HIV, Hepatitis B, and Hepatitis C
• Follow-up with post exposure treatment and/or testing

Back of Card

Best Work Practices

The following work practices are listed in order of effectiveness beginning with the most effective.

• Use of Needleless Systems - Such as using jet injectors in place of syringes and needles, or instead of suturing, utilize glues, adhesives and hypoallergenic needleless film devices to close wounds.
• Engineering Controls - Dispose of any sharps in sharps containers that are puncture resistant, leak-proof, and properly labeled with the biohazard symbol.
• Work Practice Controls - Never bend, recap, or remove any contaminated needle unless your employer can demonstrate that no alternative is practical or such an action is required by a specific procedure.
• PPE - Use PPE such as gloves, gowns, aprons, masks, and safety glasses.