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Needlestick/Sharps Safety and Prevention

The Needlestick Safety and Prevention Act (Pub. L. 106-430) was signed into law in November of 2000. Because occupational exposure to bloodborne pathogens from accidental sharps injuries in healthcare and other occupational settings continues to be a serious problem, Congress felt that a modification to OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030) was necessary to better specify OSHA's requirement for employers to identify, evaluate, and implement safer sharps devices. The act also mandated additional requirements for maintaining a sharps injury log and for the involvement of non-managerial personnel in evaluating and choosing devices.

New requirements:

- **Exposure Control Plan (ECP):**
  Employer's ECP must now annually review and update to reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens, including:
  - take into account innovations in procedure and technological developments that reduce the risk of exposure (e.g. devices designed to reduce needlesticks)
  - document consideration and use of appropriate, commercially-available, and effective safer devices (e.g. describe the devices identified as candidates for use, the method(s) used to evaluate those devices, and justification for the eventual selection)

  No one device is considered appropriate or effective for all circumstances. Employers must select devices that, based upon reasonable judgment:
  - will not jeopardize patient or employee safety
  - is not medically inadvisable or will impede success of a research protocol
  - will make an exposure incident involving a contaminated sharp less likely to occur

- **Employee Input:**
  Employers must solicit input from non-managerial employees responsible for direct patient care. This includes the identification, evaluation, and selection of effective engineering controls, including safer medical devices. Employees selected should represent the range of exposure situations encountered in the workplace. OSHA will check for compliance with this provision during inspections by questioning a representative number of employees to determine if/how their input was requested.

- **Documentation of employee input:**
  Employers are required to document how they received input from employees. This can be met by:
  - Listing the employees involved and describing the process by which input was requested

  -OR-

- Presenting other documentation (e.g. references to the minutes of meetings, copies of documents used to request employee participation, or records of responses received from employees.

- **Recordkeeping:**
  Employers who have employees who are occupationally exposed to blood or other potentially infectious materials, and who are required to maintain a log of occupation injuries and illnesses under existing recordkeeping rules, must also maintain a sharps injury log. This log is to be maintained in such a way to protect the privacy of the employee, and the NAU sharps injury log is located at Campus Health Services. At a minimum, the log must contain:
  - the type and brand of device involved in the incident
  - the location of the incident (e.g. department or work area)
  - a description of the incident.

New definitions:

- **Engineering Controls** include all control measures that isolate or remove a hazard from the workplace, such as sharps disposal containers and self-sheathing needles. The revision now specifies that "safer medical devices, such as sharps with engineered sharps injury protection and needleless systems" constitute an effective engineering control, and must be used where feasible.

- **Sharps with Engineered Sharps Injury Protections** are non-needle sharps or needle devices that contain built-in safety features that are used for collecting fluids, administering medications/other fluids, or other procedures involving the risk of sharps injury. This covers a broad range of devices, such as:
  - syringes with a sliding sheath that shields the attached needle after use
  - needles that retract into a syringe after use
  - shielded or retracting catheters
  - intravenous medication (IV) delivery systems that use a catheter port with a needle housed in a protective covering

- **Needleless systems are devices which provide an alternative to needles for various procedures to reduce the risk of injury involving contaminated sharps, such as:**
  - IV medication systems which administer medication or fluids through a catheter port using non-needle connections
  - jet injection systems which deliver liquid medication beneath the skin or through a muscle

Still have questions? Check out OSHA's FAQs page about the Needlestick Safety and Prevention Act at http://www.osha.gov/needlesticks/needlefaq.html for more information. Or, feel free to call or email Janelle Runberg Baron (928-523-4782, janelle.runberg@nau.edu) or Shelley Jones (928-523-7268, shelley.jones@nau.edu) with NAU Environmental Health & Safety.

Information adapted from:
Revision to OSHA's Bloodborne Pathogens Standard [Internet]. 2001. Washington, DC: Occupational Safety & Health Administration: [cited 2012 Sept 6]. Available from: http://www.osha.gov/needlesticks/needlefact.html

Sharps Injury Prevention Strategies

- Eliminate the use of sharps as much as possible
- Use engineering controls or engineered safety devices, such as devices where safety features are built into the device, passively enabled devices, and devices that cannot be deactivated
- Participate in work practice controls
- Involve staff in device selection to ensure the most user-friendly devices are chosen
- Ensure that all necessary equipment is available to staff prior to starting a sharps procedure
- Provide adequate lighting for staff to perform procedures safely
- Ensure the patients' ability to cooperate prior to performing a procedure to lessen the chance of accidental needlesticks
- Ensure that needles are not opened until they are to be used and they are pointed away from the user at all times
- Maintain visual contact with sharps during use
- Establish a neutral zone to place sharps, such as a tray, announcing the placement of sharps, and not passing sharps between staff members
- Activate safety features of sharps right after procedure is completed
- Keep track of all sharps by double-checking trays, linens, and waste materials prior to handling and use tongs/forceps to safely pick up rouge sharps
- Visually inspect disposal container(s) to make sure there is enough room for sharps to fit
- Keeping fingers away from the tip of the device during disposal and avoiding contact with disposal container
- Notifying EH&S (https://www5.nau.edu/logger/orc/) when disposal container is full
- Replacing sharps containers before they are 3/4 full

Information from:
Healthcare Wide Hazards: Needlestick/Sharps Injuries [internet]. 2012. Occupation Safety & Health Administration (OSHA): [cited 2012 Sept 6]. Available from: http://www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html

Injury Prevention Strategies [Internet]. 2010. SAFENEEDLE.org: [cited 2012 Sept 6]. Available from: http://safeneedle.org/us-needlesticks/prevention-strategies/

Response to a Sharps Injury

1. Wash exposure site with soap and water. In the event of a splash (such as blood or other potentially infection materials), remove affected clothing and/or flush affected mucous membranes with water for 15 minutes.

2. Immediately seek evaluation and treatment for the injury from the NAU Campus Health Center, Flagstaff Medical Center ER, or Urgent Care center.

3. Report the incident to your supervisor and document it in the Sharps Incident Log (at the NAU Campus Health Center).

4. Report the incident to the Biological Safety Officer or Assistant Biological Safety Officer with NAU EH&S.

5. If appropriate, identify and document the source patient (if known) who should be tested for HIV, hepatitis C, and hepatitis B (depending on known immunity of affected employee). It may be necessary to seek source patient consent.

6. Be tested immediately for HIV, hepatitis B (if immunity uncertain/unknown), and hepatitis C.

7. Get post-exposure prophylaxis (PEP) when source patient is unknown. If source patient tests positive for:

    - HIV – Then start prophylaxis within two hours of exposure
    - Hepatitis B – Then get the hepatitis B immune globulin (HBIG) injection and initiate the hepatitis B vaccine series if you are not vaccinated; no treatment necessary if you are vaccinated with known immunity
        - The Hepatitis B vaccine series is available for free to all NAU employees that are reasonably anticipated, as a result of performing their job duties, to come into contact with blood or other infectious materials.
    - Hepatitis C – Then no customary prophylaxis; but consult your physician or other care provider about experimental PEP

8. Get follow-up testing, counseling, and monitoring of post-exposure prophylaxis toxicity as appropriate.

Information from:
7 Things to do in Response to Needlestick Injury. 2010. American Nurses Association (ANA) via SAFENEEDLE.org: [cited 2012 Sept 6]. Available from: http://safeneedle.org/us-needlesticks/7-things-to-do-in-response-to-a-needlestick-injury/

Guidelines for Using the Needlestick Prevention Evaluation Sheets

- Determine which products are to be evaluated
- Select staff who represent the scope of personnel who will use or handle the device
- Choose a reasonable testing period (2-4 weeks should be sufficient)
- Staff should receive training in the correct use of the device, which can be provided by product representatives
- Encourage staff to provide informal feedback during the evaluation period
- Monitor the pilot test to ensure proper use of the safer device and remove the device immediately if it is found to be unsafe
- Forms should be completed and returned to the safety coordinator as soon as possible after the evaluation period
- Please note that the evaluation process needs to be repeated for every different type of sharp, or different use for a sharp, in the workplace (e.g. different gauge needles, scalpels, etc)

Interpreting the Results

- After the evaluation phase, speak with personnel who have completed the forms to determine the criteria that should receive the most consideration. For example, personnel may express that criteria regarding the "feel" of the device (e.g. weight and size of the device, how the device fits in their hand) are important in maintaining proper injection technique.
- If the responses to many of the criteria are negative, check with personnel who have completed the form for additional information. Balance this feedback with safety and practical considerations before determining whether to continue using the device in your practice.
- Fill out at return the NAU Needlestick Prevention Device Evaluation Interpretation Form to EH&S.
- The American Nurses Association (ANA) has identified eight indications letting healthcare workers know when a safety device is beneficial. Use these indications to help guide the evaluation process:
    1. Device is needleless
    2. If device uses needles, it performs reliably with all needle sizes
    3. The safety feature is built into the device (you do not have to install anything)
    4. The safety feature of the device works passively (you do not have to activate anything)
    5. It is clear that the safety feature has been activated
    6. The safety feature cannot be deactivated and remains protective through disposal
    7. The device is easy to use and practical
    8. The device is safe, effective, and does not diminish patient comfort and care

NAU Sharps Injury Prevention Device Evaluation Form

Device: Name, brand, company: _____

Applications in workplace: _____

Reviewer: _____ **Date:** _____

For each question, circle the appropriate response for the needlestick prevention device (NPD) being evaluated. Not applicable (N/A) may be used if the question does not apply to this particular product. If you have more comments, please write them at the end of the form. Please retain this form for your records and send a copy to the Biological Safety Officer at NAU EH&S.

During Use	**Agree**				**Disagree**	
1. The safety feature can be activated using one hand.	1	2	3	4	5	N/A
2. The user's hands remain behind the sharp until activation of the safety feature is complete.	1	2	3	4	5	N/A
3. The safety feature does not obstruct vision of injection site or the tip of the sharp.	1	2	3	4	5	N/A
4. Use of the product requires you to use the safety feature.	1	2	3	4	5	N/A
5. This product does not require more time to use than a non-safety device.	1	2	3	4	5	N/A
6. The safety feature works well with a wide variety of hand sizes.	1	2	3	4	5	N/A
7. The weight of the device is similar to that of a convention sharp.	1	2	3	4	5	N/A
8. The NPD is easy to handle while wearing gloves.	1	2	3	4	5	N/A
9. The NPD fit comfortably into your hand.	1	2	3	4	5	N/A
10. The NPD does not interfere with uses that do not require a needle.	1	2	3	4	5	N/A
11. The NPD offers a good view of any aspirated fluid.	1	2	3	4	5	N/A
12. The NPD will work with all necessary syringe and needle sizes.	1	2	3	4	5	N/A
13. The NPD provides a better alternative to traditional recapping.	1	2	3	4	5	N/A
14. The device did not appear to increase patient discomfort.	1	2	3	4	5	N/A
After Use						
15. The safety feature is easy to recognize and activate.	1	2	3	4	5	N/A
16. There is a clear and unmistakable change (audible or visible) that occurs when the safety feature is activated.	1	2	3	4	5	N/A
17. The safety feature operates reliably when activated properly.	1	2	3	4	5	N/A
18. The exposed sharp is permanently blunted or covered after use and prior to disposal.	1	2	3	4	5	N/A
19. The safety mechanism remains activated through disposal of the NPD.	1	2	3	4	5	N/A
20. The NPD is no more difficult to process after use than other non-safety devices.	1	2	3	4	5	N/A
21. The NPD felt stable during assembly, use, and disassembly.	1	2	3	4	5	N/A
22. The "feel" of the device did not cause you to change your technique.	1	2	3	4	5	N/A
23. Were you able to use the device for all of the same purposes for which a conventional device is typically used? (aka, does it meet your clinical needs?)	1	2	3	4	5	N/A
Training and Ease of Use						
24. The user does not need extensive training for correct operation.	1	2	3	4	5	N/A
25. The design of the NPD indicates proper use.	1	2	3	4	5	N/A

26. It is not easy to skip a crucial step in the proper use of the NPD.	1	2	3	4	5	N/A
27. The NPD be used by a left handed person as easily as by a right handed person.	1	2	3	4	5	N/A
28. It is easy to identify the type and size of the product from the packaging.	1	2	3	4	5	N/A
29. Using the NPD instead of a conventional device would result in only a modest (if any) increase in sharps container waste volume.	1	2	3	4	5	N/A

Overall

30. Would you recommend using this device?	1	2	3	4	5	N/A

Are there other questions which you feel should be asked regarding the safety/utility of this NPD?

Comments (e.g. describe problems, list incompatibilities, etc):

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NAU Sharps Injury Prevention Device Evaluation Interpretation Form

After reviewing a variety of applicable sharps using the Needlestick Prevention Device Evaluation Form and performing a review of the sharps needs for specific protocols and procedures in the workplace, it has been determined that:

☐ The facility will discontinue the use of their current sharps technology in favor of a sharp with engineered sharps injury protection, listed below:

☐ The facility will continue using their current sharps technology instead of a sharp with engineered sharps injury protection for the reason(s) listed below:

☐ The facility is already using the most appropriate sharp with engineered sharps injury protection for their procedure.

Name of PI/Lab Manager/Supervisor	Signature of PI/Lab Manager/Supervisor	Date

Location of Laboratory/Workspace: _____

Building Name Building Number Room Number(s)

Please return this completed form to the Biosafety Office via fax, email, or campus mail:

NAU Biosafety Office
NAU Box 4073
biosafety@nau.edu
fax: 928-523-0050