

# Infection Prevention & Control Guidelines for Foot Care Settings 2008

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## I. PURPOSE

To provide up-to-date information to ambulatory clinics and/or podiatry offices performing foot care who are responsible for providing a safe patient and employee environment that eliminates or minimizes the risk transmission of pathogens and infection.

These guidelines are targeted to the general family practice clinic or podiatric office where routine foot care is performed. The Centers for Medicare and Medicaid Services (CMS) defines routine foot care as "the cutting or removal of corns or calluses, the trimming of nails and other routine hygienic care."

## II. SUPPORTIVE DATA

These guidelines address basic infection control practices and applications for routine foot care. The information set forth in these guidelines is based on federal and state regulations that include but are not limited to: Occupational, Safety and Health Act (OSHA), Washington State Department of Occupational Safety and Health (DOSH), the Environmental Protection Act (EPA), Washington State Department of Health (WA-DOH), and national infection control guidelines and recommendations that include but are not limited to the Centers for Disease Control and Prevention (CDC), Association for Professionals in Infection Control and Epidemiology (APIC), American Association for Medical Instrumentation (AAMI), and the United States Pharmacopoeia (USP) 797.

Sanding and burring precautions are identified separately within each section since additional precautions are needed to address the aerosolization of the nail and skin dust and environmental contamination that results.

## III. OCCUPATIONAL HEALTH RISKS TO THE EMPLOYEE OR PROVIDER

- A. Because injuries with sharps are a potential risk, DOSH/OSHA *requires* use of sharps with safety features. These safety sharps include scalpels, blades, and needles/syringes.
- B. People who require foot care are in a high-risk group for carriage of multi drug-resistant organisms such as Methicillin Resistant *Staphylococcus aureus*, (MRSA) or Vancomycin Resistant Enterococcus (VRE).
- C. Aerosolizing procedures can transmit pathogens and cause environmental contamination.
- D. Use of sanders/burrs to trim nails results in large quantities of nail dust aerosols that contain keratin, keratin breakdown products, viable fungal components, yeasts, molds and bacteria.

#### IV. ROOM APPROPRIATENESS FOR FOOT CARE

- A. Routine Foot Care: Any room is appropriate for *routine* foot care (trimming of nails, corns, calluses).
- B. Sanding/Burring: A room *dedicated to sanding and burring* is recommended. Sanding/burring procedures generate dust aerosolization, contaminating the environment, equipment, and supplies in the room, increasing risk of pathogen transmission.
- C. Settings NOT Recommended for Sanding:
  - 1. Minor operating room (MOR) or surgical procedure room, injection room, endoscopy areas.
  - 2. Exam rooms in medical offices that will be used for different types of patient exams between foot care sanding procedures.

#### V. ROOM SET-UP

- A. Routine Foot Care: Assure room is visually clean and organized.
- B. Sanding or Burring Procedures: Assure room is visually clean and organized. Nail dust aerosolization is an environmental contaminant that can transmit organisms either through direct contact or indirect contact with the environment.
  - 1. Cover exposed items on walls and counters with cloth or paper sheets or clear plastic bags when sanding/burring or aerosolizing procedures are anticipated.
  - 2. Remove or minimize room equipment.
  - 3. Turn on portable Hepa Air Filter Cleaner (if available).
  - 4. Use sanding/burring vacuum (if available).

#### VI. INSTRUMENT PREPARATION

Assure proper reprocessing, storage, and handling of all sterile and clean instruments.

- A. Perform hand hygiene prior to accessing sterile instruments.
- B. Use sterile instruments for procedures involving viable tissue.
- C. May use either sterile or high level disinfected instruments for nail and foot care. This includes bandage scissors.
- D. Remember single use sterile instruments are disposable and discarded after patient use.
- E. Do NOT store sterile instruments in uniform pockets or on dirty surfaces.

## VII. INSTRUMENT REPROCESSING

### A. Clean Instruments First

Soiled instruments must be thoroughly cleaned prior to sterilization to remove proteinaceous soil.

1. Wear gloves, gown, and face protection (face shield) when cleaning instruments in a sink.
2. Assure that all sharp ends of instruments are pointing in the same direction to avoid sharps injury.
3. Place all instruments in the open position.
4. Clean all instruments before leaving at night.
5. Do NOT leave instruments soaking as rust occurs and could shorten the life of the instrument.
6. Clean and dry all containers used for soaking.
7. Clean soiled instruments as follows:
  - i) Place instruments in the open position and submerge them in enzymatic detergent until ready to clean (prevents frying of debris).
  - ii) Follow manufacturer's dilution instructions for the enzymatic detergent.
  - iii) Place instruments into ultrasonic bath to clean, if bath is available.
  - iv) Change detergent water between batches of instruments (sink or ultrasonic unit).
  - v) Clean, rinse, and dry instruments prior to packaging and sterilization process.
8. Assure eye wash station is located in area where chemicals are used. (See Appendices 16 & 17 for more information.)

### B. Sterilize or High level Disinfect Next

1. Instruments that penetrate tissue must be autoclaved (debridement, suture sets, incision & drainage instruments)
2. Instruments must be cleaned thoroughly prior to sterilization.
3. Instruments must be sterilized in an autoclave or in a high-level disinfectant solution 0.55% orthophthalaldehyde (OPA). The entire instrument must be immersed or autoclaved. Hot bead sterilizers do NOT provide complete sterilization of the instrument and should not be used.
4. Never disinfect instruments with an environmental cleaner.
5. Always use hand sanitizer prior to handling clean/sterilized supplies to prevent microorganism contamination from your hands.
6. Using a Sterilizer (autoclave)
  - i) Follow Manufacturer's instructions for use, maintenance, calibration, and cleaning of the sterilizer.

- ii) Biologics must be done weekly and documented.
  - iii) An integrator must be placed in each instrument pack.
  - iv) An integrator must be placed in a tray of unpackaged instruments.
7. Using High Level Disinfection 0.55% orthophthalaldehyde (OPA)
- i) Follow manufacturer's instructions for high level disinfectant solution.
  - ii) Always wear gloves, gown and face protection when using OPA.
  - iii) Use in a well-ventilated room or use a portable ventilation Glutaraldehyde Utilization System (GUS).
  - iv) Use daily test strip testing and documentation prior to use.
  - v) Change solution every 14 days (or sooner if determined by test strip)
  - vi) Clean container used for soaking before refilling with new solution.
  - vii) Neutralized prior to disposal as per EPA, State and local authorities
  - viii) Assure proper instrument soaking time for high level disinfectant, rinse thoroughly, dry and store instruments in a clean covered location. OPA requires a 12 minute soak with a thorough rinse.
  - ix) Cover soaking container when not in use.
  - x) Keep chemical spill kit readily available in case of an OPA spill.
  - xi) Refer to the following attachments for more information:
    - Attachment 1 High Level Disinfectant Procedure
    - Attachment 2 OPA Competency Check List
    - Attachment 3 OPA Fact Sheet
    - Attachment 4 OPA Material Safety Data Sheet (MSDS)
    - Attachment 5 Test Strip Monitoring Log
    - Attachment 6 (HLD 6) OPA Neutralization Procedure
    - Attachment 7 (HLD 7) Neutralizer MSDS
    - Attachment 8 (HLD 8) Ordering Resource List

## **VIII. SUPPLY SET-UP**

- A. Prevent contamination of supplies.
- B. Perform hand hygiene immediately before accessing supplies.
- C. Use single use items and individually packaged items when possible.
  - 1. Always separate clean and dirty.
  - 2. Establish a clean area by placing a towel or blue chux on counter or mayo stand.
  - 3. Place a container away from the clean field to receive used instruments.
- D. Place an open trash bag nearby for soiled items.
- E. Take out only supplies expected to be used during procedure.
- F. Place creams, ointments or solutions needed in labeled medicine cups and put original containers, jars or tubes away from the sterile set up.
- G. Check unopened medications and creams monthly and discard per manufacturer's expiration date.
- H. Label opened multidose vials, topicals, and certain solutions with date opened and expiration date of 28 days.
- I. Solutions (normal saline & sterile water for irrigation) do not contain preservatives and must be discarded within 24 hours or at end of day.
- J. Tear tape or open supplies specific to need prior to start of procedure.
- K. Store extra supplies away from set-up and in a clean, covered area.
- L. Assure all equipment is cleaned and disinfected between patients.
- M. Establish container to receive used instruments away from clean field.
- N. Fill instrument soaking container with properly diluted enzymatic detergent to keep used instruments moist prior to cleaning and disinfecting.

## **IX. PATIENT SAFETY**

Protect patient from flying nail clippings and nail dust.

- A. Perform hand hygiene.
- B. Offer patient face protection (face shield) to prevent eye/face contact with flying nail debris. Patient glasses are not protective.
- C. Offer mask in addition to face shield if sanding or burring procedure is performed.
- D. Position self and patient for comfort.
- E. Position self for optimal viewing of the feet.
- F. Place blue pad or towel under feet to establish clean area for feet.
- G. Assist patient with the removal of any foot covering (wear gloves).
- H. Remove corn pads and other dressings and place in regular trash bag (wear gloves).

**X. PROVIDER AND EMPLOYEE SAFETY**

Personal protective equipment, used appropriately, will reduce the risk of exposure to pathogens and minimize or prevent transmission to others.

**XI. PERSONAL PROTECTIVE EQUIPMENT (PPE)**

- A. White coats and scrubs are NOT considered PPE.
- B. Perform hand hygiene before applying PPE.
- C. Glove for all wound care
- D. Glove for all contact with non-intact skin, soiled dressings, padding, and for shoe removal.
- E. Gowns and face protection; see Table I –next page
- F. Masks (with or without eye protection) are recommended with all wound care to prevent:
  - 1. Inadvertent touching of face/hair/glasses/eyes with hands or gloved hands during procedure
  - 2. Employee shedding of respiratory/nasal droplets/"squames" into wound site during procedure
- G. Remove gloves and PPE after completion of procedure and perform hand hygiene.
- H. Gowns, masks, gloves are changed between patients.
- I. Reusable face shields, goggles are cleaned between patients.
- J. Hair and shoe covers may also be worn for sanding and burring procedures and do not have to be changed between patients.

**XII. PROCEDURE SAFETY**

Prevent environmental contamination

- A. Perform hand hygiene
  - 1. When entering and exiting room.
  - 2. Between dirty and clean steps of the procedure.
  - 3. When moving away from the procedure to access additional supplies.
  - 4. When moving from a dirty task to a clean task, remove gloves and perform hand hygiene.
- B. Prevent placing dirty items with clean items.
- C. Wear appropriate PPE for the procedure performed.
- D. Use only safer sharp devices (needles/syringes/scalpel blades)
- E. Discard activated sharps into a sharps container
- F. Assure floor is free of nail clippings when asking patient to walk barefoot.
- G. Provide patient with a disposable antiseptic hand wipe–NOT an environmental disinfectant wipe-to clean feet after walking barefoot.

<b>Table 1: When to Use PPE</b>			
<b>Procedure</b>	<b>Fluid-resistant gown</b>	<b>Mask <u>with</u> eye, face protection</b>	<b>Mask <u>without</u> eye protection</b>
MRSA (colonized/infect ed) wound care	Required	Recommended if chance of splashing	Recommended if NO chance of splashing
Wound irrigation	Required	Required	
Sanding/burring procedures	Required	Required	
Incision & Drainage	Required	Required	
Debridement	Recommended		Recommended
Lengthy wound care procedure, complex, or large wounds	Required	Required if irrigating procedures are performed	Required if irrigating procedures NOT performed

### **XIII. ROOM CLEAN-UP BETWEEN PATIENTS**

Remove environmental contamination and establish a clean/disinfected environment for the next patient.

- A. Wear gloves for cleaning.
- B. Discard *all disposable used items* into trash, i.e., emery board, orange stick, burrs/sanders, gauze, and padding.
- C. Discard *unused disposable items* exposed to contamination on the set up or those contaminated with nail dust.
- D. Soak in enzymatic solution *all reusable instruments*, including burrs, nippers, scissors, etc. (Refer to instrument reprocessing on page 3).
- E. Clean and disinfect all surfaces and equipment touched by patient or employee.
  1. Use disinfectant wipe to wipe all surfaces thoroughly and let air dry
  2. Clean thoroughly any surface that is visibly soiled; then re-clean with another wipe to disinfect.
  3. Change disinfectant wipe or cloth frequently.
  4. Clean all contaminated surfaces; they may include:
    - Exam table or chair
    - Counters
    - Light

- Patient face shield or goggles *if reusable*
  - Low risk equipment: Monofilaments, percussion hammer, tuning fork
5. Clean Vinyl Floors
- Use dry or wet mop (like a Swiffer) to clean up debris, if vinyl floor is visibly dirty,
  - Change disposable mop pad between clean-ups and discard used pad into trash.
  - After clean-up, remove gloves and sanitize hands
  - Sanitize hands when exiting room
6. Clean Carpeted floors
- May use a manual carpet sweeper to pick up nail clippings.
  - Do NOT use an electric vacuum or dust buster until after last *procedure of day*.
  - After clean-up, remove gloves and sanitize hands
  - Sanitize hands when exiting room.
7. Clean room used for sanding/burring procedure  
*Use these additional safety precautions:*
- Wear gloves, gown, mask while cleaning room
  - Clean counter and wall covers ONLY at end of day cleaning
  - Wipe with disinfectant everything touched by the patient, provider and/or staff.
  - Wipe with disinfectant the sanding/burr unit and cord and Hepa Air Cleaner
  - Remove gloves, gown, mask and perform hand hygiene when done

#### **XIV. END OF DAY ROOM CLEAN-UP**

Remove environmental contamination and establish a clean/disinfected environment.

- A. Cleaning all rooms:
  1. Wear gloves and wipe all horizontal surfaces with disinfectant.
  2. Disinfect keyboard, mouse and phone.
  3. Remove used instruments to reprocessing area. (Refer to instrument processing, page 3).
  4. Always end with hand hygiene. Room is ready to restock.
- B. Cleaning rooms where sanding/burring procedures performed:
  1. Wear gloves, gown, mask.
  2. Remove *carefully* and discard all coverings from wall and counters, preventing aerosolization of nail dust, and place in regular trash. Rolling or folding coverings helps to contain dust. Do NOT shake coverings.
  3. Clean and disinfect all non-disposable equipment:
    - Sanding/burring unit and cord.
    - Turn off portable Hepa Air Cleaner then disinfect unit and cord.
    - Refer to *XIV Sanding/Burring and Vacuum Cleaning* (page 9).

#### **XV. SANDING/BURRING DRILL AND VACUUM CLEANING**

- A. Wear gown, gloves, face protection.
- B. Remove sanding and burr heads between patients. Discard disposable burrs, and reprocess non-disposable burrs.
- C. Wipe entire sanding/burring unit and cord with disinfectant.
- D. Open sanding/burring vacuum canister, carefully check vacuum bag.
- E. Change bag when 2/3 full. Do not shake vacuum bag.
- F. Discard bag in regular trash.
- G. Wipe outside of canister and inside lid with disinfectant wipe, replace vacuum bag.
- H. Store vacuum and drill in a clean area.
- I. Remove gown, gloves, face protection and perform hand hygiene.

#### **XVI. GUIDELINE ATTACHMENTS**

Attachment 1	High Level Disinfectant Procedures
Attachment 2	OPA Competency Check
Attachment 3	OPA Fact Sheet
Attachment 4	OPA Material Safety Data Sheet (MSDS)
Attachment 5	Test Strip Monitoring Log
Attachment 6	OPA Neutralization Procedure
Attachment 7	Neutralizer MSDS
Attachment 8	Supply Ordering Resource List
Attachment 9	Supply and Equipment List

## Infection Control and Prevention Guidelines for Foot Care Settings 2008

Attachment 10	Assessment of Infection Control Foot Care Practices (Check List)
Attachment 11	Personal Protective Equipment (PPE)
Attachment 12	Supply Care and Set-Up
Attachment 13	Environmental Barriers for Sanding/Burring Procedures
Attachment 14	Sanding/Burring Unit and Vacuum
Attachment 15	HEPA Air Cleaner
Attachment 16	How to Perform Eyewash/Drenching Hose Activation and Cleaning
Attachment 17	Record Keeping for Eye Wash/Drench Hose Activation/Cleaning

## XVII. REFERENCES

- A. Association for Professionals in Infection Control and Epidemiology Textbook 2005, [www.apic.org](http://www.apic.org)
- B. Centers for Disease Control and Prevention (CDC) Guidelines for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, 2007, [www.cdc.gov](http://www.cdc.gov); [www.cdc.gov/ncidod/dhqp/guidelines.html](http://www.cdc.gov/ncidod/dhqp/guidelines.html)
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- M. Ward P. Atopy and reaction to nail dust inhalation. *Clin Podiatric Med Surg* 12(2):275, 1995

## XVIII. ADDITIONAL WEBSITE RESOURCES

- A. OSHA Bloodborne Pathogen Standard  
[www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10051](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051)
- B. Model Plans for the OSHA Bloodborne Pathogens and Hazards Communication Standards  
[www.osha.gov/Publications/osha3186.pdf](http://www.osha.gov/Publications/osha3186.pdf)
- C. Bloodborne Pathogens  
[www.lni.wa.gov/wisha/Rules/bbpathogens/default.htm](http://www.lni.wa.gov/wisha/Rules/bbpathogens/default.htm)
- D. Chemical Hazard Communications  
[www.lni.wa.gov/Safety/Basics/Programs/HazComm/default.asp](http://www.lni.wa.gov/Safety/Basics/Programs/HazComm/default.asp)
- E. Enforcement Procedures for Occupational Exposure to Bloodborne Pathogens  
[www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=DIRECTIVES&p\\_id=2570](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=2570)
- F. Core Rules Emergency Washing (eye washing)  
[www.lni.wa.gov/wisha/rules/corerules/HTML/296-800-150.htm#WAC296-800-150300-15030](http://www.lni.wa.gov/wisha/rules/corerules/HTML/296-800-150.htm#WAC296-800-150300-15030)
- G. Washington State Department of Health  
[www.doh.wa.gov](http://www.doh.wa.gov)
- H. Tacoma-Pierce County Health Department; *Living with MRSA* Booklet, MRSA Toolkit for Medical Offices and Outpatient Clinics  
[www.tpchd.org/mrsa](http://www.tpchd.org/mrsa)