

PROGRAMMING INSTRUCTIONS APPEAR IN BLUE.

1. During your career, how long have you been disinfecting medical instruments and other items using **HIGH LEVEL DISINFECTANTS**?

High level disinfectants, include: ..

- **Glutaraldehyde** (e.g., *Cidex*[®], *ColdSport*[®], *Endocide*[®], *Glutacide*[®], *Hospex*[®], *Metricide*[®], *Onicide*[®], *Pro-cide-D*[®], *Rapicide*[®], *Sonacide*[®], *Sporicidin*[®], *Wavicide*[®]),
- **Orthophthalaldehyde** (e.g., *Cidex OPA*[®]),
- **Peracetic acid** (e.g., *Steris*[®] system),
- **Hydrogen peroxide** (e.g., *Accell*[®], *Optim*[®], *Sporox*[®])
- **Hydrogen peroxide and peracetic acid** (e.g., *Acecide*[®], *Metrex*[®], *Peract*[®])

- Less than one year
- 1-5 years
- 6-10 years
- 11-20 years
- More than 20 years

2. When was the last time you received training on the safe handling of high level disinfectants?

- Within the past 12 months
- More than 12 months ago
- I never received training

If you work for more than one employer, the following questions apply to your primary employer, i.e., the one for which you typically work the most hours. If you are self-employed, consider yourself the employer.

3. Does your employer have standard procedures for using high level disinfectants?

- Yes
- No
- I don't know

4. During the past 7 calendar days, on how many days did you disinfect medical instruments or other items using high level disinfectants? (Count a partial day as one day.)

DISPLAY CALENDAR HIGHLIGHTING THE PAST 7 CALENDAR DAYS. APPLIES TO ALL QUESTIONS WITH 'IN THE PAST 7 CALENDAR DAYS'

- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days

MODULE E: High Level Disinfectants

7/23/10

5. During the past 7 calendar days, how much total time did you spend handling or working with high level disinfectants?
- Note:** Include only the time you spent actually loading and unloading the processing unit or tray; testing, adding and replacing the disinfectant solution; and cleaning the disinfecting process units or trays.
- Less than 1 hour
 1-5 hours
 6-20 hours
 21-40 hours
 More than 40 hours
6. During the past 7 calendar days, did you handle high level disinfectants...
- ...more time than usual
 ...less time than usual
 ...about the same amount of time as usual
7. During the past 7 calendar days, how many medical instruments (e.g., endoscopes, probes) did you disinfect using high level disinfectants?
- 10 or fewer instruments
 11-20 instruments
 21-50 instruments
 51-100 instruments
 More than 100 instruments
8. During the past 7 calendar days, which of the following high level disinfectants did you use for disinfecting medical instruments and other items?
- Please ✓ all that apply.**
- Glutaraldehyde (e.g., *Cidex*[®], *ColdSport*[®], *Endocide*[®], *Glutacide*[®], *Hospex*[®], *Metricide*[®], *Onicide*[®], *Pro-cide-D*[®], *Rapicide*[®], *Sonacide*[®], *Sporicidin*[®], *Wavicide*[®])
 Orthophthalaldehyde (e.g., *Cidex OPA*[®])
 Peracetic acid (e.g., *Steris*[®] system)
 Hydrogen peroxide (e.g., *Accell*[®], *Optim*[®], *Sporox*[®])
 Hydrogen peroxide **and** peracetic acid (*Acecide*[®], *Metrex*[®], *Peract*[®])
 Other high level disinfectant (Please specify):
-

IF ONLY ONE MARKED IN QUESTION 8 → GO TO QUESTION 10.

9. Of the high level disinfectants you checked above, please select the one **most often used** during the past 7 calendar days.

LIST THE HLDs MARKED IN QUESTION 8 (USE RADIO BUTTONS)

MODULE E: High Level Disinfectants

7/23/10

10. Which of the following disinfection systems did you use during the past 7 calendar days?

Please ✓ all that apply.

- Automated** disinfection system (e.g., closed-system re-processor)
- Manual** disinfection system (e.g., tray or container) **IF MANUAL ONLY → GO TO QUESTION 12**

11. Which of the following statements best describes the ventilation for the **AUTOMATED** disinfection machine (e.g., re-processor) you **used most often** during the past 7 calendar days?



Local Exhaust

Ventilation (LEV) captures and removes high level disinfectant vapors at the point where they are being produced (i.e., inside disinfection machine). Includes an air vent hose or duct from machine to an external exhaust source).

- Local exhaust ventilation (LEV) was present **and** appears to be effective
- LEV was present **but** appears to be ineffective
- LEV was absent **but** general room ventilation appears to be effective
- LEV was absent **and** general room ventilation appears to be ineffective
- I don't know whether the automated disinfection machine was equipped with LEV

IF 'AUTOMATED' ONLY IN QUESTION 10 → GO TO QUESTION 13

MODULE E: High Level Disinfectants

7/23/10

12. Which of the following statements best describes the ventilation for the **MANUAL** disinfection system (e.g., tray, container or disinfection station) you **used most often** during the past 7 calendar days?

Note: Local Exhaust Ventilation (LEV) captures and removes high level disinfectant vapors at the point where they are being produced.

Examples include: a ventilated enclosure above a sink containing disinfection solution (left photo); a probe disinfection station with built-in exhaust vents for removing vapors (right photo)



- Local exhaust ventilation (LEV) was present **and** appears to be effective
- LEV was present **but** appears to be ineffective
- LEV was absent **but** general room ventilation appears to be effective
- LEV was absent **and** general room ventilation appears to be ineffective
- I don't know whether the manual disinfection system was equipped with LEV

13. During the past 7 calendar days, did you manually pour fresh or new high level disinfectant(s) into trays or reprocessing units?

- Yes
- No → [GO TO QUESTION 15](#)

14. During the past 7 calendar days, what was the total amount of high level disinfectant(s) you manually poured into trays or reprocessing units?

- Less than one gallon
- 1-2 gallons
- 3-5 gallons
- 6-10 gallons
- 11 or more gallons

15. During the past 7 calendar days, did you manually drain high level disinfectant(s) from trays or reprocessing units?

- Yes
- No

16. During the past 7 calendar days, how many spills occurred while **you** were handling high

No spills 1-2 spills 3-5 spills More than 5 spills

MODULE E: High Level Disinfectants

7/23/10

level disinfectants?

a. Spills less than two cups (500 ml)

b. Spills of two cups (500 ml) or more

IF 'NO SPILLS' MARKED IN BOTH QUESTIONS 16A AND 16B → GO TO QUESTION 20.
OTHERWISE → GO TO QUESTION 17.

17. How often was/were the spill(s) cleaned up?

- Always
 Sometimes
 Never → GO TO QUESTION 20
 I don't know → GO TO QUESTION 20

18. How often did you yourself clean up the spill?

- Always → GO TO QUESTION 20
 Sometimes
 Never

19. Who cleaned up the spill(s)?

Please ✓ all that apply.

- You
 Designated spill cleanup team
 Other (Please specify):

I don't know

20. Are hazardous chemical spill kits readily available?

- Yes
 No
 I don't know

21. During the past 7 calendar days, did your skin come into direct contact with high level disinfectant(s)?

- Yes
 No

MODULE E: High Level Disinfectants

7/23/10

Questions addressing work practices and use of personal protective equipment (PPE) will help us understand what is currently used and under what circumstances. Depending on your job and exposures, PPE may not be required.

22. During the past 7 calendar days, how often did you wear a **water resistant gown or outer garment** while handling high level disinfectants?

- Always → GO TO QUESTION 25
 Sometimes
 Never

23. What were the reason(s) you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants?

Please ✓ all that apply.

- An engineering control (e.g., closed and/or ventilated disinfection system) was being used
 Skin exposure was minimal
 Not part of our protocol
 Not provided by employer
 No one else who does this work uses them
 Too uncomfortable or difficult to use
 Not readily available in work area
 Cross contamination to other areas is not a concern
 Other (Please specify):
-
-

IF ONLY ONE REASON MARKED IN QUESTION 23 → GO TO QUESTION 25.

24. Of the reasons you checked above, please indicate the **most important reason** you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants.

LIST REASONS MARKED IN QUESTION 23 (USE RADIO BUTTONS)

25. In your current job, have you taken home any clothing that came into contact with high level disinfectants?

- Yes
 No
 I don't know

26. During the past 7 calendar days, how often did you wear **protective gloves** while handling high level disinfectants?

- Always → GO TO QUESTION 29
 Sometimes
 Never

MODULE E: High Level Disinfectants

7/23/10

27. What were the reason(s) you did not always wear **protective gloves** while handling high level disinfectants?

Please ✓ **all that apply.**

- Skin exposure was minimal
 - Not part of our protocol
 - Not provided by employer
 - No one else who does this work uses them
 - Too uncomfortable or difficult to use
 - Not readily available in work area
 - Cross contamination to other areas is not a concern
 - Other (Please specify):
-

IF ONLY ONE REASON MARKED IN QUESTION 27 → GO TO QUESTION 29.

28. Of the reasons you checked above, please indicate the **most important reason** you did not always wear **protective gloves** while handling high level disinfectants.

LIST REASONS MARKED IN QUESTION 27 (USE RADIO BUTTONS)

29. During the past 7 calendar days, how often did you wear **eye or face protection** (e.g., goggles, face shield) while handling high level disinfectants?
Do not include personal eyeglasses

- Always → GO TO QUESTION 32
- Sometimes
- Never

30. What were the reason(s) you did not always wear **eye or face protection** while handling high level disinfectants?

Please ✓ **all that apply.**

- An engineering control (e.g., closed and/or ventilated disinfection system) was being used
 - Exposure was minimal
 - Not part of our protocol
 - Not provided by employer
 - No one else who does this work uses them
 - Too uncomfortable or difficult to use
 - Not readily available in work area
 - Other (Please specify):
-

IF ONLY ONE REASON MARKED IN QUESTION 30 → GO TO QUESTION 32.

31. Of the reasons you checked above, please indicate the **most important reason** you did not always wear **eye or face protection** while handling high level disinfectants.

LIST REASONS MARKED IN QUESTION 30 (USE RADIO BUTTONS)

MODULE E: High Level Disinfectants

7/23/10

32. During the past 7 calendar days, did you wear any of the following while handling high level disinfectants?

Please ✓ all that apply.

- Half-facepiece air purifying respirator with chemical cartridge(s)



- Full-facepiece air purifying respirator with chemical cartridge(s)



- Standard surgical mask



- N95 respirator (includes surgical N95 respirator)

Photo will be included

- I don't know

- None of above → [GO TO QUESTION 34](#)

DISPLAY FOLLOWING NOTE ON A SEPARATE SCREEN (EXCEPT THOSE WHO MARK 'I DON'T KNOW'): THE FOLLOWING QUESTIONS ASK ABOUT RESPIRATORS. STANDARD SURGICAL MASKS ARE NOT RESPIRATORS.

IF RESPONDENT MARKED 'HALF-FACEPIECE AIR PURIFYING RESPIRATOR' OR 'FULL-FACEPIECE AIR PURIFYING RESPIRATOR' IN QUESTION 32 → [GO TO QUESTION 33](#).

IF RESPONDENT MARKED ONLY 'STANDARD SURGICAL MASK' OR 'NONE OF THE ABOVE' IN QUESTION 32 → [GO TO QUESTION 34](#).

IF RESPONDENT MARKED 'I DON'T KNOW' IN QUESTION 32 → [GO TO QUESTION 37](#)

33. How often did you wear a half-facepiece respirator or a full-facepiece air purifying respirator while handling high level disinfectants?

- Always → [GO TO QUESTION 36](#)
 Sometimes

MODULE E: High Level Disinfectants

7/23/10

34. What were the reason(s) you did not **always** wear a half-facepiece air purifying respirator with chemical cartridge or a full-facepiece air purifying respirator with chemical cartridge while handling high level disinfectants?

Please ✓ all that apply.

- An engineering control (e.g., closed and/or ventilated disinfection system) was being used
 - Exposure was minimal
 - Not part of our protocol
 - Not provided by employer
 - No one else who does this work uses them
 - Too uncomfortable or difficult to use
 - Not readily available in work area
 - Other (Please specify): _____
-

IF RESPONDENT MARKED MORE THAN ONE REASON IN QUESTION 34 → GO TO QUESTION 35.

OTHERWISE, → GO TO INSTRUCTIONS BEFORE QUESTION 36

35. Of the reasons you checked above, please indicate the **most important reason** you did not **always** wear a **respirator** while handling high level disinfectants.

LIST REASONS MARKED IN QUESTION 34 (USE RADIO BUTTONS)

IF RESPONDENT MARKED "HALF-FACEPIECE RESPIRATOR" OR "FULL-FACEPIECE RESPIRATOR" IN QUESTION 32 → GO TO QUESTION 36.

OTHERWISE → GO TO QUESTION 37.

36. Have you been fit-tested by an occupational health and safety specialist for the respirator(s) you use for high level disinfectants?

- Yes
- No

37. Has exposure monitoring (using badges or other sampling devices) been conducted in the **past 12 months** to assess your or your co-workers' exposure to high level disinfectants?

- Yes
- No
- I don't know

ALL RESPONSES: IF THIS IS THE FIRST HAZARD MODULE COMPLETED → GO TO CORE MODULE

IF THIS IS THE SECOND HAZARD MODULE COMPLETED, END SURVEY. END WITH 'THANK YOU' STATEMENT.

MODULE E: High Level Disinfectants

7/23/10

38. Which of the following high level disinfectants were included in the exposure monitoring?

Please ✓ all that apply.

- Glutaraldehyde
- Orthophthalaldehyde
- Hydrogen peroxide
- Other (Please specify):

-
- I don't know

ALL RESPONSES → GO TO CORE MODULE, EXCEPT WHEN THIS IS THE 2ND HAZARD MODULE COMPLETED, THEN END WITH 'THANK YOU' STATEMENT.

Thank you for participating in the NIOSH Health and Safety Practices Survey of Healthcare Workers. Your answers have been submitted.