OSHA Offenders Stay Below Radar Screen

Healthcare Workers Continue to Contract Bloodborne Diseases

OSHA’s safety standards keep American workers from being harmed by toxic chemicals, excessive noise and other dangerous working conditions in every industry, including construction, mining, manufacturing and healthcare. Healthcare workers who have regular patient contact comprise less than 5% of the total 136 million US workforce. About half of the 6.2 million caregivers are registered or licensed practical nurses; the remaining include nursing aides, orderlies, and attendants (1.3 million); home health aides (560,000); and medical or dental assistants (600,000).

Last year, OSHA targeted high-risk industries for routine, programmed inspections, and the healthcare industry was spared the brunt of OSHA’s oversight. Even so, ambulatory facilities (doctors and dentists) received a quarter of all healthcare inspections (Figure 1), and for at least one third of these, employee complaints brought OSHA calling (Figure 2).

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Bloodborne Pathogens

Up to 1500 healthcare workers die annually from infection from bloodborne diseases that they contracted in their workplace, but since there isn't a national tracking system, the numbers are educated guesses at best, and probably are underestimations. Meantime, OSHA's fines for bloodborne pathogens violations seem insignificant when compared to permanent disability or death for healthcare workers who are infected on the job (Figure 3).

About 1/3 of OSHA inspections of physician and dental offices are due to employee complaints.

Total: 1,032 inspections, NOT including 23 states with state OSHA plans

Source: OSHA data; Thompson Publishing Group, Inc., OSHA Guide for Health Care Facilities
Workers Injuries Continue

It’s surprising to learn just how many needlesticks continue to occur, despite the requirement to use safety needles. It makes sense that those with the most patient contact would sustain the most needlesticks, and that’s exactly what the latest data shows:

Figure 4.
Healthcare Workers Most Likely to Get Stuck

![Bar chart showing healthcare workers most likely to get stuck in needlesticks]

- Nurses 40.7%
- Physicians 16.5%
- Surgery attendants 9.8%
- Phlebotomists, IV team members, and clinical lab workers 6.6%
- Housekeepers 3.3%
- Students 3.5%

Don’t Assume the Patient Isn’t Infected

Healthcare workers who choose not to wear personal protective items because the patient doesn’t “look like” someone who is infected are dead wrong. More than a million people in the US are infected with HIV (about 3 out of every 1,000 people)\(^4\).

In some urban areas, such as our nation’s capital, HIV infection rates are closer to 50 out of 1,000, or 1 in 20 D.C. residents. In another university-based urban area, 38% of patients who were about to have surgery, were infected with a bloodborne pathogen\(^5\):

- HIV (26%)
- Hepatitis B (4%)
- Hepatitis C (35%)
- Coinfection with HIV and hepatitis C (17%)

Infections were more common among men, patients 41 to 50 years of age, and patients with a history of intravenous drug use.

The epidemiology of HIV/AIDS has changed dramatically over the past 20 years. HIV infection is becoming more prevalent among African Americans who, although they comprise just 13% of the United States population, account for 50% of new HIV cases each year\(^6\).

Perform rapid HIV testing as soon as possible after exposure to allow initiation of PEP within two hours.

QUESTION of the month

How do we discard spilled mercury?

Find out in the next edition of Quality America’s OSHA Watch Updates
The incidence of HCV positive patients is also increasing. Daredevil motorcyclist Evel Knievel fought it. Actress Pamela Anderson told the world she has it. So do some 4 million other Americans. HCV is mostly spread by intravenous drug users sharing needles, through homemade tattoos and piercings, shared razors and possibly sex, though no one is sure how often that happens. Between 8,000 and 10,000 Americans die from HCV annually.

Transmission from a hepatitis C-infected patient to a healthcare worker occurs in 1%–3% of percutaneous exposures, and since an estimated 380,000 percutaneous injuries occur annually, CDC estimates that 50–150 healthcare workers contract HCV each year. Each year, 3–8 healthcare workers can be expected to die from HCV.

New Guidelines for Workplace HIV Exposures

It’s essential that workers who have been exposed to a known HIV patient’s blood be evaluated for post-exposure prophylaxis (PEP) as soon as possible after the exposure. Since PEP is most effective when administered within a few hours of the exposure, make plans now to locate a nearby facility, such as the local public health department or hospital emergency room, that offers a rapid HIV test for source patient testing.

OSHA’s Bloodborne Pathogens Standard 1910.1030(f)(3)(iv), requires employers to follow the latest US Public Health Service treatment guidelines for workers exposed to HIV. These are:

- A 4-week regimen of HIV PEP, when indicated
- Consultation by an expert
- Follow-up to be sure exposed workers stay on PEP
- Ongoing testing and monitoring for adverse events, including seroconversion


Infected Workers Brave Hardships

Healthcare workers with bloodborne diseases who still care for patients face enormous career challenges. Over 90% of patients reportedly prefer to know whether the physicians and dentists who treat them carry infectious viruses such as HIV or hepatitis and 80% believe in mandatory
What Went Wrong?

While reading this true story, see if you can pinpoint three errors that could have prevented this injury. Answers are upside down at the bottom of this box.

“After drawing blood from an elderly patient with mild dementia, I turned to dispose of the butterfly needle in the sharps container, which was above my eye level. Suddenly, I felt a stinging pain. I had been stuck on the index finger of my right hand by another needle that had become wedged in the container’s hinged opening. The needlestick was deep and bled profusely through the puncture site in my glove”. “I filled out an accident report and was offered PEP for HIV. The results from my six-month HIV and HCV tests came back on December 23, two days before Christmas. I was positive for both viruses8”.

Answers:
1. Sharps container mounted too high.
2. Sharps container overfilled.
3. No safety needles in use.

Stemming Healthcare Worker Infection Rates

Despite over a decade of precautions taken to keep healthcare workers from contracting deadly bloodborne pathogens, we still have a long way to go to. In a profession where caregivers might have no choice but to get “up close and personal” with patients, OSHA’s Bloodborne Pathogens Standard is our best option to protect workers. Protective garments, safety sharps, and the like, have gone a long way to decrease worker infections.

The key to curtail them further is threefold: Encourage employers to better oversee compliance; get workers to stop ignoring the safety precautions mandated in their workplaces; and stem the rising incidence of bloodborne diseases in the general population, in part by liberal use of screening tests. And, that’s a tall order!

Sources:
Highlights of CDC’s New HIV Post-exposure Guidelines

- The average risk of HIV transmission after a percutaneous exposure to HIV-infected blood is 0.3%. After a mucous membrane exposure, the risk is approximately 0.09%.

- Increased risk of HIV infection is associated with exposure to a larger quantity of infected blood and higher viral titers in the source person. These exposures include:
  1. Needle placed in vein or artery,
  2. Deep injury, and
  3. Device visibly contaminated with the source blood.

- Perform rapid HIV testing as soon as possible after exposure to allow initiation of PEP within 2 hours.

- Whether or not HIV PEP is recommended for mucous membrane and nonintact skin exposures depends on the volume of exposure and the HIV status of the source. When the source is HIV-negative, no PEP is warranted. When the HIV status of the source is unknown, generally no PEP is warranted, but for large-volume exposure, such as a major blood splash, basic two-drug PEP should be considered for a source patient with HIV risk factors or in settings in which exposure to HIV-infected persons is likely.

- For higher-risk occupational exposures to HIV-infected sources, a 3- or 4-drug regimen is recommended. If PEP is offered and taken and the source is later determined to be HIV-negative, discontinue PEP.

- Reevaluate employees taking PEP within 72 hours.

- Provide infectious disease consultation but do not allow it to delay PEP.

- Persons receiving PEP should complete a 4-week regimen, but adherence is limited by toxicity: 17%–47% of workers do not complete the full course because of nausea (26.5%) and malaise and fatigue (22.8%).

- There are currently 6 reports of HIV seroconversion despite combination HIV PEP.


*Your state may have different requirements for vaccination of licensed healthcare professionals. Check with your state health department to be sure.*
Editorial:

Carrots and Sticks Essential to Help Workers Toe the Safety Line

This issue of OSHA Watch focuses on the dangers of contracting bloodborne diseases for healthcare workers, yet study after study continues to show that huge numbers of them view universal precautions (UPs) as more of an option than a requirement. Apparently, the inconvenience of stopping to take the time to wash hands, don gloves and use safety needles supercedes the prospect of dying a long, slow death from a bloodborne disease.

Only 16% of nurses followed UPs while performing venipunctures. Their excuse? An increased workload.

Workers abandoned UPs 42% of the time because it was thought stopping to practice UPs (gloving and handwashing) would have put the patient at risk or interfered with patient care or because they didn’t anticipate the potential for an exposure.

Lab workers are more compliant with using safety needles than registered nurses, but not as compliant as licensed practical nurses. Physicians were found to be the least compliant.

Over ½ of medical students sustain needlesticks, and 54% of them continue working rather than getting the source patient’s or their own blood drawn for infectious disease testing. In 6% of cases, students were not wearing gloves when the injury occurred.

As managers, what can we do to ensure that every worker practices UPs every time they’re called for, and not just when we’re looking? Both carrots and sticks help to get workers to toe the line. Carrots include educating employees, including safety practices in their job description and rewarding them during their annual review if UPs are followed consistently. Sticks are management’s practical and symbolic commitment to make safety a priority.

Management’s Commitment

Practical commitments include increasing the frequency of employee education and making it relevant for workers (not just plopping them down in front of an outdated, boring bloodborne pathogens video), observing employees and noting when safety lapses occur and providing adequate safety devices that front-line workers have chosen. Symbolic commitments include having physicians observe UPs (people emulate what they see their superiors doing), committing resources to meaningful employee education programs, discussing safety topics at staff meetings, keeping an open mind to employee safety suggestions and issuing safety reminders or dedicating a portion of all staff meetings to safety.

References:

Best wishes for a safe and healthy holiday!

Sheila Dunn

OSHA Watch Update November/December 2005
Hot Times in the OR

The National Fire Protection Agency (NFPA) has lifted a 6-month-long ban on the use of alcohol-based surgical prep solutions during laser and electrosurgery procedures as long as specific fire prevention precautions are followed. These required precautions include:

- Using skin prep solutions according to manufacturer instructions
- Calling a “time-out” for the surgical team to be sure that the surgical site is dry before turning on an ignition source such as electrosurgery
- Preventing pooling of alcohol-based solutions under surgical drapes, and
- Removing solution-soaked materials.

Sources:

Tired of Patients Bringing Needles to Your Office?

Almost 3 billion injections per year occur outside of healthcare settings and about 93% of them end up in the trash and go on to populate landfills. Nearly 8 million contaminated needles and syringes enter America’s waste stream every day.... all

Tired Workers as Bad as Intoxicated Workers

Following heavy night call, residents’ reaction times, attention, vigilance, and driving abilities are equivalent to that associated with a slightly drunk person (.04 to .05% blood alcohol concentration or 3-4 standard drinks). To make matters worse, sleepy residents also have limited ability to recognize their impairment.

Source: JAMA. 2005;294:1025-1033

It’s Lights Out for Soap Opera Set after Mercury Spill

On August 18, art imitated life when a mercury spill in an emergency room scene closed down the set of “Guiding Light”. A scene designer dropped a blood pressure device (sphygmomanometer) used as a prop. The crew tried and failed to clean up the spill, but someone stepped onto it and tracked mercury into another room. The ensuing mayhem prompted a call to the New York City Department of Environmental Protection, which closed down the studio for 24 hours.

Flu Vaccines for 2005-2006 Season

Seasonal flu kills an estimated 36,000 to 40,000 people annually in the United States. More than 200,000 people are hospitalized each year because of influenza, and the costs to the national economy is $10 billion, as a result of lost productivity and direct medical expenses. This year, nursing homes must vaccinate all their patients against influenza and pneumonia or risk losing Medicare and Medicaid program eligibility.

<table>
<thead>
<tr>
<th>Flu Vaccines for 2005-2006 Season</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vaccine Name</strong></td>
</tr>
<tr>
<td>Fluzone</td>
</tr>
<tr>
<td>Fluvirin</td>
</tr>
<tr>
<td>Fluarix for adults ≥18</td>
</tr>
<tr>
<td>FluMist</td>
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under the nose of government agencies such as the EPA, CDC and OSHA.

In counties across the nation, local public health departments are finding ways for area diabetics to dispose of insulin needles and syringes safely. For instance, after getting a couple of hundred needles in coffee cans and milk cartons several times a week, the Cibola County, Ohio Health Department installed a drive through sharps container in their parking lot. The locked container is monitored daily (including weekends) and changed when needed.


**OSHA Posters: Free for the Asking**

OSHA issued a bulletin warning employers that advertisements suggesting that you buy OSHA workplace posters from private companies are misleading. Official posters such as OSHA’s “It’s The Law” poster is available free of the asking. Visit OSHA’s publications at http://www.osha.gov/Publications/fedposter.html or call the publications office at (202) 693-1888.

**Flu Pandemic Could Overwhelm US Healthcare System**

The US Public Health Service is bracing for a possible pandemic stemming from Asia’s bird-flu outbreak, which has infected 116 people, killing more than 60 people in Southeast Asia. Currently the virus is spread only from contact with sick birds, but if it mutated to the point that it could be spread from human to human, the staggering number of casualties and hospitalizations would overwhelm our nation’s healthcare system. If only 25% of the US population became infected, at least a half-million could die and 2.3 million more could be hospitalized. President Bush suggested using the National Guard to enforce quarantines if the feared H5N1 bird flu virus is unleashed in the US.

Developing a vaccine is impossible at this early stage and stockpiling enough flu medication takes time. Currently, the federal government has less than 10% of the Tamiflu needed to cover 25% of the population nor the necessary supply of N-95 masks for healthcare workers.


**NIOSH Warns Medical Transcriptionists of Noise Hazards**

To avoid hearing damage, NIOSH recommends that transcriptionists set the volume control in headsets in the middle position or lower to maintain a safe noise level during an eight-hour work shift.

Other suggestions to reduce hearing-loss hazards are training physicians in effective dictation techniques and offering yearly hearing tests to transcriptionists.

**OSHA Training, Blunt Suture Needles, Screening Patients for HIV, Screening Patients for HIV**

**Q.** Do we need to show the whole annual OSHA retraining session to all employees or can the non-clinical employees just watch part of it? We use your Dr. Dunn Live! OSHA Annual Retraining DVD Program.

**A.** Non-clinical staff do not need to be trained on the bloodborne pathogens regulation and may not need HazCom training if they don’t work with hazardous chemicals that require MSDS. So, these employees can just watch the general health and safety regulations (fire, electric, exits, emergencies) and the respiratory infection control (TB and flu) information. Save some time and skip forward to the appropriate section on the Dr. Dunn Live! DVD:

- General Health & Safety: 23 minutes,
- Bloodborne Pathogens: 34 minutes,
- Hazard Communication Standard: 17 minutes,
- Infection Control Respiratory Diseases: 7 minutes.

**Q.** We just purchased the rapid HIV test. Which patients should be screened for HIV?

**A.** The U.S. Preventive Services Task Force recommends HIV screening for:
- All pregnant women
- Adolescents and adults at increased risk for HIV

Of the 4.7 million women hospitalized for pregnancy or childbirth in 2002, nearly 6,300 had HIV. If these women are identified, they can be given combination drug therapies, have Caesarean sections or avoid breast-feeding, which reduces the risk of transmitting HIV to their babies to as low as 1 percent. Otherwise, infected women have a 1-in-4 chance of passing AIDS on to their babies.

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**Q.** What is the correct height for wall-mounted sharps disposal containers?

**A.** If workers are standing, mount sharps containers 52–56 inches from the floor. The optimal height for seated workstations is 38–42 inches above the floor. For more information on finding exact installation instructions for your situation, go to http://www.cdc.gov/niosh/sharpapb.html.

**Q.** Do used disposable vaginal speculums need to be discarded in red-bag trash?

**A.** To qualify as medical waste (red-bag trash), an item must be saturated or “dripping” with a potentially infectious material (vaginal fluid is a potentially infectious material). So, technically, a disposable speculum that isn’t covered with visible material could go in the regular waste. From a practical standpoint, though, patients would be quite alarmed.
OSHA Watch Update November/December 2005

OSHA doesn’t issue citations to dentists or doctors for non-employee exposures, so extracted teeth, kidney stones or gallstones may be given to patients. Discard these extracted items in the biohazardous waste unless patients insist on taking them home. Just some friendly advice, though: Be sure that the container holding their prize extraction isn’t inscribed with your practice name.

**Q.** Our lab recycles the zip-locked biohazard specimen bags as long as they are not visibly soiled. One of our new physicians questioned this practice and insists that we use new biohazard bags only. What’s your opinion?

**A.** Your new physician is correct. Discarding the bags after removing each specimen may seem wasteful, but not all blood spills are visible. In fact, most are microscopic, so you can’t tell by looking at the inside of the bag if it’s contaminated with HIV, HBV or HCV. Hepatitis B and C can stay alive for several days to latch on to your gloved hand, then on to the counter, then on to your sleeve, etc.

**Q.** Patients often ask for their extracted teeth or kidney stones. Is this OK with OSHA?

**A.** OSHA doesn’t issue citations to dentists or doctors for non-employee exposures, so

**Q.** Two physicians in our town were recently inspected when an employee complained to OSHA. I’m curious to know the outcome but don’t want to ask them. Is that public information? If so, where can I find it?

**A.** Inspection data for all states that fall under federal OSHA can be found on the Agency’s website at http://www.osha.gov/oshstats/index.html. If you are located in one of the 23 states with it’s own OSHA program, go to http://www.osha.gov/fso/osp/index.html to locate that state’s website, then search for inspection statistics.

**Q.** After using a vacuum blood collection tube holder in which the needle completely retracts and the bottom of the barrel is closed, do we have to discard them in a sharps container or can they go into a red bag? The needle is completely embedded inside the barrel.

**A.** These barrels must be discarded in the sharps container. Until a manufacturer can get their device cleared by the FDA as its own “sharps container”, tube holders are still considered infectious waste, capable of breaking down and potentially exposing someone downstream.

Also, a new study shows that 99% of holders are contaminated with blood after use, posing an occupational exposure risk to healthcare workers and an infection control exposure risk to the patient.

**The Worst and The Best of 2005**

**Worst:**

- In mid July, a Rhode Island doctor had his medical license pulled for reusing disposable syringes for B-12 injections. He didn’t reuse the needles, just the syringes, but health officials said it’s still a violation of medical standards and sent advisories to 699 of his patients dating back to 2001, advising them to be screened for HIV, hepatitis B and hepatitis C. This doctor had been reprimanded in 2001 for reusing glass syringes.

- A 31 year-old lab tech at Maryland General Hospital repeatedly complained to management about a malfunctioning instrument to no avail, until it spewed blood onto her eyes, nose and mouth. She contracted HIV and HCV. The lab had just passed its recent inspection with flying colors!

- At this writing, 17,483 patients nationwide are awaiting a new liver, many due to hepatitis C infection. Five years is the median waiting time. Last year, 1,781 patients died waiting for a liver transplant.

**Best:**

- In the first case of its kind, a surgeon was fined $325,000 for “bullying” a co-worker. The surgeon was known to stomp through the halls, screaming, cursing and threatening co-workers.

- There won't be a flu vaccine shortage this year!

- OSHA nixed the fit testing requirement for N-95 TB masks.

- Even though a deadly influenza strain was sent to several thousand labs across the country as part of a proficiency testing challenge, not one healthcare worker was infected. Hats off to all lab workers who handled these specimens with universal precautions!

- More and more pharmaceutical manufacturers are shipping single dose syringe/needle combinations containing safety needles.

- A new 15-minute HIV test became available that uses blood or saliva samples and is CLIA-waived, so it can be performed in any setting. This test can tell exposed employees whether or not the source patient has HIV, so they can be treated quickly.