OSHA Issues in Ambulatory Care Facilities

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Agenda

- Overview
- Highlighted Programs
  - Bloodborne Pathogens
  - Personal Protective Equipment
  - Water Intrusion/Mold
- Indoor Air Quality (IAQ)
- IAQ Program
Industrial Hygiene

... “that science and art devoted to the anticipation, recognition, evaluation, and control of those environmental factors or stresses arising in or from the workplace, which may cause sickness, impaired health and well-being, or significant discomfort among workers or among the citizens of the community.”

Top OSHA Citations

1. Bloodborne pathogens
2. Hazard Communication
3. Maintenance, safeguards, and operational features for exit routes
4. Occupational exposure to hazardous chemicals in laboratories
5. Wiring methods, components, and equipment for general use
6. General requirements
7. Portable fire extinguishers
8. Design and construction requirements for exit routes
9. Forms
10. General requirements
11. Respiratory Protection
12. Asbestos
13. Formaldehyde
14. OSH Act General Duty Paragraph

Examples of Citations

Failure to:

- Train
- Implement and update a BBP exposure control plan
- Ensure handwashing under BBP standard
- Properly clean - Poor housekeeping
- Use personal protective equipment
- Keep BBP training records and a sharps injury log
- Implement and maintain a written hazard communication program
- Provide safety data sheets under the hazard communication standard
- Ensure proper labeling of chemicals under the hazard communication standard

OSH Act General Duty Paragraph

SEC. 5. Duties

- (a) Each employer (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees; (2) shall comply with occupational safety and health standards promulgated under this Act.
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct

Can cover violations in any physical location
Can include workplace violence, ergonomics, indoor air quality
Bloodborne Pathogen Training

• A facility must cover these topics annually:
  – Access to written policy, exposure control plan and OSHA regulation
  – Modes of transmission, epidemiology and symptoms
  – What constitutes an “exposure incident” and procedures to follow
  – Signs and labels used within the facility

HAZCOM Training

• Annual training recommended:
  – Location of the written HAZCOM plan, copy of regulation 1910.1200 and location of SDS files
  – Proper labeling of hazardous chemicals
  – How to read SDS and labels
  – How to clean up a chemical spill
  – How to report an incident
  – Steps to take if an exposure occurs
  – How to protect and proper PPE
Hierarchy of Controls

- Substitution
- Engineering
- Administration
- PPE

Most desirable  Least desirable

Personal Protective Equipment

When used PPE must be:
- safely designed and constructed
- maintained in a clean and reliable fashion
- fit comfortably, encouraging worker use

Employers must train each worker required to use PPE to know:
- When it is necessary
- What kind is necessary
- How to properly put it on, adjust, wear and take it off
- The limitations of the equipment
- Proper care, maintenance, useful life, and disposal of the equipment
PPE Program

If used, a PPE program should be implemented:

- Address the hazards present
- The selection of PPE
- Fit testing and medical surveillance program
- Maintenance, and use of PPE
- Training of employees
- Monitoring of the program to ensure its ongoing effectiveness

DOCUMENTATION!!

Training

- Training must be provided by facility
  - Designated safety officer
  - Outside consultants
- Some standards require new employee orientation, annual trainings and when conditions change
- Formats can vary
**Tips for training**

- Create a checklist for new employee orientation training
- Document all training, including initial and annual trainings
- Retain all records according to OSHA program-specific guidelines
- Maintain training schedule-keep up!

**Indoor Air Quality Concerns for Ambulatory Care**

- Employee complaints
- Employee monitoring for OSHA regulated compounds
- Potential contamination during construction/renovation activities
Why Address IAQ?

- Prevention of Infection
- Protect Patients and Staff
- Prevent “Sick Building Syndrome”
- Avoid Complaints
- Avoid Workers Compensation Claims
- Avoid Negative Publicity
- Avoid Unnecessary Costs

Indoor Air Quality

Problems are generally caused by:

1. Poor or inadequate ventilation
2. Exposure to one or more contaminant sources in a building
Indoor Air Quality Concerns

- Allergens
  - Asbestos
  - Legionella
  - Infectious Diseases
  - Bacteria
  - Dusts/Particulate
- Mold
  - Noise
  - Carbon dioxide
  - Carbon monoxide
- Chemicals

Other Healthcare Indoor Air Pollutants

- Nitrogen dioxide
- Ozone
- Formaldehyde
- Total Volatile Organic Compounds
- Respirable Suspected Particulates
- Radon
- Glutaraldehyde
- Nitrous oxide
- Latex allergens
- Ethylene Oxide
- Xylene
- Toluene
Allergens

• >3,000 chemical agents associated with allergic dermatitis
• >65,000 chemicals may produce skin irritation
• >200 chemicals and biologic agents reported to produce allergic sensitization resulting in asthma

OSHA and Workplace Allergens

• General Duty Clause Section 5(a)(1)
• 1910 Subpart I, Personal protective equipment
  • 1910.132 General requirements
  • 1910.134 Respiratory protection
  • 1910.138 Hand protection
• 1910 Subpart Z, Toxic and hazardous substances
  • 1910.1048, Formaldehyde
    • Appendix C, Medical surveillance-formaldehyde
  • 1910.1030, Bloodborne pathogens
Mold

Sources:

- Humidity
- Leaks
- Condensation
- Floods

Mold can grow 24-72 hours
Mold needs moisture to grow
Control the moisture-control the mold

Mold Locations

- Water-stained ceiling tiles
- Rust
- Dust
- Clutter and excessive contents
- Chipped and peeling surfaces
- Mold in and on air vents
- Blackened, separated floor seams
- Separated back splashes
- Housekeeping closets that are dirty and cluttered
Air Quality in Operating Rooms

• Control of Anesthetic Gases
  – OSHA PELs
  – Air Quality Testing
  – Leak Detection
• Infection Control
  – Particulate control
• Environmental Control

Personnel Exposure Monitoring

• Ethylene Oxide
• Formaldehyde and Glutaraldehyde
• Xylene and Toluene
Indoor Air Quality During Construction/Renovation

Problem: Increase in hospital acquired infection during construction activities

• Guidelines:
  – CDC- Guidelines for Environmental Infection Control in Healthcare Facilities
  – AIA-The Guidelines for Design and Construction of Health Care Facilities
  • Require ICRA

Indoor Air Quality During Construction/Renovation

• Planning and Administrative Controls
  – ICRA
  – Scheduling
  – Contractors/Subcontractors

• Possible Hazards
  – Dust
  – Mold
  – Asbestos

• Engineering Controls
  – Containment
  – Pressurization
  – Access/Egress
  – Dust monitoring

• Post-Construction Cleaning

The main cause of construction-related infection is airborne fungal spores which originate on water-damaged building materials
Infection Control Risk Assessment (ICRA)

- Control Dusts
  - Demolition
  - Barrier Systems
  - Traffic Control
  - Monitoring
  - Seal building envelope
- Ventilation and Indoor Environment Control
  - Air Flow
  - Temperature/Relative Humidity
  - Negative Pressure

Indoor Air Quality (IAQ) Program

What is a Healthy Indoor Environment?

- Free from significant odors
- Minimal dust levels
- Temperature and relative humidity levels within recommended guidelines
- Sufficient lighting
- Proper noise levels for work activity
- Introduction and distribution of adequate ventilation air
- Control of airborne contaminants
### Roles and Responsibilities

**Facility Manager**

- Perform initial investigations to resolve IAQ concerns and act as a primary point of contact to employees
- Collaborate with Admin and Engineering and Maintenance on investigations and to develop and implement corrective actions
- Reach out to Admin if initial investigations require additional support

### Facility Personnel

Why do we ask facility personnel to investigate IAQ issues?

- Positioned to notice problems such as malfunctioning equipment, leaks, odors, etc., that may cause problems
- Are familiar with HVAC system operation
- Already working to keep energy costs to a minimum
- Can recognize a small issue versus a large problem
Investigating IAQ Complaints

Overview

Employee Interviews ➔ Visual Inspection ➔ Review of Building Systems ➔ Initial Data and Sample Collection ➔ Recordkeeping

Employee Interviews

Collect the following data:
- Name
- Date
- Department
- IAQ problem, symptoms, complaints
- Time of day when complaints occur
- When they experience relief from symptoms
- Their thought for the source/cause of the IAQ problem
- Recent activity in the area (construction, leak, odors)
- Their suggested controls
Employee Interview

➢ Be sensitive
➢ Is there a real or imagined health impact?
➢ Consider employee’s opinion
➢ How many employees are involved?
➢ Maintain discretion

Prompt Response

Deal with IAQ complaints quickly to avoid:

▪ Health problems (minor or life-threatening)
▪ Reduced productivity
▪ Increased absenteeism
▪ Problems between employees and managers
▪ Escalation of problem to other employees
▪ Negative publicity
▪ Liability issues
Common IAQ Problems/Symptoms

- Headaches
- Irritation (eyes, nose)
- Congestion
- Fatigue
- Swelling
- Itching
- Asthma
- Shortness of breath
- Watering / itching / burning eyes
- Dry eyes
- Nose / throat irritation
- Infections

IAQ Illnesses

- Occupational asthma
- Allergic response
- Hypersensitivity pneumonitis
- Humidifier fever
- Legionnaires’ disease
- Pontiac fever
Visual Inspection – Pollutant Sources

- Moldy or musty odors
- Chemical odors
- Dust accumulation/poor housekeeping/accumulation of clutter
- Temperature swings
- History of roof/plumbing leaks
- Occupant density
- Potted plants
- Leaking windows/doors
- Office/laboratory equipment
- Recent redecorating, repair or remodeling

Visual Inspection – Areas

Focus attention on:

- HVAC systems
- Roof
- Bathrooms and kitchen areas
- Exterior wall systems
- Housekeeping
- Shipping and Receiving
- Pest control
- Subfloor under carpeting
Visual Inspection – Tools

- Clipboard, paper, pens, drawings
- Flashlight
- Binoculars
- Camera
- Moisture meter (protimeter)
- Thermohygrometer (Temp/RH meter)
- Carbon dioxide/ carbon monoxide meter
- Handtools (screw driver, pliers)

Personal Protective Equipment (PPE)

- Personal Protective Equipment may be needed for IAQ investigations
  - N95 respirator = mouth & nose
  - Nitrile gloves = touching filters & surfaces
  - Safety glasses = eyes
  - Coveralls = over your clothing
Exterior Activities Contributing to Poor IAQ

Exterior construction
- Demolition
- Ground breaking
- Earth/tree work
- Utilities installation
- Roof repair
- Paving and road work

Interior Activities Contributing to Poor IAQ
- Tenant improvement
- Floor and carpet replacement
- Work above ceiling
- HVAC system, utilities upgrade
- Window replacement
- IT–cable pulling
- Phone and fiber optic cable installation
- Equipment/lab hood installation
- Inspections
- Water damage repair
- Mold, asbestos, lead abatement
Visual Inspection – Roof

Potential sources to consider on roof:
• Ponding on roof
• Clogged drains and scuppers
• HVAC equipment
• Exhaust vents
• Valley and parapets
• Flashing

HVAC System Inspection

• Outdoor air intakes
• Filters and housings
• Fans
• Heat exchangers (coils) and pans
• Supply air ducts and diffusers
• Return air grilles and plenums
• Air volumes
• System test and balance
**Visual Inspection – Other Concerns**

- Excessive noise
- Combustion products
- Improper lighting
- Poor ergonomic design
- Excessive vibration
- Personal activities (cosmetics)
- Asbestos-containing materials
- Fire damage

**Odors**

Some of the most common and challenging IAQ complaints

- Visual Assessment
- Look for trends (deliveries, food preparation, housekeeping, etc.)
- Employee log
- Investigate for any construction in the area
Review of Building Systems

Facility personnel should contact other members of the team regarding proper operation of building systems.

Be sure to include review of maintenance schedules for building systems in the area of concern during the IAQ investigation.

Sampling

Consider the limitations and implications of sampling.

Are you willing to live with the results?

What will you sample for?
Initial Responses

Not all IAQ problems are immediately identified or resolved

<table>
<thead>
<tr>
<th>Issue</th>
<th>Initial Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water intrusion/pooling water/water leaks/flooding</td>
<td>Attempt to locate and stop water source</td>
</tr>
<tr>
<td>Sewer backup</td>
<td>Immediately notify facilities</td>
</tr>
<tr>
<td></td>
<td>Relocate employees in the immediate area</td>
</tr>
<tr>
<td>Minor Spill (food/water)</td>
<td>Notify housekeeping</td>
</tr>
<tr>
<td></td>
<td>Mark area to prevent slips/falls</td>
</tr>
<tr>
<td>Odors</td>
<td>Attempt to locate odor source</td>
</tr>
<tr>
<td></td>
<td>Monitor area</td>
</tr>
</tbody>
</table>

Recordkeeping

Maintain all data, photographs and notes collected

- Investigation report
- Photographs
- Sampling results
- Documentation of how issues were addressed/resolved
Best Practices for Good IAQ

- Create a proactive environment
- Create policies and procedures to identify issues
- Monitor and document air quality and system performance
- Create a plan to respond to problems
- Regularly inspect, test and maintain systems

IAQ Program Summary

- Good IAQ requires participation by employees and building staff
- Facility managers are positioned to be a first line of defense to identify and correct issues that may impact the health and welfare of employees and visitors
- Sources of poor IAQ are not always located during the initial assessment
- Good communication between all departments is necessary
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