Healthcare Construction and Infection Control Update

Facilities Manager’s Role in Providing a Safe Environment during Construction, Renovation and Repair Activities
Contact Information

Consultant, American Society for Healthcare Engineering of the American Hospital Association

Email: derick@bigplanet.com
Mobile: 847-347-0627
Overview

• The physical environment is our responsibility
• We are held accountable
• Unknowns created over time
• Lack of control during construction
• Dealing with what is left behind
• Information technology installations
So...What’s the fuss about?

- More paper work?
- Less money?
- More Watch dogs?
- Need for experts?
These pictures are from one of the construction sites within one of the main corridors in the facility.
Standards

“Standards are the only way we seem to get adequate resources. If it was not required by a standard most of us would have little chance of “doing the right thing”.

ASHE Member
CDC Guidelines - Establishing Control Methodologies

• Other Considerations
  – Duct cleaning before and/or after construction
  – System shutdowns for tie-ins or other activities
  – What to do when moisture is found in walls, other cavities, behind casework
  – Procedures for cleaning and disinfection
How clean is clean?
Taking Care of Business
Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

• Leadership
  – Responsible for providing resources
• Infection control
  – Programs, training, monitoring, evaluation
• Environment of Care
  – ICRA, ventilation systems, safety, utility system contingencies
AIA/FGI Guidelines for the Design and Construction of Health Care Facilities

- ICRA
- Finishes and surfaces
- Ventilation table
- Mechanical standards
  - No more plenum returns in patient care areas of hospitals and ambulatory surgical centers!
Challenges

• Determining level of compliance for dust and debris control
• Getting 30 year old habits modified - “We have always done it that way, so why is it a problem now?”
• Dealing with routine tasks
• Finding the resources to “do it right”  “Some tasks take 4 to 6 times longer to perform in a containment environment.”
Now What?

When?

How?

Who?

Where?

What?
Solution

- Education of leadership on the importance of compliance
- One person in charge of ICRA process
- Get authority for the built environment - including IT/IS installations
- Establish protocols for routine events
- Continuously evaluate the engineering and maintenance procedures
Who is Responsible for the ICRA?

• Conducting an ICRA is the health care organization’s responsibility
• A department/individual needs to be assigned as the “team” leader
• Documentation needs to be shared in cross departmental meetings
• Results need to be reviewed and shared in committee meetings
ICRA Completion

• Completed by a knowledgeable team
• No set format or process
• Provided to the design professionals
  – Incorporation into contract documents
  – Referenced in the contract documents
• Reviewed in construction and maintenance meetings for necessary modifications
• Reviewed in Safety/Infection Control meetings
How to Handle Routine Tasks

- Perform a risk assessment for repair and maintenance activities
- Add language to policies and procedures about routine activities
- Write special activity requirements into the PM and Work Order process
- Above the ceiling permitting program
- Random sample of compliance with protocols
Think About Adjacent Sites and 3D
AIA/FGI Guidelines

2006 Guidelines for Design and Construction of Health Care Facilities
2006 Guidelines

- Consult with Infection Control
- Maintain negative pressure
- Air tight barriers
- Emergency procedures
- Communication
- Noise/vibration
2006 Changes - Hospitals

- Heating, Ventilating, and Air Conditioning Systems
  - In Operating Rooms:
  - Air shall be supplied from non-aspirating diffusers with a face velocity in the range of 25 to 35 fpm.
  - Return air shall be permitted high on the walls in addition to the low returns.
  - Ventilation systems shall operate at all times, except for maintenance and conditions requiring shutdown by the building fire alarm.
AIA GI Endoscopy – Ventilation

• GI Endoscopy Procedure rooms
  – Patient procedure area (neutral)
  – Instrument cleaning area (negative pressure)
  – Inpatient and Ambulatory surgical care

• Bronchoscopy –
  – Patient procedure area negative; similar to All room
2006 Changes - Hospitals

• Heating, Ventilating, and Air Conditioning Systems
  – For Renovation:
  – Upon completion of the project, affected branches shall be rebalanced.
  – Prior to starting a construction project, airflow and static pressure measurements shall be taken at the connection points of new ductwork to existing. Information is provided to the designer to determine the existing systems capacity for the extension.
2006 Guidelines

• Owner performs ICRA (multi-disciplined team)

• Incorporate construction requirements into contract documents
  – Owner is responsible for incorporation of ICRA into contract documents
  – Owner is responsible for monitoring and documenting the
Thanks for your attention.