

When to Call in the Big Guns (Infection Prevention and Control Emergencies)

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Objectives

- 1. Frontal Assault:** dust, mould, stagnant water
- 2. Minimize Casualties:** Identify susceptible patients
- 3. Formulate Strategic Advances:** managing construction activities/emergencies

In the News

- 2001 Montreal's Royal Victoria Hospital** - airborne mould and Aspergillus infections closed down most of the operating rooms - 40 year-old air handling units serving the procedure rooms.
- 2003 Mould at Foothills, Alberta** - toxic *Stachybotrus chartarum* mould was detected on dialysis unit 27 at the Foothills Hospital - measures to handle mould contamination may have been inadequate as 68 of 103 nurses and other staff continue to suffer from symptoms, ranging from nosebleeds, to asthma to debilitating headaches.
- 2005 Seven Oaks, Ontario** -between September 1, 2005 when the first residents fell ill, until October 13, 2005 when the outbreak was contained, approximately 135 people had contracted Legionnaires' Disease and 23 people died, including residents, visitors and staff members.

Key Ingredient

- Many construction materials contain enough organic material to grow mould when wet.
- Impossible: eliminate mould spores & nutrients from the construction process
- **Possible:** control the element that promotes growth - MOISTURE

Skill Testing Question #1
The definition of construction includes the following activities:

- A. Maintenance and Demolition
- B. Demolition Only
- C. New Builds
- D. Renovation and Maintenance
- E. All of the above

Skill Testing Question #2
Infection Prevention and Control (IPAC) is an important part of the construction process as it:

- A. Creates a photo opportunity with the CEO
- B. Reduces the cost of construction
- C. Gives the ICP the opportunity to choose construction materials
- D. Protects vulnerable clients/patients/residents
- E. Protects the safety of all in the facility

2. Minimize Casualties

What are the risks to soldiers and civilians?

- Immunocompromised?
- Pre-existing respiratory conditions?
- Location of work to be done
- Containment?
- Traffic flow?

Legionnaire's Disease in Hospital Under Construction

- September 2002, Kitchener-Waterloo
- 3 cases: 2 construction worker's & 1 patient
- Source never confirmed but believed related to work done on the roof



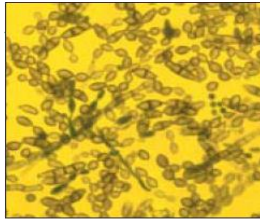
Aspergillus Infections related to Construction

- 2001: Montreal Hospital
- 2 patients died and many more ill
- Dust entered the air ducts – spread!



Demolition

- Removal of ducts, false ceiling, glass fibre insulation
- Work on roller-blind casings
- 22 cancer patients infected, 18 died.

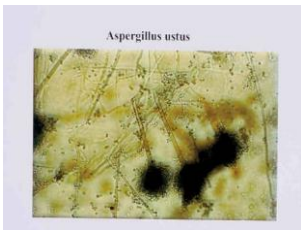


Magnified mold spores.

Ref: Health Canada: Construction Related Nosocomial Infections In Patients in Health Care Facilities, July 2001

Outside Construction

- Road construction
- Air conditioner heavily contaminated with Aspergillus spores
- 10 cancer patients infected, all 10 died



Ref: Health Canada: Construction Related Nosocomial Infections In Patients in Health Care Facilities, July 2001

Role and Responsibilities of IPAC

Risk Assessment – initial and ongoing

regular visits to the site:

- changes are managed; preventative measures are adhered to
- cleaning is maintained
- area is safe and approved before occupation
- communication in a timely manner
- concerns addressed
- documentation is carried out

CRP = client/resident/patient

Skill Testing Question #3

Which work area or population would be considered low risk with respect to construction and renovation activities?

- A. Office area
- B. Long Term Care activity area
- C. Kitchen area
- D. Outpatient Clinic area

Skill Testing Question #4

When should IPAC be involved in construction?

- A. During construction
- B. At the beginning and end of construction
- C. During construction meetings
- D. Before client/patient/resident occupation of the construction area
- E. All of the above

Skill Testing Question #5

Which of the following responsibilities are not part of the ICP's role during construction?

- A. Chair construction team meetings
- B. Act as role model for safe work procedures
- C. Provide educational resources for team
- D. Assist in the development of construction policies and procedures

Questions?



Resources for IPAC in Construction and Renovation

References

- Canadian Standards Association (CSA)
- CAN/CSA Z317.13-07: Infection Control During Construction or Renovation of Health Care Facilities
Revision released December 2007
- ***An excellent resource to have throughout all aspects of the construction project***



GOS (Generic Output Specifications)

Includes recommendations for; hand hygiene stations, airborne precaution rooms, HVAC (air quality systems), spacing and storage, clean and soiled storage areas and waste management.



REGIONAL INFECTION CONTROL NETWORKS  RÉSEAUX RÉGIONAUX DE CONTRÔLE DES INFECTIONS

APIC Text

The *APIC Text* contains 121 chapters covering every aspect of infection prevention and control. It is the most comprehensive guide to infection control guidelines and clinical standards.

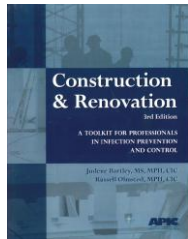


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APIC Toolkit

This tool kit provides sample policies, procedures, essential forms, fact sheets, checklists, and ICRA forms and resource information in one book.

Gathered from the APIC Text and 2006 AIA Guidelines, AIA ventilation tables and recommendations along with extensive literature references and updated equipment resources.

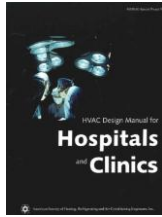


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HVAC Design Manual for Hospitals and Clinics ASHRAE 2003

This manual provides those involved in the design, installation, and commissioning of HVAC systems for hospitals with a comprehensive reference source.

The text covers environmental comfort, infection control, energy conservation, life safety, and operation and maintenance, providing design strategies for applicable standards and guidelines.



REGIONAL INFECTION CONTROL NETWORKS  RÉSEAUX RÉGIONAUX DE CONTRÔLE DES INFECTIONS

- Centre for Disease Control and Prevention, Guidelines for Environmental Infection Control in Healthcare Facilities - 2003
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm>
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http://www.health.gov.on.ca/english/providers/program/ltc_redev/pdf/design_manual.pdf.
- Burrill, Gordon. (2008). Building with care at healthcare facilities. *Healthcare Facilities*. Winter(4)31-32.
http://www.bssmagazine.ca/CSAStandardInfectionControlinHospital_s.aspx

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