

Infection Control, Construction and Maintenance – safe systems of work

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Our patients have changed..

- Increasingly complex health problems.
 - Treatments and their effects becoming more complex.
 - Increased numbers of immuno-suppressed patients.
 - Rapid movement of patients through the health system.
 - Early discharge or transfer to another unit or to home.
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Our Hospitals keep changing....

- Expansions – new buildings.
 - Old buildings – new uses.
 - Dust contains more than just building materials.
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What happens if Infection Controls are inadequate?

Renovations to an area within a hospital in Central Victoria:

- Contractors removed the cement floor using a jack-hammer.
 - Barriers in place, but with many gaps (e.g. ceiling space air return).
 - No dust extraction.
 - No risk assessment carried out prior to works.
 - No input from IP&C.
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Consequences

- Dust infiltrated four floors of acute hospital campus.
 - Two weeks later positive isolations of *Bacillus cereus* from wound cultures and endoscopes.
 - Ongoing isolations of *Bacillus cereus*.
 - Closure of theatre suite for 10 days and intensive cleaning program in Operating suite complex.
 - Extensive environmental sampling for three month period.
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From an Infection Control perspective

Construction or renovation projects present different challenges for infection control practitioners:

- increase in dust and dirt,
 - potential for contaminants entering air handling systems,
 - changes in traffic and work-flow patterns.
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From an Engineering Perspective

Ensuring compliance with Infection Control Principles requires:

- Consultation Process
- Works Management
- Contractor Management



Aspergillus.....

Consultation Process

A team is needed (varied according to the building works)

The team needs to meet regularly and may include:

- Infection Control Professionals
 - Manager from affected areas
 - Engineering
 - OH&S
 - Environmental services
 - Contractors
 - Site coordinator/project managers
 - Industrial hygienists
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Safe Systems of Work



Seal off the area

Restrict movement
of debris

Out of hours work

Safe Systems of Work



Negative air units

Air sampling

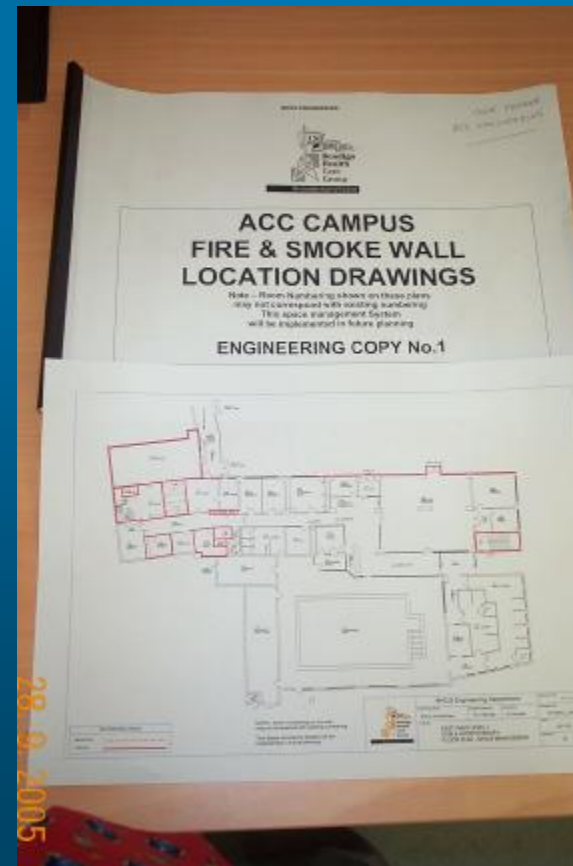


HEPA filtered vacuum cleaners



Works Management

- Job Safety Analysis
 - Generic
 - Smoke & Fire Wall dwgs
 - Space Numbering
- Permits
 - Hot work
 - Confined space
 - Penetration



Contractor management

- Engineering need to know if a contractor is on site.
- Ad-hoc contractors use the sign-in sheets and temporary ID.
- Contractors with service contracts are provided with an ID badge, some level of swipe access and keys depending on the type of contractor and the service provided.
- Contractors must complete an induction process before any work is commenced.



Induction process

- 90 minute induction sessions, run by the Project Engineers, are arranged as needed
- Contractors book in advance and sign-in on arrival.
- Each contractor receives a uniquely numbered Contractor Handbook
- The session convener reviews the handbook and provides information on expectations regarding, dust, dirt, sealing areas, cleaning, HEPA vacuum cleaners, negative air pressure units, response codes, hot work & other permits.
- IP&C staff provide a 40 minute session on dust and its effects on patients.
- Contractors are given an “open book”, multiple-choice test and issued with an induction card, valid for two years.



References

- *Infection Control Principles for the Management of Construction, Renovation, Repairs and Maintenance within Health Care Facilities 2nd Edn.*
 - Loddon Mallee Region Infection Control Centre (2003, rev.2005)
 - *Contractor Handbook*
 - Engineering Department, Bendigo Health (2004)
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