INFECTION CONTROL PRINCIPLES

Plan for Success-IPAC Role in Pre-Project Planning
TODAY’S INSTRUCTOR

• Graham Dick
  • Certified Restorer, Certified Mold Professional, AHERA
  • Principal of Genesis Restorations Ltd.
  • 30+ years contracting experience
  • IC design and implementation for projects large and small
  • Fire/flood/Meth & Fentanyl/Blood borne pathogen decontamination
• CSA Z317.13 – 17 Standard
  • Technical Committee member
  • Contract instructor for CSA Group until July 2018
  • Infection Control Training Group: Founder/Master Trainer

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PARTNER AT ICTG

- Craig Yee
  - B.Sc., M.Sc. (OEH), AHERA, CRSP
  - OHS Global Risk Solutions
  - 19+ years experience
    - Consulting, government, private industry
    - 10+ health care projects involving infection control
  - CSA Standard
    - Committee member (Section 8, Construction)
    - Technical expert in infection control
All contractors and trades entering a facility need show understanding of IC.

Vetting process can be improved – taking a class after winning the tender means they bid on the project without a clue of how to implement IC plan or what cost of compliance is.
### WHEN DOES THE ICP STEP IN?

#### Table 1
Preventive measures analysis
(See Clauses 6.5.1, 6.5.2, 7.1.1, 8.1.1 and, 7.1.4.2 and Figure A.1.)

<table>
<thead>
<tr>
<th>Population risk group (from Table 2)</th>
<th>Construction activity type (from Table 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type A</td>
</tr>
<tr>
<td>Group 1</td>
<td>I</td>
</tr>
<tr>
<td>Group 2</td>
<td>I</td>
</tr>
<tr>
<td>Group 3</td>
<td>I</td>
</tr>
<tr>
<td>Group 4</td>
<td>I-III</td>
</tr>
</tbody>
</table>

Asterisks (*) denote where a lower level might be permitted in accordance with Clause 7.4 (Ceiling access for investigation or minor work).
IPAC INPUT IN ALL PM3 AND PM4 PROJECTS DURING PLANNING PHASE

- Look at project plan and do ICRA with IC Plan for the project design group
  - Annex D: Sample Table of Contents for an Infection Control Plan
- On smaller (non-tender) projects, review ICRA & IC Plan
- All projects that are contracted out.
- All FMO works that generate or disturb dust in Risk Group 3 or 4 areas
PERSPECTIVE

HEPA 99.97% larger than .3 micron
DUST OR MUSHROOM COMPOST?

Construction Dust
- Gypsum
- Silica, concrete
- Sawdust
- Metal dust
- Insulation fibers
- Air pollution
- Pollen
- Mould fragments & spores

Occupied Hospital Dust
- Skin cells, dander
- Dust mites, faecal pellets
- Rodent, pest droppings
- Insects/spiders – ‘parts’
- Bacteria, viruses
- Clothing fibers (cotton, synth)
- Build up of mould fragments & spores
QA IS EASY; AND YOU DON’T NEED TO BE A CONSTRUCTION EXPERT:

• Ask the contractor/trades person questions
  • Explain to me how your plan will protect ‘our’ patients?
  • Show me your inspection checklist
  • Show me your containment diagram
  • Explain how your negative pressure system will work?
  • How do you know within 90 seconds if you lose pressure?
  • Show me the settings on your manometer for high and low alarm; frequency of readings, delays, etc and explain to me how it works.
  • Show me your pressure differential report for the past 24 hours.
MEASURING PRESSURE DIFFERENTIAL

Analog Manometer

Digital Datalogging Manometer
ANTEROOMS VS DECONTAMINATION CHAMBER

- What’s the difference?
- Make-up air (wind tunnel)
- Is it stocked properly?
- Is it clean?

From CSA Standard
ANTEROOM VS DECONTAMINATION CHAMBER

Anteroom

Decontamination Chamber
POP-UPS- HOW AND WHY

• Purpose/Use
  • Step 1 – anteroom
  • Step 2 – workzone
  • Step 3 – decon chamber
STOCK LIST

- Anteroom (exit outside)
  - Signage
  - Garbage receptacle
  - Hand sanitizer
  - Boot scraper, boot scrubber

- Decon Chamber (exit inside to Hospital zone)
  - HEPA vacuum
  - Garbage receptacle
  - PPE storage
  - Signage
  - Wash bucket
  - Hand sanitizer
  - Carpet mat (inside)
  - Sticky mat (outside)
CAHU OR NEG AIR MACHINE

• CAHU’s
  • A HEPA vacuum is a BAD CAHU.
    • Abused, high failure rate
  • Look for certification sticker on machine (within 12 months or start of PM4 project)
  • Show me your inspection/maintenance form which includes filter changes?
CAHU DUCTING

- CAHU’s
  - Ducted outside
    - No layflat through patient areas (only in workzone)
  - Ducted inside?
    - Performance leak tested at start of project or reasonably frequent
    - Duct to risk group 1 or 2 area
    - HEPA filtered air is better than the hospital are in 98% of the areas.
    - Double-scrub provides redundancy
CAPTURE DUST AT SOURCE
HOW CLEAN IS ‘CLEAN ENOUGH’?

SMALL PROJECTS (NO ANTEROOM)

- “Reasonably visibly clean with no non-adhered substances...”
  - HEPA vacuum
  - Damp wipe with microfiber mop/rag
UNACCEPTABLE MEANS/METHODS FOR INSPECTION
HOW CLEAN IS ‘CLEAN ENOUGH’?

SMALL PROJECTS (Decon)

• If the DECON chamber isn’t clean, you just can’t ‘get there from here’.
HOW CLEAN IS ‘CLEAN ENOUGH’?

MEDIUM PROJECTS (ANTEROOM)

• The KEY to controlling airborne particulate is to KEEP THE FLOOR CLEAN!
HOW CLEAN IS ‘CLEAN ENOUGH’?

LARGE PROJECTS
• It’s all about ‘clean work procedures’
CLEAN ‘DURING’ CONSTRUCTION

LARGE PROJECTS
CLEAN ‘DURING’ CONSTRUCTION

LARGE PROJECTS

• Cleaning is everyone’s responsibility
FINAL CONSTRUCTION CLEAN

PROJECTS
Reasonably visibly clean with no non-adhered substances

- HEPA vacuum
- Damp wipe with microfiber mop/rag
TERMINAL CLEAN

- Terminal clean BEFORE containment removal
- Remove containment
  - This is where proper construction of barrier walls pays off
- Terminal clean touch ups
COMPLIANCE

• HOW DO WE CHANGE ACTION?
  • No consequence, no compliance
  • An IPAC culture is built through positive reinforcement.
THANK YOU!

For more information

Graham Dick
CR™ RIA Certified Restorer, CMP™ RIA Certified Mold Professional, AHERA
Master Trainer

M: 604 • 834 • 4999

Craig Yee
B.Sc., M.Sc. (OEH), CRSP, AHERA
Master Trainer

M: 778 • 855 • 5438