Infection Prevention & Control Program

Module #9: Construction and Renovation

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Winnipeg Regional Health Authority
Caring for Health
Office régional de la santé de Winnipeg
À l'écoute de notre santé

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MODULE #9: CONSTRUCTION & RENOVATION

OBJECTIVES

At the completion of this module you will understand your role in the planning and operation stages of construction and renovation projects; the risks to all occupants in healthcare facilities including patients, residents, clients and visitors, and staff during construction and renovation; and the IP&C measures required to prevent the spread of infectious diseases and pathogenic organisms.

You will:

1. **Identify** the organisms which can cause health risks during construction/renovation
2. **Describe** the infection preventive and control measures required during construction/renovation in a health care facility
3. **Review** a construction project in the facility and identify the role of Infection Prevention & Control professionals (ICP) and Infection Control Support Associates (ICSA) during the construction/renovation

Instructions

1. **Read** the material
2. **Do** practice exercises
3. **Write** out your answers to the question and
4. **Discuss** them with your preceptor

Required Readings

- ☐ Current CSA Standard Z317.13 Infection Control During Construction, Renovation, And Maintenance of Health Care Facilities
- ☐ Current CSA Z8000. Canadian Healthcare Facilities (sections recommended by preceptor as applicable)
- ☐ Health Canada (2001). Construction- Related Nosocomial Infection in Patients in Health Care Facilities http://www.publications.gc.ca/site/eng/276833/publication.html
- ☐ WRHA IP&C Operational Directive – Infection Prevention And Control For Construction, Renovation And Maintenance. See: https://professionals.wrha.mb.ca/old/extranet/ipc/files/manuals/acutecare/IPCforConstructionRenoandMaint.pdf
- ☐ Infection Preevention and Control During Construction, Renovation and Maintenance https://youtu.be/2CLzQnmBri4
- ☐ Construction & Renovation Orientation Module Review

Additional Suggested Readings

- ☐ Health Canada. (2004). Fungal Contamination in Public Buildings: Health Effects and Investigation Methods. See: https://publications.gc.ca/site/eng/9.687236/publication.html
- ☐ Infection Prevention and Control Canada- Construction- related infection Resources at https://ipac-canada.org/other-ipac-resource-links.php
- ☐ APIC Text: Chapter 116 (4th Ed.)

OVERVIEW

Dispersal of microorganisms during construction and renovation has been reported to cause significant morbidity and mortality for vulnerable patient populations. Input from IP&C will ensure efforts to reduce infectious risks to the patients have been followed. The main areas for the involvement of IP&C during construction/renovation within healthcare facilities include:

1. Providing IP&C consultation during all phases of construction/renovations
2. Monitoring of infection control precautions during and immediately following any construction/renovations
3. Reporting of any breaches of IP&C precautions to the Project Leader

This is basic information which the ICP/ICSA will require before becoming involved in the construction/renovation for the facility:

1. Key Concepts
2. Preventative Measures Analysis
3. Methods
4. Documentation and Reporting

KEY CONCEPTS

KEY CONCEPTS	Explain what these are and how you can use them
1. Current CSA Standard Z317.13 Infection control during construction, renovation, and maintenance of health care facilities	
2. Infection control risk assessment (ICRA)	
3. Preventative measures (PM) analysis form	
4. Identify your facility's policy and procedure for construction/renovation and know where to locate it	

INFECTIOUS RISKS	Describe the role of dust, mold and water as infectious risks
1. Why worry about dust and mold?	
2. Where is dust/mold generated from during construction?	
3. List water contaminants that can be found during, or generated by, construction and renovation	

Describe the construction/renovation health risk associated with the following microorganisms.

MICROORGANISMS:	Health Risk Created During Construction	How Can You Reduce Risk?
Fungi- Aspergillus		
Bacteria- Legionella		

Preventative Measures Analysis

Components of a Preventative Measures Analysis		
Differentiate between population risk group #1, 2, 3 & 4	RISK GROUP #1	
	RISK GROUP #2	
	RISK GROUP #3	
	RISK GROUP #4	
Define construction activities Type A, B, C & D	TYPE A	
	TYPE B	
	TYPE C	
	TYPE D	
Give examples of PREVENTATIVE MEASURES for Class #1 and additional PREVENTATIVE MEASURES for Class #2, 3 & 4 BEFORE construction	PREVENTATIVE MEASURES #1	
	PREVENTATIVE MEASURES #2	
	PREVENTATIVE MEASURES #3	
	PREVENTATIVE MEASURES #4	
Give examples of PREVENTATIVE MEASURES for Class #1 and additional PREVENTATIVE MEASURES for Class #2, 3 & 4 DURING construction	PREVENTATIVE MEASURES #1	
	PREVENTATIVE MEASURES #2	
	PREVENTATIVE MEASURES #3	
	PREVENTATIVE MEASURES #4	

METHODS

LEARNING OBJECTIVE:

The ICP/ICSA will apply the key concepts to a current construction/renovation project within the healthcare facility. Your preceptor will arrange for a tour of **a construction/renovation site as able.**

Discuss with your preceptor…	
1. Does your facility have construction/renovation committee or team?	
2. What members are included on the team?	
3. What are the roles and responsibilities of ICP/ICSA on the team?	
4. Who are the key contacts for construction/renovation in your facility?	
5. At what class of construction does ICP/ICSA become involved?	

Education for Facility Management/Capital Planning & Construction/Renovation Staff	
Review your organization's education session for FM/CP/construction/renovation staff. If one is not in place, discuss with your preceptor where you might get one.	
What should be included in education to the FM/CP/construction/renovation staff?	
Is there anyone else who should be included in these education sessions (beyond the FM/CP/construction/renovation team)?	

Design phase: What to look for?	
PMA Phase	
Education Phase	
Design Phase	
Construction Phase	

DOCUMENTATION AND REPORTING

The ICP/ICSA should visit the construction site with the facility project manager to ensure preventive measures are being adhered to and appropriate modifications are made if there are any on-site design changes.

For the construction project you have identified with your preceptor:	
1. Was there a document process in place for visits made to the construction site?	
2. Review documentation related to visits to the project	
3. How often were visits made? Who made the visits?	
4. If occurrences are not corrected, is there a reporting responsibility?	
5. What are the key components of the report?	
6. Was there an awareness of the IP&C recommendations by the project staff and by the staff on the unit affected by the construction (if applicable)?	

OTHER ISSUES

Commissioning of the Site

Following completion of the project, identify the responsibilities of ICP/ICSA

Appendix A: Completion of the Preventative Measures Analysis

Use the following link (see: Appendix A) to identify:

1. Population Risk Group
2. Construction/Renovation activity type and
3. Infection Control Risk Assessment

The WRHA would like to thank the Provincial Infection Control Network of British Columbia (PICNET) for allowing the use of their ICP Orientation Manual.

IP&C ORIENTATION MODULE EVALUATION - CONSTRUCTION

These modules have been developed in order to make your IP&C orientation to the WRHA Infection Prevention & Control Program a good experience. Please complete the below evaluation for each module so any necessary changes can be made to improve the manual for future use. Your thoughts and comments are greatly appreciated, thank you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. The material was presented in a clear and organized way.	☐	☐	☐	☐
2. The information in the module was consistent with the objectives stated.	☐	☐	☐	☐
3. The required readings were useful.	☐	☐	☐	☐
4. The instructions with in the module were clear.	☐	☐	☐	☐
5. The amount of time given for the module was adequate.	☐	☐	☐	☐
6. The module provided information that I needed in order to do my job.	☐	☐	☐	☐
7. The module helped me to develop my critical thinking by using examples of IP&C situations.	☐	☐	☐	☐

COMMENTS

1. Do you now feel better prepared to begin your job as an ICSA, recognizing that this is an IP&C orientation manual and not meant to replace an accredited infection control course?

2. Do you have any suggestions on how this module can be improved?

3. Are there any additional topics that should be included in this module?

4. Any further comments?