
Infection Prevention and Control Objectives

Selection:	Mandatory
Site:	University of Alberta Hospital, Royal Alexandra Hospital
Preceptors:	Dr. Stephanie Smith, Dr. Uma Chandran, or designate(s)
Length of Rotation:	One block (four weeks)
Prerequisites:	None

General Objectives

To provide exposure to outbreak investigations, routine surveillance programs, and infection control meetings and initiatives.

Specific Objectives

During this rotation, the resident will display the following knowledge, skills and attitudes.

Medical Expert

Definition: As Medical Experts, Medical Microbiologists integrate all of the CanMEDS roles, applying medical knowledge, clinical skills and professional attitudes in their provision of patient-centred care. Medical Expert is the central physician role in the CanMEDS framework. The resident will be able to:

- Demonstrate basic understanding and knowledge of infection prevention and control (IPC) as encountered on the rotation.
 - Principles and practice of infection control, including role and responsibilities of IPC practitioners, IPC program structure, provincial and national IPC policies and guidelines, creation of IPC education initiatives and how to establish an IPC program
 - Outbreak investigation and management in healthcare facilities
 - Reservoirs, pathogenesis, and modes of transmission of infectious agents of IPC concern
 - Methods to prevent or reduce transmission of infectious diseases in healthcare settings, including hand hygiene, personal protective equipment, and patient isolation
 - Different antiseptics and their effectiveness
 - Nosocomial infections and their surveillance, including (but not limited to) bloodstream infections, nosocomial and ventilator-associated pneumonia (VAP), surgical site infections, catheter-associated urinary tract infections, *Clostridioides difficile*, methicillin resistant *Staphylococcus aureus* (MRSA), vancomycin resistant enterococci (VRE), extended-spectrum beta-lactamases (ESBL),

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- carbapenemase-producing organisms (CPO), an environmental fungi infection in immunocompromised patients
 - Typical surveillance reports and methods of reporting
 - IPC-related occupational health issues, including immunizations needed for healthcare workers (HCWs) and management of infectious exposures for both HCWs and inpatients
 - Principles of disinfection and sterilization, including definitions of antisepsis, cleaning, disinfection, and sterilization, typical resistance profiles of microorganisms to inactivation, the Spaulding classification of medical devices, common processes and agents used in disinfection and sterilization and methods of monitoring their effectiveness, prion inactivation methods

Communicator

Definition: As Communicators, Medical Microbiologists effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during and after the medical encounter. The resident will be able to:

- Establish professional relationships with IPC practitioners, other HCWs, administrators, patients and their families, and the public, when applicable.
- Respond to others' non-verbal communication and use appropriate non-verbal behaviours to enhance communication.
- Manage disagreements and emotionally charged conversations respectfully.
- Provide IPC-related information (policies, guidelines, surveillance results etc.) to other HCWs, administrators, patients and their families, and the public, when applicable.
- Retrieve, elicit, and synthesize accurate and relevant information, incorporating the perspectives of patients and their families, HCWs, and IPC practitioners.
- Communicate information, plans for investigation and/or intervention, and rationale to IPC practitioners, physicians, the microbiology laboratory staff, and other HCWs, as needed.
- Document and share, as appropriate, written and electronic information to optimize IPC decision-making, patient safety, confidentiality, and privacy.
 - Present problems, solutions and opinions, and summarize them accurately and clearly in verbal, written and electronic form.
 - Demonstrate proficiency in using the vocabulary and appropriate abbreviations specific to the discipline and workplace.
 - Create accurate, organized, and concise notes and reports as appropriate.

Collaborator

Definition: As Collaborators, Medical Microbiologists effectively work within a healthcare team to achieve optimal patient care. The resident will be able to:

- Work effectively with IPC practitioners and other members of the team, including nurses, laboratory technologists, microbiologists, and other physicians.
 - Compare and contrast enablers of and barriers to collaboration in health care.
 - Respect established rules of the team.
 - Receive and appropriately respond to input from other healthcare professionals.
 - Differentiate between task and relationship issues among healthcare professionals.
 - Describe the role and scope of practice of IPC practitioners and other professionals within the team and recognize their expertise.
- Attend and contribute to IPC committee meetings.

- Work with physicians and other members of the interdisciplinary healthcare teams to prevent misunderstandings, manage differences and resolve conflicts.
 - Actively listen to and engage in interactions with collaborators.
 - Identify communication barriers in a healthcare team.
 - Communicate clearly and directly to resolve conflicts.
 - Listen to, understand and find common ground with collaborators.

Leader

Definition: As Leaders, Medical Microbiologists are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources and contributing to the effectiveness of the healthcare system. The resident will be able to:

- Work effectively and efficiently in a healthcare organization.
- Utilize information technology to optimize patient care and life-long learning activities.
- Contribute to the improvement of healthcare delivery in teams, organizations and systems.
 - Recognize the role of the IPC program in the healthcare system.
 - Describe the elements of the healthcare system that facilitate or protect against adverse events or near misses.
 - Use health informatics for patient management, to improve the quality of patient care and to optimize patient safety.
- Engage in the stewardship of healthcare resources.
 - Model practice patterns after senior colleagues who deliver a high standard of service.
 - Account for costs when evaluating investigation/intervention options.
 - Apply evidence and guidelines with respect to resource utilization.
- Develop leadership in professional practice.
 - Appreciate leadership styles as they relate to healthcare.
 - Appreciate how self-awareness, self-reflection and self-management are important to developing leadership skills.
 - Appreciate aspects of his/her own style (including strengths, weaknesses and biases) that are relevant to leadership.
 - Actively engage in change initiatives led by others.
 - Appreciate how healthcare goals from diverse stakeholders help set the direction for healthcare delivery.
- Manage his/her practice and career.
 - Set realistic priorities and manage time to balance IPC activities and personal life.
 - Develop systematic habits for practice management (e.g., checklists, prompts, to-do lists and standard operating procedures).
 - Use tools and technologies to manage his/her schedule.

Health Advocate

Definition: As Health Advocates, Medical Microbiologists responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations. The resident should be able to:

- Identify determinants of health affecting patients, particularly of infectious disease transmission in healthcare settings.

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- Contribute effectively to improve the health of patients and communities through understanding and supporting disease prevention methods, such as infection control and vaccination, and promotion of healthy lifestyles.
 - Respond to the individual patient's health needs by advocating for the patient within and beyond the clinical environment.
 - Recognize and respond appropriately in advocacy situations - including those arising from trying to provide optimal care for hospitalized patients.
 - Incorporate disease prevention, health promotion and health surveillance activities into interactions with individual patients.
 - Describe communities or populations facing health inequities.
 - Demonstrate knowledge of the role of patient and HCW education in IPC and public health aspects of disease.

Scholar

Definition: As Scholars, Medical Microbiologists demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application and translation of medical knowledge. The resident will be able to:

- Understand the nature of and need for a personal learning plan to enhance professional practice.
 - Develop and implement a personal self-directed learning strategy.
 - Identify and prioritize, with guidance, personal learning needs based on formal curriculum learning objectives.
 - Define reflective learning as it relates to medicine.
 - Use exam results and feedback from teachers and peers to enhance self-assessment and improve learning.
 - Compare, with guidance, self-assessment with external assessments.
 - Participate effectively in collaborative group learning.
- Facilitate the learning of students, residents, the public and other healthcare professionals.
 - Recognize the power of role modeling and appreciate factors that can positively or negatively affect the learning environment.
 - Recognize and describe strategies for reporting and managing witnessed or experienced mistreatment.
 - Work within his/her limitations, seeking guidance and supervision when needed, to ensure patient safety is maintained when learners are involved.
 - Learn effective teaching methods to facilitate learning.
- Provide effective feedback to enhance learning and performance.
 - Evaluate teachers and programs in an honest, fair and constructive manner.
- Integrate best available evidence, contextualized to specific situations, into real-time decision-making.
 - Appreciate the different kinds of evidence and their roles in clinical decision-making.
 - Describe the advantages and limitations of pre-appraised resources.
 - Select appropriate sources of knowledge as they relate to addressing focused questions.
 - For a given clinical case, demonstrate the application of evidence during decision-making.
- Critically evaluate, with guidance, the integrity, reliability and applicability of health-related research and literature.
- Contribute to the dissemination and/or creation of knowledge and practices applicable to health.

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- Appreciate the basic scientific principles of research and scholarly inquiry.
 - Appreciate the common methodologies used for scholarly inquiry in medicine.
 - Appreciate the role of research and scholarly inquiry in contemporary health care.
 - Appreciate the ethical principles applicable to research and scholarly inquiry.

Professional

Definition: As Professionals, Medical Microbiologists are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation and high personal standards of behaviour. The resident will be able to:

- Exhibit appropriate professional behaviours and relationships in all aspects of practice, reflecting honesty, integrity, commitment, compassion, respect, altruism, respect for diversity (racial, cultural, gender and belief) and maintenance of confidentiality.
 - Exhibit honesty and integrity with patients, other physicians and other health professionals.
 - Demonstrate caring and compassion.
 - Recognize and respect boundaries.
 - Demonstrate sensitivity to issues concerning diversity with respect to peers, colleagues and patients.
 - Consistently maintain confidentiality in the clinical setting, while recognizing the special limitations on confidentiality.
- Reflect on experiences in the clinical setting to identify personal deficiencies and modify behaviour accordingly.
 - Meet deadlines, be punctual, monitor patients appropriately and provide follow-up.
 - Remain calm, act in a timely manner and prioritize appropriately.
 - Demonstrate an awareness of personal limitations, seeking advice when necessary and accepting it graciously.
- Appreciate the appropriate ethical concepts to address ethical issues encountered during clinical and academic activities.
- Recognize personal conflicts of interest and demonstrate an approach to managing them.
- Use technology-enabled communication, including online profiles, in a professional, ethical and respectful manner.
- Follow relevant policies regarding the appropriate use of electronic medical records.
- Demonstrate accountability to patients, society and the profession.
 - Understand the social contract between the profession of medicine and society.
 - Understand physician roles and duties in the promotion of the public good.
 - Appreciate and understand the levels of reciprocal accountability of medical students, physicians and the medical profession in relation to individual patients, society and the profession.
 - Appreciate the tension between the physician's role as advocate for individual patients and the need to manage limited resources.
- Demonstrate a commitment to the profession by adhering to standards and participating in physician-led regulation.
 - Understand and recognize key behaviours that are unprofessional or unethical.
 - Personally respond to peer group lapses in professional conduct.
- Demonstrate a commitment to physician health and well-being to foster optimal patient care.
 - Use strategies to improve self-awareness to enhance performance.
 - Understand the connection between self-care and patient safety.
- Manage personal and professional demands for a sustainable practice throughout the physician life cycle.

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- Identify strategies to support personal well-being, a healthy lifestyle and appropriate self-care, with the help of a primary health professional, therapist, and/or spiritual advisor.
 - Seek appropriate health care for own needs.
 - Use strategies to mitigate stressors during transitions and enhance professional development.
 - Seek mentorship to address professional development needs.
 - Promote a culture that recognizes, supports and responds effectively to colleagues in need.
 - Recognize the multiple ways in which poor physician health can present, including disruptive behaviour, and offer support to peers when needed.
 - Appreciate the importance of early intervention for colleagues in need of assistance, identify available resources, and describe professional and ethical obligations and options for intervention.
 - Practice positive behaviours and deal with negative behaviours to promote a collegial work environment.

Updated: March 2024