



## STANDARDS OF PRACTICE FOR MEDICAL MICROBIOLOGISTS IN ALBERTA

The ***Medical Microbiology Standards of Practice***, along with the College of Physicians and Surgeons of Alberta (CPSA) [Code of Conduct](#) and [Code of Ethics](#), outline the minimum standards of professional practice, behaviour and ethical conduct expected of all physician microbiologists registered in Alberta. This document provides an overall framework for the practice of Medical Microbiology and complements the standards and competencies of the Royal College of Physicians and Surgeons of Canada in the area of Medical Microbiology, including CanMeds competencies (Medical Expert, Collaborator, Communicator, Health Advocate, Leader, Scholar and Professional).

Medical Microbiology is a branch of laboratory and clinical medicine concerned primarily with the diagnosis, treatment and prevention of infectious diseases. The specialty of Medical Microbiology consists of the following activities:

1. Clinical, Administrative and Scientific Direction and Development of a microbiology laboratory.
2. Clinical consultations, in both inpatient and outpatient settings, on the investigation, diagnosis, treatment, and prevention of infectious diseases.
3. Infection prevention and control and Occupational Health and Safety.
4. Antimicrobial stewardship.
5. Surveillance of and contribution to the epidemiology of communicable diseases as it relates to Public Health and acute care.
6. Scholarly Activity (Education and Research).

These standards apply to a Medical Microbiologist's practice in a hospital, community, private or public health laboratory, rural, urban, as well as other settings. However, all professional expectations do not apply to all microbiologists' activities at all times as these may be influenced by practice roles and settings. Patient care may be at an individual, community or population level.

All Medical Microbiologists must:

- Practice in accordance with the Health Professions Act.
- Comply with the [Code of Ethics](#) adopted by the College of Physicians and Surgeons of Alberta in accordance with section 133 of the [Health Professions Act](#) and the [College bylaws](#).
- Comply with the [CPSA Standards of Practice](#) where applicable in their practice.

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- Maintain and enhance professional activities through ongoing learning.
- Be a member of the Royal College of Physicians and Surgeons and participate in maintenance of competency programs and practice review.

### **Clinical, Administrative and Scientific Direction and Development of a Microbiology Laboratory**

The Medical Microbiologist in the diagnostic or public health laboratory must:

- Be responsible for the medical and scientific oversight of policies and procedures in collaboration with other technical and administrative laboratory staff to ensure that microbiology test menus, policies and procedures are medically relevant, up to date, safe for patients and laboratory staff and compliant with accreditation standards and clinical and public health guidelines.
- Provide consultations and leadership to physicians and other health care providers on appropriate test ordering, specimen collection, clinical interpretation of laboratory results and patient management in the area of medical microbiology.
- Review critical microbiology results performed and reported by the laboratory and provide medical follow up with clinicians/health care providers as appropriate.
- Follow-up on critical microbiology results when the ordering physician cannot be reached; may provide direct advice on any treatment immediately necessary to save the life of a patient or prevent serious injury to a patient's health.
- Advocate and adhere to laboratory safety policies, processes and procedures of the laboratory they work in.
- Liaise with laboratory administration to promote and advocate for patient care and the microbiology laboratory.
- Advocate and promote fiscally responsible laboratory services ensuring standards of care are met while maintaining quality.
- Establish relationships and collaborate with physicians and other health care professionals to provide best possible laboratory services within the framework of patient-centered care.
- Lead and/or participate in laboratory and multi-disciplinary committees to provide medical insight, promote and enhance patient care and safety as well as quality of laboratory services.
- Provide medical expertise and participate in the development and design of clinical and

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laboratory information systems as they relate to patient care and microbiology laboratory services.

- Provide medical oversight in the selection and evaluation of new assays, equipment, reagents, media and instrument consistent with clinical practice guidelines and standards of care.
- Participate in and may lead quality assurance and quality management programs and initiatives within the laboratory.
- Provide medical leadership for investigating and managing laboratory errors/near misses and stakeholder/end user concerns.
- Adhere to the regulatory and legal obligations of practice, including but not limited to laws and regulations regarding transportation of dangerous goods, human pathogens and toxins and public health/communicable disease reporting.
- Provide consultation to or, may act as the laboratory biosafety officer for the oversight of biosafety and biosecurity practices as outlined by the Human Pathogens and Toxins Act, when appropriate.

### Clinical Consultation

- Medical Microbiologists must perform consultations (telephone, electronic and/or in person) in both inpatient and outpatient settings, on the investigation, diagnosis, treatment, and prevention of infectious diseases.
- When a Medical Microbiologist performs a consultation they must:
  - Do so within their areas of competence
  - Provide ethical, compassionate and patient centered care
  - Make decisions which integrate the available best evidence and best practices, and provide report/advice that incorporates information considered (such as history, physical findings and investigations), as well as diagnostic conclusions, treatment and follow-up recommendations, as applicable
  - Effectively communicate and document their opinion and recommendations in a timely fashion
  - Seek appropriate consultation from and collaborate with other health professionals for the benefit of the patient, recognizing the limits of their own expertise
  - Adhere to Standards set forth by the CPSA, where applicable.

### **Infection Prevention and Control and Occupational Health and Safety**

A Medical Microbiologist:

- Must act as a liaison between the laboratory and the hospital/region's Infection Prevention & Control (IPC) Program when appropriate. This includes but is not limited to:
  - Provision of expert advice on best methods to diagnose and screen for targeted pathogens/infections.
  - Education of IPC committees and staff regarding laboratory processes and procedures that impact the IPC program's activities.
  - Collaboration with IPC program staff to advance the program's initiatives taking into consideration laboratory costs, technology and workload.
- May act as the Medical Director for a hospital or regional Infection Prevention and Control Program; in that role, is responsible for establishing and maintaining an effective Infection Control Program for the prevention, detection, investigation and control of infections and outbreaks in acute, chronic, and/or community health care facilities.
- May provide medical leadership and expert consultation for the Occupational Health and Safety Program within a hospital or laboratory including policies, processes and procedures for the prevention and management of work related infectious agent exposure when appropriate.
- May provide medical consultation for health care and laboratory staff for the hospital or laboratory Occupational Health and Safety Program, and if required, referral to other medical specialists.
- Must provide expert advice to Laboratory Occupational Health and Safety programs to determine risk in the event of laboratory exposure to an infectious agent when clinically appropriate.
- May provide appropriate consultation and prophylaxis for laboratory staff in the event of laboratory exposure to an infectious agent when clinically appropriate.

### **Antimicrobial Stewardship**

A Medical Microbiologist:

- Must act as a liaison between the laboratory and the hospital/regional antimicrobial stewardship program (ASP) where appropriate. This includes but is not limited to:
  - Provision of medical and laboratory oversight in the generation of a local antibiogram.
  - Interpretation and utilization of the antibiogram information to identify and track resistance problems and contribute to antimicrobial formulary decisions.

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- Collaboration with the ASP team to optimize selective and cascading antibiotic reporting
  - Advocacy for the evaluation and implementation of rapid diagnostic testing to promote and drive ASP initiatives and objectives
  - Participation in the development, design and delivery of educational material targeted at various physician groups regarding antimicrobial stewardship and the role of the Microbiology laboratory.
  - Participation in the development of antibiotic and diagnostic 'order sets' in conjunction with other physician groups.
  - Provision of expert laboratory advice to address the challenges of problematic pathogens to patient care in the institution(s) when appropriate.
  - Provision of advice on the patient safety issues related to inappropriate antimicrobial use, when appropriate.
- May provide Medical Leadership for clinical and laboratory aspects of an ASP.
  - Must liaise with a wide range of specialties and allied health professionals to advocate for and advance the goals and objectives of the ASP.
  - May participate in ASP initiatives for example, review stewardship cases to guide and advocate for appropriate antimicrobial use.

### Surveillance of and contribution to the epidemiology of communicable diseases

- Must work and liaise with Public Health and Infection Control Programs with regard to the identification and reporting of notifiable infectious diseases, emerging infectious agents and pandemic planning.

### Scholarly Activity (Education and Research)

As an educator, a Medical Microbiologist:

- Must provide professional role modelling to medical students, residents, physicians and other health care professionals.
- Must facilitate the education of laboratory staff, students, undergraduate and postgraduate medical trainees, physicians and other health care professionals when appropriate.
- May facilitate the education of patients, families, the public and others when appropriate.
- When engaged in educational activities the Medical Microbiologist must adhere to the CPSA standards for [Supervision of Restricted Activities](#)

As a researcher, a Medical Microbiologist:

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- Must adhere to the standards set forth by the CPSA regarding [Human Health Research](#) and post-secondary education institutions' ethical standards.