

**Island Health Pharmacy Practice Residency**

**INFECTIOUS DISEASE AND ANTIMICROBIAL**

**STEWARDSHIP ROTATION**

**Preceptor:**

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**ROTATION DESCRIPTION**

The Infectious Disease and Antimicrobial Stewardship (AMS) rotation is based at the Cowichan District Hospital (CDH). Each day, the resident will take on the care of one at least one new patient as identified by: having a positive blood culture, positive *c difficile* infection, antibiotic resistant organism, an OPAT patient, a request for consult from a pharmacist or physician, or a selected patient that would benefit from an AMS consult. It is therefore expected that the resident follows a minimum of 20 patients during their 4 weeks. Each day, a new therapeutic topic will be covered that is relevant to the patient case that day.

This rotation will provide the resident with the opportunity to learn about the appropriate use of antimicrobials on various wards at CDH. With the goal of stewardship in mind, the resident will provide clinical patient care to selected patients who have a drug therapy problem related to optimization of antimicrobial therapy. The resident will work to identify and resolve the patient’s DTPs, make suggestions to care providers, monitor therapy and provide education as appropriate regarding the optimal use of antimicrobials. The resident will attend the OPAT clinic weekly to optimize drug therapy for outpatients which are managed by emergency room and infectious disease physicians. The resident will also spend time learning about the different modalities of providing AMS services (audit and feedback, protocol development, education etc.) and about the different moving parts of the program (medical microbiology, laboratory medicine, infection prevention and control, ID, research etc.).

**ROTATION GOALS AND OBJECTIVES**

The first goal and list of objectives and required activities are specific to this rotation. Goals two to four and accompanying objectives are common to all direct patient care rotations and are based on the Canadian Pharmacy Residency Board (CPRB) accreditation standards.

**Rotation-Specific Goal 1:**

Develop and apply knowledge and clinical skills specifically related to Infectious Diseases and Antimicrobial Stewardship

**Objectives:**

The resident will:

1. Demonstrate an understanding of the role and purpose of Antimicrobial Stewardship and be able to list and describe various components of a successful and sustainable program.
2. Be able to differentiate AMS from ID.
3. Demonstrate proficiency in resolving common AMS-related DTPs, including
   1. IV to PO switch
   2. De-escalation of broad spectrum antibiotics
   3. Determining start and stop dates
   4. Monitoring for efficacy and safety
   5. Cost containment
4. Demonstrate a basic knowledge of the metrics used for evaluating antimicrobial management and stewardship programs and be able to list the pros/cons and barriers to each.
5. Be familiar with AMS-related resources available.
6. Identify patients that would benefit from an Infectious Disease consult and liaise with the Infectious Disease physician as appropriate.
7. Review culture results with the microbiologist on call if required
8. Demonstrate the required degree of drug and disease knowledge in the following areas, as opportunity arises (usually ~10 ID topics will be covered):
   1. Diseases: pneumonia, endocarditis, meningitis, septic joint infections, SSTI, intra-abdominal infection, UTI/pyelonephritis, infections in the immunocompromised host, clostridium difficile infections, osteomyelitis, blood stream infections
   2. Pathogenic organisms: describe common infectious agents in terms of epidemiology, pathogenesis and antimicrobial susceptibility/resistance
   3. Drugs: resident is expected to have familiarity with commonly used antimicrobials. Newer and less commonly used agents and multidrug therapeutic strategies may be discussed during the rotation.

\*\*Please note that scheduled therapeutic discussions on select topics mentioned above will be confirmed at the start of the rotation and other items may be discussed informally according to the resident’s area(s) of interest/need for learning and the type of patients who are seen during the rotation. These topics will generally be preceded by assigned readings.

1. Demonstrate understanding of the following patient-related non-therapeutic knowledge as it pertains to the patients encountered in the rotation:
   1. ethical issues (e.g. treatment of infections in palliative patients)
   2. cultural issues (e.g. implications of vaccine refusal)
   3. socioeconomic issues (e.g. risk factors for certain pathogens eg. CA-MRSA, HIV)
   4. other: (e.g. infection prevention and public health related issues, microbiologic antimicrobial consumption surveillance)
2. Provide accurate and relevant drug information to other health-care members in a timely manner, if available.

**REQUIRED ACTIVITIES**

A calendar of activities will be provided on the first day of the rotation, and will include:

* Meeting with the rotation preceptor on the morning of the first day to review the rotation objectives/activities and calendar
* A one day orientation in the microbiology lab
* ½ day spent with the IV pharmacist and technician with review of the dispensing and monitoring processes for home IV patients
* Weekly attendance at the OPAT clinic
* Daily meeting with preceptor to review patients and care plans
* Daily meeting with preceptor to review chosen topic for discussion (usually relevant to patient cases)
* Other activities as agreed upon by preceptor and student (e.g. metrics, patient quality and safety, AMS meetings/seminars etc.)
* Present a patient case or lead a journal club for pharmacists at CDH

**PRECEPTOR CONTACT TIME**

1. The preceptor will spend a minimum of two hours per day with the resident discussing patient cases and approaches to identification, prevention, and resolution of drug-related problems, development of therapeutic plans, and development of monitoring plans.

2. The preceptor will spend a minimum of three hours per week with the resident discussing select therapeutic disease states.

**EVALUATIONS**

The resident and preceptor shall complete and review together the mid-point and final evaluations. The mid-point evaluation should be completed at the half-way point of the rotation. Final evaluations shall be completed at the end of the rotation.

**Mid-point evaluations:**

* preceptor’s evaluation of the resident

**Final evaluations:**

* resident’s self-evaluation
* resident’s evaluation of the rotation and preceptor
* preceptor’s evaluation of the resident (Direct Patient Care Rotation In-Training Evaluation of Resident, or ITER)

**RESIDENTS PERSONAL LEARNING OBJECTIVES FOR ROTATION**

Prior to the start of the rotation the resident will enter three to five personal learning objectives into their one45 procedure log. The resident and preceptor will review these personal learning objectives together on the first day of the rotation. Once the preceptor has read and discussed these personal learning objectives with the resident they will sign off in the procedure feedback log. The preceptor will then take steps to integrate learning activities into the rotation to help the resident achieve these learning objectives.

The achievement of these objectives will be assessed and documented in section D. of both the midpoint and final evaluation forms.

**Goals and Objectives For All Direct Patient Care Rotations (Goals 2-4)**

**Goal 2:**

Develop and integrate the knowledge required to provide direct patient care as a member of the inter-professional team.

**Objectives:**

The resident will be able to:

1. Relate knowledge of the pathophysiology, risk factors, etiology and clinical presentation of medical conditions, including symptoms, physical assessment, relevant diagnostics, and laboratory findings, to patient-specific clinical findings to make appropriate, patient-specific drug therapy recommendations. (2018 CPRB 3.1.1.b)

2. Relate knowledge of pharmacology, pharmacokinetics, pharmaceutics, and evidence-based therapeutics to patient-specific clinical findings to make appropriate, patient-specific drug therapy recommendations. (2018 CPRB 3.1.1.b, 3.1.2.a.b.c)

3. Acquire and utilize knowledge of safe medication practices to manage and improve medication use for patients. (2018 CPRB 3.2.5, 3.2.6, 3.3.2)

**Goal 3:**

Demonstrate the necessary clinical skills to provide direct patient care as a member of the inter-professional team.

**Objectives:**

The resident will be able to:

1. Place a high priority on, and be accountable for, selecting and providing care to patients who are most likely to experience drug therapy problems. (2018 CPRB 3.1.1.a, 3.1.7)

2. Establish a respectful, professional, ethical relationship with the patient and/or their caregiver(s). (2018 CPRB 3.1.4, 3.1.8.a)

3. Gather relevant patient information through patient interview and from all appropriate sources. (2018 CPRB 3.1.8.d.e)

4. Develop a prioritized medical problem list and describe the currently active issues that are responsible for the patient’s admission or clinic visit. (2018 CPRB 3.1.8.f)

5. Identify, justify, and prioritize a list of patient-specific drug therapy problems. (2018 CPRB 3.1.8.c, 3.2.4)

6. Establish and incorporate patient’s desired outcome(s) of therapy and principles of shared decision making into his/her practice. (2018 CPRB 3.1.5, 3.1.6, 3.1.8.b.f)

7. Establish care plans for individual patients that include consideration of the patient's goals and the roles of the other team members. (2018 CPRB 3.1.5, 3.1.6, 3.1.8.b.f)

8. Identify, prioritize, assess, and justify a list of reasonable therapeutic alternatives and discuss pros/cons of each, considering efficacy, safety, patient factors, administration issues, and cost. (2018 CPRB 3.1.2.b.c, 3.1.8.d.e.f)

9. Develop, prioritize, justify, defend and implement a list of patient-specific recommendations for identified drug therapy problems. (2018 CPRB 3.1.1.d, 3.1.3.c, 3.1.6,3.1.8.f.g)

10. Design and implement monitoring plans for drug therapy outcomes that accommodate new or changing information. Provide patient education related to their medication, self-management and or monitoring (2018 CPRB 3.1.8.h.i)

11. Establish and maintain effective inter- and intra-professional working relationships for collaborative care. Engage in respectful, compassionate, non-judgmental, culturally safe, tactful conversations with members of the healthcare team. Work effectively with other healthcare professionals by actively participating with other care providers in making care decisions. Provide safe and effective transfer of care responsibility during care transitions (2018 CPRB 3.1.3.a.b.e.f)

12. Recognize when care should be handed over to another team member. (2018 CPRB 3.1.3.a.b.e.f)

13. Proactively communicate care plans using written or electronic means of documentation about the care being provided, in a manner that will optimize clinical decision-making, patient safety, confidentiality and privacy. (2018 CPRB 3.1.1.d, 3.1.8.i)

14. Effectively respond to medication- and practice-related questions and educate others in a timely manner, utilizing systematic literature search, critical appraisal skills and appropriate means of communication (verbal or written, as appropriate). (2018 CPRB 3.1.2.a.b.c, 3.5.1.a.b.c.d.e)

15. Independently prioritize tasks, think critically, use scientific reasoning, problem solve and manage own time. (2018 CPRB 2.1.5.3, 3.1.1.c, 3.4.1)

**Goal 4:**

Demonstrate the attitudes and behaviours that are hallmarks of a practice leader and mature professional.

**Objectives:**

The resident will:

1. Demonstrate responsibility for own learning, by exhibiting self-direction, motivation. Modify behaviour in response to feedback. Engage in professional conduct by exhibiting punctuality, communication about deadlines, accepting responsibility for recommendations and reliably following through on all assigned tasks. (2018 CPRB 2.1.5.3, 2.1.5.4, 3.1.1.c, 3.4.1)

2. Demonstrate commitment to the profession, exhibiting professional and ethical conduct. Demonstrate respect for colleagues and members of care teams and understand of role within the inter-professional team. (2018 CPRB 2.1.5.6, 3.1.3.a.b.c.d, 3.2.2, 3.3.4)