**Pediatric Cystic Fibrosis Rotation Children’s & Women’s Health Centre of BC Rotation Manual**

# DESCRIPTION

Children's & Women's Health Centre of British Columbia (C&W) consists of B.C.'s Children's Hospital, B.C.'s Women's Hospital and Health Centre, and Sunny Hill Health Centre for Children. C&W has the largest maternal-fetal-newborn clinical service in Canada and is the major referral centre for acutely ill or injured children in B.C. C&W has more than 400 in-patient beds including a pediatric intensive care unit and neonatal special care nursery. There are approximately 150 pediatric Cystic Fibrosis (CF) patients in B.C. that are routinely followed at C&W by the CF team. The C&W Pediatric Cystic Fibrosis rotation is an elective rotation of the Pediatric Pod for the Lower Mainland Pharmacy Services (LMPS) Residency Program.

This rotation consists of a 4 week rotation with the CF pharmacist both in the CF clinic and following inpatients are various inpatient wards. The CF pharmacist works with a multidisciplinary team with respirologists, pediatricians, psychiatrist, nurses, physiotherapists, dietician, and social worker.

**In-patients:** CF patients are usually admitted to T7, but may be admitted to any other ward, for reasons of infection control, post-surgery, or bed availability.

The CF pharmacist maintains daily familiarity with medication regimens for all CF patients on the wards, thorough patient profile review and attendance at morning rounds (Monday and

Thursday). The pharmacist sets patient care priorities based upon an assessment of individual

patients’ likelihood of experiencing drug-related problems and identification of existing drug- related problems. The pharmacist develops and implements a care plan for priority patients, defines monitoring criteria, and evaluates outcomes of recommendations. Significant patient care events (e.g. medication reconciliation, medication history, pharmacokinetic evaluation, adverse reaction/drug interaction documentation, patient/family medication counseling) are documented in the patient’s health record. The pharmacist also provides drug information, in- service education, formulary and medication policy review and support to the nursing and medical staff.

**Clinic:** The CF Clinic is committed to the diagnosis and management of infants, children, adolescents and their families in BC affected by CF. Clinic days are Tuesday morning and Thursdays. The pharmacist prioritizes and sees the patients accordingly. The pharmacist

*LMPS – Rotation Manual Revised: March 2019 Page 1 of 5*

reviews medications and performs medication reconciliation, assesses for drug-related problems, develops and implements a care plan for priority patients, defines monitoring criteria, and evaluates outcomes of recommendations. Significant care events (e.g. medication history, medication reconciliation, adverse reaction/drug interaction documentation, patient/family medication counseling, compliance counseling, follow-up) are documented in the patient’s health record and the clinic database. The pharmacist also provides drug information, education and updates (new drugs, drug shortages and alternatives) to the CF families and CF care team.

# GOAL

* The Resident will develop organizational and clinical skills required to provide pharmaceutical care to CF patients in the CF clinic and on the inpatient ward.
* The Resident should be able to function effectively and independently in the general pediatric/CF setting

# LEARNING OBJECTIVES

Per those listed for all LMPS Direct Patient Care (DPC) Rotations, available on our Evaluation Outcomes page at [http://www.lmpsresidency.com/residents/resident-manual/evaluation-](http://www.lmpsresidency.com/residents/resident-manual/evaluation-outcomes) [outcomes](http://www.lmpsresidency.com/residents/resident-manual/evaluation-outcomes)

The expected level of resident performance by the completion of this 4-week rotation is outlined in the Direct Patient Care Rotation Assessment of the Resident form.

# ROTATION-SPECIFIC OBJECTIVES

1. Name and describe the 6 classes of CFTR mutations.
2. Discuss the pathophysiology of CF pulmonary disease.
3. Identify antibiotics used in the treatment of Pseudomonas.
4. List other organisms associated with CF pulmonary disease, and identify treatment alternatives.
5. Discuss the treatments associated with a newly diagnosed CF infant.

# RESIDENT’S OWN OBJECTIVES

Residents will identify several of their own objectives for the rotation. These should be documented in their ePortfolio and assessed at evaluation points during the rotation.

1.

2.

3.

# REQUIRED ACTIVITIES

The resident will:

1. Attend daily work rounds with the CF team in room Respiratory Conference Room every Monday at 830 am and on Thursdays at 800 am. Attend CF clinic in the ambulatory care building on Tuesdays at 900 am and on Thursdays after inpatient rounds.
2. Provide pharmaceutical care to the medical patients on the ward as per the objectives above. This involves daily patient evaluation for efficacy and toxicity of existing therapy as well as detecting and solving potential drug-related problems. Patient load will be determined based on the Resident’s previous experience and proficiency and will be modified at the discretion of the preceptor.
3. Assist in the initiation and continuation of appropriate drug therapy.
4. Provide medication counselling and perform medication histories on all patients under his/her care when appropriate.
5. Provide discharge counselling to all patients who require it and liaise with community pharmacist and/or physician whenever indicated (via letter, PharmaNet, verbal).
6. Document all clinical activities in the patient’s health record as deemed appropriate. Notes should be discussed with the preceptor BEFORE placing them in the chart.
7. Attend pharmacy education sessions (e.g., journal club and other scheduled presentations).

*8.* If time permits, the resident may attend Grand Rounds at The Chan Centre for Family Health Education from September to June on Friday mornings from 8:30am - 9:30am from September to June.

1. Prepare two topics per week for discussion with preceptor. These may include topics pre- selected by the preceptor as well as specific topics on which the student would particularly like to expand their knowledge base.
2. Meet daily with preceptor to discuss the patients being followed, issues of interest, therapeutic controversies, ongoing evaluation, and special topics (outlined in #9).
3. If applicable during the rotation, identify an adverse drug reaction and report it to Health Canada using the proper form. The ADR should also be posted on the patient’s PharmaNet profile if appropriate.
4. Present one case to the pharmacy staff.
5. If time permits, provide an in-service to nursing or medical staff at the discretion of the preceptor OR lead a journal club for the pharmacy staff at the discretion of the preceptor.
6. Other activities as assigned by preceptor.

# POTENTIAL TOPICS FOR DISCUSSION

The resident will encounter a variety of pediatric conditions, disease states and their pharmacotherapy (during patient care activities and discussions with the preceptor), which may include the following:

* Allergic Bronchopulmonary Aspergillosis
* Appetite stimulants in CF
* CF-related arthropathy
* CF-related diabetes
* CF-related liver disease
* CFTR Modulators
* Distal Intestinal Obstruction Syndrome
* GERD and Gastric Motility in CF
* Lung transplantation
* Management of Hemoptysis
* Mycobacterium in CF
* Newborn screening
* Nutrition in CF
* Pipeline Medications and Clinical Trials
* Pulmonary exacerbations

# COMMUNICATION EXPECTATIONS

1. The resident will discuss all recommendations with the preceptor prior to implementation, unless otherwise arranged with the preceptor.
2. The resident will discuss all written chart notes with the preceptor prior to placing them in the chart, with the exception of medication histories and allergy clarifications, unless otherwise arranged with the preceptor.
3. The resident will notify the preceptor in advance (i.e.: prior to the start of the rotation) of all required off-site activities (e.g.: ADS, BC Wide case presentations, etc.) and absences during the rotation.
4. The resident is encouraged to provide on-going, daily feedback to the preceptor to assist in enriching his or her own learning experience throughout the course of the rotation.

# PRECEPTOR RESPONSIBILITIES

The preceptor will:

1. Meet with the resident on day 1 of the rotation to discuss the goals and objectives of the rotation and work with the resident to develop a schedule for all rotation-specific activities and therapeutic discussions.
2. Introduce the resident to the medicine ward, pharmacists, and team.
3. Provide orientation to pharmacy department and medical ward.
4. Take report of all patients.
5. Be available for consultation with resident whenever possible.
6. Discuss clinical topics with student twice weekly.
7. Provide feedback on notes written in health record.
8. Schedule dates for presentations.
9. Keep the resident informed regarding their availability for consultation and meetings.

# EVALUATION PROCESSES

Guidance on Evaluation Policies and workflow are available at

<http://www.lmpsresidency.com/residents/resident-manual/evaluation-policies>

* 1. The resident will receive a written, formative evaluation at the midpoint of the rotation. This evaluation will take into account the rotation-specific objectives and the resident’s own learning objectives.
	2. The resident will receive a written, summative evaluation at the end of their rotation. This evaluation will take into account the rotation-specific objectives and the resident’s own learning objectives.
	3. The resident will receive continuous feedback throughout the rotation and this will be considered part of the evaluation process.
	4. The resident will provide written evaluations of both the preceptor and the rotation and complete a written self-evaluation prior to the last day of the rotation.
	5. The preceptor and resident will discuss their respective evaluations in person at midpoint and on the last day of the rotation.

# REQUIRED READING & RESOURCES

Please review CF lecture prior to rotation.

References will be assigned based on topics of discussion.

* + 1. Rowe SM, Miller S, and Sorscher EJ. Mechanisms of Disease Cystic Fibrosis. New England Journal of Medicine. 352(2005) 1992-2001.
		2. Amin R, Ratjen F. Cystic Fibrosis: a Review of Pulmonary and Nutritional Therapies.

Advances in Pediatrics 55(2008) 99-21.