HIV ADVANCED (YEAR 2) PHARMACY RESIDENCY

MUHC Antiretroviral TDM Rotation
ROTATION DESCRIPTION

SITE/PRECEPTOR:

Site:
Québec Antiretroviral Therapeutic Drug Monitoring Program
Chronic Viral Illness Service
McGill University Health Centre (MUHC)
1001 boul. Décarie, C-RC 6004
Montréal, Québec H4A 3J1
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Preceptors:
Nancy Sheehan, PharmD, MSc
Benoît Lemire, BPharm, MSc
Alison Wong, PharmD, MSc
Katherine Mousseau, BPharm, MSc
Laurence Messier, PharmD, MSc
Sébastien Landry, PharmD, PhD

The primary preceptor for the rotation is determined before the start of the rotation based on the pharmacist schedule.

Correspondence:
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DURATION:
5 weeks

OUTCOMES:

The resident will develop the clinical knowledge, skills, and professional values to:

A. Interpret antiretroviral plasma concentrations and make recommendations to optimize therapy;
B. provide medication- and practice-related education;
C. manage one's own practice of pharmacy;
D. Lead a therapeutic drug monitoring (TDM)-related project

GOALS and OBJECTIVES:

Specific goals and objectives of the rotation are:

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Goals:

By the end of the rotation:

1) the resident will have gained knowledge on antiretroviral pharmacokinetics and antiretroviral TDM;
2) the resident will interpret plasma concentrations of antiretrovirals and recommend dose modifications, as needed, to optimize therapy;
3) the resident will participate in the continued development of the Québec Antiretroviral Therapeutic Drug Monitoring Program.

Objectives:

By the end of the rotation, the resident will be able to:

1) Describe the literature supporting antiretroviral TDM and the limitations of antiretroviral TDM;

2) Explain the procedures of the Québec Antiretroviral Therapeutic Drug Monitoring Program;

3) Describe the pharmacokinetic / pharmacodynamic properties of the antiretrovirals analyzed;

4) Calculate pertinent PK / PD parameters: extrapolated Cmin, genotypic inhibitory quotients, weighted genotypic inhibitory quotients, virtual inhibitory quotients, instantaneous inhibitory potentials, as applicable;

5) Interpret plasma concentrations of antiretrovirals and make appropriate recommendations based on indication for TDM, history of past virologic failure; genotypic and phenotypic viral resistance, clinical data (viral load, CD4, adverse drug reactions), drug interactions, pregnancy, etc..

6) Provide appropriate and concise drug information in a timely manner to health professionals who have queries on antiretroviral TDM or on a specific patient TDM interpretation report.

7) Develop or update a TDM algorithm for dose adjustments or work on a TDM-related project.

8) Prepare and present a conference or a journal club on a subject related to antiretroviral TDM or antiretroviral pharmacokinetics.

DESCRIPTION:

Antiretroviral TDM is available for all individuals living with HIV in Québec. The program is completely funded by the Ministère de la santé et des services sociaux du Québec. Plasma concentrations of antiretrovirals are measured by the biochemistry department of the McGill University Health Centre (MUHC) and the results are then interpreted by pharmacists. A report with pharmacological advice is sent to the treating physician. The TDM interpretations take into consideration virologic control, past virologic failure, viral genotypic and phenotypic data, concomitant medications, indication for TDM, drug interactions, adverse events, and other patient-specific data such as age, weight, gender, pregnancy, etc.

Reviewed: June 2023

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The primary role of the HIV pharmacist at the Québec Antiretroviral Therapeutic Drug Monitoring Program consists of interpreting the TDM results and sending a pharmacological report to the treating physician. The pharmacist is also involved in reviewing the literature to update the PK/PD parameter targets, developing dose adjustment algorithms for each antiretroviral measured, training the Québec physicians, pharmacists and nurses on antiretroviral TDM, evaluating the program and the clinical utility of antiretroviral TDM and participating in retrospective and prospective research on TDM and antiretroviral pharmacokinetics.

RESIDENT RESPONSIBILITIES:

The resident will:

1. Provide the previous rotation assessment, the longitudinal knowledge tracking form, and their rotation specific personal learning objectives to the primary preceptor at the start of the rotation;

2. Conduct 10 to 20 TDM interpretations per week;

3. Develop or update a TDM algorithm for dose adjustments or work on a TDM-related project (to be determined during the first week of rotation);

4. Meet daily with the preceptor to discuss TDM interpretations and TDM-related projects;

5. Complete assigned reading and prepare for therapeutic discussion topics with the preceptor. These may include both required topics chosen by preceptor and elective topics selected by the resident;

6. Present a TDM-related presentation or journal club to the CVIS pharmacists, pharmacy department and/or CVIS team;

7. Participate in weekly CVIS pharmacy team meetings;

8. Participate in weekly CVIS academic rounds;

9. Complete the following assessments:
    - written midpoint and final self-assessment (forward to preceptor prior to meeting to discuss)
    - verbal and written self-assessment after the presentation
    - practice-based teaching assessment, if applicable
    - written assessment of the rotation and preceptor at the end of the rotation
    - longitudinal knowledge tracking

RESIDENT ASSESSMENT:

Residents will be assessed in the following manner:

- verbal formative feedback provided on a daily basis.

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- mid-point meeting and review of resident written self-assessment (Therapeutic Drug Monitoring – Resident Assessment form). The preceptor may prepare a written midpoint assessment if the resident is experiencing significant difficulties meeting the expected level of performance.
- written final rotation assessment completed by preceptor & resident self-assessment (Therapeutic Drug Monitoring – Resident Assessment form).
- Presentation, practice-based teaching, and other relevant assessments, as applicable, by preceptor and resident (self-assessment).

Assessments will be based on patient care work-ups, therapeutic interventions, review of documentation, participation in inter-professional rounds, resident-preceptor therapeutic discussions, case presentation or journal club, and professional conduct.