

Children's Hospital of Eastern Ontario  
Centre hospitalier pour enfants de l'est de l'Ontario  
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**HIV PEDIATRIC HOSPITAL PHARMACY ELECTIVE ROTATION  
SUMMARY**

**SITE**

- Immunodeficiency Clinic, Children's Hospital of Eastern Ontario (CHEO)
- CHEO is a tertiary care pediatric facility serving the Eastern Ontario and Western Quebec regions with a catchment population of 1.5 million
- the clinic serves approximately 30 HIV+ pediatric patients and 125 HIV-exposed pediatric patients ranging from a few days old to less than 18 years of age
- the medical team is comprised of HIV/infectious disease specialists, pediatric residents and fellows
- in addition, to medicine, the comprehensive interdisciplinary team comprises of nursing, pharmacy, social work, nutrition and the medical day unit
- ongoing clinical HIV research at CHEO presently involves phase III studies, open-label/expanded access, pharmacokinetics, and epidemiological studies

**DURATION OF ROTATION**

4 weeks

**PRECEPTOR**

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**RESIDENT'S CONTACT INFORMATION**

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## **GOAL**

The goal of this elective rotation is to familiarize the resident with basic pediatric pharmacokinetic and pharmacodynamic concepts as they relate to the pharmaceutical care of pediatric HIV patients.

## **OBJECTIVES**

1. Through completion of assigned readings and discussion of therapeutic plans, the resident should be able to contrast pediatric pharmacology to adult pharmacology utilizing pharmacokinetic principles, such as clearance and volume of distribution; and pharmacodynamic principles, such as dose response (altered sensitivity and tolerance).
2. By attending HIV clinic and following HIV pediatric patients, the resident should be able to explain the differences between pediatric and adult HIV disease by utilizing differences in etiology, pathophysiology, signs, symptoms, and complications of HIV. The resident should also be able to explain these differences as they relate to newborns, infants, children and adolescents.
3. The resident should be able to develop a therapeutic plan for each pediatric age group, prioritise the potential adverse effects of each drug treatment, and demonstrate patient monitoring strategies for each drug treatment.
4. The resident is to develop patient counselling strategies and demonstrate these strategies for each HIV drug treatment. These strategies are to accommodate the various pediatric age groups (newborns, infants, children and adolescents). The ability to incorporate various patient adherence tools is to be demonstrated.
5. Utilizing pediatric drug dosage handbooks and pediatric drug administration guidelines, the resident should be able to calculate an appropriate dose based on a patient's age, weight, and height; and interpret how to administer each medication.
6. Through a case presentation to pharmacy staff, the resident is to demonstrate pediatric knowledge of a HIV topic. The provision of pharmaceutical care is also to be demonstrated by emphasizing how drug-related problems were identified, solved and preventive strategy established.
7. Through participation in a pharmacy journal club, the resident is to demonstrate the ability to critically appraise pediatric medical literature and highlight the differences (strengths/weaknesses) between adult and pediatric study designs.
8. The resident is to participate in pediatric HIV research by completing a small project or a finite component of an ongoing CHEO HIV research project. The research project will be assigned under the guidance of the HIV Medical Director.

## REFERENCES

1. Guidelines for the use of antiretroviral agents in pediatric HIV infection. [web page] revised November 3, 2005; <http://www.AIDSinfo.nih.gov>.
2. Treating Opportunistic Infections Among HIV-Exposed and Infected Children. Morbidity and Mortality Weekly Report December 3, 2004;53(RR-14).
3. Care of the infant born to an HIV-positive mother. (Canadian Paediatric Society Statement ID 2000-01). Paediatr Child Health 2000;5(3): 161-172.
4. Public Health Service Task Force Recommendations for Use of Antiretroviral Drugs in Pregnant HIV-1 Infected Women for Maternal Health and Interventions to Reduce Perinatal HIV-1 Transmission in the United States. [web page] revised November 17, 2005; <http://www.AIDSinfo.nih.gov>.
5. Antiretroviral Postexposure Prophylaxis after Sexual, Injection-Drug Use, or Other Nonoccupational exposure to HIV in the United States. Morbidity and Mortality Weekly Report January 21, 2005;54(RR-2).
6. Updated US Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis. Morbidity and Mortality Weekly Report September 30, 2005;54(RR-9).

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