

***“As if ONE serious chronic viral infection wasn’t enough.....”***

***HIV/HCV Coinfection management***

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Southern Alberta Clinic for HIV/AIDS**

**Alberta Digestive Disease Summit, June 6/14**

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## **Disclosure**

*I have no conflicts to disclose for this session.*

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**The Southern Alberta Clinic (SAC)**



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## Antiretroviral Agents for HIV Treatment

- **6 classes currently available**
  - Nucleoside reverse transcriptase inhibitors
  - Non-nucleoside reverse transcriptase inhibitors
  - Protease inhibitors
  - Fusion inhibitors
  - Co-receptor inhibitors
  - Integrase inhibitors
- **Distinct MOA for each class**
- **Within each class, individual drugs differ in PK, AE, intxn, antiviral potency/durability, viral resistance profiles**

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## What to Use

- **Factors to consider:**
  - Co-morbidity such as TB, liver disease, psychiatric disease, cardiovascular disease, chemical dependency, pregnancy (or potential)
  - Adherence, pill burden, dosing frequency, food and fluid considerations
  - Potential adverse effects or drug interactions
  - Results of genotypic drug resistance testing
  - Gender and pretreatment CD4+ count if considering nevirapine

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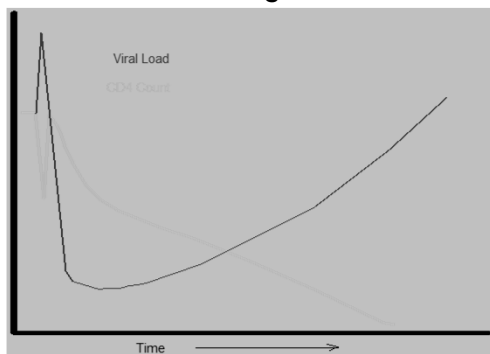
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## Stages of HIV infection



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### AIDS-Defining Illnesses per Health Canada

- Bacterial pneumonia, recurrent
- Candidiasis (bronchial, tracheal or lung)
- Candidiasis (esophageal)
- Cervical cancer, invasive
- Coccidiomycosis, cryptococcosis
- Cryptosporidiosis
- Cytomegalovirus (CMV) infxn
- Encephalopathy, HIV-related
- Herpes simplex, chronic ulcers or bronchitis, pneumonitis or esophagitis
- Infections, bacterial: multiple or recurrent
- Isosporiasis, chronic intestinal
- Kaposi's sarcoma (KS)
- Lymphoma
- M. avium or M. kansasii (disseminated or extrapulmonary)
- TB
- PCP/PJP
- Progressive multifocal encephalopathy (PML)
- Salmonella septicemia, recurrent
- Toxoplasma cerebritis
- Wasting Syndrome

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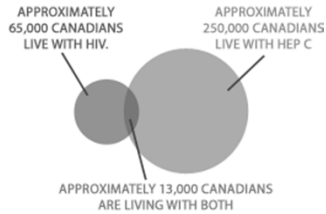
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### Canadian Co-Infection Cohort Study




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### HIV + HCV =

- **Increased likelihood of chronic HCV infection**
- **Accelerated progression to endstage liver disease**
- **Increased risk of liver-related death**

*Suppression of HIV replication is partially protective against the above*

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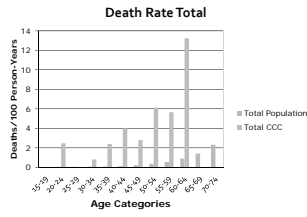
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## Mortality in the Canadian Co-infection Cohort Study



SMR: 17.08 (95% CI; 12.83, 21.34)

Cause of death	N	%
ESLD	18	29
OVERDOSE	15	24
CANCER	6	10
AIDS	3	5
OTHERS (infections/trauma)	9	15
UNKNOWN	11	18
Total	62	100



Klein. HIV Medicine, 2012

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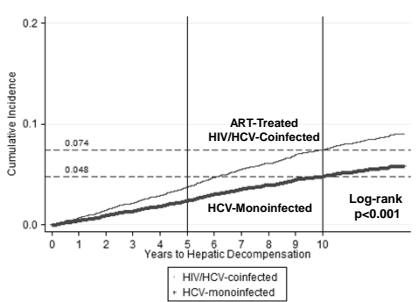
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## Incidence of Hepatic Decompensation despite cART



\* Based on competing risk regression analysis.

Lo Re. IAS 2012. Abstract WEAB0102

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## HIV + HCV:

- **Current guidelines suggest:**
  - If chronic Hep C is detected early in HIV infection, and Hep C treatment is indicated, consider treating Hep C first
  - If immunodeficiency is significant, it may be preferable to treat HIV to help increase immunity prior to addressing Hep C

*Clearance of Hep C may improve HIV-related disease outcomes*

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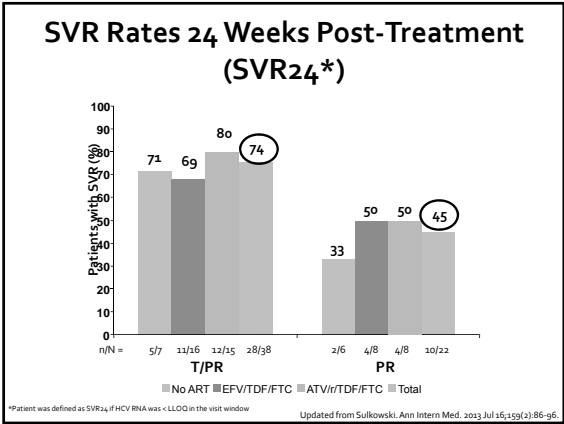
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### cART and HCV PI interactions

ARV	Telaprevir	Boceprevir
Raltegravir	↔	↔
Efavirenz	↓ Telaprevir AUC Needs dose of 1125mg q8hr	↓ 20% BOCAUC/Cmin
Atazanavir/r	↓ 20% TPV AUC ↑ 17% ATV AUC	↓ 35% ATV AUC
Lopinavir/r	↓ 54% TPV AUC	↓ 45% BOCAUC ↓ 34% LPV AUC
Darunavir/r	↓ 35% TPV AUC ↓ 40% DRV AUC	↓ 32% BOCAUC ↓ 44% DRV AUC

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- ### HIV + HCV =
- Increased burden of disease
  - Increased burden of medications
    - Number of pills
    - Adverse drug effects
    - Potential drug interactions
  - Increased burden of stigma
  - If untreated, greater risks of forward transmission of infections

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## Guidelines

### CIHR Canadian HIV Trials Coinfection and Concurrent Diseases Core: Canadian guidelines for management and treatment of HIV/hepatitis C coinfection in adults.

– Canadian Journal of Infectious Diseases and Medical Microbiology, 2013 In Press

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## Resources



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