The Occasional HIV+ Patient

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Family & Community Medicine
UNIVERSITY OF TORONTO

St. Michael's
Inspired Care.
Inspiring Science.

Disclosures

- Faculty: **Dr. James Owen**
- Relationships with commercial interests:
  - **None/not applicable.**

Disclosures

- Faculty: **Dr. Kelly Anderson**
- Relationships with commercial interests:
  - **None/not applicable.**

Disclosures

- **No commercial support** for this session**.**

Disclosures

- Mitigating Potential Bias:
  - **Not applicable.**

Who are you?

HIV care is simplifying over time

- Our chief goal is virologic suppression
- FPs can monitor HIV effectively with some basic training
- FPs have a central role in HIV testing, initial work-up, preventing drug interactions, cancer screening and evaluating for red flags in a HIV+ patient presenting for first line care

There are only **FIVE key points** we want you to know from this presentation.

#1

You should test your patients for HIV … *and,* if there is a positive test, you can do the initial workup and (maybe) even start treatment.

Diagnosis

- Ben presents for a routine periodic health exam in your clinic in Wawa. You offer STI testing to him, including HIV serology. He has not had an HIV test in the last year, and has been sexually active with men during that time. Unexpectedly, the test result returns as positive.
  - Next steps?

HIV Antibody

HIV The Toronto PHL reports:

HIV 1/2 Ag/Ab Combo Screen	-Reactive
HIV 1 p24 Antigen Screen	-Reactive
HIV 1 p24 Antigen Confirmatory	-Confirmed Reactive
HIV 1 Western Blot	-Negative

HIV Final Interpretation: ***EVIDENCE OF HIV 1 INFECTION PRIOR TO SEROCONVERSION***

Note: HIV1 p24 Antigen results are for Research Purposes Only and should not replace conventional HIV testing for the Diagnosis of HIV infection.
Advise a repeat specimen as soon as possible.

Initial work-up

- On further questioning, he describes a “bad flu” about 2 weeks ago, with rash and a very sore throat, after a trip to Toronto.
- CD4 returns at 320, VL 1,195,348.
- Next steps and further tests?

Date Received yyyy mm dd

Requisition #

Viral Load Label

Patient Information

This must be completed at every visit.

Life labs contract number 008237 St. Michael's Hospital Department of Family and Community Medicine

Ontario HIN

Version

Chart #

Surname

First Name

Initial

Date of Birth (yyyy/mm/dd)

Sex

Pregnant

Year of HIV diagnosis

Patient Addressograph

M

Ordering Physician Information

This is not a diagnostic test. Test results are provided for prognostic purposes only, and will be provided directly to the physician.

Phys # 029178

Name: Kelly Anderson

Address: Health Centre at 80 Bond
80 Bond Street
Toronto, ON, M5B 1X2

Telephone: 416-864-3011

Fax: 416-864-3099

Sign!

cc Dr:

Address

Physician Signature

Date (yyyy/mm/dd) 2015/11/03

Treatment Information

This information is essential for the interpretation of test results and for the evaluation of the program.

☐ Baseline
☒ Follow-up

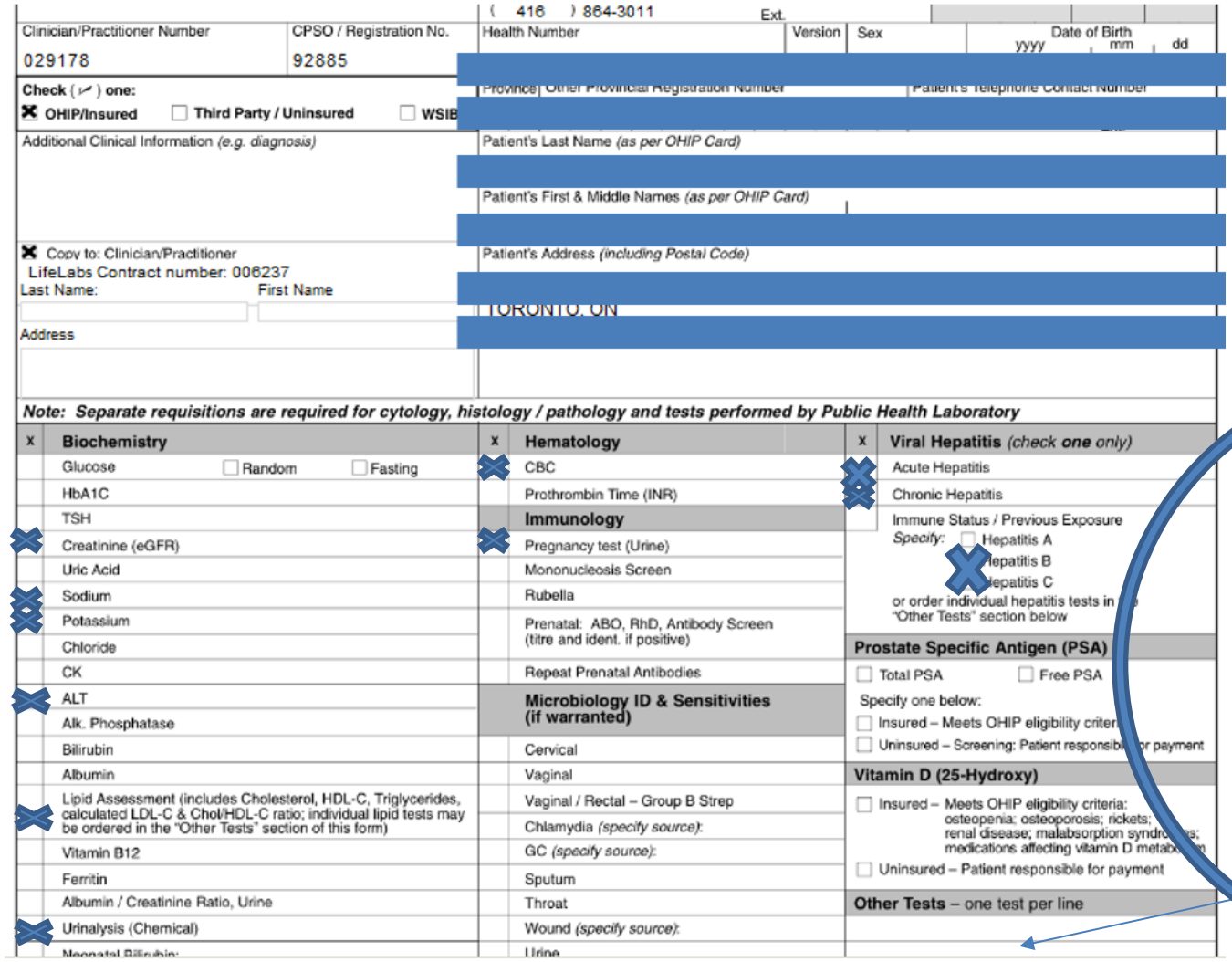
Most recent CD4+ T-cell count:

Result: _____ cells/mm³ _____ % Date Performed yyyy mm dd

	Generic (Trade)	Abbreviation
☐	No therapy	
☐	Abacavir (Ziagen)	ABC
☐	Abacavir/Lamivudine (Kivexa)	ABC+3TC
☐	Abacavir/Lamivudine/Zidovudine (Trizivir)	ABC+3TC+AZT
☐	Atazanavir (Reyataz)	ATV

Write ART

	Generic (Trade)	Abbreviation
☐	Lopinavir/Ritonavir (Kaletra)	LPV/r
☐	Maraviroc (Celsentri)	MVC
☐	Nelfinavir (Viracept)	NFV
☐	Nevirapine (Viramune)	NVP
☐	Raltegravir (Isentress)	RGV



(416) 864-3011 Ext.

Clinician/Practitioner Number	CPSO / Registration No.	Health Number	Version	Sex	Date of Birth yyyy mm dd
029178	92885	[redacted]			

Check (✓) one:
☒ OHIP/Insured ☐ Third Party / Uninsured ☐ WSIB

Province | Other Provincial Registration Number | Patient's Telephone Contact Number

Additional Clinical Information *(e.g. diagnosis)*

Patient's Last Name *(as per OHIP Card)*

[redacted]

Patient's First & Middle Names *(as per OHIP Card)*

[redacted]

☒ Copy to: Clinician/Practitioner
LifeLabs Contract number: 006237
Last Name: First Name

Patient's Address *(including Postal Code)*

[redacted]
TORONTO, ON
[redacted]

Address

Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory

x	Biochemistry
	Glucose ☐ Random ☐ Fasting
	HbA1C
	TSH
☒	Creatinine (eGFR)
	Uric Acid
☒	Sodium
☒	Potassium
	Chloride
	CK
☒	ALT
	Alk. Phosphatase
	Bilirubin
	Albumin
☒	Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)
	Vitamin B12
	Ferritin
	Albumin / Creatinine Ratio, Urine
☒	Urinalysis (Chemical)
	Neonatal Bilirubin:

x	Hematology
☒	CBC
	Prothrombin Time (INR)
	Immunology
☒	Pregnancy test (Urine)
	Mononucleosis Screen
	Rubella
	Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)
	Repeat Prenatal Antibodies
	Microbiology ID & Sensitivities (if warranted)
	Cervical
	Vaginal
	Vaginal / Rectal – Group B Strep
	Chlamydia *(specify source)*:
	GC *(specify source)*:
	Sputum
	Throat
	Wound *(specify source)*:
	Urine

x	Viral Hepatitis *(check **one** only)*
☒	Acute Hepatitis
☒	Chronic Hepatitis
	Immune Status / Previous Exposure *Specify:* ☐ Hepatitis A ☒ Hepatitis B ☐ Hepatitis C or order individual hepatitis tests in "Other Tests" section below
	Prostate Specific Antigen (PSA)
	☐ Total PSA ☐ Free PSA
	Specify one below: ☐ Insured – Meets OHIP eligibility criteria ☐ Uninsured – Screening: Patient responsible for payment
	Vitamin D (25-Hydroxy)
	☐ Insured – Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; renal disease; malabsorption syndromes; medications affecting vitamin D metabolism
	☐ Uninsured – Patient responsible for payment
	Other Tests – one test per line

CD4 panel
Syphilis
Toxoplasmosis IgG
CMV IgG
Varicella serology
AST
Urine GC/Ch

Public Health Ontario | Santé publique Ontario

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Public Health Ontario Laboratory HIV Genotyping, Resistance, Tropism, and HLA-B*57:01 Abacavir Hypersensitivity Testing Requisition

DRUG RESISTANCE

☒ **HIV Drug Resistance Testing**

☐ **Integrase Resistance Testing**

☐ **gp-41 Resistance Testing**

(when necessary)

Criteria for HIV Drug Resistance Testing:

- Naïve patient considering starting antiretroviral treatment.
- Patients experiencing virological failure as defined by two consecutive viral load tests at least one month apart, demonstrating either a failure to suppress the Viral load below 250 copies/mL within 16 weeks after initiating therapy or virological rebound after a formerly successful regimen without complicating factors such as vaccination or opportunistic infection.
- Pregnant women close to delivery.

Note: It is not necessary to submit a new specimen Specimens which were submitted for HIV Viral Load testing will be considered for eligibility upon receiving this request. *

TROPISM

☐ **V3 Genotyping (Tropism/CCR5)**

Criteria for Eligibility for **V3 Genotyping** – Consideration for treatment with a CCR5 inhibitor & Viral Load > 500 copies/mL

Note: It is not necessary to submit a new specimen Specimens which were submitted for HIV Viral Load testing will be considered for eligibility upon receiving this request.

☐ **Proviral HIV DNA Tropism (V3)**

For Proviral HIV DNA Tropism (V3) testing submit 5 mL EDTA whole blood shipped on ice packs (4°C) within 24 hours.

Indicate on the line below the specimen collection date.

Day _____ Month _____ Year _____

☒ **HLA-B*57:01 Abacavir Hypersensitivity testing.**

For HLA-B*57:01 testing submit 3- 5 mL EDTA whole blood shipped on ice packs (4°C) within 24 hours of collection.

Indicate on the line below the specimen collection date.

Day _____ Month _____ Year _____

PATIENT INFO

Patient Identifier/HIV VL Specimen No. _____

Patient Name/ Patient's initials _____ (Last name) _____ (First name) _____ (Patient Initials)

Patient Date of Birth: _____ (Day) _____ (Month) _____ (Year)

Most recent CD4 Count: _____ **Date:** (YYYY/MM/DD)

PHYSICIAN INFO

Physician: _____

Address: _____

_____

_____

Tel: _____

Does patient meet the criteria of "virologic failure"?_____(Y/N) Is a change of ART under consideration?_____(Y/N)

>> Signature or Physician_____

fill and sign

HIV Drug Resistance Testing and Tropism Testing are performed at the B.C. Centre for Excellence after the required HIV Viral Load Test has been completed at an Ontario Viral Load Testing Site. The HIV Viral Load laboratory will determine if the volume is sufficient to submit for testing and will contact the requesting caregiver to make alternate arrangements if the volume is not sufficient.

- The test results are likely to take between 3-6 weeks. The test results will be forwarded to you as soon as they are received by Public Health Ontario Laboratories.

Initial Assessment—Physical Examination

A complete physical examination should be performed on all patients. Additionally, special attention should be paid to the following areas:

- Vital signs: including height and weight
- General: including body habitus, evidence of obesity, wasting, lipodystrophy, assessment of frailty, and ambulatory ability
- Skin: seborrheic dermatitis, ecchymoses, purpura, petechiae, Kaposi sarcoma, herpes simplex or zoster, psoriasis, molluscum contagiosum, onychomycosis, folliculitis, condylomata, cutaneous fungal infections
- Lymph nodes: generalized or localized lymphadenopathy
- Eye: retinal exudates or cotton wool spots, hemorrhages, pallor, icterus
- Oropharynx: oral hairy leukoplakia, candidiasis (thrush, palatal erythema, angular cheilosis), aphthous ulcers, gingivitis, periodontal disease, Kaposi sarcoma, tonsillar or parotid gland enlargement
- Cardiovascular: heart exam, peripheral pulses, presence/absence of edema
- Chest: lung examination
- Breast: nodules, nipple discharge
- Abdomen: hepatomegaly, splenomegaly, masses, tenderness
- Genitourinary: ulcers, warts, chancres, rashes, abnormal gynecologic exam, discharge
- Anorectal: ulcers, warts, fissures, internal or external hemorrhoids, masses, Kaposi sarcoma
- Neuropsychiatric: depression, mania, anxiety, signs of personality disorder, difficulties in concentration, attention, and memory, signs of dementia, speech problems, gait abnormalities, focal deficits (motor or sensory), lower extremity vibratory sensation (distal sensory neuropathy, abnormal reflexes)

IDSA 2013 (2)

“Test and Start”

- With a low CD4, in the absence of a genotype and facing a long wait to see a specialist, start:
  - Darunavir 800mg PO OD
  - Ritonavir 100mg PO OD
  - Truvada 1 tab PO OD
- Discuss drug interactions, side effects with a pharmacist
- Consider an e-consult with an experienced provider

When to start

- **Most guidelines now recommend that all HIV+ patients should be on treatment, *regardless of CD4 count.***
- There are very few reasons to *not* start HIV treatment.

Other elements:

- Drug coverage: apply for Trillium or ODB (OW or ODSP).
- Supportive counselling – a normal life expectancy.
- Non-disclosure to a sexual partner is a criminal offense.

Routine monitoring

- CBC, ALT, Cr, urinalysis/ACR, CD4 count, *Viral Load* q3-6 mos., lipids/blood glucose q1yr.
  - Expect undetectable viral load (“0” or “<40”)
- STI screening as required (GC, CT, syphilis, HCV)

#2

You should identify the “sicker” patients.

#1. The undiagnosed patient

eg. An otherwise “healthy” patient with:

- Abdominal pain, thrombocytopenia and neutropenia with normal abdo u/s and CT scan.
- Lymphadenopathy and macular rash NYD
- Zoster

#2. The newly diagnosed patient with *possible neurosyphilis*

- If neurologic symptoms/signs, late latent syphilis, CD4 <350, RPR ≥1:32 dilutions, **or** suboptimal decline in titres after bicillin treatment

  … do an LP to rule out neurosyphilis.

#3. The newly diagnosed patient with *low CD4 count*

- CD4 < 200 = AIDS
- Prophylaxis for opportunistic infections:
  - CD4 <200: Septra (SS) OD for PJP pneumonia
  - CD4 <100: Septra (DS) OD for Toxoplasma gondii
  - CD4 <50: azithromycin 1200 mg q1wk for MAC

#3

Vaccinate, vaccinate, vaccinate!

Vaccines

- Ensure childhood vaccines adequate
- For strep pneumoniae prevention:
  - PCV13 0.5 mL IM x 1 (AI).
  - PPV23 0.5 mL IM or SQ at least 8 weeks after the PCV13 vaccine (AII).
  - Option to wait until CD4>200.

Additional vaccines

- HPV vaccine (M/F age 13-26**+**)
- Varicella vaccine (if non-immune)
- Hep A (if non-immune)
- Hep B (if non-immune) – 40mcg dose
- Yearly inactivated influenza
- Adacel/Tdap
- Zoster vaccine: safety and efficacy in HIV-infected persons unknown; consider in patients >60 y of age with CD4 counts ≥200 cells/µL (1).

#4

You should watch for common drug interactions involving ARVs in primary care.

1) Absorption issues

- *Some* HIV medications…
  - Cannot be taken simultaneously with polyvalent cations, including antacids, d/t binding properties

    (eg. Integrase inhibitors)
  - Require an acidic stomach environment to be absorbed

    (eg. PPIs cannot be used with rilpivirine, and in some cases cannot be used with atazanavir)

2) Cytochrome P450 mechanisms

- Particularly for patients with NNRTIs, Protease Inhibitors and cobicistat-containing regimens:
  - Watch for interactions with:
    - Statins
    - Methadone
    - Antidepressants
    - Clarithromycin
    - Alpha-blockers
    - Estradiol-containing contraceptives
    - Erectile dysfunction medications
    - St. John's Wort

3) Other mechanisms

- Dolutegravir + metformin:
  - Dolutegravir inhibits renal transporter used by metformin, requires dose reduction of metformin (or do not use it at all)

Interaction resources

- http://www.hiv-druginteractions.org/
- DHHS HIV Guidelines: https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-arv-guidelines/0
- Your EMR.

#5

You can do preventive care screening better than anyone else, and this is very important for HIV+ patients.

Cancer screening

- Sarah is a 40 y/o insurance agent and suburban mom of four children who unexpectedly had a positive HIV test in your office three years ago.
- She has read that cancers occur at twice the average rate (2) and wonders what screening she should have.

Recommendations for Cervical Cancer Screening for HIV-Infected Women

HIV-Infected Women Aged <30 Years:

- If younger than age 21, known to be HIV-infected or newly diagnosed with HIV, and sexually active, screen within 1 year of onset of sexual activity regardless of mode of HIV infection.
- HIV-infected women aged 21–29 should have a Pap test following initial diagnosis.
- Pap test should be done at baseline and every 12 months **(BII)**.
- Some experts recommend a Pap test at 6 months after the baseline test **(CIII)**.
- If results of 3 consecutive Pap tests are normal, follow-up Pap tests can be performed every 3 years **(BII)**.
- Co-testing (Pap test and HPV test) is not recommended for women younger than 30.

HIV-Infected Women Aged >30 Years

Pap Testing Only:

- Pap test should be done at baseline and every 12 months **(BII)**.
- Some experts recommend a Pap test at 6 months after the baseline test **(CIII)**.
- If results of 3 consecutive Pap tests are normal, follow-up Pap tests can be performed every 3 years **(BII)**.

Or:

Pap Test and HPV Co-Testing:

- Pap test and HPV co-testing should be done at baseline **(BII)**.
- If result of the Pap test is normal and HPV co-testing is negative, follow up Pap test and HPV co-testing can be performed every 3 years **(BII)**.
- If the result of the Pap test is normal but HPV co-testing is positive, follow up test with Pap test and HPV co-testing should be performed in one year.
- If the one year follow-up Pap test is abnormal or HPV co-testing is positive, referral to colposcopy is recommended.

Or:

Pap Test and HPV 16 or HPV 16/18 Specified in Co-Testing:

- Pap test and HPV 16 or 16/18 co-testing should be done at baseline **(BII)**.
- If result of the Pap test is normal and HPV 16 or 16/18 co-testing is negative, follow up Pap test and HPV co-testing can be performed every 3 years **(BII)**.
- If initial test or follow up test is positive for HPV 16 or 16/18, referral to colposcopy is recommended **(BII)**.

- Mammography, CRC/anal cancer screening have no specific recommendations in DHHS.
- IDSA recommends anal paps in men that have HPV warts (2): not widely available.

Regular preventive care follow-up

- HIV is an independent risk factor for:
  - MI (~50% increased risk)
  - CVA (40-60% increased risk)
- BP and lipids management, and smoking cessation, is encouraged
  - THC use potentially as high-risk as smoking cigarettes

The FIVE Key Points

1. You should test your patients for HIV … and, if there is a positive test, you can do the initial workup and (maybe) even start treatment.
2. You should identify the "sicker" patients (undiagnosed, neurosyphilis, low CD4 counts).
3. Vaccinate, vaccinate, vaccinate.
4. You should watch for common drug interactions involving ARVs in primary care.
5. You can do preventive care screening better than anyone else, and this is very important for HIV+ patients.

Discussion

Feel free to contact us!...

...For a copy of this slide set, or if you have any questions or need management suggestions.

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References

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