Northern Health Physicians
Partners in Wellness

Public Health Newsletter for Northern Health Physicians

Volume 14. Number 02. February 2018 • Page 1 of 4

HIV Pre-exposure prophylaxis (PrEP) now covered in BC for people at high risk

The newest tool for HIV prevention is pre-exposure prophylaxis (PrEP), using a single daily dose of antiretroviral medication (emtricitabine-tenofovir DF).

When PrEP is taken on an ongoing daily basis by someone who is HIV negative but at ongoing high risk, the risk of contracting HIV risk is dramatically reduced. When PrEP is taken consistently every day, the risk by sexual transmission is reduced by over 90%, and the risk by sharing injection equipment is reduced by over 70%.

As of January 1, 2018, the BC government now covers PrEP for individuals at high risk. Full guidelines for using PrEP are available from the BC Centre for Excellence in HIV/AIDS (BCCfE) at http://www.cfenet.ubc.ca/hiv-pre-exposure-prophylaxis-prep. This newsletter article aims to provide a basic introduction.

Who should receive PrEP?

PrEP is indicated in the following groups at high risk:

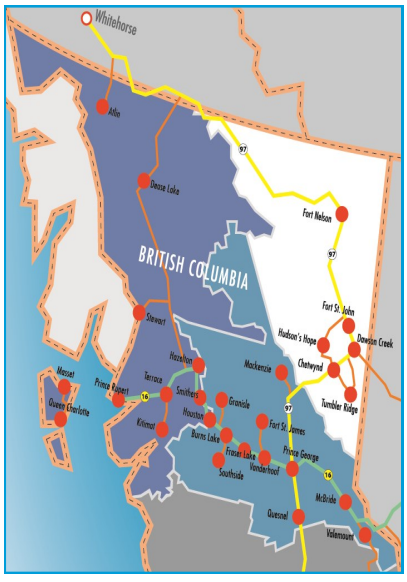
1. Men who have sex with men (MSM) and transgender women (TGW) who report condomless anal sex and any of the following:
   - Infectious syphilis or rectal bacterial sexually transmitted infection (STI), particularly if diagnosed in the preceding 12 months.
   - Use of non-occupational post-exposure prophylaxis (nPEP) on more than one occasion.
   - Ongoing sexual relationship with an HIV-positive partner who is not receiving stable ART and/or does not have an HIV viral load <200 copies/ mL.
   - HIV Incidence Risk Index for men who have sex with men (HIRI-MSM) score ≥10 (see the BCCfE PrEP guidelines for details on calculating the HIRI-MSM score)
2. Heterosexual men and women who report condomless vaginal or anal sex and an ongoing sexual relationship with an HIV-positive partner who is not receiving stable ART and/or does not have an HIV viral load <200 copies/mL.
3. People who inject drugs (PWID) using equipment shared with an HIV-positive injecting partner who is not receiving stable ART and/or does not have an HIV viral load <200 copies/mL.

PrEP is now available for free in BC for individuals meeting all of the following criteria:

1. Member of a high risk group, as defined above
2. Laboratory testing completed:
   a) Negative HIV test within the 15 days preceding the application for PrEP coverage. The window period for a standard HIV test is up to 3 weeks. If there has been high-risk exposure in the past month, or symptoms suggestive of acute HIV infection in the past 6 weeks, call BCCDC virologist at 604-707-5600 to arrange a pooled NAAT HIV RNA.

Inside this Issue:

Notable Quotable:



Northwest

Atlin, Dease Lake, Houston, Hazelton, Masset, Kitimat, Port Clements, Prince Rupert, Smithers, Stewart, Terrace, the Village of Queen Charlotte

Northern Interior

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Northeast

Chetwynd, Dawson Creek, Hudson's Hope, Fort Nelson, Fort St. John, Tumbler Ridge

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After hours calls to UHNBC Switchboard 250-565-2000 and ask for MHO on-call

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(Continued from page 1)

b) **CrCl or eGFR >** 60mL/min
c) Hepatitis B surface antigen (**HBsAg**) status is documented, whether positive or negative
d) Other recommended tests (not required for PrEP coverage): urinalysis and/or urine ACR for absence of proteinuria; pregnancy test; STI and hepatitis B/C screening; hepatitis B vaccination if not immune

3. Current BC resident with MSP or Interim Federal Health coverage.

Precautions: Possible risks to the patient include nephrotoxicity, and decreased bone mineral density. Careful assessment of risks and benefits is warranted in patients who have additional risk factors for these outcomes. Regular monitoring of renal function is recommended in all patients on PrEP. See the BCCfE guidelines for further details.

Pregnancy: PrEP is category B. Regular monitoring of pregnancy status is recommended in all patients of childbearing potential who are using PrEP, so that if pregnancy occurs, HIV-related risks are considered early on during the pregnancy.

Counselling patients about PrEP

Other risk reduction strategies: In addition to offering PrEP, anyone reporting the above risk factors should also be counselled around risk reduction, including using condoms and not sharing injecting. However, it should also be recognized that some people will not be willing or able to consistently adhere with risk reduction recommendations, and PrEP is highly effective at preventing HIV in this group.

Adherence: Counselling should emphasize that efficacy is greatly reduced in those who do not adhere daily.

Time to maximum effectiveness: Preliminary data suggests that, following PrEP initiation, the medication only reaches steady state after 7 days in rectal mucosa and 20 days in the cervico-vaginal mucosa. Safer sex practices should be used during this period.

Logistics

Coverage is arranged through the BC Centre for Excellence in HIV/AIDS. For more information on the application process as well as clinical guidelines for using PrEP, please consult http://cfenet.ubc.ca/hiv-pre-exposure-prophylaxis-prep or call St Paul's Hospital Ambulatory Pharmacy support Monday-Friday 8am-5pm at 1-888-511-6222.

To learn more

- Northern Health's HIV and Hepatitis C Specialized Support Team can provide further information regarding treatment, community resources, and social support. Contact the team at 1-888-645-6495.
- BC Centre for Excellence in HIV/AIDS (BCCfE). HIV Pre-Exposure Prophylaxis (PrEP). **http://www.cfenet.ubc.ca/hiv-pre-exposure-prophylaxis-prep**
- Centres for Disease Control and Prevention (CDC). HIV/AIDS: PrEP. https://www.cdc.gov/hiv/basics/prep.html

Submitted by: Dr. Andrew Gray, Northern Interior Medical Health Officer, with input from Jennifer Hawkes, Pharmacist, HIV/HCV Specialized Support Team

New Subunit Shingles Vaccine

Shingles:
Shingles (herpes zoster) is caused by reactivation of latent varicella zoster virus (VZV), which also causes varicella (chicken pox). Its most common symptom is a painful skin rash with blisters. The main complication is post-herpetic neuralgia (PHN) with prolonged severe pain. About 1 in 3 people get shingles in their lifetime. Shingles is most common in people over 50 years of age or in those with compromised immune systems. People over the age of 70 are more likely to get PHN.

Shingles Vaccines:
Shingles vaccines can provide protection against VZV reactivation. Until recently, live attenuated varicella zoster vaccine (Zostavax) was the only type of shingles vaccine available in Canada. Recently, a new adjuvanted recombinant subunit vaccine (Shingrix) has been approved by Health Canada, and is expected to be available in early 2018.

Comparing Shingles Vaccines:
Vaccine Efficacy
The live attenuated vaccine's efficacy (VE) in people aged 70 to 79 years is 41% for shingles, and 55% for PHN. The subunit vaccine has higher VE in people aged 70 to 79 at 91% for shingles, and 89% for PHN. Unlike the live attenuated vaccine, the efficacy of the subunit vaccine does not appear to decrease significantly with age.

Safety & Adverse Events
Both vaccines are considered safe in terms of severe adverse events, with no significant difference in severe adverse event rates between the vaccine and placebo groups. The subunit vaccine is more reactogenic: with the live attenuated vaccine, 48% of recipients reported injection site pain, swelling or redness. With the subunit vaccine, 74% of recipients reported injection site reactions. Systematic reactions including fever are also more frequent with the subunit vaccine compared to the live attenuated vaccine. 10% of recipients of the subunit vaccine experience adverse effects that are significant enough to interfere with daily activities.

Cost
In BC, the live-attenuated shingles vaccine costs about $200 at some travel clinics. The subunit vaccine requires 2 doses for protection. Overall, the subunit vaccine costs about a third more per dose than the live-attenuated vaccine, not including administration cost.

Recommendations:
Canada's National Advisory Committee on Immunization (NACI) recommends the live-attenuated shingles vaccine for people aged 60 and older. This vaccine is also approved for anyone aged 50 and older. NACI has not yet issued any recommendations related to the subunit vaccine. Neither vaccine is publicly funded in BC.

In the U.S., the Advisory Committee on Immunization Practices (ACIP) recommends the subunit vaccine over the live attenuated vaccine for adults over 50. It also recommends, for those previously vaccinated with live-attenuated vaccine, re-vaccination with the subunit vaccine.

Comments for Northern BC physicians:
With no Canadian guideline available, we recommend northern BC physicians and patients make an informed decision, weighing the benefits of improved vaccine efficacy against the increased likelihood of local and systemic reactions and the higher cost of the subunit shingles vaccine.

Further updates will follow when Canadian or provincial recommendations are issued.

Resources:

1. HealthLink BC: https://www.healthlinkbc.ca/healthlinkbc-files/shingles-vaccine
2. BCCDC guideline for Zostavax: http://www.bccdc.ca/resource-gallery/Documents/Guidelines%20and%20Forms/Guidelines%20and%20Manuals/Epid/CD%20Manual/Chapter%202%20-%20Imms/Part4/Zoster.pdf
3. Canadian Immunization Guide: https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-4-active-vaccines/page-8-herpes-zoster-(shingles)-vaccine.html
4. ACIP Recommendations: https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a5.htm
5. ACIP Economic Evaluation: https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2017-06/zoster-04-leidner.pdf
6. Live-Attenuated Vaccine Efficacy Study: http://www.nejm.org/doi/full/10.1056/NEJMoa051016
7. Subunit Vaccine Efficacy study: http://www.nejm.org/doi/full/10.1056/NEJMoa1603800
8. AAFP article: https://www.aafp.org/news/health-of-the-public/20171031acipmeeting.html

Submitted by: Dr. Jong Kim, Northeast Medical Health Officer

Antimicrobial Stewardship in NH
This Month's Topic-Asymptomatic Bacteriuria1-6

As the name suggests, asymptomatic bacteriuria is the presence of a significant colony count of bacteria recovered from a urine sample in a person without any signs or symptoms associated with a urinary tract infection. It is most common in the elderly (over 65 years), 20% in women and 10% in men. As age advances so does the incidence – up to 50% in women and 30% in men over age 80. It is more commonly seen in hospitals and nursing homes and incidence rates increase with longer durations of stay.

Non-specific Signs and symptoms that may or may not indicate a urinary tract infection:
- Fever*
- Hematuria- blood in urine*
- Cognitive changes*

* These alone are insufficient to diagnose a urinary tract infection

NOT typically associated with a urinary tract infection:
- Dizziness
- New or increased falls
- Decreased appetite
- Altered behaviour:
  - New or increased verbal or physical aggression
  - Confusion/disorientation
  - New or increased wandering
  - Disorganized thinking

Exclude all other potential causes of non-specific symptoms:
- Dehydration
- New medications/drug interactions
- Sleep disturbances
- Sensory deprivation
- Trauma
- Hypoxia
- Hypoglycemia
- Infection other than urinary tract infection

Top Three **Myths**:

1. Urine is cloudy and smells bad - Patient has UTI
   a. Visual inspection not helpful
   b. Foul-smelling - unreliable indicator

2. Urine is positive for leucocyte esterase – need to perform urine culture
   a) Urine white blood cell counts vary depending on hydration. Present in up to 90% of patients with asymptomatic bacteriuria. Present in 30% of patients in LTC with no bacteriuria.

May also be elevated:
- Hematuria of non-infectious cause
- Acute renal failure
- Sexually transmitted diseases
- Non-infectious cystitis

3. Urine has nitrates present - Patient has UTI

a) Urine nitrate has high predictive value for bacteriuria but: Not all bacteria positive for nitrate test
   - *Pseudomonas spp*
   - *Enterococcus spp*

Many elderly have asymptomatic bacteriuria

b) Combination of negative leucocyte and negative nitrate: Good to rule out UTI; Negative predictive value = 88%

Some points for practice:
- Asymptomatic bacteriuria is a colonization state **NOT** an infection
- ** **Antibiotics are NOT indicated**
  **Exceptions: pregnancy and prior to genitourinary procedures
- Bacteriuria and pyuria are **expected** findings in the elderly
- Symptomatic UTI is much **less common** than asymptomatic bacteriuria
- Foul-smelling and cloudy urine typically indicate dehydration, **NOT** urinary tract infection
- Culturing urine specimens based on dipstick / positive urinalysis is **NOT** recommended due to its poor predictive value in the elderly
- Treatment of asymptomatic bacteriuria **DOES NOT** alter clinical outcome but results in adverse events and promotes antimicrobial resistance

Resources

1. Nicolle LE. Infect Dis Clin North Am 1997;11(3):647-62
2. Nicolle LE. Infect Control Hosp Epidemiol 2001;22(3):167-75
3. Deville WL, et al. BMC Urol 2004;4:4
4. Juthani-Mehta M, et al. Infect Control Hosp Epidemiol 2007;28(7):889-91
5. Lammers RL et al. Ann Emerg Med 2001;38:505–12
6. CDC 2014: CDC/NHSN surveillance definitions for specific types of infections

Do you have an idea for a newsletter?
Please send any suggestions or articles to:
NHPhysiciansNewsletter@northernhealth.ca

Back issues of *NH Physicians, Partners in Wellness* newsletters and bulletins are located on the NH Physicians website:
http://physicians.northernhealth.ca/physicianResources/PublicHealth.aspx

The Truth and Reconciliation Commission

The Truth and Reconciliation Commission's report was released in December 2015. The report details 94 Calls to Action (recommendations) for Canadians to redress the legacy of residential schools (Actions 1-42) and advance the process of reconciliation (Actions 43-94). This newsletter series will walk through the 94 Calls to Action to support Northern physicians and other providers to learn about the legacies and take actions towards reconciliation in their practices, relationships, and communities.

The categories to redress the legacy of residential schools include; child welfare, education, language and culture, health, and justice. This issue we highlight 9 Reconciliation Calls to Action. Others will be shared in upcoming newsletters.

To learn more about the Truth and Reconciliation Commission and the Calls to Action, visit http://nctr.ca/

National Council for Reconciliation

53. We call upon the Parliament of Canada, in consultation and collaboration with Aboriginal peoples, to enact legislation to establish a National Council for Reconciliation. The legislation would establish the council as an independent, national, oversight body with membership jointly appointed by the Government of Canada and national Aboriginal organizations, and consisting of Aboriginal and non-Aboriginal members. Its mandate would include, but not be limited to, the following …

54. We call upon the Government of Canada to provide multi-year funding for the National Council for Reconciliation to ensure that it has the financial, human, and technical resources required to conduct its work, including the endowment of a National Reconciliation Trust to advance the cause of reconciliation.

55. We call upon all levels of government to provide annual reports or any current data requested by the National Council for Reconciliation so that it can report on the progress towards reconciliation. The reports or data would include, but not be limited to …

56. We call upon the prime minister of Canada to formally respond to the report of the National Council for Reconciliation by issuing an annual "State of Aboriginal Peoples" report, which would outline the government's plans for advancing the cause of reconciliation.

Professional Development and Training for Public Servants

57. We call upon the Parliament of Canada, in consultation and collaboration with Aboriginal peoples, to enact legislation to establish a National Council for Reconciliation. The legislation would establish the council as an independent, national, oversight body with membership jointly appointed by the Government of Canada and national Aboriginal organizations, and consisting of Aboriginal and non-Aboriginal members. Its mandate would include, but not be limited to, the following …

Church Apologies and Reconciliation

58. We call upon the Pope to issue an apology to survivors, their families, and communities for the Roman Catholic Church's role in the spiritual, cultural, emotional, physical, and sexual abuse of First Nations, Inuit, and Métis children in Catholic-run residential schools.

59. We call upon church parties to the settlement agreement to develop ongoing education strategies to ensure that their respective congregations learn about their church's role in colonization, the history and legacy of residential schools, and why apologies to former residential school students, their families, and communities were necessary.

60. We call upon leaders of the church parties to the settlement agreement and all other faiths, in collaboration with Indigenous spiritual leaders, survivors, schools of theology, seminaries, and other religious training centres, to develop and teach curriculum for all student clergy, and all clergy and staff who work in Aboriginal communities, on the need to respect Indigenous spirituality in its own right, the history and legacy of residential schools and the roles of the church parties in that system, the history and legacy of religious conflict in Aboriginal families and communities, and the responsibility that churches have to mitigate such conflicts and prevent spiritual violence.

61. We call upon church parties to the settlement agreement, in collaboration with survivors and representatives of Aboriginal organizations, to establish permanent funding to Aboriginal people for …

Submitted by:
Dr. Sandra Allison Chief Medical Health Officer