



Northern Health Physicians Partners in Wellness

Public Health Newsletter for Northern Health Physicians
Volume 15. Number 5 June 2019 • Page 1 of 4

Wildfire Smoke and Health

Wildfire season has already started in BC; as you know, wildfires can have significant impacts to Northern communities. Experts predict that climate change will continue to worsen their frequency and intensity. As another hot season approaches, it is important to prepare your patients ahead of time so they can stay healthy during this season.

Exposure to wildfire smoke can have many effects including inflammation and increased oxidative stress. As such, it is known that common conditions like asthma, COPD, heart disease, and diabetes can be acutely affected by the smoke from wildfires. Physicians can take steps to help patients through smoky times:

Asthma and COPD

- Ensure all patients have access to up-to-date medications such as rescue inhalers.
- Counsel patients to ensure they know the importance of always having their medications easily accessible and that symptoms may be worse or more easily triggered during forest fire season.
- If patients use an asthma action plan, encourage them to follow it and to be aware that they may find themselves in the yellow or red zones more frequently with exposure to wildfire smoke

People who use tobacco

- People who smoke or vape may experience shortness of breath during wildfire season fire season and smoky conditions. Encouraging smoking cessation or reduction during wildfire season which can help reduce symptoms.

Heart Disease

- Levels of cardiovascular and cerebrovascular events have been found to increase during times of forest fire smoke exposure. Before and during forest fire season, follow guidelines regarding hypertension and hypercholesterolemia management to reduce risk.
- There has also been a link between air pollution and arrhythmias; patients with risk factors for arrhythmias should be counselled on symptoms associated with arrhythmias and when to go to the emergency department

Diabetes

- Emerging evidence is showing that hypoglycemic episodes are more frequent with exposure to particulate matter in the air. Encourage diabetic patients to more closely monitor glucose levels and have fast sugars readily available. Try to control glucose levels and achieve an optimal A1C level prior to especially stressful times such as wildfire season

Pregnant women

- Current research suggests that exposure to wildfire smoke while pregnant may lead to pre-term birth or low birth weight. Pregnant women should be advised to reduce their exposure to wildfire smoke.

Continued on page 2

Inside this Issue:

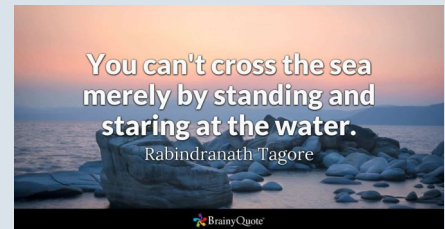
Wildfire Smoke and Health -----pp. 1-2

Measles immunization catch up campaign -----pp. 2-3

Bed Bugs ----- p. 3

AMS Topic of the Month: C Diff. infection management----- p. 4

Notable Quotable:



Contacts:

Dr. Sandra Allison, Chief MHO
Ph: 250-565-7424; Cell: 250-612-2582
sandra.allison@northernhealth.ca

Dr. Raket Kling, Interim MHO-Northwest HSDA
Ph: 250-631-4261; Cell: 250-641-1758
raket.kling@northernhealth.ca

Dr. Andrew Gray, MHO-Northern Interior HSDA
Ph: 250-565-7461 Cell: 778-349-4398
andrew.gray@northernhealth.ca

Dr. Jong Kim, MHO-Northeast HSDA
Ph: 250-261-7235 Cell: 250-793-3751
jong.kim@northernhealth.ca

Dr. Ronald Chapman, MHO and VP Medicine
Ph: 250-649-7653; Cell: 250-961-3234
ronald.chapman@northernhealth.ca

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



northern health
the northern way of caring

Continued from page 1

Mental Health

- Wildfires can have detrimental effects on mental health. Staying indoors can be isolating - encourage patients to prepare indoor activities in advance and to use poor air quality times as an opportunity to spend time with others indoors.
- Consider proactively sharing counseling resources with patients prior to or during a forest fire. The [Canadian Mental Health Association and Coping through a natural disaster emergency](#) both provide resources to help foster positive mental health during emergencies.

Reducing symptoms from Wildfire Smoke

Physicians can also advise patients on steps they can take to further reduce symptoms during wildfires. [Preparing](#) for this can help people cope with the smoke for longer periods of time.

Reducing exposure to smoky air is our best defense. This can be done in many ways:

- Reducing or avoiding time spent outdoors
- Reducing the amount, intensity or frequency of exercise outdoors or consider exercising indoors
- Spend time indoors ideally in a well-ventilated area (home with air conditioning, mall, movie theatre, library, etc.)

- Advise that purchasing a [portable air cleaner](#) is an important way to help reduce symptoms; the portable air cleaner should be one that uses high-efficiency particulate air (HEPA) filtration. Portable air cleaners can help everyone but are particularly important for those with chronic diseases and pregnant women.

Masks

N95 masks can be helpful in reducing particulate matter exposure; however, ensuring proper fit is very important. Surgical masks are not recommended and they can provide a false sense of security.

Air Quality Information

[Air Quality Advisories](#) are issued when pollutant concentrations approach or exceed limits, or when degraded-air-quality episodes are expected to worsen. These advisories provide information, help people make decisions about reducing exposure, affect emission reduction actions, and provide health advice.

[Smokey Skies Bulletins](#) are issued when areas of the province are being impacted or have reasonable potential to be impacted by wildfire smoke within 24-48 hours.

The [Air Quality Health Index](#) provides hourly air quality readings and related health messages. These are great resources to check before heading off to work or play; however, advisories and the

AQHI are not available in all northern communities.

Resources:

Staying Healthy in the Heat

Wildfire smoke and heat events often coincide. [HealthLinkBC](#) provides excellent information for patients about mitigating the effects of extreme heat.

Wildfires and Your Health

This [HealthLinkBC website](#) contains a variety of resources from trusted sources on topics such as emergency preparedness, what to do during a wildfire, and what to do during an evacuation.

BCCDC Wildfire Smoke Response Planning

The [Wildfire Smoke Response Planning](#) website provides a collection of guidance related to best practices for health and wildfire smoke planning, including evidence reviews regarding clean air shelters and evacuations.

Wildfire Smoke Prediction System

From April to October, [Firework](#) issues twice daily air quality predictions that indicate how smoke from wildfires is expected to move across the country over the next 48 hours.

Submitted by:
Dr. Rakesh Kling, Northwest Medical Health Officer
Alexis Sharp, Medical Student

Measles immunization catch-up campaign for school-aged children

All health authorities in BC are currently conducting a voluntary measles immunization catch-up campaign for school-age children.

This may involve additional immunization clinics in schools, special immunization clinics in other public settings, or simply additional clinics at Health Units, depending on the community. Primary and Community Care teams are in contact with local schools. Information and con-

sent forms have been distributed to families. Children who attend home school can be immunized at a [Health Unit](#).

This memo is intended to enable you to answer your patients' questions about this campaign, the current risk of measles, the need for measles vaccine, or the safety and effectiveness of the measles vaccine. Thank you for your assistance in promoting immunization among your patients.

Campaign details: Public information on this campaign, including clinic dates and locations, is available at <https://www.northernhealth.ca/health-topics/measles>.

Current risk level: The risk of measles for people in Northern Health remains low. In the event that a traveler imports measles to the region, any transmission is expected to be very limited, since roughly 90% of people in BC are immune to measles.

Continued on page 3



Continued from page 2

Assessing immunity: If immunization records are not available, and there is not a convincing history of measles immunization or disease, immunization is recommended. Serological testing is not recommended, except in the event of a recent verified exposure, to determine the need for exclusion.

Do not test for measles symptoms post-MMR vaccination with no other exposure:

In <10% of MMR vaccine recipients, the live attenuated viruses in the vaccine can cause viral symptoms (fever, rash, parotitis, malaise, lymphadenopathy, arthralgia, cough, conjunctivitis) starting 5–30 days following the vaccine, and lasting up to 3 days. If a patient presents with these symptoms within

5–30 days of receiving MMR vaccine, and does not have a known exposure or recent travel history, testing for measles, mumps, or rubella infection is not recommended.

Communicating with vaccine-hesitant families: Principles of effective communication, and responses to common concerns about vaccine safety, are provided in Part 1 of the Canadian Immunization Guide, at <https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information/page-5-communicating-effectively-immunization.html>.

For further information:

- [Current measles situation in BC](#) (BCCDC)
- [BC guideline on measles control](#) (BCCDC)
- [BC guideline for use of measles vaccine](#) (BCCDC)
- [Tips for locating immunization records](#) (ImmunizeBC.ca)

Submitted by:
Dr. Andrew Gray, Northern Interior Medical Health Officer

Bed Bugs

Physicians might be seeing bed bug bites more often than they realize. With stigma and denial attached to bed bug issues, it is often overlooked missing the opportunity to identify and address the issue.

Unfortunately, many people deny they have an infestation thinking that having them in your home is a sign of dirtiness. Bed bugs live solely on blood, add that bed bugs are not effectively removed by household pesticides and require proper intervention, and you have a recipe for this pest to prosper. Over the years these persistent creatures have made a steady recovery. They are now more common than head lice and body lice put together. They cross all social lines and have even been seen in some of Canada's best hotels. This means they are in homes throughout North America. Unlike most other biting insects, the bed bug does not have a season and remain active as long as they have a food source.

Bed bug, Risk and Stigma

Bed bugs are small, oval, brownish insects that live on the blood of animals or humans. Adult bed bugs have flat bodies about the size of an apple seed. After feeding, however, their bodies swell and are a reddish color.

There is no evidence that bed bugs spread disease to people. Bites can be so itchy they cause people to break the skin while scratching, this can increase risk of infection

which is when patients tend to seek medical advice. Bites can also cause an allergic reaction in some people. The most serious problem with bed bugs is the negative stigma and the psychosocial stress that can manifest.

Signs and What to Do

The first sign of bed bugs may be red, itchy bites on the skin, usually on the arms or shoulders. Bed bugs tend to leave straight rows of bites close to each other, unlike some other insects that leave bites here and there. A picture is attached below:



When you see a patient with possible bed bug bites, talk with the patient and explain there could be an infestation of bed bugs in their home. The patient might deny the infestation but they can still be directed to inspect their home and take needed measures.

Bed bugs do not have nests like ants or bees, but tend to live in groups in hiding places. Their initial hiding places are typically in mattresses, box springs, bed frames, and headboards where they have easy ac-

cess to people so they may bite in the night. Over time, they may scatter through the bedroom, moving into any crevice or protected location, they may also spread to nearby rooms or apartments. Patients should inspect these places for signs of bed bugs.

The first choice to treat a bed bug infestation should be to get help of the professionals such as pest control companies. There are non-chemical options (ie. sticky traps, mattress covers, heating/hot steam, vacuum, etc.) and chemical options (various aerosol sprays, liquids and dust products, non-professional household insecticides are less effective) available. Often, getting rid of bed bug requires combining multiple means.

More Information:

- Healthlink page: <https://www.healthlinkbc.ca/healthlinkbc-files/bed-bugs>
- 'Bed bug Apocalypse' Documentary on bed bug issue, from Animal Planet: <https://www.youtube.com/watchv=PSINeOwvegs>
- 'Bite Me: the Bed Bug Invasion' CBC documentary on the bud bug issue, including how to get rid of them: <https://www.cbc.ca/doczone/episodes/bite-me-the-bed-bug-invasion>

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



AMS Topic of the Month: C. diff Infection Management

Clostridioides (formerly *Clostridium*) *difficile* infections (CDI) remain the primary cause of healthcare associated diarrhea and are a major and often preventable threat to patient safety. A retrospective chart review of CDI risk factors and management at UHNBC found the compliance rate with provincial and national standards for CDI management during the study period of April 2010 to March 2016 to be low at only 32% (see [OurNH for full study manuscript](#)). Based on the results of this study, a NH CDI order set is in the works to assist prescribers with appropriate management of CDI.

While some antibiotics appear to have a higher risk of CDI (i.e. fluoroquinolones, cephalosporins, carbapenems, clindamycin), all antibiotics are associated with CDI risk and CDI can result from just **one dose** of an antibiotic. The highest risk of CDI is during and within 4 weeks of completing antibiotic treatment; however, risk continues up to 12 weeks after completing antibiotic treatment.

Metronidazole has been a mainstay of CDI treatment for mild/moderate cases; however, in 2018 the Association of Medical Microbiologists and Infectious Diseases Canada (AMMI) and the Infectious Disease Society of America (IDSA) published new guidelines for CDI that no longer include metronidazole as a first line option. These guidelines now support the use of oral vancomycin for all severities and episodes of CDI. The NH AMS program, including Dr. Hamour, would like to remind prescribers that these new guidelines are based on resistance patterns found primarily in the USA (virulent strains) and

that in Canada we continue to have successful treatment with oral metronidazole for non-severe CDI. The NH order set will encourage the use of oral metronidazole for 1st episode non-severe CDI, reserving oral vancomycin for all severe cases, mild cases with no improvement by day 4 on metronidazole and all recurrent episodes. At this time fidaxomicin (2nd line after oral vancomycin) is a non-formulary medication in BC and is a highly cost prohibitive agent.

Other important considerations for CDI management include:

- Discontinuing unnecessary/inciting antibiotics asap
 - **Consult infectious disease if concurrent antibiotics are necessary**
- Discontinue antidiarrheals stat (loperamide, diphenoxylate-atropine etc.)
- Discontinue laxatives and promotility agents (metoclopramide, domperidone)
- Discontinue acid suppressing agents unless absolutely necessary (PPIs, H2RAs)
 - Stomach acid suppression may be associated with a 2-3 fold increased CDI risk
 - Acid suppression should be reassessed regularly and discontinued unless there is an indication for long term use (i.e. Barrett's esophagus, severe esophagitis, GI bleed). See [deprescribing.org for PPI deprescribing guidelines and algorithm](#).
- Treat for at least 10 days (consider

extending to 14 days if symptoms unresolved by day 10)

- Do not repeat stool testing for *C. difficile* if positive within the last 30 days
 - *C. difficile* may continue to shed in stool for several weeks after treatment
- Probiotics are not recommended as adjunctive treatment or prevention of recurrent CDI as evidence is unclear (potential for bacteremia/fungemia in immunocompromised patients)

See Bugs&Drugs website for more info: [bugsanddrugs.org](#)

You can access resources created and provided by the AMS program by visiting the NH [physician's website](#) or [OurNH](#) or by contacting the AMS program coordinator at 250-565-5956.

Submitted by: Ryan Doerksen, Interim Antimicrobial Stewardship Coordinator

