

MEDICAL HEALTH OFFICERS UPDATE FOR PHYSICIANS

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To view previous MHO UPDATES, go to:

www.interiorhealth.ca/AboutUs/Leadership/Pages/MHOUpdates.aspx

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Spring Update on Zoonotic Diseases in IH

Ticks, Lyme disease and tick paralysis

Tick related concerns are common among clients in the Interior Health (IH) region. Most common ticks found in the IH region are Rocky Mountain Wood Ticks (*Dermacentor andersoni*) though Lyme disease carrying ticks (*Ixodes pacificus* and *Ixodes angustus*) are also known to be present in low levels. Although Wood Ticks have not been implicated with Lyme disease bacteria (*Borrelia burgdorferi*) these ticks can cause tick paralysis. Ticks are known to cause other diseases in British Columbia (B.C.) as well, such as Rickettsial diseases (Rocky Mountain Spotted Fever) or tularemia, among others.

Tick Paralysis: This rare disease does occur in B.C., though it is not reportable.

- Characterized by an acute, ascending, flaccid paralysis resulting from exposure to a neurotoxin released by tick salivary glands during feeding.
- Mostly occurs in younger children and elderly early in the spring. Ticks can be attached to the scalp or neck and concealed by hair.
- In patients presenting with tick paralysis, examination often reveals an attached tick. Once the tick is removed, paralysis usually resolves within 24 hours.
- There is no test to confirm tick paralysis as the neurotoxin produced by the tick and its mechanism of action are not fully understood.
- **Patients presenting with initial signs and symptoms of acute paralysis should have a physical exam searching for a tick.**

Lyme disease: Every year about 1-4 cases of Lyme disease are reported from IH; either locally acquired or through travel to other endemic areas. Although Lyme disease carrying ticks are less common in IH than the coast, most B.C. residents travel around the province frequently.

- Most people do not notice the tick bite or attachment when it occurs.
- About 60-70% of all newly infected patients with Lyme disease will develop an expanding circular red (erythema migrans) rash from 3-10 days after the bite.
- Laboratory tests support clinical care when used correctly and are performed using validated methods in an accredited laboratory.
- In B.C., laboratory testing to diagnose Lyme disease is done by the B.C. Public Health Microbiology and Reference Laboratory.

Tick Removal:

Grasp the tick by its mouth as close to the skin as possible with tweezers or other device and pull outwards, avoiding injecting the tick's stomach contents into the skin. Smothering methods for tick removal are ineffective and increase risk of injection of infected material into the client.

NOTE: Physicians wishing to test ticks are to contact the British Columbia Centre for Disease Control (BCCDC) Parasitology Laboratory at (604) 707-2629. For questions regarding testing of humans, call BCCDC Zoonotic Diseases and Emerging Pathogens at (604) 707-2628. Ticks are not forwarded from Public Health (PH) Offices and patients should not be directed to PH offices with ticks.

For more information please refer to:

BCCDC information on Lyme disease: <http://www.bccdc.ca/health-info/diseases-conditions/lyme-disease-borrelia-burgdorferi-infection>

BCCDC information on Tick paralysis: <http://www.bccdc.ca/health-info/diseases-conditions/tick-paralysis>

Health Canada/Public Health Agency of Canada: <https://www.canada.ca/en/public-health/services/diseases/lyme-disease.html>

Bats and Rabies

Bats are the only B.C. animal species endemically infected with rabies. A bat that comes into physical contact or bites a person suggests a sick bat. Of such bats, when captured and submitted, 5-10% test positive for rabies. It is estimated that 1% of B.C. bats in the wild carry rabies.

- Animal bites incurred due to intentional hand-feeding of squirrels, rabbits or rodents are considered 'provoked', and do not warrant rabies vaccine.
- Bites by domestic pets or stray cats and dogs within B.C. do not usually necessitate rabies prophylaxis, and clients can be referred to the local health unit for assessment. If the circumstance of the bite or the animal behavior was suspicious of rabies, please contact the Communicable Disease (CD) Unit or the Medical Health Officer (MHO) on-call for an assessment.
- Any animal bites of IH residents occurring outside B.C. or overseas should also be referred for assessment.

For human physical contact with a bat please contact the IH CD Unit (toll-free 1-866-778-7736) or after hours to the MHO on-call to assess for the need for rabies prophylaxis.

For more information please refer to:

BCCDC general information on rabies and management of animal contacts: <http://www.bccdc.ca/health-info/diseases-conditions/rabies>

IH information on bats and rabies: <https://www.interiorhealth.ca/YourEnvironment/CommunicableDiseaseControl/Pages/Bats.aspx>

Mosquitoes and West Nile Virus (WNV)

The most common mosquito-borne infection in Canada is WNV. Of the variety of mosquito species found in B.C., only a few are able to spread WNV - primarily the *Culex tarsalis* and *Culex pipiens*. WNV was first detected in IH in the southern Okanagan region in the summer of 2009. Since then, a limited number of positive lab detection in mosquitoes, birds, horses, and people in the south and central Okanagan indicates that WNV has become established in these areas. In 2016, WNV positive horses and crows were identified in the East Kootenay and Central Kootenay areas as well. However, no human cases with local transmission have been detected in these areas.

In B.C., human exposures to WNV are greatest in August. Although no human case has been reported in IH since 2013, WNV cases can be acquired locally or from travel to adjoining provinces or states experiencing heavier WNV mosquito activity.

- WNV is asymptomatic in 80% of people infected. Of the remaining 20%, most will present with West Nile Non Neurological Syndrome.
- Only 1% of infected individuals present with viral encephalitis (West Nile Neurological Syndrome).
- The incubation period from time of infection with mosquito bite to fever onset is from 2-14 days, with median presentation at 10 days.
- Diagnostic testing for WNV is done by the BCCDC Public Health Laboratory.
- Both acute and convalescent serology (collected 10 – 14 days apart) is required to confirm an infection of WNV.
- A positive PCR can confirm a case; however, a negative PCR in CSF alone does not rule out WNV infection, and serology will be needed for confirmation.

Interior Health's CD Unit and MHO can be called to help interpret lab results. **Please notify the CD Unit at 1-866-778-7736 or the MHO on-call of any patient with suspected viral encephalitis that may be due to WNV.**

For more information please refer to:

BCCDC information on West Nile Virus: <http://www.bccdc.ca/health-info/diseases-conditions/west-nile-virus-wnv>

Increased Trends of Invasive Group A Streptococcal Disease in B.C.

The incidence of infection with Group A streptococcal (GAS) bacteria has recently been increasing across B.C. with about 25% of cases reported to be invasive and severe. Interior Health is also experiencing this trend. GAS infections caused by *Streptococcus pyogenes* is most frequently encountered in association with sore throat (strep throat) or skin infections (cellulitis). However, at times this bacteria can invade lungs, blood and other sterile tissues which then manifests as invasive GAS (iGAS) infections. These infections can be severe and life threatening. GAS is spread by droplet contact with infectious respiratory secretions or exudates from wounds or skin infections. Risk factors associated with iGAS infection include compromised immune system, chronic heart and lung disease, diabetes, alcoholism, injection drug use and homelessness/under housing. Among children, varicella may also be a prominent risk factor.

HPV Immunization for Boys

B.C. will begin providing the human papillomavirus (HPV) vaccination to Grade 6 boys beginning in September 2017. The vaccine will be provided as part of the regular school-based, publicly funded immunization clinics. Two doses will be given at least six months apart, as it is to Grade 6 girls. The school immunization program will use the Gardasil 9 vaccine, which provides protection against nine types of HPV. The most common cancer caused by HPV is cervical but the virus also causes throat and rectal cancers and genital warts. While HPV can be detected through a standard Pap smear, there is no routine program for screening pre-cancerous HPV lesions in men.

Ordering Measles Serology, What's Your Purpose? Immunity vs. Diagnosis

Please be aware that we are seeing increased incidence of both mumps and measles disease (nationally and provincially) and physicians are asked to consider these diagnoses when seeing symptomatic patients. When ordering serology for a communicable disease (e.g. measles, mumps, or rubella), physicians are reminded to note on the order form whether they are checking for diagnostic purposes in a symptomatic patient (both IgG and IgM will be done) or are just requesting a check for immunity (only IgG will be done).

Section 3 - Test(s) Requested (Note: Codes for PHSA Labs Use Only)			
PRENATAL SCREENING (PRENAT)	HEPATITIS	OTHER SEROLOGY	
HIV <input type="checkbox"/> HIVCC	Acute - undefined etiology	Immunity	Acute
HIV Non-Nominal Reporting <input type="checkbox"/> HIVCC	HBsAg, Anti-HBc Total, <input type="checkbox"/> HEPSB Anti-HBs, Anti-HCV, Anti-HAV IgM	Measles IgG (Rubeola) <input type="checkbox"/> MIGB	Measles IgM (Rubeola) <input type="checkbox"/> MEASP

Unless specified on the requisition, the laboratory will perform both IgG and IgM. This results in a delay in determining immunity when only IgG is required as well as being wasteful in terms of resources and unnecessary follow up when the IgM is falsely positive. According to the BCCDC, requisitions are frequently incomplete in terms of the information required to differentiate when only immunity testing is required.

Testing for Lead in Drinking Water at Schools

On September 26th, 2016 a policy came into force from the Ministry of Education requiring all school districts and independent schools to test for lead content in drinking water at all school facilities.

The concern is that schools serve a population that is vulnerable to lead exposure, and water in school buildings may sit in pipes containing lead components for extended periods of time. In children, too much lead in the body can cause lasting problems with growth and development. These can affect behaviour, hearing, and learning and can slow the child's growth.

School districts are required to consult with the Health Authority to develop a water quality lead testing program for their school facilities that includes:

- Risk assessment
- Water testing
- Communication plan
- Mitigation strategies

At sites where sampling has revealed lead levels above the maximum allowable concentration (MAC) of 0.010 mg/L as stated from the Guidelines for Canadian Drinking Water Quality by Health Canada, schools have commenced daily flushing immediately or have deactivated water fountains/sinks, posted Do Not Use signage and provided bottled water.

Communication letters have been sent out to parents/staff at affected schools advising that the health impacts of lead exposure depend on many factors, including the frequency, duration, and dose of the exposures to a variety of lead sources, as well as individual factors such as age, previous exposure history, nutrition and health. Parents with concerns about their child's exposure to lead through drinking water at the schools have been advised to contact their physician to discuss whether testing or follow up is necessary for their child.

Infection Prevention and Control Newsletter (available only through the internal IH website)

Stay up to date with the Infection Prevention and Control newsletters called Infection Reflections.

The latest edition of Infection Reflections from April 2017 <http://insidenet.interiorhealth.ca/QPS/IPC/Documents/April%202017.pdf> Mumps.

You can also find all previous editions of the newsletter at the bottom of IPAC site (<http://insidenet.interiorhealth.ca/QPS/IPC/Pages/default.aspx>), before "Other Web Resources"