

To: Nova Scotia Health Care Practitioners

From: Dr. Jennifer Cram, Medical Officer of Health, Provincial

Date: July 24, 2024

Re: *2024 Tick-borne Diseases Program Updates*

As a health care provider, it is important to be aware of tick-borne diseases of concern in Nova Scotia. The focus of this memo is to highlight anaplasmosis as well as pediatric Lyme arthritis. Messages were developed in consultation with Infectious Disease and Pediatric Rheumatology physicians.

In addition to Lyme disease, which is endemic, Nova Scotia has identified an increase in human cases of anaplasmosis (Human Granulocytic Anaplasmosis or HGA). Since becoming [notifiable](#) on May 23, 2023, there were 314 human cases of anaplasmosis identified in 2023 and more than 200 cases identified to date in 2024, with the highest rates seen in Western zone. Anaplasmosis is transmitted to humans through the bite from an infected blacklegged tick (*Ixodes scapularis*), the same tick that causes Lyme disease, babesiosis and Powassan virus infection. There have also been sporadic cases of babesiosis acquired within the province with 2 human cases reported in 2023; no human cases of Powassan virus infection have been reported.

Anaplasmosis

Health care providers should consider tick-borne illnesses such as anaplasmosis in individuals presenting with nonspecific fever and possible exposure (time spent outdoors or with outdoor pets/animals in Nova Scotia) during tick season, which is any time the temperature is consistently above 4°C. Many individuals with tick-borne disease do not recall a tick bite. Other symptoms of anaplasmosis can include headache, malaise, myalgia and occasionally gastrointestinal symptoms. Common laboratory abnormalities include elevated liver enzymes, thrombocytopenia and leukopenia. While often a mild self-limiting infection, anaplasmosis can present with severe illness in older individuals and those who are immunocompromised. Prediction of increased risk for severe infection can be difficult therefore, prompt identification of anaplasmosis through PCR and antimicrobial treatment is important.

Co-infection is possible, and multiple tick-borne infections should be considered.

Pediatric Lyme Arthritis

Arthritis is a common manifestation of later stage Lyme disease in children and youth and can also be seen in adults. It presents weeks to months after the initial infection and may be the first sign of Lyme disease. Lyme arthritis typically involves one or a few large joints, and almost always includes the knee. The presentation is episodic in half of the cases (e.g. relapsing and remitting course). Serology is very sensitive in this late

stage of Lyme disease and should be ordered in children who present with clinical signs and symptoms consistent with Lyme arthritis. Other important causes of arthritis, including septic arthritis, should be considered in the differential diagnosis. In children with Lyme arthritis, [treatment recommendations](#) are influenced by the age of the child.

Seventy percent of children have a full recovery with proper treatment. However, 30% of children have ongoing arthritis after the first course of antibiotics and up to 15% may develop chronic post-infectious Lyme arthritis despite appropriate treatment. The IWK Lyme arthritis clinic, led by the pediatric rheumatology and infectious diseases divisions, accepts referrals of children (<16 years of age) with a diagnosis of Lyme arthritis to assess response to therapy, guide ongoing management decisions, and provide education and counseling to patients and caregivers. Consult pediatric rheumatology and or infectious disease if support is needed in the diagnosing and treatment of pediatric Lyme arthritis.

For more specific information regarding diagnosis, testing, treatment and chemoprophylaxis of tick-borne disease, consult the [Guidance for Primary Care and Emergency Medicine Providers in the Management of Lyme Disease, Human Granulocytic Anaplasmosis, Babesiosis and Powassan virus infection in Nova Scotia.](#), developed by the NS Infectious Diseases Expert Group (IDEG).

As a reminder, healthcare providers (including pharmacists) in Nova Scotia, can prescribe chemoprophylaxis for Lyme disease when [specific criteria](#) are met. The freely available [eTick platform](#) is available for identification of tick species within 24 hours at no cost.

A marketing campaign is currently under way to increase tick safety awareness. You may wish to engage with and share #BeTickAware to social media channels or visit Nova Scotia's tick safety websites for prevention messages and general information on tick-borne diseases for the public:

- <https://novascotia.ca/ticksafety/>
- <https://novascotia.ca/DHW/CDPC/lyme.asp>

Please distribute this message to those within your organization that should be made aware.