

Tick-borne Diseases in Nova Scotia

Western Zone | Public Health
Briefing for Forestry & Outdoor
Workers

- We acknowledge that we are gathered on the traditional and unceded territory of the Mi'kmaq, in Mi'kma'ki.
- Across the Western Zone from Yarmouth to Digby, the Annapolis Valley, and Shelburne, we recognize the enduring presence, knowledge, and stewardship of the Mi'kmaq people.
- We also acknowledge the longstanding contributions of African Nova Scotians and other communities who are integral in shaping the history of this region.
- We commit to advancing equity, strengthening partnerships, and ensuring that the systems we design and improve reflect the needs, voices, and realities of all people and communities we serve.

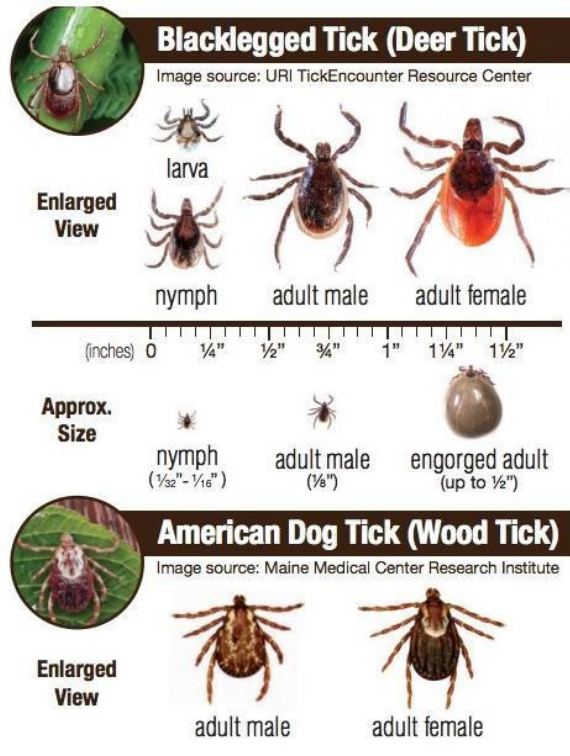


Public Health

- Health Protection
- Health Promotion
- Population Health Surveillance
- Environmental Health
- Emergencies
- Partnerships
- Communication
- Advocacy

Why This Matters

- Ticks are **established across Nova Scotia**
- Western Zone risk is increasing
- Forestry workers have higher exposure
- Risk is manageable with routine practices

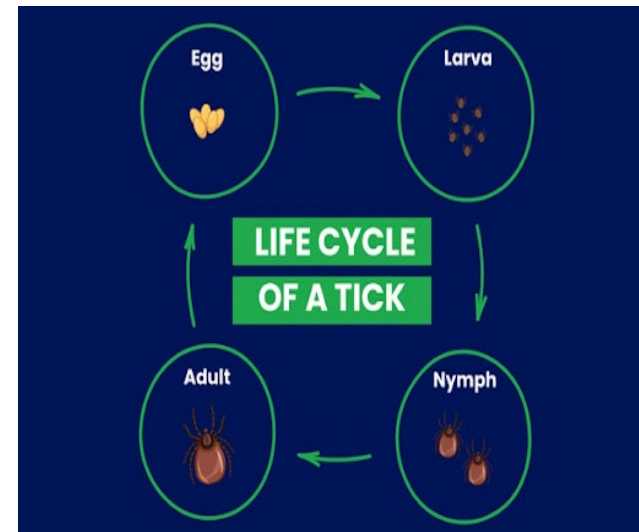
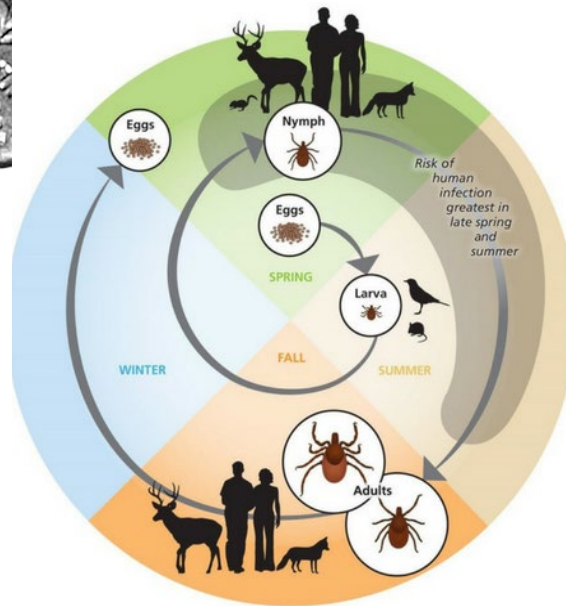
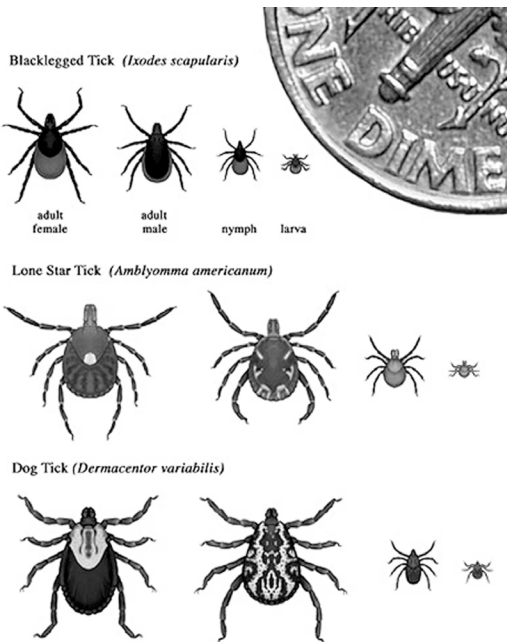


Ticks don't chase you, but they wait patiently

Objectives

- Recognize risk environments
- Understand key diseases
- Apply practical prevention
- Know when to seek care
- Know what to do after a bite

The Main Players



- Found in **woodlands, leaf litter, tall grass**
- Active **spring** → **late fall** (and even mild winters)
- Nymphs = **smallest, highest risk**

LYME DISEASE SURVEILLANCE IN CANADA

Preliminary Annual Edition 2019

WHAT IS LYME DISEASE?

- ▶ **Lyme disease** is a bacterial infection transmitted to humans through the bite of an infected tick
- ▶ Early **clinical manifestations** can present as flu-like symptoms including joint pain and/or bull's eye rash. If untreated, individuals may experience cardiac and neurologic manifestations and arthritis

WHAT IS THE RISK?

- ▶ **Lyme disease** is the most frequently reported **vector-borne disease** in Canada
- ▶ The **greatest risk** of acquiring Lyme disease occurs in regions where populations of ticks carrying the bacteria, *Borrelia burgdorferi*, have become established

WHO'S AT GREATER RISK?



Children aged 5-14 years

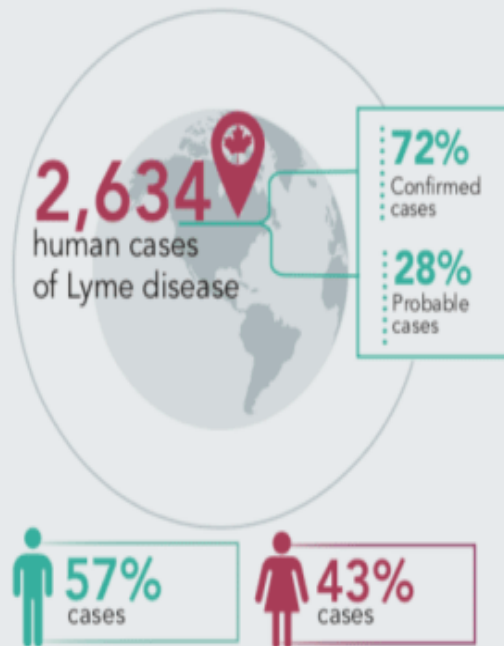


Adults aged 55-79 years

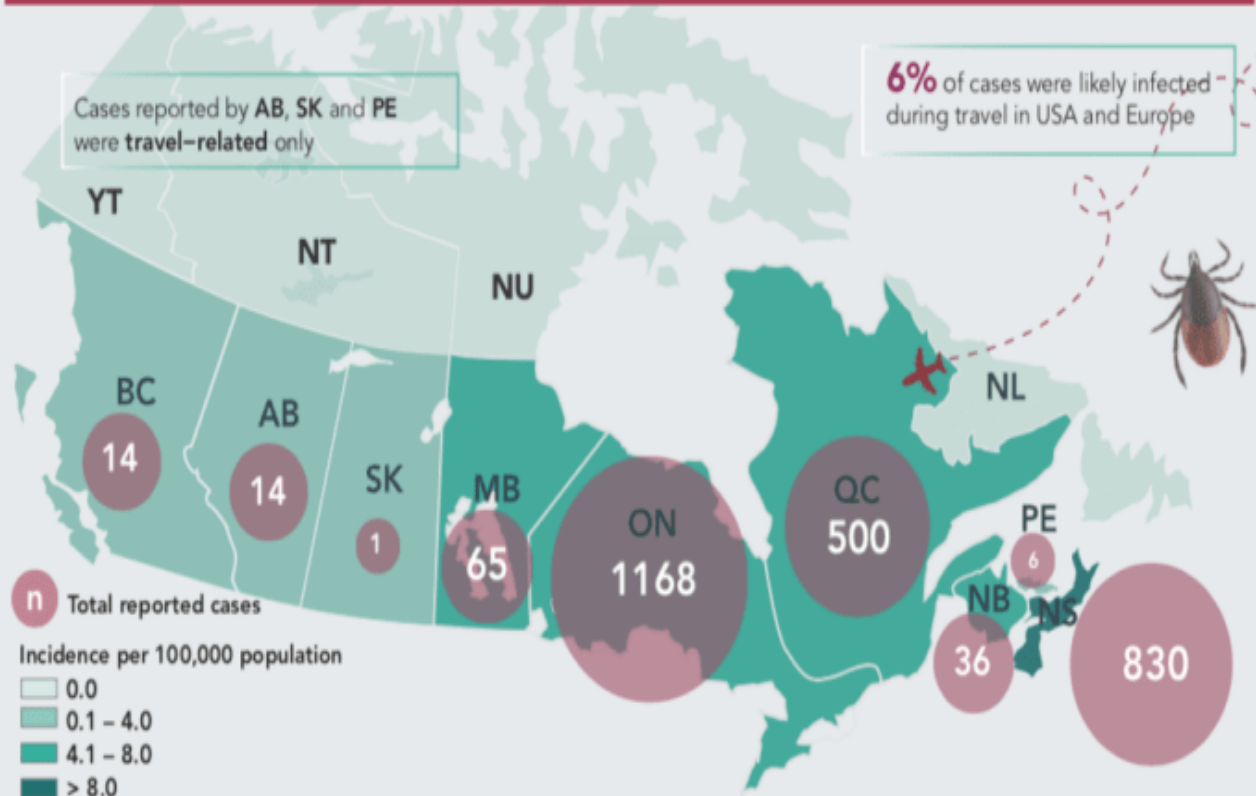


FACTS

REPORTED IN 2019



GEOGRAPHIC DISTRIBUTION OF REPORTED CASES



Western Zone: Where Risk Lives

- South Shore and Annapolis Valley
- Forest edges, leaf litter, brush-where forest meets field
- Logging and trail work environments= high exposure
- Edges where forest meets field

“It’s not deep wilderness; it’s the edge where you work.”

Western Zone Data Snapshot (Insert Local Data)

- Lyme incidence trend
Tick submissions over time
- Hotspots: Kings,
Annapolis, Lunenburg
- Occupational exposure patterns

Lyme Disease Estimated Risk Areas



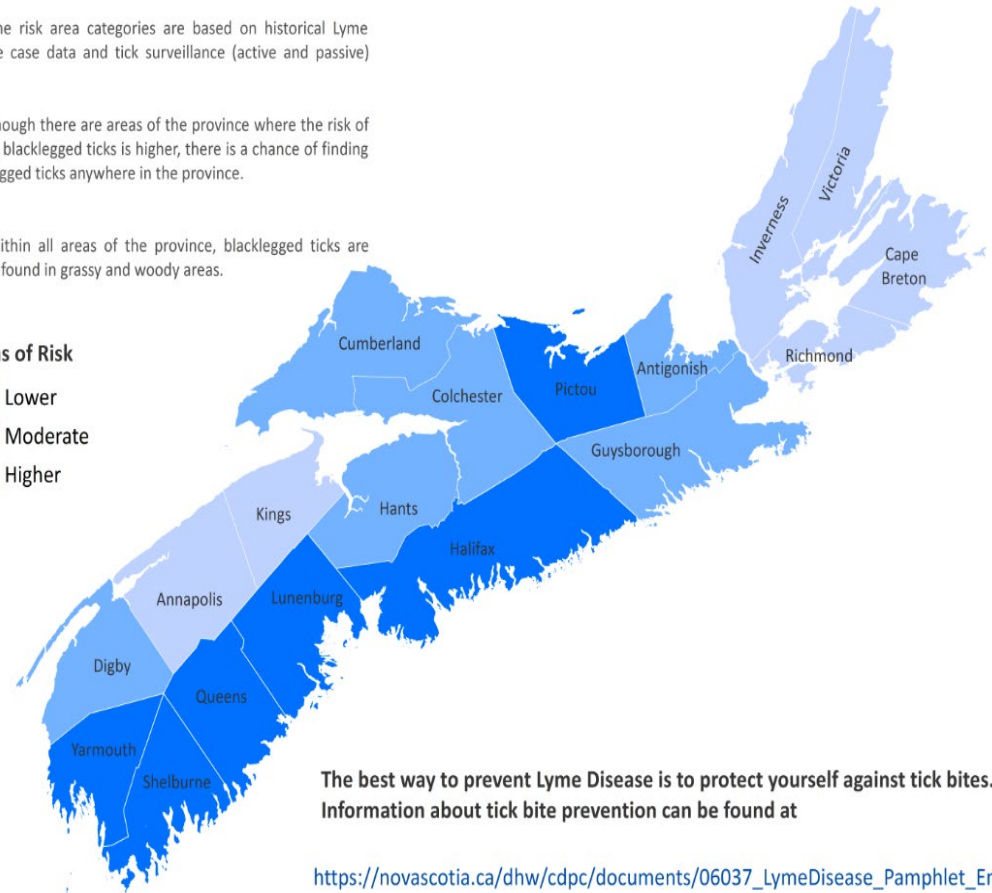
- The risk area categories are based on historical Lyme Disease case data and tick surveillance (active and passive) data.

- Although there are areas of the province where the risk of finding blacklegged ticks is higher, there is a chance of finding blacklegged ticks anywhere in the province.

- Within all areas of the province, blacklegged ticks are mainly found in grassy and woody areas.

Areas of Risk

- Lower
- Moderate
- Higher



Disease	2019		2020		2021		2022		2023		2024	
	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate	n	Rate
Tetanus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Vector-borne and Other Zoonoses												
Anaplasmosis	-	-	-	-	-	-	-	-	317	30.0	466	43.3
Anthrax	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Babesiosis	-	-	-	-	-	-	-	-	0	0.0	2	0.2
Brucellosis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ebola Disease	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Hantavirus Pulmonary Syndrome	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lyme Disease	441	45.2	232	23.5	510	51.0	310	30.2	2057	194.7	2350	208.6
Malaria	4	0.4	1	0.1	2	0.2	8	0.8	9	0.9	8	0.7
Plague	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Powassan Virus Disease	-	-	-	-	-	-	-	-	0	0.0	0	0.0
Rabies	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Tularemia	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Viral Hemorrhagic Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
West Nile Virus	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Yellow Fever	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	6348		4637		5156		5354		8555		9443	

*Rate calculations for group B streptococcal disease of the newborn used the number of live births by year as the denominator for rate calculations

**All Pertussis cases in 2023, and 11 of the 2024 cases, were acquired as part of a clinical trial.

- : Disease was not provincially reportable in the corresponding year.

Tick Ecology

- Blacklegged tick (*Ixodes scapularis*)
- Active spring to late fall
- Nymph stage = highest risk
- Ticks quest from vegetation, not trees

Diseases in Nova Scotia

- Lyme disease (most common)
- Anaplasmosis
- Babesiosis (emerging)
- Co-infections possible

Lyme Disease: What to Watch

- Rash (not always bullseye)
- Fever, fatigue, aches
- Late: joint, neurologic symptoms
- Early treatment works

Lyme disease rashes can be difficult to see

The infographic displays eight circular images of rashes and four icons representing symptoms. The rashes are arranged in two rows of four. The first row shows: 1) 'Faint colors and borders' (a very light, almost invisible rash on a dark skin tone), 2) 'Crusted centers' (a red rash with a white, scaly center), 3) 'More than one rash' (two faint red rashes on a light skin tone), and 4) 'Bull's-eye appearance' (a classic red ring with a white center). The second row shows: 1) 'Different shapes and colors' (a large, faint, yellowish-red rash), 2) 'Appearing anywhere on the body' (a red rash on a person's arm), 3) 'Bull's-eye appearance' (another view of a red ring with a white center), and 4) 'Bull's-eye appearance' (a red ring with a white center on a light skin tone).

Faint colors and borders

Crusted centers

More than one rash

Different shapes and colors

Appearing anywhere on the body

Bull's-eye appearance

Call your **health clinic** if you have a similar rash. Other symptoms can include:

Fever

Headache

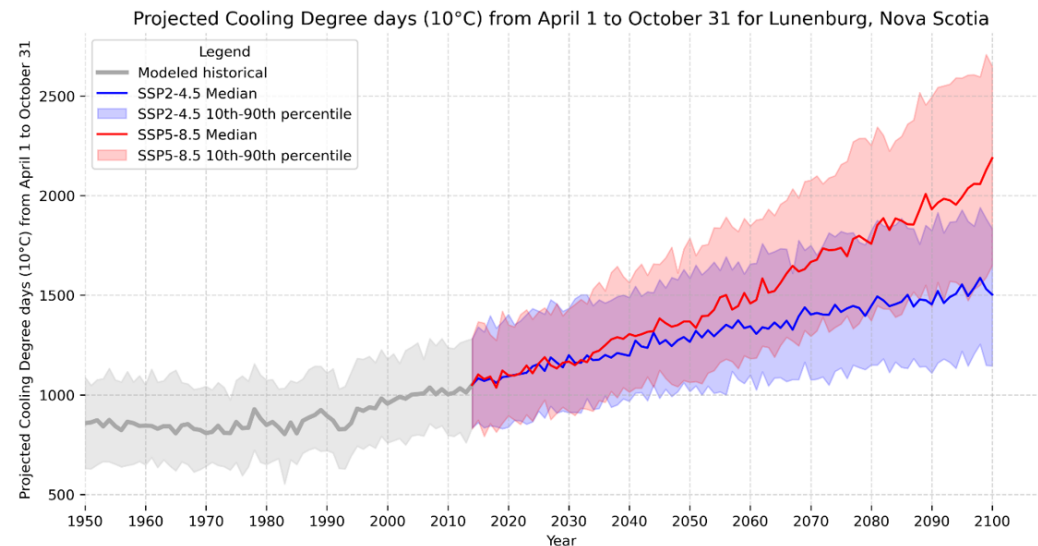
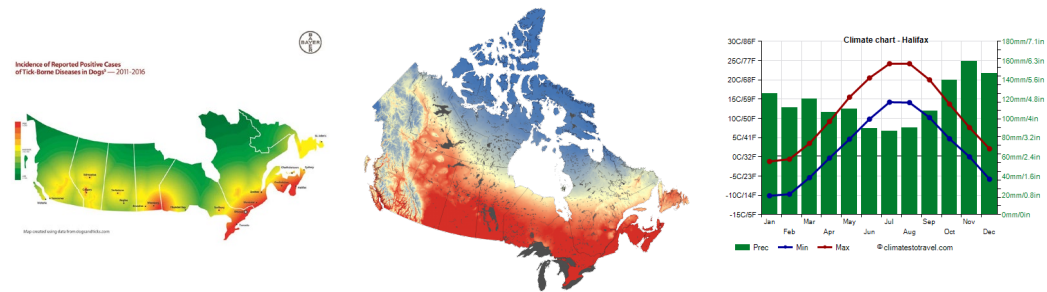
Body aches

Fatigue

CDC

What's Changing

- Longer tick seasons
- Warmer winters increase survival
- Geographic expansion
- More reported cases



“Climate doesn’t just change weather; it reshapes risk.”

Climate & Environment

- Warming supports tick survival
- Wildlife hosts spreading ticks
- Forest and land use shifts
- Human activity intersects with habitat

Myths vs Reality

- Ticks don't fall from trees
- Bites are painless
- Risk beyond summer
- You can't tell infected ticks

Myths vs Reality

Myth	Reality
“Ticks fall from trees”	They climb from ground vegetation
“You’ll feel a bite”	Usually painless
“Only summer risk”	Spring & fall are high risk
“All ticks carry Lyme”	Only some, but you can’t tell which
Chronic Lyme disease	Post infection inflammation

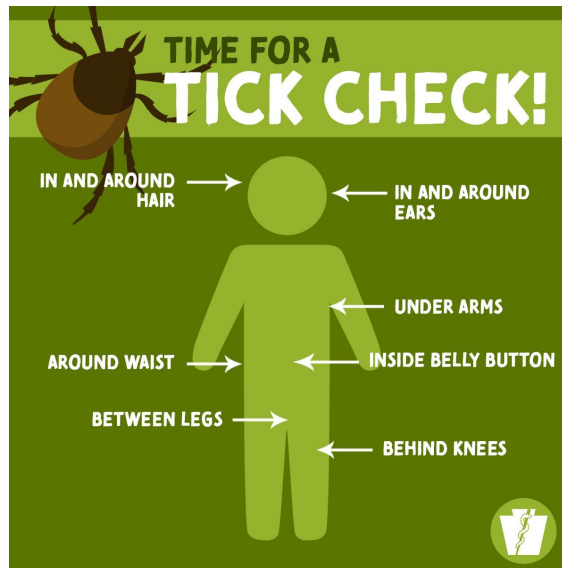
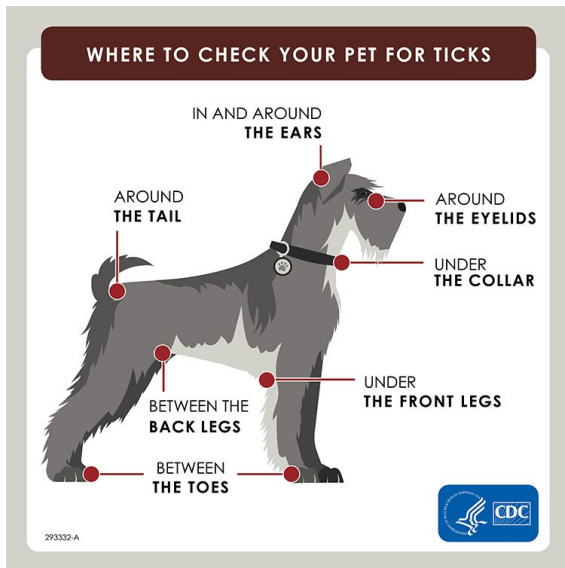
Prevention That Works

- Long sleeves, tucked pants
- Use DEET or icaridin
- Daily tick checks
- Shower after work

“The best protection is what you do every day; not once.”

Tick Check: High Yield

- Behind knees
- Groin, waistband
- Under arms
- Scalp and hairline
- Check your pet



CHECK CLOTHES FOR TICK



EXAMINE GEAR AND PETS



TAKE SHOWER

Tick Check Basics

Conseils relatifs aux tiques

Check your body and clothing for ticks after spending time outside.

Ticks like warm places on the body.

Vérifiez votre peau et vos vêtements après avoir passé du temps à l'extérieur.

Les tiques aiment les endroits bien au chaud.



- Don't forget to check your pets
- A bath or shower within two hours of being outdoors makes it easier to spot ticks

- N'oubliez pas de vérifier vos animaux de compagnie.
- Il est plus facile de voir les tiques si vous prenez un bain ou une douche dans un délai de deux heures après avoir passé du temps à l'extérieur.

If Bitten

- Remove with tweezers

Remove a Tick the Right Way: Safe & Simple Steps

- Pull straight out
- Clean the area
- Monitor 30 days

When to Seek Care

- Rash or skin changes
- Flu-like symptoms: fatigue, fever
- Joint pain
- Neurologic signs

👉 Early treatment = **excellent outcomes**

Nova Scotia Health Tick Service

TOPICS:

Emergency Care

Family Medicine and Primary Care



There are a variety of options for you in Nova Scotia to get help with your tick related health concerns.

Call 811

If you need support in choosing where to go for care for your tick related health concern, please call 811

<https://www.nshealth.ca/clinics-programs-and-services/nova-scotia-health-tick-service>

Cross-Sector Approach

- Veterinary surveillance
- Natural resources mapping
- Public health integration
- Workers as key partners

Key Takeaways

- Ticks are increasing
- Risk is manageable with routine habits
- Routine prevention works
- Awareness protects
- You are a critical partner in surveillance

[Lyme disease: Awareness resources - Canada.ca](#)

Closing



You Don't Avoid The Woods.



You Learn How To Walk Through Them Wisely.



**The Forest Will Always Carry Risk.
But Knowledge Turns Risk Into Routine
And Routine Into Protection."**

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