



## Berkshire Public Health Alliance

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### Alliance Lyme Prevention Program for Patterson Lake:

#### Integrated Tick Management (ITM) Plan for Homeowners (5.20.19)

**What:** Lyme is a significant disease in all of New England, USA and now in Ontario, Canada.

Deer ticks carry a number of significant diseases, including Lyme Disease, Babesiosis a form of malaria, and anaplasmosis, formerly known as ehrlichiosis. Lyme Disease is a serious tick-borne disease that can range from no symptoms to debilitating long-term health issues of the joints (MALyme, 2013). Though Lyme is rarely fatal other tick-borne disease can be life threatening and all are costly and can cause permanent health problems.

**Who:** Males, children and elderly are at substantial risk.

Males of all ages and everyone over 60 are most at risk, followed by Children 5-14. You can get Lyme Disease any time of year though the risk is greatest in June, July, August and September. (Lyme Disease in Ontario, 2017) <https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-cdr/monthly-issue/2018-44/issue-10-october-4-2018/article-1-lyme-disease-ontario-2017.html>

**Why:** Lanark County has an extremely high incidence of Lyme.

The 2017 incidence rate for Lyme in the Leeds-Grenville Lanark Health District was 128/100,000 three times higher than the 5-year rate. In comparison the rate in Ottawa is 28/100,000. (Lyme Disease in Ontario, 2017).

**How:** Nymph ticks are VERY small and account for 98% of Lyme in spring and early summer

Ticks are arthropods and similar to mites which are also parasites. Like mites, ticks need a blood meal to grow and reproduce through their four life stages: egg, 6-legged larva, 8-legged nymph and eight-legged egg producing adult female. (MDH, 2011, Stafford, 2007).

**Costs:** Lyme Disease results in substantial long-term suffering, time and money.

**Prevention is safer and more effective than treatment:** Prevention is really the best cure as testing and treatment options can be uncertain for Lyme.

#### Homeowner Action Steps:

1. Develop and implement an ITM Plan at your house.
2. Ask the Health Unit if you need advice.
3. Assume that there are ticks anywhere/when there is green grass or leaf litter.



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### Homeowner Lyme Prevention Checklist:

**Objective is to reduce exposures by 90%:** The ITM Plan includes action steps to be taken at each time of the year at specific stages of the tick life-cycle. Be alert to early nymph activity in the spring and adjust accordingly!

#### **Know your Enemy**

- Nymph ticks are REALLY, REALLY small; smaller than a poppy seed.
- Most active in spring and fall and mild summers and winters.
- Can attach themselves virtually anywhere on a warm body as they need blood to grow and reproduce.
- Don't jump, fly or walk far, but they will latch on as a leg, hand or pet that brushes by.
- Need moisture to survive, so dry weather (winter or summer) is bad for ticks.
- Will survive freezing temperatures if they have a moist, protected place to shelter like leaf litter.
- Probably transmit disease during the removal process, especially if squeezed.
- The longer the tick is attached, the more likely transmission has taken place.
- Can hide in leaf litter and on high grass/bushes no more than 3 feet off the ground as they don't like it dry.

#### **Practice Tick Personal Protection**

- Always use DEET or pyrethrum treated clothing/gloves in the yard – follow all directions carefully.
- Tuck light colored pants into socks to make ticks easier to see.
- Conduct nightly tick checks using a mirror.
- Treat and check your outside pets who often bring ticks into the home.
- Report and treat all tick bites or get the tick tested for Lyme.

#### **Manage your Landscape** to reduce tick exposures

- Think dry and hard. Modify your yard to make the environment less tick friendly (See illustration).
- Keep pathways at least 4 feet wide and clear of all brush and grasses and mow frequently.

#### **Reduce number of tick hosts**

- Common tick hosts in our area are mice, chipmunks and deer.
- Use fencing to strategically limit deer access to yards and gardens.
- Irish Spring soap has been reported to repel deer. Hang soap bars on plants favored by deer.
- Reduce/fence host habitat and food sources such as garbage/compost and feeders.

#### **Selectively use Host-targeted Acaricides and Controls:**

- Treat white-footed mice by using treated cotton balls in Tick Tubes that mice carry into their nests.
- Use pesticides at certain times of the year to kill ticks in play areas. FOLLOW ALL DIRECTIONS CAREFULLY.
- Explore the use of biological and natural controls like guinea fowl and botanicals.

#### **Use Safe Tick Removal Protocols:**

- Remove tick before it swells with blood – within first 24 hours is safest. DON'T squeeze the tick body.
- Remove tick at the head without squeezing the body or causing the tick to regurgitate/withdraw.
- Remove tick by pulling steadily on the head until removed. Don't use anything to make the tick withdraw.
- Have the tick tested. Wrap in wet paper towel and place in sealed plastic bag. May freeze.
- Seek medical advice/treatment (antibiotics), especially if the tick is engorged or connected for more than 24 hours. Consider beginning prophylactic treatment with antibiotics until all testing is completed.



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## ITM Plan Calendar:

	January	February	March	April	May	June	July	August	September	October	November	December
Habitat Reduction												
Treatment of lawns, pets, mice												
Personal Protection												
Habitat Maintenance												
Vigilance												

## Homeowner ITM CALENDAR ACTION STEPS: Takes these steps every year to reduce tick exposures:

### March/April: before ticks emerge

- Create a 90% Tick Safety Management Area around yards, play areas, gardens, mail boxes, pathways, etc.
  - Think dry and hard. Ticks can withstand a lot, but not being dry.
  - Ticks don't walk far.
  - Open up your Tick Safe Management Area to direct sunlight which will discourage ticks.
  - Instead of groundcovers, use dry/hard mulch (not leaves), gravel or hardscapes along all perimeters.
  - Clean up all leaf litter early, including along the perimeters.
  - Remove/reduce mice/chipmunk habitat such as eliminating nearby wood and rock piles.
  - Remove/reduce mice/rodent food sources such as garbage, bird feeders, etc.
  - Remove all long grasses and keep shrubs back from trails and play areas.
  - Provide a dry/hard mulch or hardscape perimeter at least 3 feet wide around all play/pet areas.
  - Maintain a tick mitigation zone ten feet along the mulch perimeter.
  - Widen all paths and cut back all overhanging grasses and brush.
- Fence deer runs and remove deer habitat and food (including plantings) to discourage deer around yards, paths and play areas.
- Hanging bars of Irish Spring soap around deer favored plantings has been reported to repel deer. Try hanging soap or other deer repellants around paths frequented by deer.
- Replace plants that deer like with deer resistant landscaping.

### May/June: nymph hatch

- Set out Tick Tubes (tubes contain cotton balls treated with pyrethrum or diatomaceous powder to kill ticks in the mouse nests. Pyrethrum may not be available in Ontario. Dematiaceous earth powder may work if kept dry as it desiccates the ticks. Keep away from pets and children. Purchase or make your own. <http://www.practicalprimitive.com/skillofthemonth/ticktubes>
- Consider selective spaying of yards/grassy play area and perimeters after nymph hatch in mid-May and again in mid-June. After the adult ticks emerge in the fall, could apply again. Spraying alone is usually not effective in reducing the incidence of Lyme, though it may reduce tick populations.



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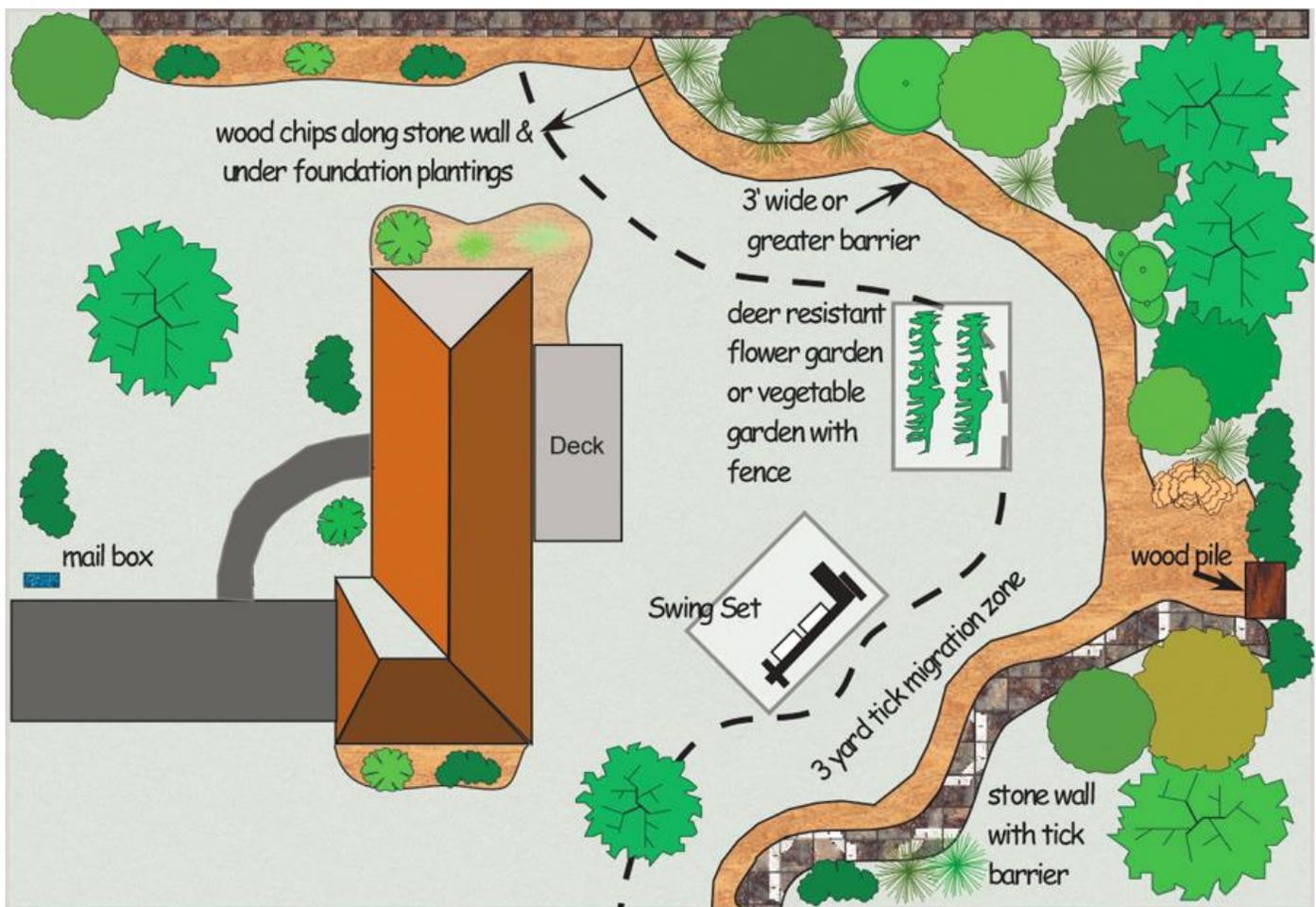
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- Take tick protection precautions such as tucking pants into socks, spraying clothing with at least 40% DEET (Stafford, 2007) and conducting nightly tick checks.
- Consider using a non-toxic tick repellent spray everyday on all outdoor pets such as Oil of Lemon Eucalyptus (PMD; p-Mentane-3,8-di-ol), Citronella, Soybean, Peppermint, and other plant essential oils.

### ☐ May - October: Maintenance and Vigilance

- Keep the grass cut short. Ticks need moisture to survive. Short grass is often too dry to support ticks.
- Use treated clothing (pyrethrum should only be applied to clothing in ventilated area and let dry before use).
- Spray DEET on clothing (including socks, pants, shoes, gloves) that are less than 30 inches from the ground.
- Conduct nightly tick checks of everyone, including pets.

### Tick Safety Zone:



Landscape Management, Stafford, 2007