



Zoonotic Diseases West Nile Virus Prevention

What you can do to prevent West Nile Virus

Mosquitoes lay their eggs in standing water, which includes puddles, stagnant ditches, and old tires, buckets, cans, neglected swimming pools, etc. Storm sewers, culverts, and catch-basins are an outdoor resting place for adult *Culex pipiens* mosquito (the common house mosquito) which is commonly associated with West Nile virus. This mosquito often enters homes through unscreened doors, or broken screens.

- Make sure that doors and windows have tight-fitting screens. Repair or replace all torn screens at home.
- Remove all discarded tires from your property.
- Dispose of tin cans, plastic containers, ceramic pots, or similar water-holding containers.
- Make sure roof gutters drain properly. Clean clogged gutters in the spring and fall.
- Clean and chlorinate swimming pools, outdoor saunas and hot tubs. If not in use, keep them covered.
- Drain water from pool covers.
- Change the water in bird baths at least once a week.
- Turn over plastic wading pools, and wheelbarrows, etc. when not in use.
- Clean ditches of obstructions so they drain properly.
- Eliminate any standing water that collects on your property.
- Check trees for cavities that hold water and fill them with soil, gravel, or sand.
- Remind or help neighbors to eliminate breeding sites on their properties.

Repellents

If you will be outside during evening, nighttime and dawn hours, consider the use of an insect repellent containing 10% or less DEET (N, N-diethyl-methyl-meta-toluamide) for children and no more than 30% for adults. DEET is effective for approximately four hours. Avoid prolonged or excessive use of DEET sparingly to cover exposed skin and clothing. Do not use DEET on infants or pregnant women and do not apply DEET directly to children. Apply it to your own hands and then put it on the child. Always use DEET according to the manufacturer's instructions.

Remember that Vitamin B, ultrasonic devices, incense and bug zappers have not been shown to be effective in preventing mosquito bites.

Mosquito Control with Pesticides

1. Larvicides can be used to control mosquitoes in the aquatic stage before they become biters. This type of control generally has the least effect on non-target species and the environment.
 - Microbial larvicides such as *Bacillus thuringiensis* var. *israelensis* and *Bacillus sphaericus* are used successfully in a broad range of freshwater habitats.

- Biochemical larvicides (insect growth regulators - IGRs) such as methoprene can also be used in a variety of habitats.
 - Mono-molecular surface film larvicides can be used in polluted or artificial habitats, but should not be used where non-target insects are important resources.
2. Mosquito adulticides should be considered the least desirable method of control and only used when isolations of virus and/or evidence of disease has been established. These materials have drawbacks that will influence which material is most appropriate for a given situation, and should be applied according to label directions. Currently available adulticides include organophosphorus, pyrethrins, and pyrethroid-based insecticides. These may be applied by hand-held, or backpack or fixed-wing or rotary-wing aircraft.

Application of adulticides by truck-mounted foggers, fixed-wing or rotary-wing aircraft is usually done by government agencies or private contractors. Those who apply pesticides in these ways must be sure their equipment is properly calibrated, and adhere to the label directions.



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