

## POTENTIAL HEALTH RISKS OF GARDENING

### What risks are there?

Of course there are many obvious risks associated with gardening – stepping on a rake, tripping over a hose, sunburn, etc. By far the most common physical problems associated with gardening are muscle strain and blisters (especially in those that forgo gloves). These common problems can mostly be prevented by being mindful not to overdo it when working with new tools or doing new tasks. In addition to these common problems, however, gardeners also should be aware of less common and apparent risks and take precautions to decrease their risk.

### Disease and plant risks

**Legionellosis (*Legionella*):** caused by *Legionella* bacteria, this is an infectious disease that can be caught by anyone, but elderly gardeners and those with a suppressed immune system are most vulnerable. There are two types to which gardeners may be exposed: *Legionella longbeachae*, occurring in soil and compost, which can lead to a respiratory disease; and the more common *L. pneumonophila*, which leads to a type of pneumonia known as legionnaires disease. The latter form occurs naturally at low levels in watercourses but can multiply in standing water to potentially harmful levels when the water temperature is between 20°C to 45°C.

**Bioaerosols:** these are airborne micro-organisms including spores, bacteria and fungi (e.g. *Aspergillus fumigatu*, *Coccidioidomycosis*) that are naturally present in decomposing material. Most people with these infection never have symptoms. Others may have cold- or flu-like symptoms or symptoms of pneumonia. Gardeners are most likely to breathe these in when turning compost, especially in warm weather. People with an existing chest conditions such as asthma or bronchitis, immune suppressed conditions such as HIV, diabetes, pregnancy, organ transplants, cancer and certain medications and those prone to allergies are most at risk for infections or reactions.

**Toxoplasma gondii:** a parasite that is reproduced in the stomach of a cat and then distributed into the dirt through cat feces. Women newly infected with *Toxoplasma* during pregnancy, people with eye diseases such as retinochoroiditis and anyone with a compromised immune system should be aware that toxoplasmosis can have severe consequences. Healthy people who become infected with *Toxoplasma gondii* often do not have symptoms because their immune system usually keeps the parasite from causing illness. When illness occurs, it is usually mild with "flu-like" symptoms (e.g., tender lymph nodes, muscle aches, etc.) that last for several weeks and then go away. The parasite remains in their body in an inactive state. It can become reactivated if the person becomes immunosuppressed. In the United States it is estimated that 22.5% of the population 12 years and older have been infected with *Toxoplasma*.

**West Nile Virus:** transmitted by mosquitos this rare virus now has seasonal flares in the region that begin in summer and continue through fall. Only about 1 in 150 people who are bitten develop a severe illness, and the majority of people infected have no symptoms at all. Severe disease can include high fevers, coma or seizures, nausea, vomiting, rashes, muscle weakness, and swollen glands. Mild disease may be only flu like or a rash.

**Sporothrix Schenckii:** is a fungus that resides on hay, sphagnum mosses and the tips of rose thorns. It can cause infection, redness, swelling and open ulcers at the puncture site. The fungus can spread to the lymphatic system and move on to the joints and bones, where it ends up attacking the central nervous system and lungs when the thorn or thorns are deeply embedded. **Weil's disease (*Leptospirosis*):** this is a disease humans can catch from rats through water or wet vegetation contaminated with rat urine. Rats also transmit salmonella.

**Tetanus:** the tetanus bacterium can enter through cuts or wounds. Since gardeners regularly handle thorny plants, soil or manure, they are at a higher risk of being infected than non-gardeners.

**Plant hazards:** as well as some plants being poisonous, there are also a number of plants whose sap or hairs can cause skin blistering, burns, rashes or breathing difficulties.

**Insect bites & stings:** Bees, wasps, hornets, ants, spiders, mosquitoes, fleas, ticks etc all share garden space and may cause reactions varying from mild itching to anaphylaxis. Both fleas and mosquitoes can transmit

diseases.

## MINIMIZING THE RISK – SIMPLE PRECAUTIONS

### COMPOST

- Do not open bags of compost or potting media with your head right over it.
- Fold over the top of compost bags when not in use.
- Avoid potting-up in confined spaces.
- Moisten dry potting media before use. Also dampen down dry compost heaps before turning or use.
- **Consider wearing a dust mask when turning compost heaps and handling potting media or other dusty materials, especially if you have lung disease or immune deficiency.**
- Avoiding storing potting media in greenhouses as these will heat up and may encourage *Legionella*.
- Rat-proof compost bins with wire mesh if necessary. To reduce the risks from salmonella avoid using rat-infested compost on edible crops, especially those not cooked before consumption.
- Only shred woody prunings in an open, well-ventilated area.

### WATER

- Do not allow water to pool in buckets or pots. Still water is a breeding ground for mosquitoes.
- Drain hoses after use and do not leave full hoses in the sun after use.
- Avoid splashing water around when watering pots.

### CLOTHING

- Wear gloves and keep arms covered when pruning plants that can cause irritations; e.g. ivy (*Hedera*), *Fremontodendron*, *Euphorbia* or rue (*Ruta*).
- Protect from water-borne diseases such as Weil's disease by wearing waterproof gloves, clothing and boots when clearing out ponds.
- Wear gloves whenever handling soil, compost, fertilizer or pesticides. Thin latex (or latex-free for allergy sufferers) gloves can be worn for delicate work.
- Wear a hat, long sleeves/sunscreen to protect from sunburn.
- Closed shoes protect feet from sunburn, insect bites and garden tools

### INSECTS

- Mosquitoes are attracted to dark clothing. Bees like bright colors like flowers. Light long sleeved clothing protects from sun and many bugs.
- Mosquitoes are most prevalent at dawn or dusk. In addition to protective clothing consider an insect repellent with an EPA registered active ingredient (DEET, Picaridin, IR3535, and Oil of Lemon Eucalyptus/PMD synthetic). Herbal formulations may also be effective but need frequent application.

### HYGENE

- **Always wash your hands after gardening and especially before eating.**
- Keep a hand-sterilizing gel in the potting shed if clean water is not available.
- Ensure tetanus vaccination is up to date. Otherwise, see your local GP for a tetanus vaccination if you have cut yourself on a plant or got soil or manure in an open wound

If you break the skin while gardening, even if it is minor, be sure to thoroughly wash the area with copious amounts of water and soap. Benadryl ointment or cortisone cream sooth most minor bites. If you have a history of anaphylaxis to insect stings (bees, wasps, hornets, etc) always carry an Epi-pen with you while gardening. Be sure to mention gardening activities such as exposure to dust or garden related punctures or cuts to your physician if you have a respiratory or skin infection. Finally, as a civic minded member of a community, consider signing up for CPR & First Aid course. Contact your local Red Cross for classes.