

Getting to the Root of the Problem

One of the major causes of tree failure is root damage. When a tree's root system has been extensively damaged, the whole tree can fall to the ground – or onto your house.

"Most homeowners will look at a tree's branches, or canopy, and determine if the trees look healthy or if there is a visible problem. Many problems in tree show themselves in the canopy – leaf discoloration, premature leaf shedding or even branch death," notes Tchukki Andersen, BCMA, CTSP* and staff arborist with the Tree Care Industry Association. "But, a significant amount of information on tree health and structural integrity lies unseen, below ground."

Trees may fall over when their roots can no longer anchor their weight. In the urban and suburban landscape, roots can be lost or damaged by construction activities such as excavation, trenching, adding fill, paving or additional stresses such as fungal decay, drought or flooding.

"Some of the indicators of root problems can be detected by homeowners, while others can only be diagnosed by a professional arborist using specialized examination methods," says Andersen.

Signs and symptoms that could indicate root problems include decline in the tree canopy, usually starting at the top but occasionally affecting one side or major branches throughout the canopy. A tree with an increasing lean, especially with soil heaving around its base, is another sure symptom of root problems. Signs of root problems include dead roots, broken roots and presence of fungal fruiting bodies (mushrooms) at the base of the tree or radiating out from the base.

Roots sustain the live branches and leaves above the ground. When the connection between roots and the above-ground part of the tree is disrupted, leaf cover will thin and branches will begin to die as the tree's energy reserves dwindle.

On the way down ... causes of root damage

Sometimes root damage is visibly obvious when utility trenches, repaving, grading or soil compaction occurs in the tree's root zone. But more often it can be difficult to assess damage to the root system. To determine how the root damage might affect the health of the tree, a professional arborist can estimate how much of the rooting area was affected within the critical root zone (CRZ). The CRZ is a circular area around the stem of the tree, usually smaller than the area defined by the outer reaches of the tree's branches, known as the drip line. If any of the main roots inside the CRZ are damaged or missing, the risk of tree failure

is greatly increased.

Think of the tree as both a structure and a living organism. As a rule of thumb, up to 40 percent of the root system can be damaged – causing problems for the living organism – before the tree's structure is seriously impaired. Conversely, the tree can be biologically healthy while the main roots it counts on for support are deteriorated.

What can you do?

Be on the lookout for the signs and symptoms of root damage. These symptoms can be subtle, even undetectable, to the untrained eye. A professional arborist can accurately diagnose root problems and potentially take corrective action. Contact the Tree Care Industry Association (TCIA), a public and professional resource on trees and arboriculture since 1938. TCIA has more than 2,300 member tree care firms and affiliated companies. All tree care company members recognize stringent safety and performance standards and are required to carry liability and workers' compensation insurance, where applicable. It has the nation's only Accreditation program that helps consumers find tree care companies that have been inspected and accredited based on: adherence to industry standards for quality and safety; maintenance of trained, professional staff; and dedication to ethics and quality in business practices. For more information, visit www.tcia.org.

An easy way to find a tree care service provider in your area is to use the "Find a Tree Care Company" program. You can use this service by calling 800-733-2622 or by doing a ZIP Code search on www.treecaretips.org.

Find a Professional

A professional arborist can assess your landscape and work with you to determine the best care for your trees. Contact the Tree Care Industry Association, a public and professional resource on trees and arboriculture since 1938. TCIA has more than 2,300 member tree care firms and affiliated companies who recognize stringent safety and performance standards and who are required to carry liability insurance. TCIA also has the nation's only Accreditation program that helps consumers find tree care companies that have been inspected and accredited based on: adherence to industry standards for quality and safety; maintenance of trained, professional staff; and dedication to ethics and quality in business practices. For more, visit www.tcia.org or www.treecaretips.org.

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*Board Certified Master Arborist, Certified Treecare Safety Professional