

## Cracks Can Cause Hazards in Trees

"Homeowners worried about trees falling and damaging property should call a professional arborist in for an inspection," advises Tchukki Andersen, BCMA, CTSP\* and staff arborist with the Tree Care Industry Association (TCIA). Andersen notes that trees are genetically designed to withstand storms, but all trees can fail - and defective trees fail sooner than healthy trees.

"To a professional arborist," notes Andersen, "defects are detectable signs that a tree has an increased potential to fail."

Tree cracks can be one of the major warning signs of an unstable tree. Most cracks are caused by improper closure of wounds or by the splitting of weak branch unions. They can be found in branches, stems or roots, and vary in type and severity:

- **Horizontal cracks** run across the grain of the wood and develop just before the trees fail, making them very difficult to detect.
- **Vertical cracks** run with the wood grain along the vertical length of the tree and may appear as shear or ribbed cracks.
- **Shear cracks** can run completely through the stem and separate it into two halves. As the tree bends and sways in the wind, one half of the stem slides over the other, elongating the crack. Eventually the enlarging crack causes the two halves of the stem to shear apart.
- **Ribbed cracks** are created as the tree attempts to seal over a wound. Margins of the crack meet and mesh but are reopened due to tree movement or extremely cold temperatures. Thicker annual rings are created in order to stabilize the developing crack at the location of the wound. This forms the ribbed appearance over a period of many years.

These cracks put a tree at high risk of failure, and are especially dangerous when combined with other defects or with advanced decay.

A professional arborist can determine the potential for failure by measuring the shell thickness in a few locations around the tree's circumference, determining the width of the crack opening, and looking for the presence of any other type of defect.

### What is the risk?

Cracks are hazardous because they compromise the structure of the tree. They can eventually split the stem in two, and are very dangerous when combined with internal decay. The presence of multiple cracks and decay indicates a potentially hazardous tree.

### Find a professional

A professional arborist can assess your landscape and work with you to determine the best trees to plant. Contact the Tree Care Industry Association, a public and professional resource on trees and arboriculture since 1938. An easy way to find a tree care service provider in your area is to use the "Locate Your Local TCIA Member Companies" program. You can use this service by calling 1-800-733-2622 or by doing a ZIP Code search on [www.treecaretips.org](http://www.treecaretips.org).

*\*Board Certified Master Arborist, Certified Treecare Safety Professional. TCIA arborists, safety and business professionals are also available as sources for tree related articles and issues: 1-800-733-2622 or [tandersen@tcia.org](mailto:tandersen@tcia.org).*