

## Coping with Exposed Tree-root “Elbows”

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How should one manage those visible surface roots that appear in lawns around well-established trees? These exposed root segments are commonly seen near the trunks of silver maples and honey locusts but also may be associated with other species. The question often posed to the Arboretum staff is whether it is damaging to cut off the visible root segment.

Because the exposed segment may be a part of an extensive branching and proliferative total root system, severing the visible portion may deprive the tree of a vital contributing element of its total root system. Removal of a segment of a large root may indirectly have deleterious consequences to portions of the crown, possibly causing the decline of top growth. Broadleaf deciduous trees have a strong association between roots and crown branches that are on the same side of the tree, so damage is often seen on the side of tree from which the severed root originated.

Here is a description of a method for addressing the problem that involves no cutting of roots. Scatter crumbly organic topsoil around the exposed segment to a depth of one-half inch. Soak the area until the new topsoil is obscured in the grass. Permit the grass to grow and repeat the procedure in a week to ten days. Again, water well until the grass hides the additional topsoil. With three or four applications the root segment should be hidden. Treat a sufficiently large area around the root segment to minimize any mounding effect. Ordinarily no mounding effect is evident. For best results, grass should be growing vigorously (May to September).

Placing soil "fill" over roots is generally discouraged. Incremental additions of a thin veneer of organic soil tend to create a sponginess that benefits both grass and tree. Such additions may create "hidden mulch" that facilitates growth of fine roots of a tree and slows the growth of grass. As a specialized benefit, this approach may help to arrest tree decline on golf courses where traditional mulching is not usually possible.

The appearance of tree-root elbows in lawns seems to be associated with rapid expansion of diameters of tree roots and the soil environment in which they develop. The superficial nature of large tree roots may be seen near the trunk where large branch roots seem to elevate the trunk base as a tree enters a rapid-growth phase. Compacted clayey soil and grass competition also contribute to superficiality of the major roots. Slow consolidation of soil particles and scarcely perceptible soil erosion may also contribute. Major tree-root branches normally seem to reside only a few inches from the surface. Under favorable soil conditions, especially under compost or fine-particle mulch, terminal root branches may grow upward with highly proliferative terminal rootlets. Such phenomenon may often be seen in little-disturbed natural forests.

Another solution has been offered for coping with visible surface roots of any kind: Place mulch around the tree as a means of concealing surface roots and producing a grass-free environment conducive to better root growth. Finely ground mulch or compost will decompose rapidly adding to thickness of surface soil. Of course, yearly replacement of mulch is necessary. Grass removal is not necessary; three to four inches of mulch will bring about decline and death of grass. A mulch circle of eight feet is a start. Enlargement may follow, year after year, if desired.