7. **Mulch the base of the tree.** Mulch is simply organic matter applied to the area at the base of the tree. It acts as a blanket to hold moisture, protect against harsh soil temperatures, both hot and cold, and reduces competition from grass and weeds. Some good choices are leaf litter, pine straw, shredded bark, peat moss, and wood chips. A two to four inch layer is ideal. More that four inches may cause a problem with gas exchange. When placing mulch, care should be taken so that the actual trunk of the tree is not covered. This may cause decay of the living bark at the base of the tree. A mulch free area, one to two inches wide at the base of the tree, is sufficient to avoid moist bark conditions and prevent decay.

8. **Follow-up care.** Keep the soil moist but not soaked, overwatering will cause leaves to turn yellow or fall off. Water trees at least once a week, barring rain, and more frequently during hot weather. When the soil is dry below the surface of the mulch, it is time to water. Continue until mid-fall tapering off for lower temperatures that require less frequent watering.

Other follow-up care may include minor pruning of branches damaged during the planting process. Prune sparingly immediately after planting, and wait to begin necessary corrective pruning until after a full season of growth in the new location.

After you've completed these eight simple steps, further routine care and favorable weather conditions will ensure that your new tree or shrub will grow and thrive. A valuable asset to any landscape, trees provide a long-lasting source of beauty and enjoyment for people of all ages. When questions arise about the care of your tree, be sure to consult your local ISA certified arborist, tree care or garden center professional for assistance.

The PHC Alternative

Maintaining mature landscapes is a complicated undertaking. You may wish to consider a professional Plant Health Care (PHC) maintenance program which is now available from many landscape care companies. Their program is designed to maintain plant vigor and should initially include inspections to detect and treat any existing problems which could be damaging or fatal. Thereafter, regular inspections and preventive maintenance will assure plant health and beauty. Refer to our "Plant Health Care" brochure for more information.

This brochure is one in a series published by the International Society of Arboriculture as part of its Consumer Information Program. You may have additional interest in the following titles currently in the series:

- Avoiding Tree Damage During Construction
- Avoiding Tree and Utility Conflicts
- Benefits of Trees
- Buying High-Quality Trees
- Insect and Disease Problems
- Mature Tree Care
- New Tree Planting
- Plant Health Care
- Proper Mulching Techniques
- Pruning Young Trees
- Pruning Mature Trees
- Recognizing Tree Hazards
- Treatment of Trees Damaged by Construction
- Tree Selection
- Tree Values
- Trees and Turf
- Why Hire an Arborist?
- Why Topping Hurts Trees

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New Tree Planting

Think of the tree you just purchased as a lifetime investment. How well your tree and investment grows depends on the type of tree and location you select for planting, the care you provide when the tree is planted, and follow-up care the tree receives after planting.

Planting the Tree

The ideal time to plant trees and shrubs is during the dormant season — fall after leafdrop or early spring before bud-break. Weather conditions are cool and allow plants to establish roots in the new location before spring rains and summer heat stimulate new top growth. However, trees properly cared for in the nursery or garden center, and given the appropriate care during transport to prevent damage, can be planted throughout the growing season. In either situation, proper handling during planting is essential to ensure a healthy future for new trees and shrubs. *Before you begin planting your tree, be sure you have had all underground utilities located prior to digging.*

If the tree you are planting is balled and burlapped, or bare rooted, it is important to understand that the tree's root system has been reduced by 90-95% of its original size during transplanting. As a result of the trauma caused by the digging process, trees will commonly exhibit what is known as "**transplant shock**" (TS). TS is indicated by slow growth and reduced vigor following transplanting. Proper site preparation before and during planting, coupled with good followup care will reduce the amount of time the plant experiences TS and will allow the tree to quickly establish in it's new location. Carefully follow eight simple steps and you can significantly reduce the stress placed on the plant at the time of planting.

"It's better to put a $100 tree in a $200 hole than to put a $200 tree in a $100 hole."

1. **Dig a shallow, broad planting hole.** Make the hole wide, as much as three times the diameter of the root ball, but only as deep as the root ball. It is important to make the hole wide because the tree roots on the newly establishing tree must push through surrounding soil to establish. On most planting sites in new developments, the existing soils have been compacted and are unsuitable for healthy root growth. Breaking up the soil in a large area around the tree provides the newly emerging roots room to expand into loose soil to hasten establishment.

2. **Identify the trunk flare.** The trunk flare is where the roots spread at the base of the tree. This point should be partially visible after the tree has been planted (see diagram). If the trunk flare is not partially visible, you may have to remove some soil from the top of the root ball. Find it so you can determine how deep the hole needs to be for proper planting.

3. **Place the tree at the proper height.** Before placing the tree in the hole, check to see that the hole has been dug to the proper depth, and no more. The majority of the roots on the newly planted tree will develop in the top 12" of soil. If the tree is planted too deep, new roots will have difficulty developing due to a lack of oxygen. It is better to plant the tree a little high, 1-2" above the base of the trunk flare, than to plant it at or below the original growing level. This will allow for some settling (see diagram). To avoid damage when setting the tree in the hole, always lift the tree by the root ball, and never by the trunk.

4. **Straighten the tree in the hole.** Before you begin backfilling have someone view the tree from several directions to confirm the tree is straight. Once you begin backfilling it is difficult to reposition.

5. **Fill the hole, gently but firmly.** Fill the hole about 1/3 full and gently but firmly pack the soil around the base of the root ball. Then, if the tree is balled and burlapped, cut and remove the string and wire from around the trunk and top 1/3 of the root ball (see diagram). Be careful not to damage the trunk or roots in the process.

Fill the remainder of the hole taking care to firmly pack soil to eliminate air pockets that may cause roots to dry out. To avoid this problem, add the soil a few inches at a time and settle with water. Continue this process until the hole is filled and the tree is firmly planted. It is not recommended to apply fertilizer at the time of planting.

6. **Stake the tree, if necessary.** If the tree is grown and dug properly at the nursery staking for support is not necessary in most home landscape situations. Studies have shown that trees will establish more quickly and develop stronger trunk and root systems if they are not staked at the time of planting. However, protective staking may be required on sites where lawn mower damage, vandalism or windy conditions are concerns. If staking is necessary for support, two stakes used in conjunction with a wide flexible tie material will hold the tree upright, provide flexibility, and minimize injury to the trunk (see diagram). Remove support staking and ties after the first year of growth. Leave protective staking in place as long as necessary.