Did you know when a tree is injured, the injured wood always dies? Whether the injury is caused accidentally or intentionally, such as from regular pruning, the wood in the immediate area of the injury dies and remains dead for the life of the tree. Trees do not heal from injury; rather they seal. The process is called compartmentalization; the dead part of the tree is walled off from the living part. After the dead area is walled off, the tree continues to grow. In many cases, the dead, decaying area becomes totally enclosed. In other cases, the dead, decaying area becomes openly exposed.

Interestingly trees seal horizontal decay more easily than vertical decay. This is why it is so important to make pruning cuts at the right place. If done incorrectly, the decay will gradually move up and down the tree. When pruning cuts are made at the correct location, decay usually doesn't cause a problem. If made at the wrong place, decay can readily become a hazard. If the decomposing wood includes the core of the tree, this process can leave a hollow tree. Although the integrity of the tree's core is challenged, it's important to know that trees do not need a core to live. The active living area of a tree is just beneath the bark where new wood is generated. As the tree ages, the old wood near the center of the tree often dies. Although dead, it still adds to the overall strength of the tree.

If the core of a tree dies and starts to decay, it can become attractive to many different insects. Termites are one of the many consumers of dead trees. Carpenter ants are another insect that can be found on dead or dying trees. When they are discovered, it is generally an indication that decay exists within that tree. Carpenter ants do not eat the wood; they simply excavate the dead wood to create their nests. Oftentimes when people find carpenter ants on their trees, they surmise the ants are killing their trees. Such an interpretation is inaccurate. The ants are simply taking advantage of an opportunity. When insects such as carpenter ants are discovered on a tree, little if any human intervention

needs to be done. Intervention generally won't help, and in many cases, overuse of insecticides can be detrimental to the tree.

Dead wood doesn't support the tree as well as living wood, but it does offer additional strength. Decaying dead wood offers no strength. Trees with a large decay in the center may or may not be dangerous. I've read that a tree can lose 70% of its interior and still retain 80% of its normal strength. I'm certain these statistics are greatly dependent upon the species of tree. The trouble starts when the decay breaks through to the surface. A hollow tree can support a lot of weight. However, a hollow tree with decay exposed to the surface may succumb to the next big windstorm. If one is not sure if a decaying tree has become dangerous, hire a professional arborist to evaluate the condition of the tree. I would say, when in doubt, removal of the decaying tree makes good common sense.

Occasionally a dead area within a tree can hold water. This pool of water can't hurt the tree, but it certainly can breed mosquitoes. Filling the void with sand could solve the mosquito problem. Professionals normally use a flexible, non-toxic filling in these situations. I've heard of people filling cavities with concrete. Unfortunately, concrete can make the cavity weaker because it doesn't flex. Although drilling a drainage hole would cause more injury to the tree, it would also help drain the water and at the same time resolve the mosquito problem.

Clearly, any injury to a tree causes death and decay. Knowing correct pruning techniques won't prevent dead wood, but correct techniques will help to protect against excessive decay. Trees do not heal; rather, they seal. The result is living wood and dead wood co-existing in the same tree.