Lightning changes a tree in a blink. The bolt superheats moisture in the trunk, steam explodes outward, tissues tear, and the tree that looked fine before the storm may now be a hazard with a weak spine and invisible internal damage. I have walked properties the morning after summer thunderstorms and seen everything from a single spiral scar on a tulip poplar to a centuries-old oak cleaved open like a book. The immediate question is always the same: is this tree safe to keep standing, or do we need to bring it down today?

This guide pulls from field experience with emergency tree service, both residential and commercial. It explains what lightning does inside a tree, how to recognize danger, what to expect from a professional tree service, and how to decide between removal and recovery. It also covers insurance realities, timelines, and the specialized gear an arborist brings to a lightning strike.

What lightning does to a tree

A strike seeks the quickest path to ground. Tall, isolated trees, those near water, and specimens with vertical leaders make inviting targets. When the bolt hits, electricity travels through the moist cambium and sapwood. Temperatures spike in milliseconds, water flashes to steam, and pressure fractures cells along the conductive tissues. Sometimes you see a narrow ribbon of missing bark spiraling down the trunk. Other times bark is blown twenty feet away and the trunk is split, jagged fibers splayed like shattered bone.

It is the damage you cannot see that matters most. Even a tree that keeps its canopy can have:

- Longitudinal cracks in the xylem that disrupt water movement and weaken structural integrity.
- Killed cambium segments that interrupt nutrient flow, leading to delayed dieback weeks later.
- Compromised roots, especially if current traveled out through lateral roots and into the soil.
- Openings for decay fungi. Lightning often sterilizes surfaces immediately, but the exposed wood becomes a gateway for spores during the first wet spell afterward.

I have revisited lightning-struck elms six months after a storm to find one quadrant of the canopy leafless, a clear sign that cambium on that side died. The tree looked stable the day after the strike. By the first autumn wind event, a large scaffold branch failed cleanly at the union where internal cracking had spread.

First 24 hours: what to do and what to avoid

The window right after a strike is about safety, not cosmetic clean-up. Resist the urge to prune right away. Movement, ladders, and chainsaw work around a compromised trunk can be lethal if the tree is unstable. Leave it standing as-is until an accredited arborist evaluates it.

Call a local tree service with true emergency tree service capabilities. The dispatcher will ask three questions that determine urgency: is the tree in contact with a structure or utility, are people or pets at risk where they normally live or walk, and is there active movement or audible cracking. If the answer to any is yes, they will triage you for same-day response.

If a limb is on a power line, stop there. Call the utility first. Tree services cannot touch energized lines. Many regions require the utility to de-energize or clear the initial hazard before a tree service can proceed. I have stood on sidewalks watching a cracked trunk lean two degrees farther each minute while everyone waited on a utility crew to make the area safe. It is frustrating, but it keeps people alive.

Photograph the tree from several angles before anyone moves debris. Insurance adjusters appreciate clear visual records. Capture the trunk, the base, any impact points on structures, and the distance to the house or service drop. If bark has blown off, photograph the wound length and width with a recognizable object for scale.

What an arborist looks for

A certified arborist brings a practiced eye and a cautious gait. Assessment starts from a distance, because the whole tree tells the story. We look for canopy asymmetry, motion at unions, and signs of root plate upheaval. Then we move closer, listening for internal creaks and tapping the trunk to detect hollow or delaminated zones. Tools help, but experience often gives the first clue.

Key indicators that drive decisions include:

- Extent of cambial death along the trunk. Continuous, vertical bark loss that runs most of the height is a poor prognostic sign.
- Structural cracks. A clean, open crack that you can slip a putty knife into suggests severe internal separation. Strings of fine radial cracks can indicate a partial split ready to propagate.
- Root plate movement. Soil cracking, raised turf, and a leaning trunk that was not leaning yesterday point to root failure. Lightning sometimes exits through the roots, baking fine roots and destabilizing the system.
- Species and vigor. Oaks, hickories, and some conifers tolerate lightning better than thin-barked species like beech or birch. A vigorous, well-watered tree can compartmentalize damage. A drought-stressed tree with preexisting decay does not.
- Target occupancy. The risk calculus changes if the tree is over a bedroom or a daycare playground. Low-probability failure becomes unacceptable when consequences are severe.

We use simple instruments when needed. A resistograph can map internal density along a borehole, revealing hidden voids. An increment borer can sample growth rings to gauge recent stress. Sonic tomography builds a cross-sectional picture of internal decay. Those tools are overkill in obvious failures, but when a large, historically valuable tree has a chance of survival, they help justify the decision.

Stabilize, remove, or rehabilitate

Lightning decisions fall into three broad paths: immediate removal, staged mitigation with stabilization, or monitoring with corrective care. Each has costs and risks.

Immediate removal is indicated when the tree has a through-and-through split, a significant lean that developed post-storm, or heavy limbs torn and hung up in the crown where they cannot be secured. In a recent storm, a 30-inch diameter red oak took a bolt and sported a clean vertical seam almost the full trunk length. The canopy still looked green. We set a rope and felt the trunk open a hair under load. That tree came down the same afternoon, with a crane for controlled lowering between a house and a pool.

Staged mitigation suits borderline cases. The arborist might install high-strength static cabling between major leaders, reduce the canopy to lower sail area, and remove damaged limbs while preserving the main stem. This approach buys time to see if the tree can seal wounds and maintain vigor. The trade-off is cosmetic. A reduction prune can change a tree’s silhouette for several years, and it requires follow-up inspections after the first windy days.



Monitoring and rehabilitation work when damage is superficial, confined to a narrow strip of bark, and the tree shows no structural compromise. The plan often includes wound management, soil health improvements, irrigation during dry spells, and perhaps a lightning protection system to prevent a second strike from finishing what the first started.

The anatomy of an emergency tree service visit

If you call a professional tree service for a lightning-struck tree, expect a two-phase process: hazard control, then clean-up and care. Crews arrive with PPE, rigging, chain saws with sharp, narrow-kerf chains, and sometimes a crane or tracked lift. Safety briefings happen in the driveway, not later.

The first goal is to remove any immediate danger. That might mean setting lines to restrain a cracked leader, pre-tensioning the trunk with a winch to control the lean, or establishing a no-go zone under the canopy. When utilities are involved, the arborist coordinates with the utility’s foreman before work begins.

Rigging is tailored to the injury. A spiral lightning scar often means fibers are intact but stressed. In those cases, climbers move gently, distribute loads with multiple tie-ins, and use friction devices to lower sections smoothly. In a trunk with a vertical split, the climber may not go up at all. A crane picks pieces from above while the ground crew sequences cuts to keep compression and tension forces predictable.

Once hazards are neutralized, the crew either proceeds with removal or transitions to corrective pruning and stabilization. On removals, section size depends on drop zones. In tight residential tree service projects, we may take cookies as small as 12 inches thick to avoid shock loads on roofs and patios. In commercial tree service work with open access, larger picks save time.

Clean-up is more than hauling brush. We rake chips, blow sawdust from gutters, and check for nails, screws, or metal in the wood before sending logs to the mill. If there is lawn damage from heavy equipment, many services include basic turf repair. For a premium, some offer stump grinding the same day, though grinding near freshly split roots requires extra care to avoid voids and cave-ins.

Safety and the art of saying no

Homeowners sometimes ask if they can trim off “just that broken limb” themselves. I say no ninety percent of the time after a lightning strike. The hidden risks are real: barber-chairing on a split trunk, sudden limb

drop when fibers release, and movement in the root plate that turns a ladder into a launchpad. Even for professionals, lightning jobs demand slower, more conservative moves.

An commercial tree service Roanoke VA honest tree service company will also say no to working under unsafe conditions. Rain on slick bark, night work without adequate lighting, or energized lines that the utility has not confirmed de-energized are stop signs. The best professional tree service outfits train their crews to walk away when the plan is not safe, even if it means rescheduling and losing revenue that day.

Can a lightning-struck tree be saved?

Many can. I have seen white oaks with yard-long scars thrive for another three decades. Survival depends on biology, damage pattern, and aftercare.

Species matters. Oaks, hickories, and basswood tend to compartmentalize well. Maples vary by species. Pines and spruces can survive a strike that tracks down the bark, but if the bolt travels through the heartwood and ignites resin, the outcome is poor. Thin-barked trees like beech often suffer extensive cambium death from relatively small scars.

The width of the wound is critical. A strip of missing bark less than a hand's width that does not girdle the trunk can be bridged by living cambium. Complete girdling, where dead tissue encircles the trunk, starves the canopy above. Partial girdling leads to sectional dieback that shows up weeks later.

Care after the strike gives the tree a fighting chance. That means consistent soil moisture, a broad mulch ring kept away from the trunk, and soil aeration if compaction is present. Avoid high-nitrogen fertilization right away. The tree's priority is sealing wounds and restoring transport, not pushing lush growth. Prune only what is broken or clearly dead that first season. The following dormant season, make structural cuts that balance the canopy and reduce leverage on weakened unions.

A lightning protection system is a smart investment for high-value trees that survived a strike or stand near buildings. Installed by an arborist service familiar with standards, the system uses air terminals at the top of the crown, copper conductors down the trunk, and multiple ground rods beyond the dripline. The kit does not prevent strikes. It provides a low-resistance path so the next bolt travels around the cambium instead of through it. On estates and campuses we maintain, protected trees have taken repeat hits with nothing more than scorched air terminals to show for it.

Insurance and documentation

Lightning is generally considered a covered peril under homeowners policies, with caveats. If a tree strikes a covered structure or blocks a driveway, removal costs are often reimbursed up to a limit. If a lightning-struck tree stands intact without hitting anything, policies vary. Some cover removal when a qualified arborist declares it a hazard. Others require failure or impact first. This is where good documentation helps.

After the emergency tree service visit, ask for a written assessment on company letterhead that states the observed defects, the risk level, and recommended actions. A report that mentions a through-and-through crack, compromised root plate, and target occupancy over a bedroom reads very differently to an adjuster than "tree damaged by lightning." Photographs with date stamps support the narrative.

Commercial properties face different considerations. A property manager balancing budgets may ask whether partial removal reduces liability enough to defer full removal. The answer depends on target zones and public access. For mixed-use sites, we often see commercial tree service policies that mandate removal

within a set radius of entrances when lightning causes structural defects. Insurance carriers prefer clear, enforceable thresholds.

Timelines and what fails later

Lightning damage is dynamic. A tree that stands tall the next morning can shed canopy progressively through the season. Symptoms often present in three waves.

The first wave occurs immediately. Bark explodes, limbs tear, and obvious cracks reveal themselves. Emergency response deals with these.

The second wave follows within two to eight weeks. Cambial death zones manifest as strip dieback in the canopy above the wound. Leaves on affected limbs wilt, curl, and turn brown. Lesser unions let go during the first windy day. This is a critical follow-up period. Schedule an inspection two to four weeks after the strike, even if the tree looked fine at first.

The third wave shows up months later or the following year. Decay organisms colonize exposed wood. The tree allocates resources to compartmentalization scars. If drought coincides, the weakened transport system struggles, and sections die back. Structural risk increases somewhat during these phases, especially when deadwood accumulates in the upper crown. Prudent tree care service includes periodic inspections through the first two growing seasons.

How a local tree service prioritizes after a storm

After a major storm, phones in every tree service company ring non-stop. Crews triage. They hit life safety and property damage first, then roads blocked by fallen timber, then hanging limbs over habitually used spaces. A good local tree service keeps a running list and calls with updates, even if the answer is “tomorrow morning.” If your situation changes, say a crack widens or a lean increases, call back. That can move you up the queue.

You can help by describing the problem clearly. Mention if the tree is touching a roof, blocking emergency access, or threatening a neighbor’s home. Provide access details. Locked gates, parked cars in drop zones, and pets in the yard slow the response.

The role of training and standards

Not all tree services are equal. Look for ISA Certified Arborists or equivalent credentials on staff. Ask about training in electrical hazards and aerial rescue. The work has standards, including the ANSI A300 series for tree care practices and Z133 for safety. A professional tree service that follows these standards plans cuts to preserve remaining structure, disinfects tools when appropriate, and documents the work.

I have seen well-meaning crews over-prune lightning-struck trees, converting survivable injuries into slow declines by removing too much live crown. I have also seen crews spike climb a tree that could have been accessed with a lift or rope techniques, adding wounds that invite decay. The difference often comes down to training and culture, not equipment.

Costs and honest expectations

Emergency work costs more than scheduled pruning. You pay for 24/7 readiness, overtime, specialized gear, and risk. Removal of a medium-sized tree near a house can run from the low four figures to the high four

figures, depending on access and complexity. Crane work, night operations, and utility coordination add to the bill. Stabilization with cabling and reduction pruning may cost less up front but requires follow-up visits. In every case, ask for a written scope of work. The best tree service companies are transparent about contingencies, such as hidden decay that requires a change in plan.

Special cases and edge calls

Some scenarios demand extra judgment.

- Historic or specimen trees: A lightning strike on a landmark tree can justify advanced diagnostics, lightning protection, and multi-year rehabilitation. Expect a team approach with a consulting arborist, soil specialist, and the property's grounds crew.
- Trees over septic fields: Heavy equipment can crush drain lines. A residential tree service that knows septic layouts will stage mats and choose lighter gear. If removal is necessary, sectional dismantling with rigging protects the field.
- Wildlife use: Cavities split open by lightning may host bats or birds. Regulations can affect timing. Many services coordinate with wildlife rehabilitators to avoid harm, especially during nesting seasons.
- Shared trees on property lines: Legal responsibilities vary by jurisdiction. A written agreement between neighbors helps. A tree service company accustomed to boundary work can mediate scope and cost splits.
- Second strikes: Trees that survive a first strike often get hit again. Installing a lightning protection system before the next storm is not belt-and-suspenders thinking. It is common sense for valuable or exposed trees.

A practical homeowner checklist, from experience

- Get people and pets out of the drop zone and keep them out. Do not linger under a damaged canopy to "take a quick look."
- Call a tree service with emergency response capacity and, if lines are involved, call the utility. Provide clear photos by text or email if possible.
- Resist DIY. A cracked trunk or hung limb can shift without warning.
- Ask for an assessment in writing that notes defects, risk, and recommendations. Save photos and invoices for insurance.
- Schedule a follow-up inspection within two to four weeks, then again in the next growing season if the tree remains.

Prevention and resilience

You cannot prevent lightning, but you can reduce its consequences. On properties with important trees, invest in lightning protection. Keep trees vigorous with proper watering, mulching, and soil management. Root health is structural health. Prune on a cycle that maintains good branch structure, so if a strike triggers a failure, it fails smaller. During site planning for new builds or additions, account for trees' mature size and wind exposure. Cluster plantings offer collective protection, as lightning favors the tallest isolated conductor.

Finally, build a relationship with a reputable tree care service long before a storm. A company that knows your trees and your site responds faster and makes better calls under pressure. Whether the job is residential tree service around a small bungalow or commercial tree service across a multi-building campus, familiarity speeds triage and raises the odds you keep what is safe to keep.

Lightning-struck trees ask for quick, calm decisions. With a trained arborist at your side, the path is usually clear. Some trees must come down the same day. Others earn a careful plan and a second chance. The craft lies in telling the difference, then doing the work with skill and respect for the living structure in front of you. That is the promise of a professional tree service: not just saws and trucks, but judgment shaped by years in the canopy and boots on your soil.