

A satellite image of a hurricane over the Gulf of Mexico. The hurricane's eye and spiral cloud bands are clearly visible. The state of Florida is seen in the lower-left portion of the image, partially obscured by the hurricane's outer bands.

# Urban Forest Hurricane Recovery Program

<http://treesandhurricanes.ifas.ufl.edu>

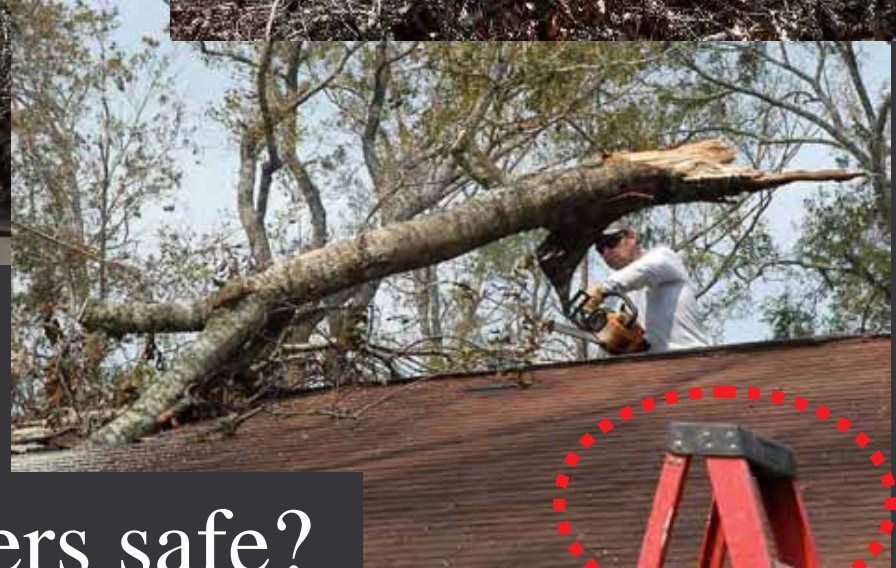
# **Safety Comes First when Cleaning up After a Hurricane!**

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# Safety comes first!



Are these homeowners safe?



# Most injuries in a natural disaster occur during cleanup!



Every year homeowners are seriously injured or killed trying to do their own tree work



# Storm damage cleanup is extremely dangerous, even for professionals!



Is this tree care  
'professional' safe?

# Safety comes first!

- Personal protective equipment
- Clearing and removing debris
- Overexertion
- Electrical lines and utilities
- Work zone safety
- Chain saws

# Personal Protective Equipment



Hard hat



Eye protection



Hearing protection

Wearing the appropriate gear is the best way to reduce the possibility of serious injury

**Just wear it!**

# Personal Protective Equipment



Chaps  
(when using chainsaws)



Gloves

*Just wear  
it!*



Safety footwear  
(no flip flops)



# Homeowners: Stay Safe!

- Do not use chain saw, tree chipper, tractor if:
  - inexperienced in operating it
  - you are not physically fit to handle it
- Do not perform tree work that involves:
  - climbing of any kind
  - working from a ladder to prune a tree
  - felling trees



# General Safety Guide

- Do not work alone
- Establish good communication before you start
- During clean-up operations be aware of where others are



# General Safety Guide

- Keep a well-stocked first-aid kit nearby
- Have the capability to contact emergency personnel



Photo courtesy of Kevin Eckert





# General Safety Guide

- Wear appropriate safety clothing/gear
  - wear light colored clothing
  - wear waterproof boots & gloves when floodwater present
- Use sun screen
- Use insect repellant
- Drink water regularly
  - avoid carbonated, caffeinated & alcoholic beverages
- Eat lightly

# Avoid overexertion

- Take frequent rest breaks – most injuries occur where workers are fatigued
- Schedule the more strenuous work for the coolest part of the day
- Avoid lifting more than you are capable:
  - remember: wet debris are heavier!
- Lift with legs, not your back



# Survey the site

- Assess the area for damages
- Assess the area for hazards and potential hazards
- Take pictures of the damage prior to any cleanup





# Survey the site:

## Look up, down and around

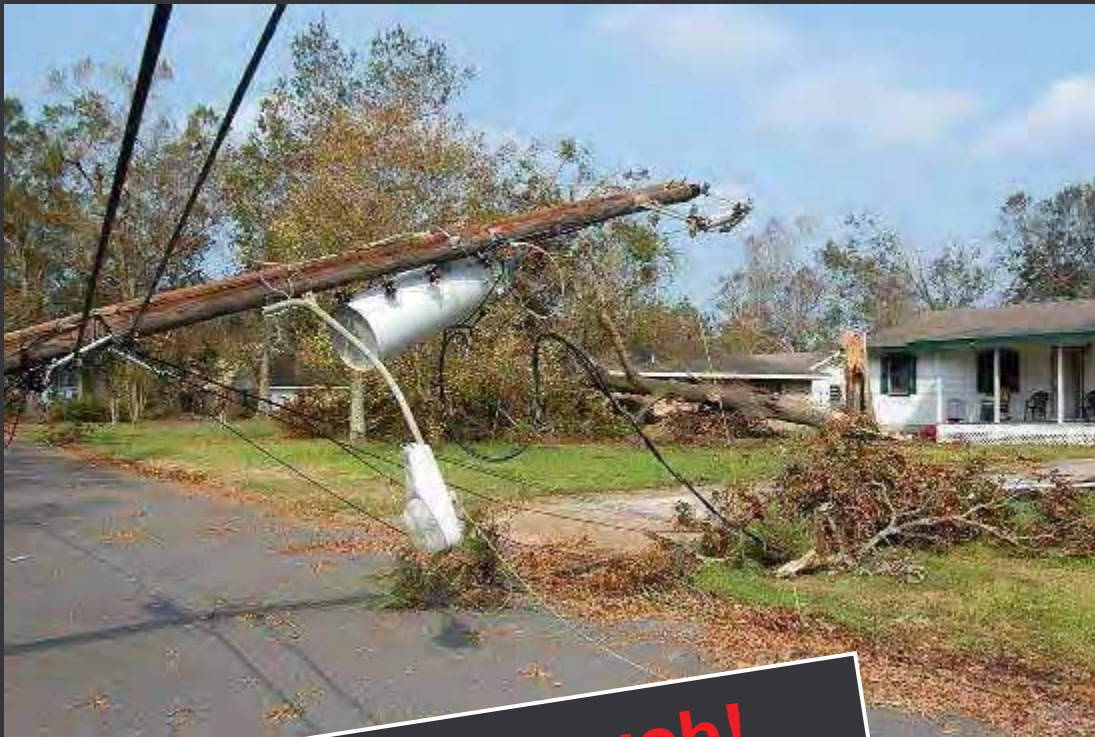
- Use a wooden stick to check flooded areas for pits, holes, or protruding objects
- Be aware of hazards that can lead to slips, trips or falls
- Be alert for dogs, rats and insects
- Be alert for sharp or jagged debris:
  - use heavy work gloves when handling debris

# Look up, down and around: Trees and branches



- Watch for broken, hanging limbs and leaning trees that may be ready to fall
- Watch for attached vines
- Watch for trees or branches that are bent, twisted, hung up or caught under another branch or object

# Look up, down and around: Power lines



**Do not touch!**

- Stay away from downed power lines, wires, cables and other utilities
- Watch for electric wires dangling in trees
- Assume all power lines are energized



# Be aware of electrocution!

- Power lines can energize fences or any metal buildings they come in contact with
- Use caution when moving metal objects (e.g. ladders) in the vicinity of power lines

**Treat any power line as 'live'!**



Photo courtesy Patrick Holian USDA/CSREES

# Be aware of electrocution!



- Call the power company to report trees or tree parts that have fallen or are leaning on a power line
- Only qualified line-clearance arborists should work near power lines

# Plan before starting work

- Discuss safety protocols
  - identify and eliminate hazards
  - create a safe work zone
- Discuss work assignments
- Prioritize tasks

**Take the time to  
do the job right!**



# Identify and eliminate hazards

- Clear loose debris
- Remove combustible materials
- Look for broken or dead limbs
- Assure that there are no power lines nearby
- Be aware of the context in which you are working. This includes knowing where people, structures, vehicles, and wires are



# Create a safe work zone

- Keep non-workers safely outside
- Mark the area with tape or cones
- Appoint a flagger or use barricades and warning signs to control both vehicle and pedestrian traffic



# Create a safe work zone

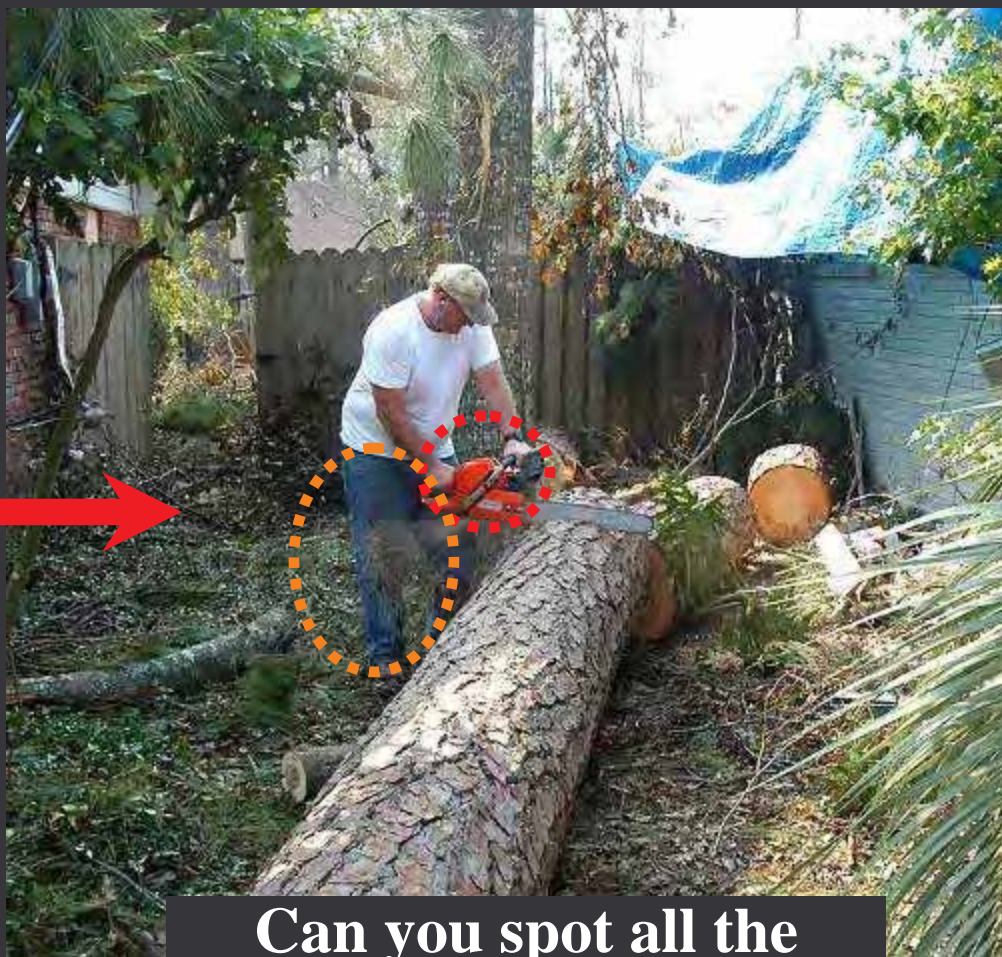
- Set a perimeter around the work area:
  - At least two times the height of the tree you are working on.
  - more distance if felling trees or dropping limbs
- Have an escape route handy





# Chain Saw

- One of the most dangerous hand tools available!
- 80% of injuries are to hands, legs and feet
- Risk of injury increases after storms

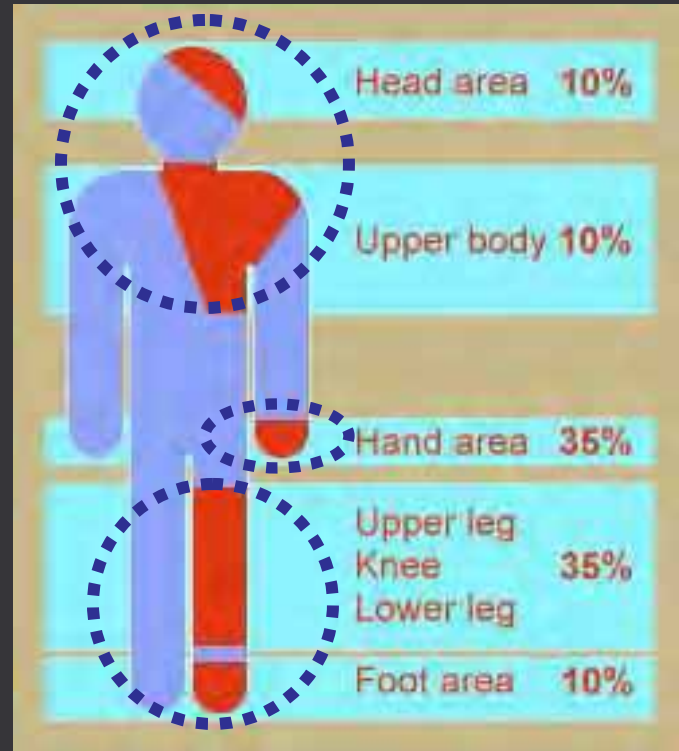


**Can you spot all the unsafe practices?**

# Chain Saw

## Common causes of injuries

- ✗ cutting above head
- ✗ kickback
- ✗ using saw one-handed
- ✗ careless cutting



## How to prevent them

- ✓ cut below head level
- ✓ cut slowly
- ✓ keep both hands on saw
- ✓ wear protective equipment

U.S. Consumer Products Safety Commission, 1999

# Personal Protective Equipment (PPE)



Photo courtesy of Kevin Eckert

- Professionals tree workers are required by law to use **PPE**
- Homeowners should wear the same protection as the professional or **NOT do the work!**



# Chain Saw Safety Tips

- Read and heed the owner's manual!
  - for safe operation
  - for proper maintenance
- Familiarize yourself with the chain saw before using it
  - especially if saw is new



Photo courtesy of Kevin Eckert

# Chain Saw Safety Tips

- Keep the chain saw handle clean, dry and free from oil and fuel
- Make sure:
  - the size of the blade is adequate for the work to be performed
  - check and adjust the tension of the blade



Photo courtesy of Kevin Eckert

# Chain Saw Safety Tips

- Never use a chain saw to cut anything other than wood
- Look for safety features, such as:
  - chain brake
  - spark arrester
  - chain catcher
  - vibration reducer



Photo courtesy of Kevin Eckert



# Don't forget to keep both hands on the handles

- 35% of chain saw injuries affect the hands
- They are the result of using the saw with just one hand



Photo courtesy of Kevin Eckert

# Always cut at waist level or below

- 10% of chain saw injuries affect the head and 10% the upper body
- They are the result of making overhead cuts



Photo courtesy of Kevin Eckert

# Avoid kickback

It occurs when the upper tip of the guide bar contacts an object, causing the saw to come straight back at the operator



Photo courtesy of Kevin Eckert

**Keep in mind:**  
**It happens so fast that there is  
no time for reaction!**



# How to prevent kickback: cont.

- **NEVER** cut with the upper tip of the saw!
- Watch where the tip of the guide bar is at all times
- Stand to the side of the chain saw so you are more balanced



Photo courtesy of Kevin Eckert

# Be aware of “spring poles”

- Trees or branches that are bent, twisted or caught under another object may snap back, hit you or pinch the saw
- To avoid it:
  - identify the point of maximum tension
  - cut at the point of least tension to slowly release tension





# When operating a chain saw...



Photo courtesy of Kevin Eckert

Be sure the operator is aware of your presence before you approach!



# When fueling the chain saw...

- Clean the area around the site
- Use only appropriate gas containers for filling & transporting
- Set the saw on the ground when filling



Photo courtesy of Kevin Eckert

- Let the chain saw engine cool before refueling

# When carrying a chain saw...

- The engine should be shut off
- The chain brake should be engaged
- The scabbard should cover the guide bar to prevent cuts
- The chain saw should be carried backward
- The muffler should be carried away from the body to prevent burns



Photo courtesy of Kevin Eckert

# Additional Resources

<http://www.isa-arbor.com/publications/>

click on TreeWorkerSafety

[www.flagsafe.ufl.edu](http://www.flagsafe.ufl.edu)

click on Tractor safety for disaster recovery

Chain saw safety

Eye safety

[www.osha.gov](http://www.osha.gov)

Click on Emergency preparedness and response



# Remember: Safety First!

- Wear the personal protective equipment
- Pay attention to your surroundings and maintain a safe work zone
- Follow safety tips closely to avoid preventable injuries, such as electrocution, overexertion, and chain saw injuries
- Get professional help if unsure of your ability to use chain saws or other equipment