

# Chainsaw Safety and Usage Skill Share

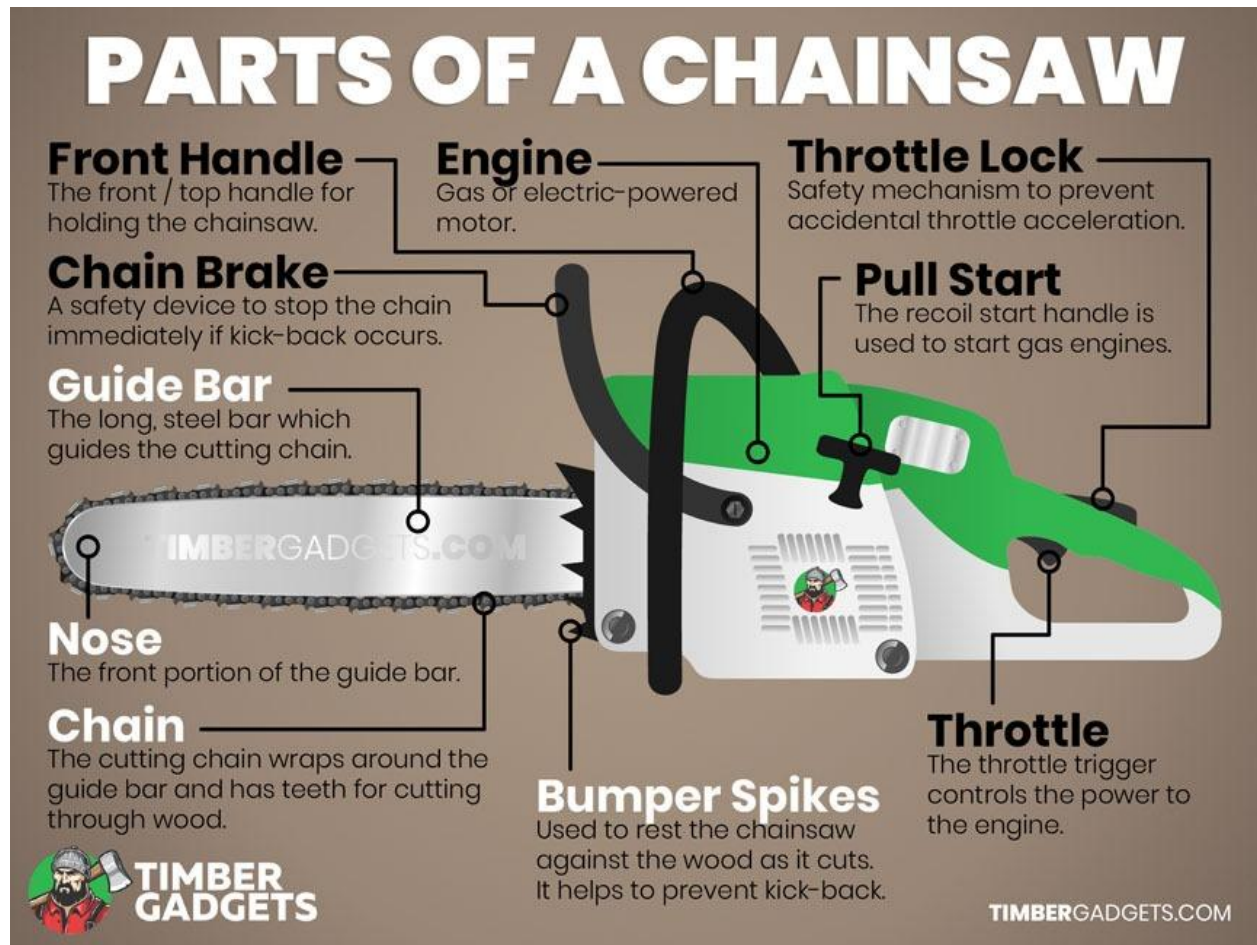
This zine is intended as a comprehensive and handy guide for chainsaw usage, safety and storage and was taken from a virtual skill share for mutual aid workers engaging in tree debris cleanup following Hurricane Idalia.



## Info toolbox:

- The Parts
- The Basics
- Safety Gear
- Storing Your Chainsaw
- Preparing for Use
- Handling Your Chainsaw
- First Aid

## The Parts:



Although variations exist from model to model, and between gas and electric models, the basic structure likely contains the following elements:

- The bar: Flat segment on which the chainsaw chain is affixed.
- The chain runs along the bar.
- The chain is composed of teeth and depth gauges to control how deep the cut is.
- Two step engagement system to turn the chainsaw on: typically a button and a trigger with a dead man's switch which turns the chainsaw off immediately when one of the buttons is disengaged.

## The Basics:

Scene safety. Do weather conditions allow for safe chainsaw usage? Wet conditions can cause you or your grip to slip while cutting. Do conditions for maintaining solid footing exist? Is there a risk of debris falling on you or causing you to pull back in such a way which can cause injury? Are there any downed power lines tangled up in the tree debris you are about to begin cutting? Work to your skill set. Injuries can and do happen when we work outside of our scope of knowledge and practice.

Never cut alone! When using a chainsaw, be sure to work as a buddy in the event that an injury occurs, a buddy will be needed to help care for the injury and get medical help quickly. When handling a chainsaw, always wear your personal protective equipment (PPE). Most chainsaw injuries are completely preventable!

### **Safety Gear: PPE**

- Floor length pants
- Boots
- Chainsaw chaps (made of kevlar/buckles around waist and clips over pants)
- Gloves
- Hearing protection (24 to 34 decibel rating)
- Helmet
- Eye protection (NOTE: anything that impacts your eyes can make you pull back suddenly or move in such a way which can compound and create additional injury)

### **Storing your chainsaw:**

Prior to storage, empty fuel mixture, clean debris off of chainsaw and store in clean, dry area. If storing oil/gas between usage, ensure mixture still sloshes and pours easily out of container prior to pouring back into chainsaw. Some evaporation of gas may take place and compromise the mixture.

### **Preparing for use:**

You have checked your stored oil/gas mixture and are ready to fuel up your chainsaw. Be aware that teeth of chainsaw dulls with use. Universal chain saw blade sharpeners can be purchased online or in stores for roughly 20 to 30 dollars.

Place chainsaw on a flat surface to access the bar. There are teeth on both sides of the chain. These teeth sit at an angle. Match that angle with the file and keep the file parallel to the ground. Fit file into each slot between teeth and slide forward only. Turn saw over and proceed to file teeth on the opposite side in the same manner.

5-10 strokes on each tooth improves performance and helps to avoid preventable injuries which can be caused by using a dull blade as dull blades behave erratically!

When out in the field, having two chainsaw blades is helpful. If one blade is dulled by use you can swap out and continue cutting.

Prior to each use check for tautness of chain. Chain has to be free to move but not too free. Test the tautness by lifting the chain. If you can lift the chain and see the mechanisms underneath, the chain is too loose. Adjust tension to where you can just barely lift the chain. Your specific model's manual can assist you in your chainsaw's tightening procedure.

## Handling your chainsaw:

When handling a chainsaw, be certain to maintain solid footing on the ground. Do not stand on unstable terrain while operating a chainsaw.

Hand placement for chainsaws are: front handle LEFT hand. Back handle RIGHT hand. This is true whether you are right or left handed. (as illustrated below)



Proper technique is critical to preventing injuries. Maintain a solid stance. Hold chainsaw towards right hip, not in line with your face or center torso, so that in case of kick back, you will not be in the cutting line.

Hold chainsaw close to your person. Holding the chainsaw far away lessens your control over its trajectory.

Do not cut with the chainsaw tip. Cut with the blade area close to the spikes at the base of the blade.

Actions you will make with your chainsaw are bucking and limbing. You will NOT be felling trees. You will be cutting already felled trees with caution as even felled trees can be unstable and cause injury or death by rolling or snapping while you are cutting them.

Bucking is cutting the felled tree into sections. (Cut from the top of the felled tree and move down. )

Limbing is cutting branches off of a fallen tree. (Be very mindful that you are only limbing NON WEIGHT BEARING limbs.) There is a real danger of you bucking limbs that thousands of pounds of tension are resting on.

Cut limbs prior to bucking. If you have a root ball (As seen in image below), cut this area off first, so it does not act as a counterweight to pull the tree upright as you remove the top. Root balls can weigh multiple tons - make sure everyone is clear of the ball and the hole!



Cut and Clear: Buck in sections moving down from the top of the tree to continue to lighten the weight as you cut away each section.

Proper protocol for bucking to avoid the tree halves falling inward and pinching the blade is to cut part of the way from underneath the tree and part of the way from the top. When cutting from the top, move over a bit from where you were cutting underneath and proceed.

As you buck the tree, you can use the cut off pieces to wedge underneath the remainder of it to secure the tree as you go and avoid it rolling or moving in an unpredictable way as you cut.

## First Aid:

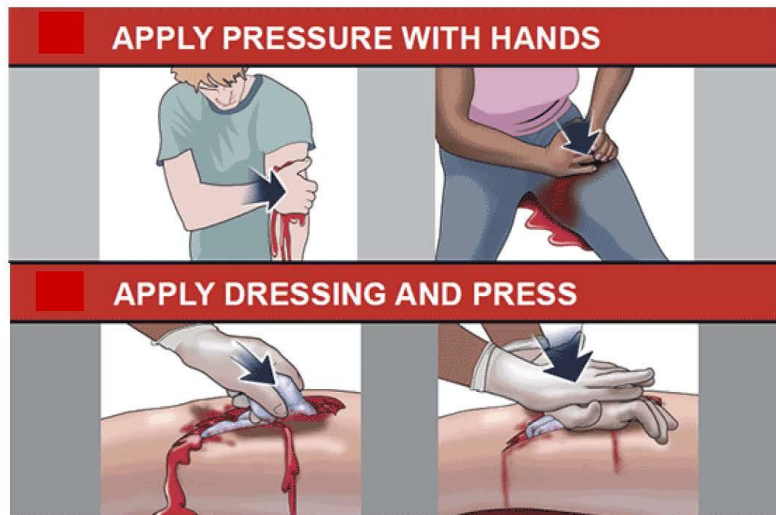
Common injuries with chainsaw usage include lacerations and eye injuries. You can lessen the danger of injuries sustained by never cutting alone, wearing PPE and carrying a small first aid kit, particularly if cutting in a remote area where emergency medical services response time may be elongated.



1. Call 9-1-1
2. Ensure Your Safety
3. Wear Gloves
4. Find the Bleeding Injury

### 5. Compress and Control

- ✓ Take gauze or Quick Clot bandages and cover wound.
- ✓ If wound is large and deep: "Stuff" gauze or Quick Clot bandages into wound.
- ✓ Apply continuous pressure with both hands directly on top of bleeding wound.
- ✓ Push down as hard as you can.
- ✓ Hold pressure to stop bleeding. When bleeding is controlled, wrap wound and gauze tightly with elastic bandage. Continue pressure until relieved by medical responders.



For severe or life-threatening bleeding from an arm or leg: Use a tourniquet if available -



# FIRST AID FOR EYE INJURIES

Adapted from Penn State Extension, 2012: "Head, Eye, and Foot Protection for Farm Workers"

## → FOREIGN PARTICLE IN EYE?



**Do not rub eyes**

Rubbing can scratch the eye or embed the object.



**Flush eye with water until object rinses out**

If this doesn't work, bandage both eyes loosely and seek medical attention.

## → OBJECT EMBEDDED IN EYE?



**Do not try to remove object**



**Bandage both eyes loosely and seek medical attention.**

## → CUT NEAR EYE?



**Do not rub, press, or wash the cut**



**Bandage both eyes loosely and seek medical attention.**

## → BUMP OR BRUISE?



**Apply a cold compress for 15 min to reduce swelling**

Seek medical attention.



**Close eyes and seek medical attention.**

You may not feel pain right away. Four to twelve hours later, eyes may be sensitive to light or be red swollen.



Upper Midwest  
Agricultural Safety  
And Health Center

UMASH is funded by the National Institute for Occupational Safety and Health cooperative agreement U54OH010170 (2009-2021)

GET CONNECTED!  
umash.umn.edu



