Agricultural safety seminars
2024-2025

Training designed for Oregon's agricultural industry

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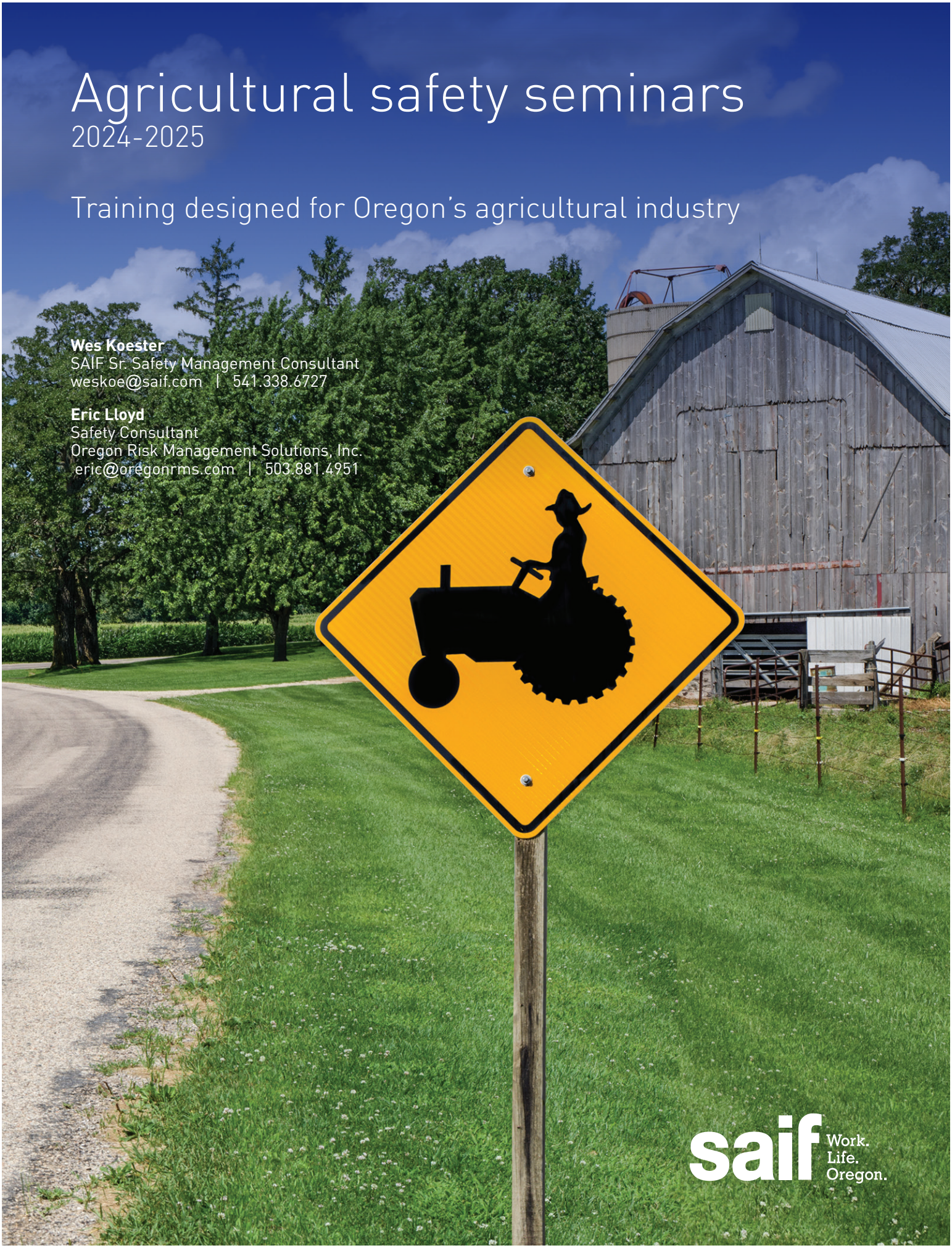

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Conditional exemption from small agriculture employer "random" OSHA inspections

The exemption is available for agricultural employers with 10 or fewer permanent year-round, full-time and part-time employees. For determining the number of employees, exclude members of the agricultural employer's immediate family from the count.

The immediate family is defined as grandparents, parents, spouses, sisters, brothers, daughters, sons, daughters-in-law, sons-in-law, nieces, nephews, grandchildren, foster children, step-parents, step-children, and any blood relative living as a dependent of the core family.

Requirements for the exemption:

- **Accidents:** Within the preceding two-year period, the employer must not have had an accident resulting in death, in-patient hospitalization, or injury resulting in more than three days of lost work **that was the result of a violation of Oregon OSHA rules**.
- **Consultation:** A comprehensive consultation must be completed within the last four years and all problems identified in the report were corrected.
- **Training:** The employer and principal supervisors must annually attend at least four hours of instruction on agricultural safety or health. Attending a comprehensive safety and health consultation done on an agricultural place of employment is also acceptable as training.

The exemption does not include inspections for:

- Agricultural labor housing or field sanitation
- Valid complaints against the employer filed with Oregon OSHA
- Fatalities, catastrophes, and accident investigations

Sources: OAR437-001-0057 May 4, 2015 Oregon OSHA Program Directive: A-214

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Presenters

Eric Lloyd is a safety consultant with Oregon Risk Management Solutions, Inc. His exposure to safety and agriculture began at an early age, when he spent summers working on the family ranch in Idaho and watching his father provide training and consulting services to promote ag safety throughout Oregon. Eric earned a degree in criminal justice from Western Oregon University, and served in law enforcement for several years until being drawn back to his roots and joining the family business in 2016.

Wes Koester is a SAIF senior safety management consultant living and working in the Willamette Valley area. He grew up working in his family's farm and nursery business in Riddle, Oregon. Wes graduated from the University of Oregon with a Bachelor of Science degree in psychology. Over the past five years, he's educated farms and agri-business around the state through a variety of technical and practical seminar topics.

Navigating Oregon OSHA's top citations

On January 1st, 2024, Oregon Senate Bill 592 went into effect.

Prior to Oregon Bill 592, our Oregon OSHA standards were below the Federal standards. Now Oregon OSHA standards greatly exceed the federal standards.

Under the direction of our State Legislature, two major changes were made.

The first major change is that the law now requires a follow-up comprehensive inspection within a year after a serious injury or fatality occurs. Because it's a comprehensive inspection, this inspection is not limited to where the serious injury or fatality occurred. Oregon OSHA will inspect the farm in its entirety.

The second major change that came out of Oregon Bill 592 is that Oregon OSHA was directed to make significant penalty-structure changes that can potentially affect ALL companies (including farms) throughout Oregon.

The Legislature specifically stated that their goal was "to enhance workplace safety by ensuring that penalties are substantial enough to incentivize compliance with safety regulations (in order to) reduce workplace hazards."

Oregon OSHA actually testified against these substantial fine increases, but the State legislature still passed Oregon Bill 592. Oregon OSHA inspectors are required to enforce these new requirements. The result as been a substantial increase in pentalty fines.

In the past, Oregon's OSHA penalties were among the lowest in the n ation. Now Oregon's penalties rank in the top 3 highest in the nation.

Violations are falling into one of two primary buckets: Either **Serious** violations or **Other than Serious** violations.

An Other than Serious violation can be something that needs to be corrected but has less potential to lead to a severe injury or death compared with something that is Serious.

Example: Other than Serious violation
Although displaying certain information posters such as the OSHA 300A log for our employees is very important, not displaying them on the poster wall doesn't necessarily lead to a direct serious injury, so this type of penalty citation is generally considered 'Other than Serious'.

Another example might be forgetting to initial some of the monthly inspections on your fire extinguishers.

Example: Serious violation
A Serious violation might include not having the necessary guards in place for some farm equipment whether that's your auger or your bailer or even your shop's bench grinder, or perhaps having a damaged PTO shield on your tractor.

Another example might be not having an eyewash station available for those who are mixing chemicals, because something could splash in their eyes and cause them to lose their eyesight, which is obviously a serious injury.

The "Old way"

Base penalty table

Other than serious		Serious violation		
Probability	Severity	Probability	Severity	
	Other than serious		Serious physical harm	Death
Low	$0	Low	$300	$3,750
		Medium	$750	$6,500
High	$300	High	$2,150	$13,500

The "New way"

First instance penalty table

Other than serious		Serious violation		
Probability	Severity	Probability	Severity	
	Other than serious		Serious physical harm	Death
Low	$0	Low	$3,458	$11,528
		Medium	$6,916	$13,833
High	$300	High	$9,222	$16,138

Repeat violations and penalties

The "Old way"

Repeat and willful table		
Repeat occurrence	Serious	Other than serious
1st repeat	x2	$200
2nd repeat	x5	$500
3rd repeat	x10	$1,000
4th repeat	x15	$1,500
5th repeat	X20	$2,000
Additional repeats	Discretion of Administrator	
WILLFUL		X25
Minimum Repeat Penalty of $200		
Minimum Willful Penalty of $9,753		
Maximum Penalty of $135,653		

The "New way"

Repeat table		
Repeat occurrence	Other than serious	First Instance serious initial penalty
1st repeat	$11,528	x4 base penalty
2nd repeat	$11,528	x6 base penalty
3rd repeat	$11,528	x8 base penalty
Additional repeats	Discretion of Administrator	

We all want a safe working environment for all farm workers, where the machines are working properly, machine guards are in place, regular safety inspections are being conducted, and employee training is up to date. But, sometimes things fall through the cracks. In the past receiving a $200 or $500 fine wouldn't be great, but it wouldn't be the end of the world either.

After the passage of Oregon Senate Bill 592, the potential "Other than Serious" repeat violation fine has jumped from $200 to $11,528.

To help you avoid violation and keep workers safe, we are going to go over the top 10 most common Oregon OSHA violations in the agricultural industry.

Resources for this list are available for download at:
saif.com/agseminars under the **Resources** tab.

10. All others

This full list includes more than the following, but these are the most common.

Citations included:

- Extension cords issues
- Guardrail and handrail issues
- Blocked or no access to breaker box panels
- General requirements for exits and exit routes
- Covers or faceplates needed for wall plugs and switches

9. Fire extinguishers

Citations included:

- Required service maintenance not completed
- Failure to conduct monthly inspections
- Fire extinguishers not mounted or lacks placard

8. Recordkeeping and reporting workplace injuries and illnesses

Citations included:

- Lack of recordkeeping
- Timeliness of reporting requirements
- Incomplete or lack of form requirements
- Failure to complete OSHA 300 log
- Failure to complete OSHA 300A summery

All employers must report:

Within eight hours:
All work-related catastrophes and fatalities

Within 24 hours:
The loss of an eye
An in-patient hospitalization
An amputation or an avulsion

7. Emergency eyewash and shower facilities

Citations included:

- Emergency eyewash and shower facilities unavailable
- Unsanitary eyewash station
- Expired fluids within eyewash reservoir
- Obstructed path and access
- Lack of inspection documentation
- Signage placard unavailable

6. Labor housing issues

Citations included:

- Unsatisfactory living areas
- Site requirement issues
- Lacking fire protection
- Cooking and eating facility issues
- Toilet facilities were unsatisfactory
- Bathing and laundry requirements issues

5. Hand labor work and operation

Citations included:

- Unsatisfactory toilet/hand washing facilities
- Lack of clean potable drinking water
- Field sanitation requirements not met
- Field sanitation notice not posted
- General requirements

4. Hazard communication standard

Citations included:

- Employee information and training
- Labels and other forms of warning
- Safety data sheets (SDS)
- Storage of agricultural pesticides and chemicals
- Written hazard communication program

3. Required written programs/plans

These were the top three written safety programs/plans that were cited as missing or incomplete:

- Hazard communication program/plan
- Respiratory protection program/plan
- Heat illness prevention program/plan

2. Safety committees and safety meetings

Citations included:

- Rules and requirements—safety committees
- Rules and requirements—safety meetings
- Documentation—safety committees meeting documentation
- Documentation—safety meetings

Requirements and responsibilities

- Meet monthly
- Meet on company time
- Establish a system for employes to report hazards and offer suggestions
- Evaluate accountability and processes and make recommendations
- Train committee members

1. Worker protection standard

Citations included:

- Training requirements for pesticide handlers
- Display of pesticide safety information
- Proper recordkeeping
- Agricultural employer duties including PPE
- Required pesticide application information
- Pesticide product safety training

Coexisting with agricultural chemicals revisited

The label is the law
When dealing with chemicals, the "label is the law" we need to be following any time we're working with pesticides of all sorts, from Roundup to Paraquat and everything in between.

What kinds of information can we find from our product labels?

Signal words

Caution	Slightly toxic either orally, dermally, or through inhalation; causes slight eye or skin irritation
Warning	Moderately toxic either orally, dermally, or through inhalation; causes moderate eye or skin irritation
Danger	Can cause severe eye damage or skin irritation
Danger-poison	Highly toxic by any route of entry into the body

Sample label

Product identifier

TJP556677
Detraxit

Supplier identification

ABC Supplier
1010 Industrial Ave., Anytown, State, 550055, USA
(800) 555-5555

Precautionary statement

Keep container tightly closed. Store in a cool, well-ventilated place that is locked.
Keep away from heat/sparks/open flame. No smoking.
Only use non-sparking tools.
Use explosion-proof electrical equipment.
Take precautionary measures against static discharge.
Ground and bond container and receiving equipment.
Do not breathe vapors.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash hands thoroughly after handling.
Dispose of in accordance with local, regional, national, international regulations as specified.
In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO2) fire extinguisher to extinguish.
First Aid
If exposed call Poison Center.
If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.

Pictograms

Danger

Signal word

Highly flammable liquid and vapor.
May cause liver and kidney damage.

Hazard statement

Directions for Use:
Apply product to clean surface and allow to dry for a minimum of two hours.

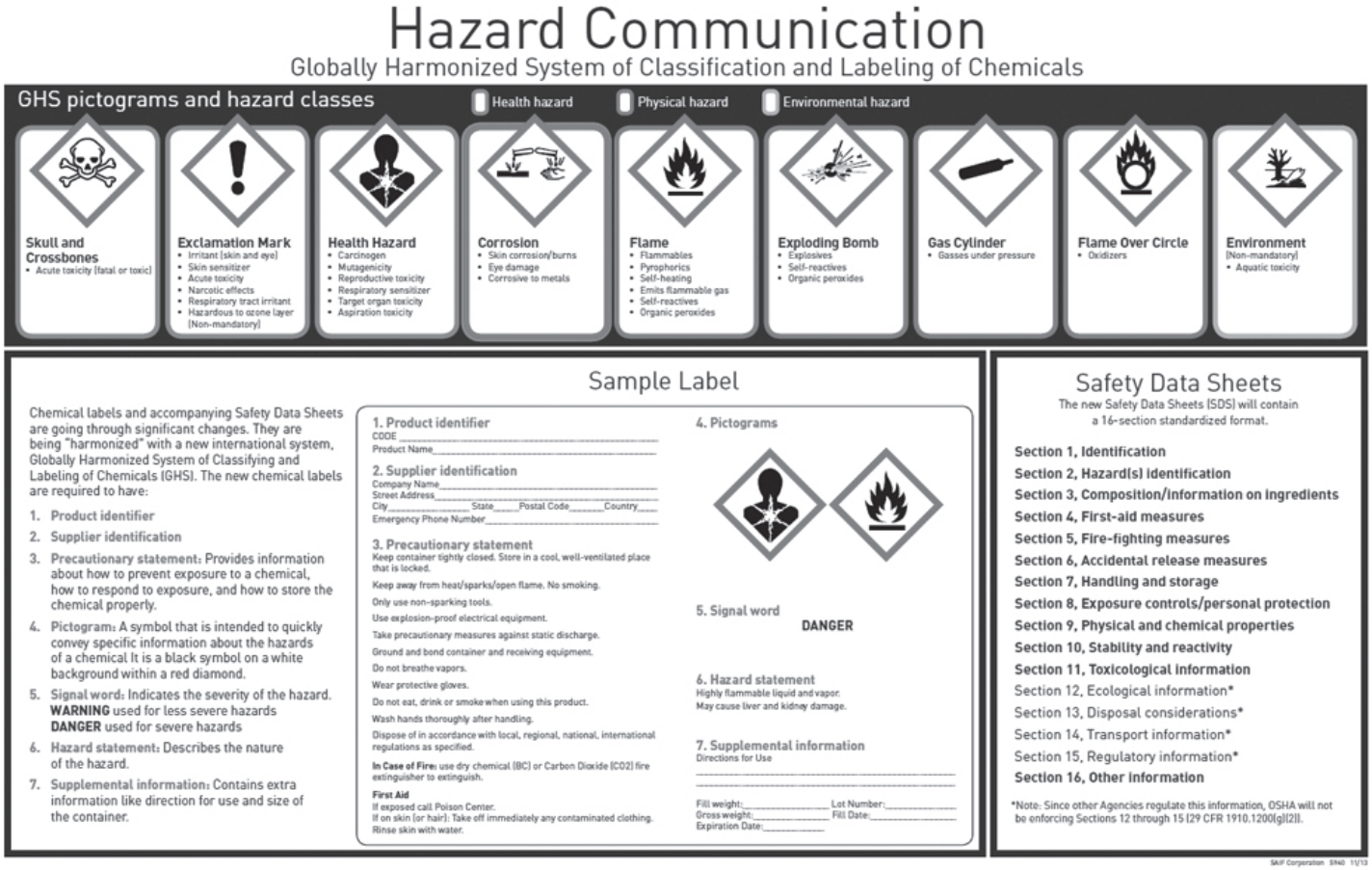
Supplemental information

Fill weight:18.65 lbs. Lot Number:B56764434
Gross weight: 20 lbs.5
Expiration date: 6/21/25

General use vs. restricted use

Sometimes when people are thinking about their safety, related to pesticide handling, they make handling decisions based upon whether it is a **General Use** or **Restricted Use** product. For most of us, the majority of the products we keep on our farms likely are General Use, meaning you don't have to have an applicator's license to purchase them. However, the vast majority of us have at least some restricted use products on our farms.

We can also encounter restricted use pesticides that are really bad for fish and other wildlife. It is important that we still handle them correctly to help protect our environment and natural resources, even if these might present a minimal, if any, hazard to humans.



11x17 color poster available at **saif.com**
Search "hazard communication"

Chemical storage

Restricted Use Pesticides come with a few additional obligations over General Use products.

We're required to keep them under lock and key when they're in storage or we're not in immediate control of them.

We're required to store them on a cleanable surface.

And we want to make sure we aren't storing wet products above dry products, creating a scenario where a leaky jug could lead to the product underneath gassing off and filling our chemical shed with a cloud full of nastiness.

In order to make sure we're complying with these rules for Restricted Use products, the first thing we need to do is make sure we can find them in our storage area.

We should be working towards a goal of pesticide storage that looks something more like this. Products organized by category and jugs of the same product grouped together, with clear walkways free of spills and other slip/trip hazards. Not only does this make inventory easier to manage, and keep us safer while we're coming and going from our storage area, but just from an optics standpoint, this is going to have a better appearance and set a better tone should we ever find ourselves being inspected by OSHA or audited by ODA.

Locked storage
While it's generally legal to have our Restricted Use products interspersed with our General Use chemicals, one of the most common problems people struggle with is keeping their chemical storage areas locked. During a busy season where people are frequently coming in and going from chemical shed, it's just a hassle to unlock it and relock it every time. Perhaps it just gets forgotten about. This is understandable, but we can potentially face stiff fines if we get caught with Restricted Use products improperly left in unlocked storage.

One solution is to create separate locked storage. Sometimes that's a designated shelf area or an entirely separate building. Some people buy a plastic garden shed, with its own lock, and place it in the chemical shed. Some build a lockable cage into a section of shelving where only Restricted Use products are stored.

However we go about it, we have to keep Restricted Use products under lock and key when we're not immediately in control of them.

Cleanable surface
Restricted Use chemicals require a cleanable surface for storage.

Metal or plastic shelving is the easiest choice for shelving as long as they are durable and can handle the weight. Wooden shelves with vinyl coating, or that's been painted and sealed can be acceptable as well.

Storing jugs in plastic trays or tubs can catch spills for easy clean up and control. Larger containers can be placed in kiddie pools in case of a leak or spill.

In general, these practices are good for all chemical storage.

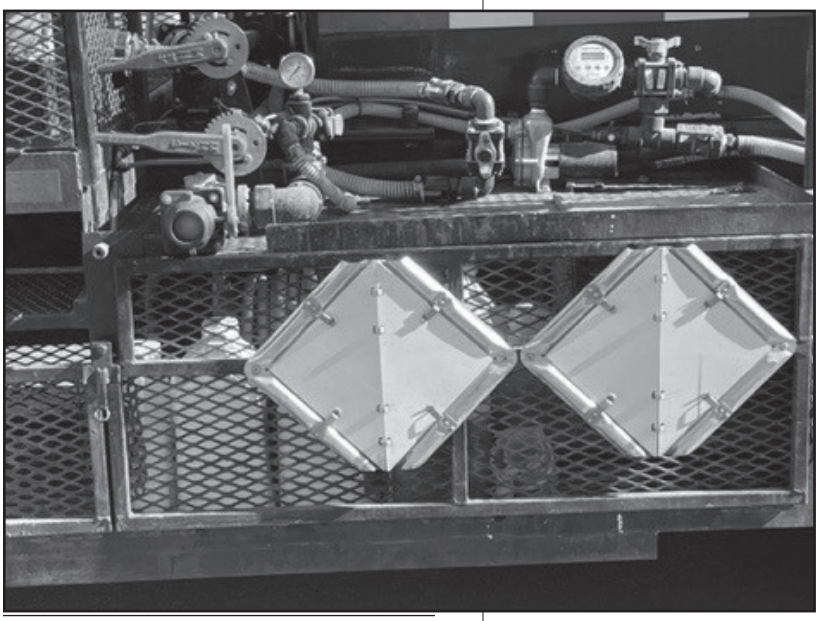
Dry products above wet products
If there is a leak, we don't want wet products leaking onto dry products. This can, and has, lead to serious illness and even fatalities.

It's a pretty easy solution to move our dry products to the top shelf when they're in small packages. The reality is, however, that dry products are more likely to look like a 50 pound sack of Prozap then a 2 pound box of Corry's Slug and Snail Killer. In these cases we need to factor ergonomics into our storage plans to ensure we're not handling heavy sacks of product in a manner that could lead to injury trying to get them on and off a top shelf. This may mean designating a whole shelf specifically for dry products so they don't have to go all the way to the top.

However we go about it, we need to keep our dry products out from underneath our wet products.

Transportation
Sometimes we need to take Restricted Use products out into the field. We stay in immediate control of them while mixing, prepping, and applying them.

However, problems arise (for example) when we throw a sack of ProZap into the bed of our pickup to go apply half of it in the morning, and then come back in for lunch, get distracted by another project for the afternoon, and leave that sack of Restricted Use product sitting in the driveway of our farm with no one else around.



Or perhaps a jug of Gramoxone gets left on the deck of our water truck and doesn't make its way back to storage at the end of the day. That could potentially be treated the same as the door to our chemical shed being left wide open, and lead to big trouble.

If we're able, excess product being taken out into the field can be transported in separate locked storage, such as a pickup tool box, a portable cage, or even an igloo-cooler with a padlock installed. Make sure it's not sitting out, accessible to people who aren't authorized to access it, or to those who might not realize the hazards associated with it—like children and pets.

Decontamination
Most of us have decent eye wash/emergency shower setups on our farms that are generally in the vicinity of our chemical storage areas.

As we're loading up our various pesticides into a pickup, or onto the deck of our water truck to be taken out into the field and applied, the further away from home base we go, the further away we are from our abilities to clean up, wash off, and decontaminate ourselves if we have a spill or other accident occur leading to pesticide exposure.

Consider having a decontamination kit ready to transport along with the pesticides. This is a great idea, especially when we're mixing on site, or working with corrosive or more hazardous products.

A basic decontamination kit should include a supply of fresh water, soap and paper towels, bottles of eye wash, and a change of clothes (like a spare pair of coveralls or a Tyvek suit). That way, if we slop product on our clothes, we're not tempted to just ride it out and finish our shift rather than going home and changing while we're soaking in that product or potentially sustaining chemical burns or other painful consequences.

Spill kits
If we do have a spill, we need to have the appropriate supplies to clean it up. What is in the spill kit may depend on what products you are using as well as the potential volume of spilled product. You should also consider what surface the spill could happen on (a truck bed or dirt) or what the spill may reach (a public road or waterway).

"If you ever want to make getting in trouble with OSHA
seem really fun, easy, and affordable in comparison,
all you have to do is get in trouble with the EPA."
-Eric Lloyd

Take another look at the label for the required PPE when handling the chemical and preparing a spill kit. You might only need some gloves and eye protection. Depending on what the labels says, you might think about expanding into respiratory protection, full face shields, Tyvek suits, and plastic booties or rubber boots.

If you are moving a large quantity of hazardous materials on public roads, its not a bad idea to have and plan that includes a professional spill response and hazmat containment provider, so you know who to call in case of a significant issue.

Secondary containers
If we do have a chemical jug leak, or even just in the process of mixing or distributing chemicals for use around our farm, we might be tempted to move those products into secondary containers other than what they came in.

Is this legal? Yes, it is.

What do we need to make sure we label them appropriately when we do? Remove the old label if there is one, and write or otherwise apply a label identifying what product is in the jug now, so there is no confusion about what we're handling in the event we do have a spill or other exposure, and we can check the safety data sheet and know exactly how to protect ourselves.

Label all secondary containers

One thing we definitely want to avoid is the use of food or beverage containers for storing and/or transporting our chemicals and hazardous materials. There have been far too many tragic cases of children finding those bottles, thinking they're a soda or Gatorade or whatever, and taking a drink, leading to serious injuries or fatalities. Even adults have made that same mistake.

Avoid storing chemicals in beverage containers.

Stinger - Herbicide

Coke

Antifreeze

Mt. Dew

Transmission Fluid

Cranberry Juice

Windshield washer

Powerade

What do you think is the most dangerous chemical you work with, statistically speaking?

Is it Phosgas fumigant, Gramoxone, Paraquat, Lorsban, ProZap, or something else?

Write our answer here.

What is the Worker Protection Standard?

- Established in 1994, the U.S. Environmental Protection Agency's (EPA) Worker Protection Standard (WPS) aims to reduce the risk of pesticide poisoning among agricultural workers and pesticide handlers.
- Oregon OSHA enforces the WPS in the state.

When does the WPS apply?

Whenever the words "Agricultural Use Requirements" appear on the product label where plants are grown or sold.

What is a pesticide?

Pesticides include all chemicals used to prevent, destroy, repel, or reduce pests. They are also used to manage weeds, insects, rodents, and plant diseases.

Pesticides include:

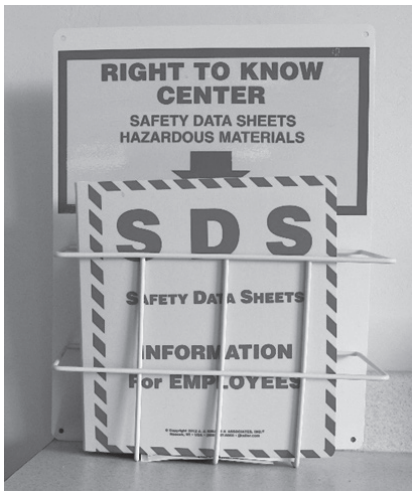
- Insecticides
- Fungicides
- Herbicides
- Rodenticides
- Miticides
- Defoliants
- Desiccants
- Plant Growth Regulators
- and all the other " –cides," too.

What do you need to have in place for Worker Protection Standard (WPS)?

- Central posting and worker information
- Safety training so that employees understand
- Property-specific information
- Personal protective equipment
- Decontamination
- Emergency assistance

Safety data sheets

- Supplied by manufacturer
- Available for all hazardous chemicals
- Accessible for reference and during an emergency
- Keep for 30 years



Looking for more information?

On YouTube, search:
"Worker Protection Standard for Agricultural Workers."
-OR-
"Ley de Protección al Trabajador (WPS)
para Trabajadores Agrícolas"

Publication in English and Spanish
Safe Practices when working around hazardous agricultural chemicals
https://osha.oregon.gov/OSHAPubs/1951.pdf

Winter warriors: Cold stress safety on the farm

Recap: Heat illness prevention

Heat illness symptoms

Heat exhaustion

- Elevated body temperature
- Dizziness
- Headache
- Heavy sweating
- Decreased urination
- Nausea
- Thirst
- Irritability
- Fatigue

Act fast

- Move to a cooler area
- Loosen clothing
- Sip cool water
- Seek medical help if symptoms don't improve

Heat exhaustion can lead to heat stroke.

Heat stroke

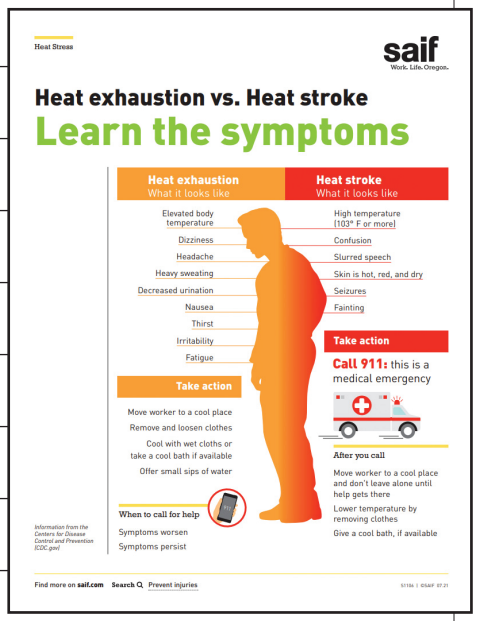
- High body temperature (above 103° F)
- Confusion
- Slurred speech
- Skin is hot, red, and dry
- Seizures
- Fainting

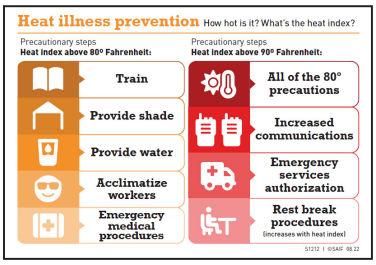
Call 911 if you notice any symptoms of heat stroke.

Act fast

- Move person to a cooler area
- Loosen clothing and remove extra layers
- Cool with water or ice

Heat stroke can cause death or permanent disability if emergency treatment is not given.





Visit **saif.com** and download these resources available in English and Spanish
Heat exhaustion vs. Heat stroke (S1106)
Heat illness prevention card (S1212)

Every year, workers across Oregon are exposed to freezing, windy, bitter, wet, cold conditions that can lead to serious injuries if a person out in the cold isn't fully prepared.

Just like the extreme heat of the summer, if we haven't fully planned for the extreme cold of the winter, we could find ourselves subject to the harmful effects of frostbite, Chilblains, trench foot, hypothermia, and other cold-temperature-related illnesses.

In the United States, it's estimated that more than 20,000 people sustain various types of serious injuries and illnesses from the extreme cold each year. Over 600 people die each year due to extreme cold exposure in the United States.

Hypothermia is when the body cools to a temperature lower than normal body heat.

A healthy human body creates it own heat and also contributes to the temperature around the body. If the body encounters wind, heat around the body can be displaced. The temperature in the greater area may stay the same, but added wind can make the area feel colder as the warmer air near the body moves away. We call this **Windchill**, and it can contribute to hypothermia.

Types of cold stress injuries

Chilblains
Often found in hands and feet

Indication: Inflammation of the small blood vessels in the skin.

Symptoms: Redness, itchiness, possible blistering, inflammation

Treatment: Warm the skin and apply cortico-steroid cream (to reduce itching).

Avoidance: Dress in multiple layers that create heat layers.

Trench foot
Indication: Water-saturated feet

Symptoms: Reddening of the skin, tingling, pain, swelling, leg cramps, numbness, blisters. Feet might feel heavy.

Treatment: Remove wet shoes and socks carefully, then soak the feet in warm water for about five minutes. Dry the feet and put on dry socks or wrap them in a warm, dry towel. A warm, sugary drink can help restore circulation.

Avoidance: Dress in multiple layers. Remove wet layers. Keep your feet dry.

Frostbite
Found mostly in the cheeks, ears, nose, hands, finger, feet, and toes.

Indications: Frozen skin and frozen tissue below the skin layer. Symptoms: Tingling, stinging, aching, loss of feeling or numbness, and color change.

Treatment: Emergency medical treatment is advised. Do not rub the affected area. It can cause more damage.

Avoidance: Avoid skin exposure to below freezing temperatures.

Warning signs of hypothermia

- Confusion
- Shivering and fatigue
- Difficulty speaking
- Sleepiness
- Stiff muscles

As hypothermia progresses, the shivering may suddenly stop and the person may begin to have slurred speech. They may also show signs of increased drowsiness, shallow breathing, or a weak pulse—which may ultimately lead to loss of consciousness, full heart failure, or even death.

If you see someone experiencing these types of symptoms, you should call 911 immediately. While you're waiting for the emergency medical team to arrive do what you can to get the person warm. Remove wet clothing, put the person in warm area, and wrap them in blankets. Apply hot water bottles or heat packs starting with the center of the body. You can even share your own body heat.

If the person suffering from hypothermia is still conscious, give them warm soup or warm liquids to drink. This will help raise their body temperature. Warm, sugared drinks can encourage circulation. Avoid drinks with alcohol. They dilate the blood vessels and which causes a person to lose body heat. Avoid drinks with caffeine because they can cause blood vessels to constrict with hinders circulation.

Avoid hypothermia (as well as these other cold stress injuries that we've been discussing) by dressing in multiple layers of clothing which can help trap the heat in against your body. Take re-warming breaks to get yourself out of the cold into a warm area so you can warm your body up. Keep your body dry.

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Driving in extreme weather

Before you go:

- Know your car's safety features (www.mycardoeswhat.org), such as antilock brakes and electronic stability control, and prepare for how to respond in a skid (bit.ly/3nVUyiI). Don't assume that four-wheel or all-wheel-drive vehicles will handle better on ice.
- Make sure tires are properly inflated and have plenty of tread (bit.ly/3BPfOvt). If necessary, install all-weather or snow tires.
- Make sure snow chains are in good repair.
- Test battery.
- Top up anti-freeze and winterized windshield fluid. Replace worn wiper blades.
- Keep your tank at least half full.
- Stock your car's emergency supply kit.
- Never warm up a vehicle in an enclosed area, such as a garage, to avoid the risk of carbon monoxide poisoning.
- Adequately clear windshield of snow and ice.
- Know your route, including fuel stops and chain-up areas. Share it with others.
- Check weather and road conditions (bit.ly/3o1j6H8). Monitor safety advisories.
- If in doubt, stay home.

Behind the wheel:

- Increase following distance. (*Rule of thumb: Add one second for each additional road hazard, such as heavy rain, ice or snow, low visibility, or slow-moving vehicles.*)
- Take extra care when rain starts, as oils can make the road slicker.
- Accelerate and decelerate slowly. Minimize braking by using lower gears for better control.
- Avoid unnecessary stops, especially going uphill.
- Never use cruise control when roads are wet or icy.
- Turn on low beams to improve visibility. (High beams can cause glare and decrease visibility.)
- If your vehicle skids (bit.ly/3nVUyiI) or hydroplanes (bit.ly/3bKoYi2), ease off the gas and avoid hard braking. Steer gently in the direction of the skid; stay focused on where you want to go.
- Don't drive (or walk) through flood waters. Twelve inches of moving water can sweep away your vehicle; six inches can knock you off your feet. Remember: "Turn around. Don't drown."
- Use caution when approaching bridges or shaded areas, which are more prone to freezing.
- If snow chains are required, pick a safe pull-out area. Use flares or reflective triangles and reflective vest for visibility.

In an emergency:

- Find a safe place to pull over. Avoid the shoulder of the road or pull as far away from traffic as possible. Turn on hazard lights.
- Stay with your vehicle. To alert responders, tie a bright cloth to the antenna, raise hood (if feasible), and turn on interior lights (when engine is running).
- If you're stranded in winter weather (**bit.ly/3wkIkny**), clear exhaust pipe of snow and ice to reduce risk of carbon monoxide poisoning. Run heater for short periods only.
- If you're trapped in flood water (**ready.gov/floods**) that is rising inside the car, immediately remove your seatbelt, roll down the window, and exit the vehicle as quickly as possible, pushing children out first. Hang on to the roof of the car and call for help.

Emergency kit for car:

- High-visibility vest
- Traffic cones or triangles
- Flares
- Bottled water and food
- Headlamp or flashlight with extra batteries
- Jumper cables or jump starter
- Ice scraper
- Blanket or sleeping bag
- Maps
- Lighter
- Pen and paper
- First-aid kit, including prescriptions
- Chains, snow tires, or traction devices (weather dependent)
- Warm clothes and outerwear, including hat and gloves; sturdy shoes/boots
- Cell phone charger

Personal protective equipment in the cold

Layers: Start with a base layer of synthetic weave that wicks away moisture and provides ventilation. Add a middle layer of down or wool to absorb sweat and provides heat insulation even when it's wet. Add an outer layer (or the shell) helps to repel water, as a wind-break, and to allow some ventilation.

Specialty layers: Wear bibs, waders, and rainsuits as needed—depending on the work you're doing.

Gloves: Start with a base layer of glove liners, then add a pair of larger nitrile gloves over them if you're working in wet fields or some other environment where it's wet so we can keep our hands dry. Make sure they are not too tight. If it's extremely cold outside, add heat packs between your base layer gloves and the nitrile gloves (the nitrile gloves will help keep them in place). Then, based on the job, a final glove outer layer.

Wear a hat: Up to 40 percent of body heat can be lost when the head is left exposed.

Wool socks and insolated long underwear: Synthetic-based fabrics can help wick moisture away from your body.

Boots: Wear boots that have an insolated liner. Tight-fitting footwear or too many layers of socks can restricts blood flow. Boot spikes can help you prevent slips and falls.

If you get hot while working, open your jacket, but keep hats and gloves on.

Keep a change of dry clothing available in case work clothes become wet.

Loose clothing allows better ventilation for better movement.

Resources

Find many cold stress safety resources at **saif.com/agseminar** under the **Resources** tab.

Emergency first aid on the farm

How many of us know a farmer—maybe a co-worker, neighbor, friend, family member—who's missing a finger, a limb, or worse, lost their life to a machine entanglement, amputation, or other serious bleeding injury?

In the agricultural industry, we often work with our close friends or family members. As unpleasant as it is to talk about traumatic injury, it may be even more difficult to think about someone we love passing away from a survivable injury because we didn't have the knowledge and supplies to help them, either on the farm or at home.

Liability

One more thing to note as we get into this topic is that **Oregon has strong "good Samaritan" laws protecting people from liability** when providing medical care within the scope of practice of a layperson.

Fighting the clock

When it comes to serious bleeding injuries, we are fighting the clock. How long do we have to "stop the bleed" in the case of a severed artery? We have approximately 30-45 seconds before losing consciousness and about 2-3 minutes before loss of life.

Having the right supplies on hand, and located so we can access them when we need them, can save a life.

Most of us have a boo-boo kit, an over-the-counter first aid kit nearby. This is typically stocked with Band-aids, antiseptic ointment, and maybe even eye wash and bee sting medicine. This is helpful, and we are likely to visit it often.

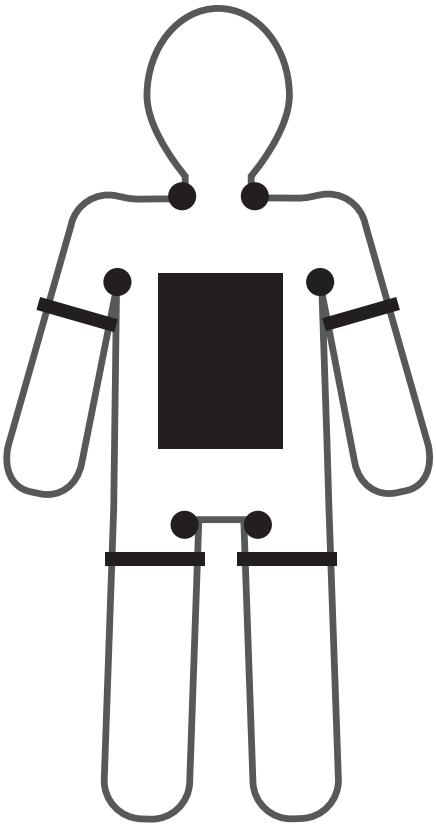
However, this is not the kit that's going to help you when someone cuts their thigh with a chainsaw or an arm gets caught in a combine header. What you need at this point is a kit that will give a person the chance to stay alive while you are waiting for the emergency medical technicians (EMTs) to arrive. For that, you need a trauma kit that at minimum has a tourniquet, nitrile gloves, compression bandages, roll gauze, scissors, and a chest seal. Your kit could contain even more, depending on the work you do on your farm.

"But, I could just use my belt!"

It's true that we can often improvise first aid supplies. Grandpa use to say, "rub dirt on it," and he wasn't entirely wrong. In a pinch, packing a bleeding injury with whatever you can find including mud, might be better than nothing and give a person a chance to stay alive long enough for a BIG shot of antibiotic later. However, improvised techniques are significantly less effective than having the right tools for the job, available immediately. Using a belt for a tourniquet, for example, is significantly less effective, if effective at all.

Just HAVING the supplies alone isn't enough. The coolest trauma kit in the world doesn't do us a lick of good if we don't know where it is, what's in it, and how to use it. Which means we need to train on how to use the supplies, so when the need arises, we know what to do.

We are going to cover a brief overview of what to do and how to do it, but we'd encourage you to **seek out more robust, hands-on, learning for your workers**. It's never too early to start learning how to save a life.



Tourniquet the limbs

Pack the junctions

Seal the box

When it comes to stop the bleed training, we're going to determine which first aid step is appropriate based on wound locations, which we divide into three categories:

Limbs—arms and legs

Junction areas—neck, armpits, and groin

Torso—also know as "the box," generally considered to run from the nipple line to the belly button

Each of these zones has specific hazards associated with them, and must be treated accordingly.

Limbs
When we're dealing with bad bleeding injuries to the arms or legs, our go-to solution is a tourniquet.

Sometimes people hesitate to apply a tourniquet because they have heard that applying a tourniquet could cause a person to lose a limb. This idea was taught in most first aid classes up until about the mid-2000s. But, it is not true.

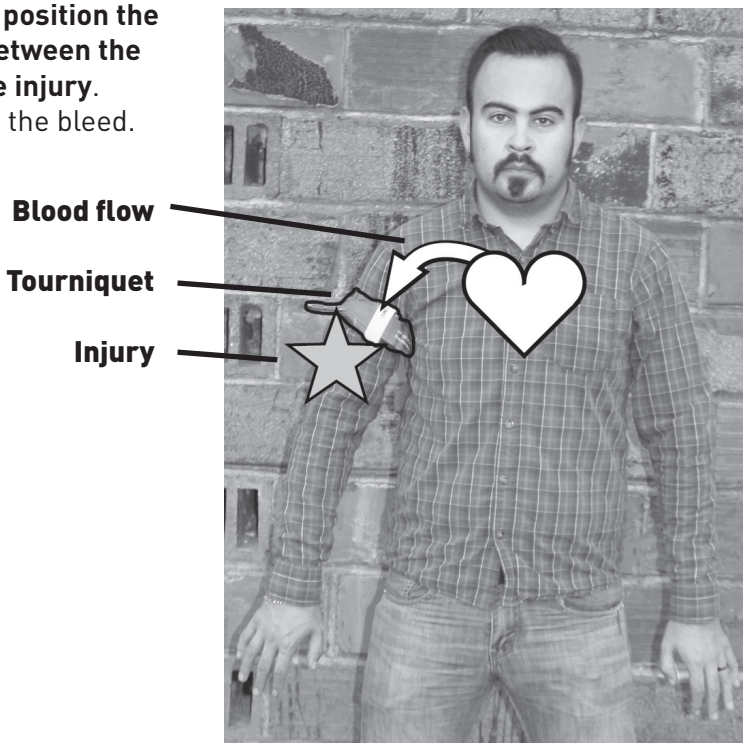
It was true at a time when transportation systems were poor. If it took three days to get from a battle field to a hospital by horseback, a tourniquet could be a problem. This is rarely the case now.

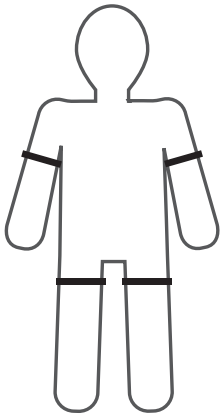
Modern tourniquets, like this CAT-style tourniquet, are medically approved to be worn for hours at a time. These are widely issued to military personnel, and have had hundreds or even thousands of saves attributed to them.

High and tight

When applying a tourniquet, think "high and tight"—as high up on the limb as you can get it, and as tight as you can get it.

The aim is to **position the tourniquet between the heart and the injury**. This will stop the bleed.





Tourniquet the limbs

Place the tourniquet as high on the limb as you can. Pull the strap as tight as you can get it. With this much pressure, the bleeding may slow, but you want actually stop the blood flow.

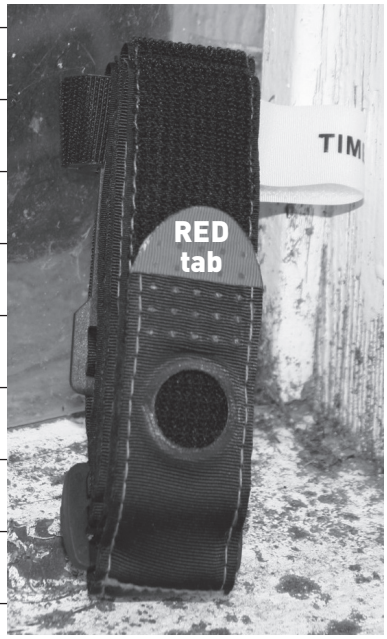
This is where the modern tourniquet becomes a better tool than a belt. The next step is to twist the windlass (the stick) two to three times to add more pressure and cut off the blood flow. A good indication that you've reached that point is that the injured person will be making sounds like, "Aaaarrrrrggg!"

Secure the windless in the bracket. For extra security, especially if your are going to transport the injured person, bring the rest of the strap back through the bracket as well and then secure everything with the Velcro tab. You could write the date and time of the application on the tab so that a doctor knows when it was applied. This is particularly helpful when there are many victims at once.

Never apply a tourniquet over a joint, only the "meaty" parts of a victim. They work best when they apply even pressure around the limb. For the same reason, make sure that the tourniquet isn't twisted when it is applied.

The **red tab** on the tourniquet strap indicates the best direction to get leverage during application. The red tab points toward the person applying the tourniquet—whether that is the victim or the responder. You should practice this concept so that you won't have to think about it during an emergency.

If you do get it backward during an actual emergency, do not remove the tourniquet to change its position. You will lose valuable time.

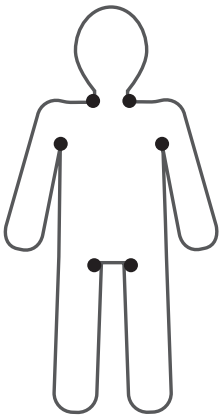


Sometimes the best way to apply the tourniquet is to unthread it, wrap it around the limb and then rethread it. This is another application that takes practice.

Depending on where the tourniquet is applied, you may need to check for objects in pockets, like phones or tools, that can cause further injury when the tourniquet is tightened.

While you are practicing these concepts, add one more thing: staging the tourniquet. During an emergency you will not have time to make sense of a tourniquet that is wadded up and tossed in the trauma kit. Proper staging before storage will save you valuable time when you need it most.

Brand new tourniquets, still in the wrapper, are not properly staged. Take it out of the package, practice using it, and folding it properly for quick deployment.



Pack the junctions

Junction wounds: neck, armpits, and groin
If there is a bad bleeding injury to the neck, we can't apply a tourniquet.

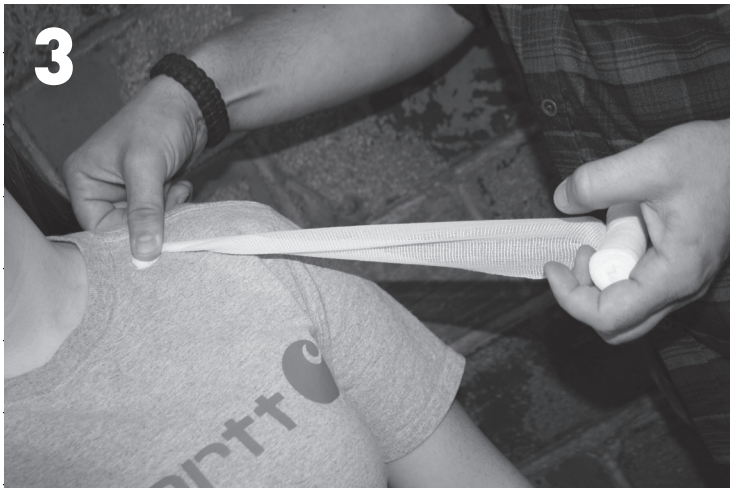
Junction injuries are tricky because they bleed a lot, which means we don't have much time to stop the bleed.

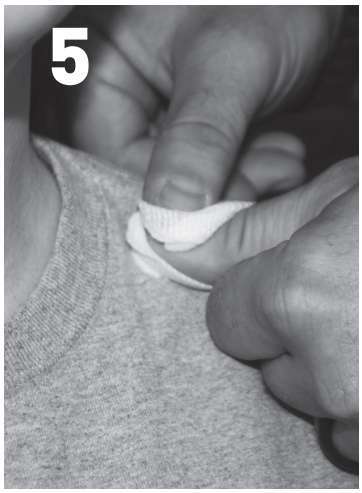
Pack and pressure

When we're treating bleeding injuries in the neck, armpits, or groin, we need to think "pack and pressure." Pack the wound with gauze or whatever else we have available, while maintaining pressure on the material being packed into the wound.

Here is one technique, using gauze and steady pressure, to stop a bleed in the neck junction area.

1. Unroll a length of gauze. **2.** Wad up the end to create a ball of gauze still attached to the roll.





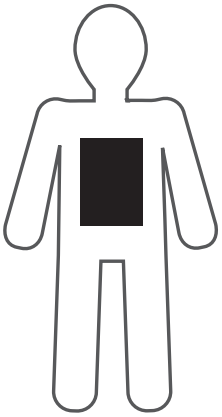
3. Pack the ball into the junction wound. **4-5.** While maintaining pressure on the wound, alternate thumb pressure while adding more gauze each time until the wound is packed and the bleeding stops.

Clotting gauze
While normal gauze, or other types of cloth, work well for packing a junction wound, there are products that can stop the bleed faster. These are gauze products combined with blood-clotting agents. This type of gauze can help stop the bleed in half the time.

Common brand names for these products are: Quick-Clot, CeeLox, and Combat Gauze, but there are many others.

Pressure bandage
Maintaining pressure on the wound is vital, but if you have trouble doing that for a length of time, or you need to move the victim, you can use a compression bandage. This is really just a section of gauze that has been attached to an Ace bandage.

Place the gauze over the wound and wrap the bandage around the victim to secure it in place. How you wrap the bandage will depend on the location of the wound. You can improvise this type of bandage by using a combination of gauze or cloth and an Ace bandage or even duct tape.



Seal the box

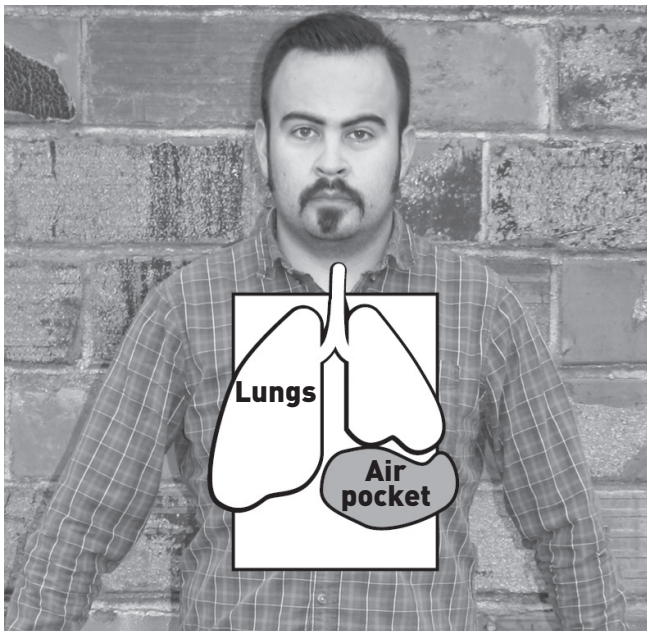
Torso
The torso or chest cavity is called "the box." This area starts at about the nipple line and measures down to the belly button.

As with our previous two wound zones, this area has some unique considerations. First, we have to be realistic about the fact that there are some injuries in this area that are just not survivable. If if a person catches a forklift fork in the middle of their body, there is probably no amount of first aid that is going to help with that. So, we're not talking about those types of injuries here. There are wounds to this area that are not immediately fatal, but can still be lethal if not properly treated.

Think about the make-up of the torso and what fills up a lot of the space. A significant amount of that space is occupied by the lungs. They need to be able to expand and contract to function. So, packing "the box" with a lot of gauze in order to stop a bleed in this area is just going to cause more problems.

Unlike the other two areas we've discussed, "the box" tends to bleed a lot less and we can generally tend to this wound by covering it with gauze and maintaining pressure. Take care not apply an excessive amount of pressure. The victim still needs to breathe.

Tension pneumothorax
A wound in "the box" location can lead to tension pneumothorax, which simply refers to an air pocket in the chest cavity. Air takes up room in the chest and can compete with the lungs for space.



Seal the box

For a deep puncture wound to "the box," often the best thing to do is to "seal the box" using a chest seal. These are essentially pieces of heavy plastic that are lined with glue.

Here is how it is done:

Expose the skin of the victim.

Wipe away any surface blood as best you can.

Peel away the chest seal cover.

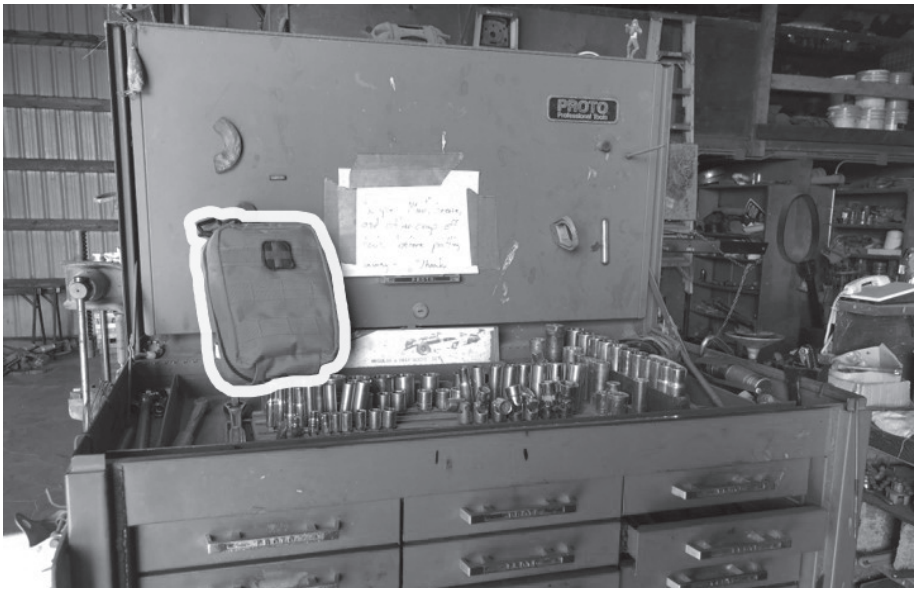
Position the seal in place.

Monitor the victim until emergency responders arrive.

Pealing back a chest seal cover

Improvise

If you don't have a chest seal you can improvise with plastic wrappers from the medical kit, plastic wrap from the kitchen, or maybe even duct tape. If it can create an air-tight seal over the wound and keep the victim alive while you wait for help, it is worth trying.



Do you have a trauma kit?

Is it supplied with the tools you need for the exposures you have?

Is it near the job site?

Does everyone know how to use the tools in the kit?

Supply suggestions
At minimum, your trauma kit should contain:

- Tourniquets (from a reputable manufacturer)
- Hemostatic agents (Quick-clot, Combat Gauze, Ceelox, etc.)
- Roller gauze
- Gauze squares
- Compression bandages
- Chest seals
- Trauma shears
- Nitrile gloves