

SAFE MOWING

Resources compiled by Iowa's Center for Agricultural Safety and Health (I-CASH)



“Riding lawn mower injuries are the most common cause of major limb loss of U.S. children less than 10 years old.”

Charles Jennissen, MD
Clinical Professor of Emergency Medicine
University of Iowa Carver College of Medicine


I-CASH | Iowa's Center for
Agricultural Safety and Health
The University of Iowa • Iowa State University
Iowa Department of Agriculture and Land Stewardship
Iowa Health and Human Services • Non-Profits for Farm Health

www.I-CASH.org

Resources Included in this Booklet

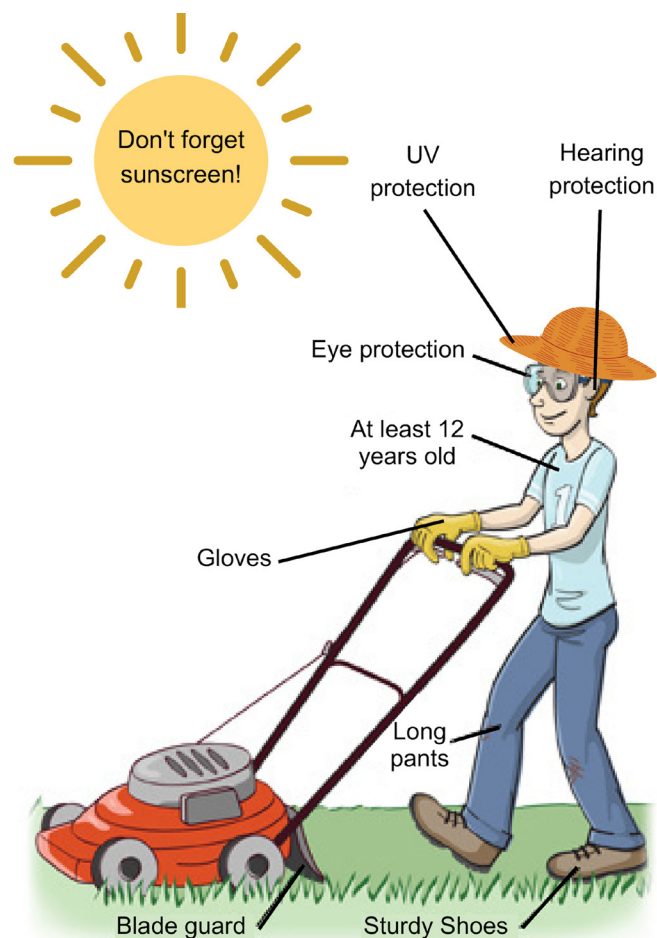
[Saint Luke's KC—Lawn Mower Safety for Kids](#)

[Cultivate Safety: Operating a Lawn Mower](#)

[Healthy Children—Lawn Mower Safety](#)

[Prevent Child Injury—Lawn Mower Safety](#)

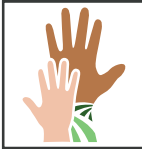
[Safe Farm ISU—Practice lawnmower safety on farms](#)



Adapted from Saint Luke's Health System Kansas City

 Saint Luke's

Scan the QR Code on the back cover to access these resources or visit I-CASH.org and look under Seasonal Campaigns for "Summer 2023 Mower Safety."



Operating a Lawn Mower

(push mower and riding mower)

Can youth do this job safely?

Youth must be able to do/have all of the following to perform this job safely:

- Avoid loose clothing, clothes with strings, tie up long hair
- Check and clear area of **debris** in path of mower
- Stay focused on task for up to 50 minutes
- Recognize a hazard, problem solve, and respond appropriately
- React quickly to hazards
- **Mature** enough to consistently do what is expected
- **Think through** actions and consequences before acting
- Good **peripheral vision**
- Reach and operate controls when standing behind push mower
- Strength to **safely maneuver** push mower
- Reach and repeatedly operate controls of riding mower without straining when seated and wearing seatbelt
- Use **hands and feet simultaneously**
- Safely demonstrate the job 4 to 5 times
- Comply with the [working outdoors guideline](#)
- Maintain [two-way communication](#) link



Adult Responsibilities

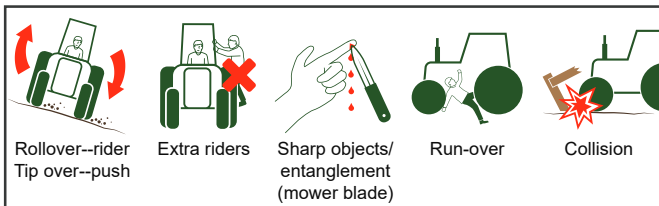
- Ensure mower is mechanically sound with safety features in place
- Verify area is clear of **debris** before mowing
- Ensure youth do not operate mower after dark or in bad weather
- Train youth to operate riding mower at low speed and on level ground
- Educate youth to mount riding mower using **3 points of contact**
- Ensure work area is free from as many hazards as possible
- Educate youth on avoiding/addressing remaining hazards
- Demonstrate how to safely operate a lawn mower
- Provide appropriate training
- Train youth to call an adult if equipment malfunctions

Supervision

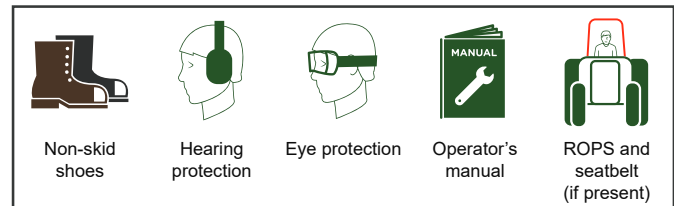
Note: Ensure riding mower is sized appropriately for youth. See [Tractor Operations Chart](#) for guidance.

| | |
|-----------|--|
| 12-13 yrs | Constant supervision progressing to periodic (no riding lawn mowers) |
| 14-15 yrs | Intermittent supervision progressing to periodic |
| 16+ yrs | Periodic supervision |

Hazards



Protective Strategies



Keep Kids Safe

FROM LAWN MOWER INJURIES

In the U.S., more than **9,000 children** go to the ER for lawn mower-related injuries every year.

800 kids

are run over by a riding mower

600

of these require amputation



two **most common** ages of injury



3 and

16



WHEN CAN KIDS MOW THE LAWN?



PUSH MOWER

Age **12** or older



RIDING MOWER

Age **16** or older

- Kids must be both strong and mature enough.
- Train teens to operate the mower safety.
- Wear eye protection, and closed toe shoes.

NEVER



take a child as a passenger on a riding mower.

KEEP KIDS OUT OF YARD WHILE MOWING!

The blades can fire **a rock or stick** like a bullet.



“Riding lawn mower injuries are the most common cause of major limb loss of U.S. children less than 10 years old. The resulting impact of these injuries on the child and family can be devastating physically, psychologically and financially.

Serious injuries can occur when children are riding during lawn mower operation and the child falls or jumps off and ends up under the mower. However, a greater proportion of children are injured as bystanders. This occurs primarily when a young child runs up to a lawn mower seeking a ride and the operator turns or backs up, running over the child. This is more likely to occur with children who have been given previous rides on the mower—either with or without the blades in operation.

Giving lawn mower rides acclimates children to the loud machine and converts the mower into a plaything in the child’s mind.

My recommendation is to never give a child a ride on a lawn mower.”

Charles Jennissen, MD
Clinical Professor of Emergency Medicine
University of Iowa Carver College of Medicine



Visit www.i-cash.org for additional resources

Keeping young children safe around lawn mowers

No matter who is mowing, precautions need to be taken to protect younger children. Here are ways to keep young kids from being injured by lawn mowers:

- Pay attention to where children are while the lawn is being mowed. Don't allow them near the area being worked on. Keep children indoors while mowing is being done.
- Never let anyone, including a child, ride as a passenger on a riding mower. Lawn mowers are made to carry one person only. Also, don't let children be towed behind the mower in a cart or trailer.
- **Teach kids that the lawn mower is not a toy. They should not play with it or sit on it, even when it is turned off and in storage.**

**Mow by
yourself.**

Send young children
inside when the lawn
mower is in use.



SAFE FARM

Promoting Agricultural Health and Safety



Practice lawnmower safety on farms

It was 12-year-old Bill's turn to mow. He was in a hurry so he could join his younger brothers and sisters, outside playing in the yard. As he was mowing, he ran over a toy left in tall grass. The mower threw the toy and it flew across the yard, hitting his sister in the eye. She lost sight in that eye.

This example illustrates how easily injuries can happen with lawnmowers. Mower-related injuries are an everyday occurrence. The U.S. Consumer Product Safety Commission estimates that more than 81,000 lawn mower-related injuries occur in a year.

Lawnmower safety is important in rural areas where large yards are common. Mowing and maintenance around farm buildings and equipment is almost year-round task, often one of the first farm chores delegated to young family members. Because mowing consumes so much time and routinely involves inexperienced operators, safety is a real concern. This publication outlines ways to prevent many mower-related injuries on the farm.

Mower hazards

The mower is a cutting machine designed to trim grass but has the potential to cut anything that is placed in its path. The cutting edge of the mower blade can travel at speeds of up to 200 miles per hour. Even a dull blade at that speed can slice fingers and toes that get in its way.

Other materials, such as toys, stones, sticks, and equipment parts, can become projectiles when struck by the blade. These items, too, can travel up to 200 miles per hour as they leave the discharge chute. Items thrown from mowers can cause serious injury to other people in the area or to the operator when there is no rear guard. Thrown items also can cause property damage.

In addition to cutting and projectile dangers, mowers also can cause burns. The muffler and cylinder head heat up during operation, and remain hot for some time after the engine has been turned off.

Fuel is another danger. Most mowers are powered by gasoline-driven combustion engines. Gasoline is a very explosive and flammable material that should be treated with respect. One gallon of gasoline combined with the correct amount of air is equivalent to 83 pounds of dynamite. Gasoline is flammable because it vaporizes with air to form a mixture that ignites easily. Vaporization can occur in temperatures as low as zero degrees.

Safe practices

Prepare lawn for mowing. Every time before you mow, check your lawn for items such as sticks, rocks, toys, sports equipment, dog bones, wire, and equipment parts. Make sure miscellaneous items are not hidden in tall grass. Also look for and remember immovable objects, such as pipes, or partially buried rocks. Running into a fixed object can shatter the blade and throw jagged chunks of metal out the discharge chute or under the housing.

Handle fuel with care. Always use care when filling the tank with gasoline. Wipe up spills. Never fill the tank on a mower that has been operating and is hot. Vapors from the gasoline can be ignited by a hot muffler.

Wear appropriate clothes. Close-fitting clothes are less likely to get caught on controls or moving parts. Long pants and sturdy leather shoes protect you from flying sticks, stones, or other items not caught by the rear guard. Shoes also should provide good traction. A canvas or open toed shoe cannot protect your foot

Lawnmower safety

How much do you know?

1. How fast can a stick or toy fly out of a lawnmower discharge chute?
 - a) 10 miles per hour
 - b) 20 miles per hour
 - c) 200 miles per hour
 - d) 500 miles per hour
2. Always mow across slopes and inclines when using a walk-behind mower. True or false?
3. What kind of shoes should you wear when operating a walk-behind mower?
 - a) sandals
 - b) canvas athletic shoes
 - c) bare feet
 - d) leather shoes
4. What is the most important thing to do before doing any service work on a mower?
 - a) put on gloves
 - b) drain fuel tank
 - c) disconnect spark plug
5. One gallon of gasoline combined with the correct amount of air is equal to 83 pounds of dynamite. True or false?

See answers on back.

if it slips into the blade. When mowing for long periods of time or if noise is objectionable, wear hearing protection such as ear plugs.

Use safe mowing techniques.

- **Always operate the mower outdoors.**

Never start the lawnmower in a garage or confined area to prevent buildup of carbon monoxide from the exhaust.

- **Make sure other people, especially children, are out of the area.**

Young children should be supervised in the house while the yard is being mowed. They cannot understand the dangers, and the operator may not hear or see children approach.

- **Never point the discharge chute at any one.**

You never know when something will be thrown from the mower. Never run the mower over gravel.

- **Do not mow wet grass.**

Wet grass is slippery and the operator can lose footing, slip under the mower, or allow the mower to roll backwards. Wet grass also clogs the discharge chute and can cause the engine to falter. When this happens, always turn off the engine and wait a few seconds for the blades to stop rotating before correcting it.

- **Use care on inclines.** Some slopes are too steep to mow safely, so use good judgment. Always push walk-behind mowers across slopes to avoid coming in contact with the mower (e.g., by sliding down the hill onto the mower, or allowing the mower to roll backwards on top of operator). Drive riding mowers up and down slopes.

- **Never leave a running mower unattended.** When you leave the operator's position the mower should be turned off. New models have an operator presence switch that automatically kills the engine when the operator releases the handle.

- **Disconnect spark plug to service.**

Disconnect the spark plug when you work on the mower. This prevents the engine from accidentally being started. Many people are hurt every year because mowers start unexpectedly when the blade is turned by hand. Keep all parts in working condition. Fluid leaks (gas or oil), blade sharpening, and balancing may require professional service.

Safe mower features

Safety features on newer mowers help prevent hazardous situations that can lead to injury. Do not disconnect special features or controls to avoid using them. Look for a shield on the back blade housing behind the rear wheels of the mower. This shield protects the operator's feet from exposure to the blade and thrown objects.

A deadman switch, or operator presence switch, requires the operator to hold the device to keep the mower running. If for some reason the operator releases the switch, the engine is turned off. When placed at the correct location, the switch makes it physically impossible for an operator to hold the switch and reach down to the danger area where the blade is operating. Some switches also have a braking device that stops blade rotation.

Other solutions

Think of the layout of the yard and ways to make mowing safer. Do you have steep slopes that are dangerous and difficult to mow? Are there lots of trees with low-hanging branches to mow around? Retaining walls can help reduce inclines, and flower beds eliminate the need for mowing in difficult areas. Adding mulch one to three feet around a tree (depending on size) makes trimming easier. Keep trees pruned properly so that you can see while mowing.

Lawnmower safety

What can you do?

- Pick up objects before mowing.
- Handle fuel with care.
- Wear close-fitting clothes and closed-toe leather shoes.
- Keep children out of the area.
- Never mow wet grass.
- Always shut off engine before unclogging discharge chute.
- Push mower across inclines; drive riding mower up and down inclines.
- Never leave a running mower unattended.
- Disconnect spark plug before working on mower.

Answers to quiz:

1-c; 2-True; 3-d; 4-c; 5-True.

For more information

For more information about lawnmower safety, contact the U.S. Consumer Product Safety Commission at 1-800-638-2772 and www.cpsc.gov.

This publication deals with hazards of walk-behind mowers only. Additional precautions must be followed when operating other kinds of mowers, including riding lawnmowers, those attached to small utility tractors, and implement-type mowers. To learn more about tractor safety while mowing, check out [Use tractors with ROPS to Save Lives](#).

Prepared by Charles V. Schwab, extension farm safety specialist with Iowa State University.

SAFE FARM

Safe Farm is an Iowa State University Extension and Outreach project helping to make Iowa farms a safer place to work and live. For more safety information, check the web at www.abe.iastate.edu.

HOW TO USE THESE RESOURCES

- Give out safety glasses and safe mowing packets to community members
 - Visit with residents in their yard and talk about safe mowing habits
 - Bring to community events
- Give mower safety information to local equipment stores to distribute with mowing purchases and while servicing mowers
 - Use the resources from this packet or create your own with local examples!

****Have local youth groups help with the messaging and resource distribution for a potential I-CASH Ag Youth Grant Project!****

MORE MOWING RESOURCES HERE



MORE INFO ABOUT YOUTH GRANTS



i-cash.org