

ATV Safety

Overview

Children, especially those exposed to All-Terrain-Vehicles (ATVs) on the farm, often want to experience the thrills of riding these powerful machines. Many do not have the necessary body size to maneuver the vehicles safely. Knowledge, training and a safe attitude are also important when considering a youth's ability to ride an ATV.

This station addresses ATV safety, with an emphasis on safe handling procedures, sizing the ATV and rider, and fitting a helmet. It contains a display board, and a curriculum.

Objective

The objective is to show when youth are physically capable of riding an ATV safely and selecting the size of a rider for a particular machine. To show students the criteria for selecting a proper fitting helmet, ATV driving and handling procedures, and dangers that exist when working with or around ATVs.

Introduction

- Introduce yourself to the students; let them know your name, background, and anything else they may be interested in that can tie into the presentation.
- Make students aware that the information you will present to them is very important, and that they need to pay attention.

- Introduce the Topic of ATV Safety
 - Students all have their own stories and experiences to tell.
 - If it is a relevant question, ask the students if they have had any experience with ATV before. Let students comment on this as time allows. Lead this comment into different questions, including:
 - How do you use or ride an ATV?
 - Do you use an ATV for work?
 - Are ATV's powerful?
 - Can ATV's be dangerous?
 - Make sure these and other questions are age-appropriate. Use your own judgment and make adjustments as necessary.

Activity

Materials Needed

- ATV from a local dealer or local customer
- ATV tri-fold safety poster

Introduction

Introduce the topic of ATV safety. In 2001, 97% of youth under 16 years with ATV-related injuries were operating ATVs larger than manufacturer's recommendations. Then mention the following facts about ATV's that are used by youths:

- One-third of all ATV-related fatalities (n=5,239) from 1982 to 2002 were youth under 16 years.
- From 1999 to 2001, there were 698 reported fatalities to youth ages 1-19 years from off-road vehicle crashes.
- Helmets may reduce risk of death by 42% and nonfatal head injury by 64%.
- Youth under 16 years accounted for 37% of ATV-related injury from 1985 to 2002.
- From 2000 to 2002, 103,400 youth under 16 years were treated for ATV-related injuries.
- ATV operators under 16 years are nearly four times more likely than ATV operators over 16 years to experience an injury requiring emergency department treatment.
- Males represent approximately three-quarters (77%) of ATV-related injuries from 1995 to 2003.

Discuss Guidelines for selecting the ATV size for youth to operate safely:
(Use tri-fold poster and demonstrate on ATV as guide.)

1. **Recommend ATV size.** The ATV Safety Institute recommends:

Age	Engine Size
6 and older	to 70ccs
12 and older	to 90 ccs
16 and older	90 ccs and up

2. **Seat clearance.** Clearance between the ATV seat and inseam while standing up on footpegs. You must have the right clearance between the seat and your inseam to stand up and properly absorb shocks through the legs while riding your ATV on rough terrain. Proper clearance also keeps the seat from hitting you during a ride, which could throw you over the handlebars. You'll need three to six inches clearance between the seat and inseam when you are standing up on your ATV's footpegs. The maximum is controlled by the size of your ATV.
3. **Upper legs.** The upper portion of your leg—from about the top of your knee to your hip—should be about horizontal to help you control your ATV. A little above or below horizontal shouldn't be a problem, but huge differences—knees significantly below or above the hips—should be checked by an adult. If your knees are quite a bit above the hips, turn the handlebars in both directions and check for contact with knees or legs.
4. **Foot length.** Check to see if you can brake correctly. Lock the heel of your right shoe against the footpeg or in the proper position on the running board. Your toe should be able to depress the footbrake with a simple downward rotation of your foot. Check if you have any contact with engine or exhaust protrusions. You should be able to use the brakes consistently without hesitation. The same rule applies to the ATV's left side where the gearshift is located.

5. **Grip reach.** To steer and balance correctly, sit normally on your ATV with your hands on the handlebars. Your elbows should have a distinct angle between your upper arm and forearm. If your elbows are straight out, you won't be able to turn the handlebars. Make sure you aren't reaching forward to compensate for a short reach. If your elbows are at less than right angles, you are too large for the ATV and steering and maintaining balance will be difficult.
6. **Throttle reach.** Check your throttle reach to control your speed and handling. With your right hand in the normal operating position, check to see if your thumb can easily operate the throttle. Turn the handlebars to the extreme left and right positions. Check again for any interference with easy operation.
7. **Brake reach.** Make sure you have good stopping control. Place your hands in the normal operating position with fingers straight out. Check to see if the first joint (from the tip) of your middle finger extends beyond the brake lever. If not, your hand is too small to effectively grasp the lever in an emergency. Make sure your thumb also reaches the engine stop switch. Squeeze the brake lever a few times to be sure you can comfortably use the controls.

Discuss How To Shop For A New ATV Helmet

Finding the Right Fit

First, determine the circumference of the widest part of your head (the area one-inch above your eyes and ears) by wrapping a flexible tape measure around it. Then try on a helmet one size smaller and larger than your "size". All helmet sizes are NOT created equal! For a helmet to be effective, it must feel comfortable on your head. Helmets should fit snugly, but not painfully tight.

How Tight Is Too Tight?

- If you can pull the helmet on without having to spread the helmet, it is too big and will not fit right.
- A properly fitted helmet might seem tight as you pull it on, because the foam components that seal out the wind noise are made to conform to your head. If a helmet pulls on too easily without resistance of such padding, it will probably be noisy and uncomfortable in the long run.
- Basically, the helmet should fit snugly so that it is stable when you shake your head side-to-side, front-to-back or up and down. A full-face helmet should grip your cheeks and jaw as well as the top and sides of your head.

Try this test:

Wear the one that fits you best inside the store for several minutes (up to 15 minutes if possible). If you can see clearly in all directions, and you aren't physically fatigued by the weight of the helmet or by its looseness or tightness, and the helmet manages to stay in place when you jump up and down and lean from side to side, then that helmet fits you properly.

How Easily Does It Come Off?

Try to remove the helmet from your head without undoing the retention system closures. If the helmet comes off or shifts freely over your eyes, then you need to re-adjust and try again.

If you can grab the rear lip of the helmet and roll it forward off your head (even with slight pressure), then you need a different helmet; it should not come off. Grab the helmet with both hands and try to move the helmet forward and backward and from side to side. The helmet fits right if your skin moves with the liner of the helmet. In sum, there should be very little "play" in the way the helmet sits on your head. In fact, the helmet should not be able to move around on your head without it tugging on your skin a bit.

Bigger Isn't Always Better!

Most people make the mistake of buying a helmet that's too large. Remember this: A loose-fitting helmet is not only dangerous, but may also be noisy due to increased wind resistance, and it will physically tire you out trying to keep the helmet in place. When it comes to youth-size helmets, many budget-minded parents tend to over-size their child helmet so as to get an extra year or two of use out of it. Proper fit is absolutely key to maximizing protection, and too large a helmet can defeat its purpose.

Wearing a Helmet

People often have a tendency to wear a helmet too far back. A helmet is meant to be worn low on the forehead, just above your eyebrows. If you can't see the edge of the brim at the extreme upper range of your vision, the helmet is probably too far back.

Before You Leave the Store

Most retail stores will not exchange a helmet for another size after it's been worn for any length of time. So be sure to take your time, and try on at least 3 different helmets from at least 2 different manufacturers; not every brand of helmet can fit every head size and shape. Be aware that a helmet may fit and feel one way in the store, yet fit and feel quite differently during riding. So ask if you can take a helmet for a test drive; if not, then try it out at home. Just be clear about the store's return policy.

Discuss ATV Operating Instructions

Braking

Your owner's manual describes your ATV's braking system. You may have both front and rear brake, or linked brakes. Of course, your braking technique will depend upon your ATV's braking system and the type of terrain you are riding on.

Many ATVs are available with four-wheel drive. When operating in four-wheel-drive mode, keep in mind:

- Using only the front brake or the rear brake has the effect of braking both the front and rear wheels.
- Abrupt deceleration from shifting to a lower gear (engine braking) will affect both the front and rear wheels.

- Consult your owner's manual for more detailed information.
- Some tips for braking are:**
- Releasing the throttle.
 - Shifting to a lower gear to use the engine to slow the vehicle.
 - Applying both brakes equally. (if equipped)
 - Avoiding excessive braking while cornering.
 - Applying brakes lightly on slippery surfaces.
 - Shifting to a low gear when descending a hill and not riding the brake for long periods of time.

Parking

When parking your ATV you should:

- Stop the ATV. Place the transmission in neutral or park and apply the parking brake or engage the parking mechanism (if not already activated by placing the transmission in park). If the ATV is equipped with a parking mechanism, allow the drive train to lock.
- Avoid parking on an incline.

Turning

Always check your owner's manual for the recommended turning technique for your ATV. The following basic turning technique applies to ATVs being ridden at low to moderate speeds.

- Move your body weight forward and to the inside of the turn.
- Turn the handlebars while looking in the direction of the turn.
- As you increase speed or turn more sharply, move your body weight farther toward the inside of the turn to maintain your balance.
- If your ATV starts to tip while turning, lean your body farther into the turn while gradually reducing the throttle and making the turn wider, if possible.

Other Safety Guidelines

- An ATV is not a toy. Children should not be permitted to operate ATVs without specialized training; they should only be allowed to operate an ATV of the appropriate size. Contact the ATV Safety Institute to enroll in a course.
- People must be at least 12 years of age to operate ATVs with an engine size of 70cc to 90cc.
- People must be at least 16 years of age to operate ATVs with an engine size greater than 90cc.
- Wear the appropriate riding gear: a DOT-, Snell ANSI-approved helmet, goggles, gloves, over-the-ankle boots, long-sleeved shirt and long pants.
- Read the owner's manuals carefully.
- ATVs are not made for multiple riders. Never carry anyone else on an ATV.
- Adding attachments to an ATV affects vehicle stability, operation and braking. An available attachment does not mean that it can be used without increasing injury risk.
- Do not operate an ATV on streets, highways or paved roads.

Wrap-up

After the activity, talk with the students and discuss how they could possibly be injured by ATVs. Use the following discussion questions:

1. Why is it important to measure ourselves to make sure an ATV “fits”?
2. Why is it dangerous to have extra riders on an ATV?
3. Why should no one under 16 operate an ATV over 90cc?
4. Why should proper clothing be worn when operating an ATV?

Re-discuss the safety rules when working with ATVs. Go through the following list with the students and make sure they understand why these guidelines are important to check *before* operating an ATV.

1. Are the tires and the wheels in good condition?
2. Are the controls and the cable operational?
3. Does the chain have proper slack and is it lubricated?
4. Is riding gear (including a helmet) available and worn?

Resources

Tips and Practice Guide for ATV's

http://www.atvsafety.org/InfoSheets/ATV_Riding_Tips.pdf