ATV SAFETY

ATV Helmets

Objectives:
- Determine the consequences of not wearing an ATV helmet when operating an ATV.
- Recognize the characteristics of a helmet that protects the ATV operator’s brain.

Targeted Age: Upper elementary and above

ATVs are used to ride over rough terrain and bumpy surfaces. The operator can be thrown off the vehicle quickly when it hits an uneven surface. Personal protective equipment (PPE) is important to prevent injuries if the ATV operator is thrown off or the ATV rolls over. The most important PPE is a properly fitted ATV helmet. Head injuries can be devastating and the brain needs protection.

ACTIVITY 1

Materials:
- Plastic brain mold – find this at a novelty store or online (a 1/2 gallon ice cream container will also work)
- 8 ounces elbow macaroni
- 6 ounce package of gelatin (your choice of color, but peach works great)
- Plastic sheet if conducting the activity inside

Cook macaroni in 6 cups of boiling water for 15 minutes or until soft. Drain, but do not rinse cooked macaroni. Spray the inside of the mold with cooking spray. Place cooked macaroni in brain mold. Prepare gelatin with 3 cups boiling water until gelatin dissolves. Pour over macaroni and place in refrigerator for several hours to set up. Unmold the “brain” by placing the bottom of the mold in hot water for a few seconds.

Discuss the size, shape, and fragile condition of the brain without the mold, making a correlation between the skull and the plastic gelatin mold. The average human brain weighs about three pounds which is close to what the molded “brain” weighs. Place a plastic sheet on the floor if working inside. If you can be outside, it’s less messy to clean up afterwards. Standing on a ladder, drop the “brain” on the floor or from a balcony if outside. Estimate the distance of the fall comparing that to being thrown from an ATV. Observe the results of the falling “brain.” Talk about the skull’s importance to the brain and the importance of a helmet to protect the skull and brain.

Q: How fast might you be moving when riding an ATV? How does speed influence the impact of being thrown from a vehicle?
A: Depending on the size of an ATV, it can travel at road speeds (40 to 80 miles per hour). Most of the time ATVs travel at much slower speeds because they are moving up or down hills, over bumps, and around curves. Due to momentum, the faster a vehicle is moving the further an obstacle or person is thrown from the vehicle. The force of hitting a stationary object (road surface, tree, another vehicle, etc.) is directly proportional to speed.

Q: What other personal protective equipment (PPE) is needed when operating an ATV?
A: Although a helmet is the most important PPE, ATV operators should also wear long sleeved shirts, long pants, over-the-ankle boots, gloves, and goggles. Each PPE protects a different part of the body, with the brain being the most fragile.

(this activity is continued on the next page)
ATV Helmets (continued)

ACTIVITY 2

Materials:
- Raw eggs
- Resealable plastic bags
- Cushioning material such as bubble wrap
- Polystyrene foam container
- Packing tape
- ATV helmet with DOT or Snell seal

Place an uncooked egg in a plastic bag and close securely. Throw the egg in the air several times and eventually allow it to hit the ground. Compare the egg to a rider that is thrown from an ATV. It may not break when it’s caught or tossed for a short distance and carefully caught. This represents humans riding an ATV and moving in the seat while riding over rough terrain. When the egg hits a hard surface it will break.

Place another uncooked egg in another bag. Wrap this bag with several layers of bubble wrap and securely tape inside a foam box. Seal the box with tape. Throw the box around in the same manner as before with the egg in the bag, becoming more boisterous with each throw, eventually allowing the box to hit the floor. Open up the box and check the egg. If wrapped correctly, the egg should be intact. You may want to practice ahead of time so you are using the correct amount of wrapping material required to protect the egg.

Show an actual ATV helmet and point out the padding within the outside shell. Point out the DOT (Department of Transportation) or Snell seal indicating the helmet meets standards for protection. Snell standards are more stringent than DOT. Point out other features of the helmet (face guard, chin strap, etc.).

Q: Are all helmets made the same?
A: There are different types of helmets for different forms of transportation. Examples include: equestrian, bicycle, and motorcycle helmets. Each one has its own requirements based on speed and size of the transportation mode.

Q: What’s the purpose of the face shield on an ATV helmet?
A: Like the brain, your face contains very important items such as eyes, nose, and mouth. If thrown from an ATV, your head and face are often the first items to impact. The face guard provides additional protection to these crucial areas of the head.

Q: How do you determine the right sized ATV helmet?
A: ATV helmets should fit snugly and be stable when you shake your head from side-to-side or front-to-back. Try on several at the store. There is much padding within the helmet for protection purposes and there should be some resistance when pulling it over your head. Bigger is not necessarily better. A loose fitting helmet can be dangerous, fly off the head, and be noisy due to increased wind resistance.