

**Episode Title:** ATVs and Young Riders

**Summary:** We continue our conversation with Dr. Charles Jennissen on ATV safety. Adult-sized vehicles are designed for adults, so young riders may be unable to control them. “95% of all deaths of children on ATVs occur on an adult-sized ATV at the time of their crash and death.” Dr. Jennissen also talks about the risk involved with having a passenger on an ATV as most young ride with or as a passenger, increasing the risk of injury and death.

**Expert:** Charles Jennissen

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**Episode Quotes:**

*“Our 16-year-old teenage neighbor rolled her quad, and it was stuck on top of her. She died of asphyxiation. It was so frustrating because five people were standing around her, unable to perform CPR.”*

– Farmer Story

*“95% of all deaths of children on ATVs occur on an adult-sized ATV.”*

– Dr. Charles Jennissen, Pediatrician and Emergency Medicine Physician at the University of Iowa Hospitals and Clinics

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**Transcript****00:03 K. Crawford**

*Welcome to the FarmSafe Podcast brought to you by the Great Plains Center for Agricultural Health. In the blink of an eye, an injury can change your life and your farm forever. During each episode, workers in agriculture and public health share first-hand stories and real-life tips for making safer and healthier decisions while on the farm.*

**00:24 K. Crawford**

*Today we continue our series on ATV safety. We will hear stories from ag students who have shared how serious ATV rollovers can be and we continue our conversation with Dr. Charles Jennissen. We heard last time about how Dr. Jennissen grew up on a Minnesota farm and has been around ATVs for most of his life. He now works as a pediatrician and emergency medicine physician and treats people in the emergency room who have been injured on ATVs.*

*Besides treating those with serious injuries, Dr. Jennissen also works to help prevent these injuries through research and prevention projects including the ATV Task Force and STARS program. In today's episode, we focus on young riders. Two important safety tips for young riders are to make sure they are riding an ATV that is an appropriate size for them and to never ride with or as a passenger. These are two of the safety tips included in the STARS program to help teach children and teenagers how to be safer on ATVs.*

**01:31 C. Jennissen:**

At the university, one of our bigger projects is that we have the ATV Task Force. It's a multi organization community kind of task force. And one of our bigger projects is our STARS program—safety tips for ATV riders—and the STARS program we do in schools. We target those kids that are between 10 and 16 years of age, trying to inform them of how do you ride an ATV safely. This is something where the safety culture around ATVs is not as good as it could be.

There's a lot of different risk factors for ATV and ROV, you know, side by sides, crashes. Some of the biggest ones are: not riding on the road, wearing a helmet always, not riding with or as a passenger, and riding the right size vehicle.

Most of the vehicles on farms are adult size vehicles. They have engine sizes, over, you know 250 cc's and greater. But there are youth size vehicles that are designed for kids that are under 16, but really all these adult size vehicles are supposed to be driven and ridden only by those that are 16 years and older. That is not always followed, or frequently not followed, and that puts kids at increased risk. 95% of all deaths of children on ATVs, they were on an adult size ATV at the time of their crash and death.

**02:36 K. Crawford**

*Dr. Jennissen goes on to describe the issue with young kids riding adult size ATVs is an anthropometric issue. Anthropometrics deal with the measurements and proportions of the human body. Kids that are not fully grown may not fit as well on an adult size ATV which can lead to problems operating and controlling it.*

**03:40 C. Jennissen**

Adult size vehicles obviously are designed for adults. The measurements, anthropometric positioning of handlebars and the seat and where those all are, are designed for an adult size person.

Now, obviously there are some teenagers that are basically adult size so they may anthropometrically fit the vehicle. But that doesn't, of course, mean that they're cognitively able to make the decisions that you need to do and to drive an adult sized vehicle. I mean, you know, to me, driving an ATV on off road terrain, that's continuously changing, with all kinds of potential obstacles and stuff, there is a greater degree of attention and decision making, and active riding, of course, that is needed at all times. It's a lot easier driving on a road with a motor vehicle, I mean you have a certain place where you have to be there are certain rules that you follow and driving on the road. But that's not really true when you're riding off road. And so, there's much more likely for just to make a poor decision or not notice something for something bad to happen.

These adult size vehicles— they are much bigger. When I was a kid, an adult size vehicle was like a 125 cc ATV. Nobody has 125 cc engine ATVs anymore. Basically, those are considered youth-size and smaller-than-that-sizes are considered youth-sized vehicles. And so, you have these much bigger engines now— up to 1000 cc, speeds that are highway speed and greater, 70-80 miles per hour, weighing hundreds of pounds. And so now when those roll on top of you, there's greater forces generated, greater injury that's transmitted then to the person from that vehicle that's bigger. They will have the vehicle land on top of them and if there's nobody else around, you can't get it off you. And now you're potentially going to die of traumatic asphyxiation— that's across your chest, your neck.

**04:53 Speaker 1**

*Our 16-year-old teenage neighbor rolled her quad, and it was stuck on top of her. She died of asphyxiation. It was so frustrating because five people were standing around her, unable to perform CPR.*

**05:13 C. Jennissen**

And so we're seeing more of those type of deaths, with these vehicles with them getting bigger, of course being bigger is an advantage in a lot of ways, right? I mean on the farm, that makes much more ability to be able to do work, kind of things that we want to do with them. And that's made them much more popular both for recreational and occupational purposes. But that isn't really good for the kids, necessarily, who are maybe sometimes allowed to go on and on them and probably shouldn't be.

So, the youth size vehicles are there. They do have higher maximum speeds than many of us think are necessarily safe but certainly they are restricted somewhat and so they certainly are safer than an adult size vehicle.

So, as you get a younger person of course they may not be anthropometrically fitting on that vehicle so they may not be able to turn that vehicle, be able to do the active riding they should be doing on it. A lot of times what happens instead of the child being able to operate that vehicle, themselves, it operates on them. So, in other words if they hit a bump, they'll just basically bump, and you know almost catapult them off of the vehicle, because they're not really absorbing those forces, they're not able to do that and that increases their risk for injuries.

And so, there's lots of problems obviously with kids on these bigger vehicles, but those are some of the problems with them. And, you know, unfortunately it's very easy to jump on a vehicle and just push the throttle of an ATV, but that doesn't mean cognitively, or size-wise that they're really ready to really operate those vehicles safely.

In the STARS programs that we're doing in schools we collect data, and we know that most of the Iowa kids you know especially in rural areas have been on an ATV, and most of them are driving adult size vehicles. And this definitely puts them at increased risk.

We asked them, you know what, if they've been in a crash. And I was kind of flabbergasted really, to find out that 57% of them said they had been in a crash, rolled over, hit something, or were ejected from the vehicle.

Now, fortunately, in many ways, those kids aren't getting always injured when they get in a crash. A lot of them are and I get to see a lot of them in the emergency department, but the bad thing about a lot of these crashes—if they have a crash and they're ok—they already have this sense of power and invincibility— and having a crash and not getting hurt, that even increases that. So, they think I was in a crash, and I didn't get hurt, you know, so it won't happen again or if it happens again, I won't get hurt then either. And that of course is not necessarily true. And a lot of the kids do.

In fact, at the Iowa conference, their state conference of FFA we did a survey, and well about 12% of them had had a recreational and about 14% had an occupational crash in the past year with an ATV. And those that have been in a crash, 15% of them end up having to be seen in some sort of medical facility for that injury that they incurred.

So, bad things do happen, and I think there's not any farm family that doesn't know of somebody who was either killed or seriously injured in an ATV crash. I'd be very surprised if most farmers don't know somebody that has been in a terrible crash.

#### 06:53 Speaker 2

*I was riding back with my brother—going way too fast about 30 miles per hour—and hit a gopher hole. With my little brother on it, we rolled the quad four times—I ended up in a neck brace—my little brother broke his nose. About the only thing that saved my life was wearing my helmet and I ended up cracking my helmet in half.*

#### 07:06 C. Jennissen

For kids, almost half of the deaths, the person had a passenger on [with] them or were a passenger.

And so, this is something that unfortunately, if you look at all the kids that we've done STARS training in the schools, we know that almost all of them who have been on ATVs have ridden with passengers. And so, this is a common thing that people do, but a big risk factor for increasing their risk for injury and death.

So, all-terrain vehicles—ATVs—they are designed, almost all of them are designed for just a driver only— no passengers. And this is because, to really operate an ATV properly you need to be able to do active riding. You have to survey your environment, continually shift your body weight, and in order to compensate for changes in terrain and speed, in order to maintain center of gravity and prevent the vehicle from rolling over.

We talked about how they have a fairly high center gravity and narrow track which puts them at increased risk of doing that and so it's very important to be able to do active riding, but a passenger on the vehicle really prevents that. It also increases the center of gravity— it shifts the center of gravity backwards and puts the occupants at increased risk.

And so, yeah, that's why that on all vehicles, it says no passengers and the drivers' manual it says that, but often the seats look like they're big enough to have another person on it so a lot of times people will place another person behind them, or a child in front of them. And that really increases the risk for something bad happening.

A lot of kids don't know what safety things they should be doing. And so, we think that's important to go into schools and help educate, not only frequent riders but those who may be on ATVs infrequently, just visiting a farm, and not really knowing what they should be doing and, and also if they know the safety rules they can say, well, "you just jump on here?" "I thought we weren't supposed to ride as passengers", or "where's your helmet? I want a helmet on if I'm going to ride an ATV." And maybe we can kind of change the culture related to ATVs a little bit.

#### 07:44 K. Crawford

*If you're interested in learning more about ATV safety, check out the resources Dr. Jennissen has provided which can be found in the episode resources section on our website. The resources include links to the University of Iowa Stead Family Children's Hospital ATV Safety Page, the National 4H ATV Safety Leader's Guide, and the ATV Safety Institute's Hands on ATV Training Courses.*

*In our next episode in the series, we talk about ATV use on farms for agricultural work.*

**10:35 C. Jennissen**

Join us on the FarmSafe podcast to learn more about keeping you and your family safe on the farm.

**10:42 K. Crawford**

*We want to hear from you. Share your stories about health and safety issues on the farm, about injuries that made you change the way you work, or about the ways you keep yourself and others safe on your farm. Also let us know if there are any topics that you want to hear about on the air. You can visit our website at [gpcah.org](http://gpcah.org) or email us.*

*Original music for the FarmSafe podcast was written and performed by Ben Schmidt.*

*This work was funded by the Centers for Disease Control and Prevention as part of the National Institute for Occupational Safety and Health's Great Plains Center for Agricultural Health.*

## Episode Resources

- [University of Iowa Stead Family Children's Hospital ATV Safety](#)
- [National 4-H ATV Safety Leader's Guide](#)
- [Hands On Rider Course Training](#)

## Photo

