

Episode Title: Falls on Farms: The Medication Connection

Topic: How Certain Medications Can Increase Risk of Injury Among Farmers Due to the Hazardous Nature of Farming

Summary: In this podcast, we delve into the issue of medication-related falls among farmers, highlighting the risks that medications pose when mixed with the physically demanding nature of farming. Our expert for this episode, Dr. Ryan Carnahan, is currently involved in various projects, including reducing the use of high-risk medications in older adults to prevent falls. DR Carnahan emphasizes the importance of regular medication reviews and understanding the side effects of medications.

Expert: Ryan Carnahan

Episode Quote:

“When I think about drugs and falls, there's different ways to think about it: drugs that increase risk of falls and then also drugs that make falls worse.”

– Ryan Carnahan, PhD

Transcript

00:10 E Ritchie

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, we share first-hand stories and real-life tips for making safer and healthier decisions while on the farm.

In today's episode, we're tackling a critical topic that's often overlooked— falls on farms. Whether it's slipping on a wet surface, tripping over equipment, or losing balance on uneven terrain, farm workers face a high risk of falls every day. But there's another layer to this risk— medications. Many farm workers take medications that can affect their balance, coordination, and reaction time, making them more vulnerable to incidents.

In today's conversation, we'll explore how certain medications, whether prescribed or over-the-counter, interact with the body and contribute to the risk of falls on the farm.

01:16 E Ritchie

To hear a personal story related to falls on the farm, be sure to listen to our Season 1 episode, “Falls on Ice.”

The combination of long hours, physically demanding work, and potential medication-related side effects, can put farmers at a higher risk of falls. To dive deeper into this issue and understand what can be done to prevent these medication-related falls, we're joined today by Dr. Ryan Carnahan.

01:48 R Carnahan

My name is Ryan Carnahan. I'm an epidemiologist and also a psychiatric pharmacist at the University of Iowa College of Public Health and a lot of my research relates to drug safety in older people relating to the cognitive effects or effects on things like falls, I also do some work with the geriatric workforce enhancement program at the University of Iowa, where we do education on caring for older people and a lot of what I do relates to medication related issues and collaborate on various projects that relate to that the safety and falls and other things like that. I also do some outreach in the Community with area agencies on aging where I do medication reviews with older adults. So, I do talk to a lot of older adults who are experiencing falls and other sorts of medication side effects and try to work with them to get the sort of find the best medications for them.

02:51 R Carnahan

My grandpa was a farmer, so I spent a lot of time on the farm, and I grew up in a small town and had friends that lived on farms. And so, yeah, I'm from Iowa. I'm from Mitchellville, IA. Kind of a rural kid myself. I didn't live on a farm, but I had a corner field across the street so.

03:05 E Ritchie

I kind of want to start off by asking you a little bit about falls, and how they relate to medications. Among the fall events that you see, are there certain activities or circumstances that lead to falls more often?

03:21 R Carnahan

I think that really depends on the person and their individual risk factors for falls. You know we try to encourage people to have a safe environment where they're not going to slip and trip on things, using handrails, even installing sort of extra things like handrails in the shower or bath or using a shower chair. So, there's a lot of environmental things within a home that can lead to falls. But when I talk with people who have fallen, there's usually a circumstance that led to them following they tripped on a curb. They did something else and medications are kind of one piece of that puzzle that, they can maybe change reaction time, change level of awareness if you if they cause you to be sedated or tired. And sometimes it takes some work to kind of connect that event to the possibility that medication may have played a role, because it's just one of the many factors that lead to a fall.

04:15 R Carnahan

There are some specific cases, like when people there are medications that cause what we call orthostatic hypotension, where their blood pressure will drop when they stand up, or after being in bed and they get very dizzy. I mean, that's sort of a direct medication related effect that can cause a fall sometimes, but much of the time it's sort of they have various risk factors, and the medications may be one piece of what caused them to not react, you know quickly enough or something like that. Thinking about farming there is clearly, just walking on uneven ground, working at heights, working around animals. I've talked to someone who got, I think bumped over by an animal and fell. So, there are just a lot of activities that can kind of enhance that risk versus the sort of the controlled environment in the home that you can work on those risk factors.

05:05 E Ritchie

Speaking of medications, which medications are most associated with fall events?

05:13 R Carnahan

There is a number of classes that we kind of think about as being particularly high risk, but a lot of different medicines could have roll through one mechanism or another. But when I think about it very broadly, I think what makes people dizzy or what makes them tired and what can kind of affect their cognition? Because all those are major risk factors from medicines or symptoms that could suggest that that medicine is having an effect that could put someone at risk. Going into those classes. You know, the CDC, they have some educational materials on this, and they put out sort of what they consider the major classes which can be opioid and pain medications; antidepressants or mood related medications; medicines for anxiety like benzodiazepines; over the counter, sleep aids are one that I think people miss a lot, but also prescription sleep aides. But some of the over-the-counter ones like a brand name would be Tylenol PM. But there there's a bunch of generics as well. People kind of take them and think that they're acetaminophen or Tylenol, but they also have Diphenhydramine or also known as Benadryl in them or other antihistamines, and those antihistamines they kind of older classes of them, not as much with the newer non-sedating ones, but the older antihistamines can lead to falls and those are in those over-the-counter sleep medicines. So that's something I think people miss sometimes.

06:34 R Carnahan

Muscle relaxant. Other medicines used for pain. They oftentimes make people pretty groggy and then antipsychotic or mood stabilizing drugs, and those can have various effects on both the way people move as well as making them tired that could lead to falls. And then I mentioned previously anti hypertensives and drugs for high blood pressure. They can if you kind of overshoot with those or if your

body isn't able to react to movement like standing up or getting out of bed quickly enough and then try to try to move a little too quickly I guess and that can really affect falls as well, so those are some of the drugs that are kind of high on the list also anticonvulsants and things used for seizures, but also now being used for quite a few other things like Gabapentin is used for pain quite often, and that causes a lot of dizziness and is also associated with falls.

07:29 R Carnahan

There's just kind of one other angle on that. I think that you know, when I think about drugs and falls, there's different ways to think about it: drugs that increase risk of falls and then also drugs that make falls worse. Someone's on a blood thinner, even aspirin, or on an anticoagulant, then those can really make the outcomes with falls worse, and then there are drugs that affect bone density, including certain anticonvulsants steroids, like Prednisone. Somebody's been on a drug for a while, that can make their bone density lower, then they're going to be more likely to fracture. This thing about that angle, too, of drugs that could cause falls through other mechanisms, I guess other than what I've talked about, drugs for diabetes. Somebody gets low blood sugar that can lead to a fall, and some of the antidepressants and other drugs can also cause like electrolyte disturbances, like low sodium or something like that, that could cause some of these problems as well.

08:27 E Ritchie

Kind of two questions here going off of what you mentioned a lot of different factors that may play into this, different angles of how certain medications can lead to a fall. Is there any advice that you would give to people to kind of help them be more mindful of the safety related risks of falls when taking medications, but also to kind of advocate for themselves when talking about different medications with their doctor and just making sure that their doctor is kind of taking into account not only their occupation and kind of the hazardous scenarios that they're already in, but to kind of get doctors to pay more attention to all of these medications that could potentially lead to a fall and put a farmer, particularly, at greater risk?

09:19 R Carnahan

Yeah, it's a good question. One thing that's right in front of people sometimes is if the label of the of the medication bottle says be careful with operating heavy machinery or those types of things. That is a real thing to pay attention to. And that could indicate that that drug could have some risks in that regard. And then the other one is really just to communicate with their doctor about the way they're feeling and to ask questions when they do get a medicine, like what side effects might I expect? What could I be? Should I be concerned about with this medicine? But you know, I've talked to people who said, oh yeah, I got prescribed this. I started it, and I felt dizzy and out of it, so, I stopped it. And I always encouraged people to talk with their doctor, if that's the case. If they do feel like it's not the right medicine for them, really paying attention to what's happening at the beginning when they start a new medicine is important. It's also important to recognize that some medicines, even if you've been on them for many years, the risk benefit balance changes as you get older and you may not know how you would feel if you were not taking it. So, I think it's important to have someone sit down with you every year and at a minimum and go through your entire medication list to kind of talk about what you're taking it for. Is it still needed? Could there be any potential benefits of stopping it or changing it? And the Medicare annual Wellness visit is often the time where providers can spend a little more time with that. There are also pharmacies or pharmacists who will do that kind of consulting work with people.

10:53 E Ritchie

Yeah, I'm glad that you mentioned talking to a pharmacist about it because that's one of the things that I've tried to think through in terms of asking your doctor questions. I tend to panic because I'm like "Ahh, I know that they're busy" and you have a lot of questions and you don't want to keep them for a really long time. So, writing your questions down beforehand, keeping it concise. But is there any other tips that you would give people to go in there, make sure that you're able to communicate your concerns and get the answers that you're looking for?

11:28 R Carnahan

That's a really good point. I think another important thing is to make sure that people keep a medication list and share that with all their providers when they go to different doctors, different providers, if they aren't able to show them what all the things are that they're taking now, then that makes it very difficult for those providers to make the best decisions about what other medicines they might use.

11:49 R Carnahan

Finally, just making sure people are disclosing to providers that they are falling. I think some people worry that if they start saying they're falling, they may lose some independence or something. They may have someone try to say, "well you need a higher level of care," or something like that. But if you have a fear of falling, if you are falling and that leads to less activity and it really becomes a downward spiral. So, it is possible to go into physical therapy to do exercise, to do things to really reduce the risk of future falls, but it's important that that's communicated with the doctor so that they can connect people to those types of interventions.

12:32 E Ritchie

In this episode, we covered quite a few medications that could be related to falls. While you likely won't remember all the medications and side effects we discussed, here are some key points to remember: Certain medications can increase the risk of falls due to their side effects, such as dizziness, drowsiness, or impaired coordination. Farmers should work closely with their doctors or pharmacists to discuss how medications may affect balance, coordination, and cognitive function, especially when working in a high-risk environment. Be vigilant for any changes in balance or coordination and report these side effects to a healthcare professional. Regular check-ups are important to assess how medications are affecting overall health and safety. Always inform your healthcare provider of all medications being taken to prevent harmful interactions. Regular medication reviews with a healthcare professional are essential. Avoid operating machinery, working at heights, or doing tasks requiring concentration after taking any type of sedative or sleep aid.

By combining workplace safety measures with careful management of medications, farmers can significantly reduce the risk of falls and stay safer while working on the farm. If you or someone you know is taking medications that affect balance or coordination, make sure to talk with a healthcare provider about possible adjustments and safety measures. Simple changes, like using extra caution on slippery surfaces or avoiding certain activities during medication adjustments, can make all the difference.

14:32 E Ritchie

If you haven't done so already, create a list of medications that you are currently taking and provide that list to all of your healthcare providers.

14:43 E Ritchie

For more information about falls on farms, including risk factors and prevention measures, check out Unit 9: Falls on Farms, from the Great Plain Center's Ag Health 101 course. This course is completely free and offers short and convenient audio chapters on various topics as well as summary pages for each unit. The link to Unit 9: Falls on Farms is provided in the resources for this episode.

15:12 E Ritchie

Listen in on the *FarmSafe* podcast to join in on the conversation about keeping safe on the farm.

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's questions you have or topics that you want to hear about on the air. You can visit our website, gpcah.org, or email us.

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Episode Resources

- [Ag Health 101, Unit 9: Falls on Farms](#) [Audio]
- [Ag Health 101, Unit 9: Falls on Farms](#) [Unit Summary PDF]
- [Medications Linked to Falls Fact Sheet](#)

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