

00:00:11:24 - 00:00:36:28

Speaker 1

Hello everyone, and welcome to this episode of The Forefront. Hypoglycemia. Back to school preparation. I'd like to start by saying thank you to Lilly for sponsoring this video. My name is Jody Lavin. Tompkins, and I'm a nurse and certified diabetes care and education specialist and Director of Accreditation and Content Development at the Association of Diabetes Care and Education Specialists.

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Speaker 1

Joining me today are Amy Hess Fischl and Dr. Michelle Magee. Amy is an advanced practice dietician and coordinator for the University of Chicago Kovler Diabetes Center Teen and Transit Program. And Dr. Magee is the director of the MedStar Diabetes Institute and a professor of medicine at the Georgetown University School of Medicine. Today, we will be talking about the importance of preparation, risk mitigation and treatment of hypoglycemia for school aged children.

00:01:12:06 - 00:01:13:17

Speaker 1

Welcome, Amy and Michelle.

00:01:14:20 - 00:01:15:10

Speaker 2

Thank you.

00:01:16:27 - 00:01:28:12

Speaker 1

I'm so glad to be talking with both of you to start. Amy, would you share a little bit more about your background and the age range of the school age kids with diabetes you work with?

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Speaker 3

Absolutely, Judy. I've been a certified diabetes care and education specialist for over 20 years working with all types of diabetes. But again, with Type one in children, my age range goes from age two to 25. So again, seeing kids in all settings in the school in the school ages.

00:01:51:22 - 00:02:02:03

Speaker 1

OK, thank you. And Dr. Magee, I know you're a clinician and a researcher and an educator. Would you give our listeners a little more background on yourself?

00:02:03:25 - 00:02:30:06

Speaker 2

I will. Well, thank you. It's a pleasure to be here with both of you today. I work for the Ten Hospital MedStar Health System in Washington, D.C., and Maryland. And I my work stands there, diabetes research and innovation

institutes. The patients I care for across the spectrum, from prevention of diabetes in persons who are at risk. So that's pre-diabetes.

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Speaker 2

And to those who are living with diabetes, I've been a part of the diabetes prevention program, which I think is something it's important for our listeners to understand a little bit about because so much diabetes is emerging in children. And so I think it's really important that we're talking about hypos and rescue treatment in children today.

00:02:55:01 - 00:03:08:02

Speaker 1

OK. Well, Amy, we're headed back to school soon. Won't be too long. So what do you think school nurses and other school personnel and health care providers need to know about hypoglycemia?

00:03:09:08 - 00:03:35:23

Speaker 3

Well, knowing that children spend seven to 10 hours outside of their home and in the school setting, and everyone that is caring for that child in the school needs to understand how to keep them safe with their diabetes. So first off, they do have to know the basics. So what are the signs and symptoms and treatment of hypoglycemia itself?

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Speaker 3

Next, parents then need to collaborate with the school personnel and just ensure that rescue glucagon medication is available and that appropriate staff are aware and know how to administer it. Now, one thing that we have to think about is that children are all over the school setting. They might be outside, they might be in PE class, they might be learning with the teacher.

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Speaker 3

So making sure that they have the appropriate items that are needed in all of those areas and they can get them very quickly. Now, certainly one thing that we also have to keep in mind is that knowing how to use rescue glucagon medication is going to be dictated by the state that you live in as well as school districts.

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Speaker 3

So again, everyone needs to understand how things go in where they live and what they do. Now, finally, the most important thing is as well as the glucagon medication is to keep oral carbohydrates on hand at all the locations that these children are going to be. Now, when we think of ideal oral carbohydrate choices, glucose tablets, juice boxes, fruit snacks or any other fast acting carb or food or beverage, that is going to help raise that blood glucose quickly.

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Speaker 3

Now, one other piece that we have to think about is something called the Rule of 15. Usually, generally speaking, 15 grams of carbohydrate weight, 15 minutes to see if the glucose has been raised appropriately. Now, one minor aside is that children, it has more to do with their weight because they're smaller. So again, we tend to use one gram of glucose for every eight to 9 pounds body weight.

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Speaker 3

And then we may also alter the rechecking of the glucose to maybe 20 or 30 minutes later because again, we do tend to see that some types of carbohydrate may take a little bit longer. And so we don't want them to be overtreating and causing an opposite situation.

00:05:51:28 - 00:06:16:24

Speaker 1

Well thanks for offering all those practical details, like having it on hand in multiple places and that the treatment might be different depending on their weight and things like that. So that was very, very helpful. Now Michelle, we've discussed preparation plans for Back to school. A minute ago. So but let's talk a bit more about the levels of hypoglycemia, including severe hypoglycemia.

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Speaker 1

Could you tell our audience how hypoglycemia is defined and how its symptoms arise?

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Speaker 2

Yes, we have some pretty clear definitions of what hypoglycemia is according to the guidelines that are provided by national organizations. So on the slide that you see now, I'm going to provide a brief overview of the three levels of hypoglycemia because they are useful to think about as you're caring for the children. With diabetes in your schools. So level one is defined as a blood glucose that's less than 70 but greater than 54.

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Speaker 2

And this is a threshold in which some of the responses that the body makes to low blood sugar kick in. And so some hormones go up in the bloodstream and so do some of the neuroendocrine responses. And that's what gives somebody the symptoms of hypoglycemia. And you have to be a little bit careful in children when it comes to that, because they may not always sense it in the same way that adults do.

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Speaker 2

And Amy will touch a little bit more on that later on. Level two hypoglycemia is when it gets down to under 54, and that's when the brain

starts to not have enough glucose to do its functions. And so the thinking may become a little bit cloudy, and that requires immediate action to treat so that you prevent going even lower.

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Speaker 2

And then level three, which we call severe hypoglycemia, doesn't have a specific blood glucose number cutoffs that we give to it, but it requires that the person who is hypoglycemic or the child needs assistance to treat, they may not recognize it themselves and they may not be thinking clearly enough to know that they have to take those carbs and so when somebody reaches that severe level of hypoglycemia where they need assistance, that's when we use glucagon as a rescue medication.

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Speaker 1

OK, well, thank you for that comprehensive overview of the levels, Michelle. Now, I want to move on to Amy and just ask a little bit about your experiences of the common signs and symptoms that you've seen in the children that you work with.

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Speaker 3

Sure. And certainly, as Michelle alluded to, when it comes to the different types of things that are happening, you know, those early warning symptoms are not limited to what I'm going to say. But again, they encompass sometimes a shaking, sweaty weakness, clumsiness, You know, I've had small children say, you know, again, my stomach is is making like little wiggles on the inside.

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Speaker 3

So there's lots of ways that children may identify that they're having a hypo. But one thing is that sometimes children and even younger children may not experience any signs and symptoms at all. And in fact if we think of children in PE or in recess and they're running around and sweating, they may not even perceive that they're having symptoms because they're thinking that the exertion that they're doing is causing that.

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Speaker 3

So it is important that while, yes, we have these and every child is going to have different signs and symptoms, and so I really do like to make sure that the school personnel really talks to the family members, because again, sometimes it could just be that the kids like twitching a little bit, and that could be a really early sign that that child is having a hypo.

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Speaker 3

Now, certainly when we think of if we let hypoglycemia progress and we don't treat it, we know that of course, it's going to lead to much severe symptoms, inability to swallow. So we can't give them oral carbohydrate

seizures. Of course, that loss of consciousness and the dreaded D-word death again, especially if it's left far too long So it it is fairly important that the school personnel does understand that we want to really kind of catch this as quickly as possible and really individualize what are those symptoms for each of the children that have diabetes in the school.

00:10:51:24 - 00:11:16:24

Speaker 1

So there's common signs and symptoms, but they may need to be individualized for the child, which is a good point that you make. So for both of you, I've got a question about we've already discussed the clinical definition of hypoglycemia. We've talked about signs and symptoms, you may see. But where do these rescue glucagon medications fit into the treatment?

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Speaker 2

So Amy kind of already alluded to this a little bit, is if someone is having symptoms or if you know that their sugar is down under 70, but they can take something by mouth, that's when you're going to give them the carbohydrate by the oral route, by the mouth. When they cannot do that is is when you need to start to think about giving them the rescue medications.

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Speaker 2

And that is glucagon and we'll talk a little bit more about later how that the how that is given. And and I think it's really important for you to also be aware when you give a child carbohydrates by mouth, it's not going to be an instant recovery. It takes anywhere from ten to 20 minutes for the carbohydrates to get out of the stomach and into the bloodstream.

00:12:09:19 - 00:12:33:00

Speaker 2

And that's an important thing for you to be aware of. So some children these days may have a sensor where you can see their sugars are continuing to go down. And that's why we have this rule. If they're not responding, then you're going to retreat after a period of time with the oral carbohydrates. What else would you say about the kids, Amy?

00:12:34:03 - 00:13:02:13

Speaker 3

Well, again, certainly we know that rescue glucagon medications should be in the diabetes medical management plan for every single child that is on insulin or something that's going to cause hypoglycemia. So what that means is that the school nurses and other school personnel need to be familiar with the location, the preparation and the use of that rescue glucagon medication.

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Speaker 3

Now, we also know that there are several preparations that are delivered in different ways. So it's really important that all of the school personnel understand where the instructions are and how to use each of them.

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Speaker 2

And I would add to that, you know, each child will have a prescription from a physician who has taken care of their diabetes and and that's the preparation that you're going to have to give to that child if you need a rescue medication.

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Speaker 1

Thank you for reminding us about that.

00:13:35:22 - 00:13:36:06

Speaker 2

Yeah.

00:13:37:02 - 00:13:48:18

Speaker 1

So my last question is also for both of you. And maybe Amy could go first, but what are some key takeaways that you would want to leave our listeners with about this topic?

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Speaker 3

Of course. And again, we'll be wrapping everything up that we've talked about earlier. But school nurses and other school personnel and also other health care providers that are involved really need to be familiar with the signs and symptoms of hypoglycemia and severe hypoglycemia so that when they happen, it can be handled immediately. Second, always keep oral carbohydrates on hand and make sure that for each child with diabetes, you know how many carbohydrates that they require to raise their glucose within the allotted time frame.

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Speaker 3

Third, the school nurses and other school personnel need to familiarize themselves with the preparation and use of each rescue glucagon medication that is used by the children with diabetes at their schools. And finally, school nurses and other school personnel really need to identify the training plan for administering glucagon and also identify how they're going to be getting ongoing training for that as well.

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Speaker 1

Michelle, any final thoughts from you?

00:14:54:05 - 00:15:25:03

Speaker 2

So I would urge us you're taking you have these children with diabetes, with you during the school day that you'd be watchful and situations where they may be at increased risk for hypoglycemia. And so that might be if a meal is late or it's missed, if they're having extra physical activity. And that

certainly is sports or even playing in the playground, encourage them to let you know if they feel funny about you must remember that they may not have symptoms of hypoglycemia.

00:15:25:03 - 00:16:02:13

Speaker 2

So you have to be on the lookout for warning signs that they're developing severe hypoglycemia. You'll want to treat any sugar that's under seventy, as we have discussed. And I would also tell you that you have to remember that once a child recovers from hypoglycemia, they may not be thinking clearly for quite a few hours afterwards. And I would urge you to just make sure that the health provider for the patient has given them rescue medications that are up to date and available for you to use in case of severe hypoglycemia.

00:16:03:17 - 00:16:28:19

Speaker 1

Well, Amy and Michelle, thank you so much for taking the time to join us for this episode of The Forefront and sharing your knowledge and experience with our audience. For me, as a diabetes care and education specialist, I know how useful this information is for practice. So I'm sure our listeners really appreciate hearing your firsthand experience. Amy and Michelle, thank you so.

00:16:28:19 - 00:16:30:06

Speaker 2

Much. Thank you.

00:16:30:27 - 00:16:31:14

Speaker 3

A pleasure.

00:16:31:27 - 00:16:42:17

Speaker 1

We want to thank our sponsor, Lilly once more for their support of this episode of The Forefront. Thanks for watching. And please join us again for future episodes.

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