Hi, this is Kelly Campbell, and welcome back to the Legal Nurse Podcast. Today we have Brenda Eagan Johnson. Dr. Brenda Eagan Johnson has over 20 years’ experience in pediatric brain injury. She is the state program coordinator for Pennsylvania's nationally recognized BrainSTEPS brain injury school consulting program. She holds a doctorate in Mind, Brain, and Teaching from Johns Hopkins and is a legal forensic and educational consultant.

Dr. Eagan Johnson, as a certified brain injury specialist and adjunct instructor at George Washington University, holds three Pennsylvania teaching certifications and is published. She served as an expert external reviewer for the CDC pediatric TBI reports to Congress, co-authored a CDC document on concussion strategies, and has trained over 2,500 school-based concussion management teams in Pennsylvania. And I'm proud to say she's my new friend and lives just 25 minutes away.

Welcome Dr. Johnson.

Thank you. I'm excited to be here. I'm very excited to be here. I love talking about pediatric brain injury and spreading awareness, so thank you for having me.

Thank you for dedicating some time to this much needed topic. You know it's a personal interest of mine, having six young nephews. It makes me nervous quite honestly, so where to get started? I'm not even sure. You know, I already have you reserved a couple of times to come back because this is so very, very important.

Yes.

But your resume is so impressive.

Thank you.
Kelly: I think that's why we need to have you back a few times just because this topic is so broad. But concussion awareness is finally making its mark, so what symptoms? Why do you think recently there has been a surge in society with the awareness?

Brenda: You know it's very interesting because concussion has been around. I mean, we all have heard of someone. We all know somebody who's had a concussion, and within the past 10 years the awareness has surged in society because of two things. One, the research that's now being done, and we'll talk about that in a minute.

Because of the research that's being done states, every state in the United States now has a return to sports or return to play concussion law for their students. Typically, it's middle to high-school student age. And the states passed these laws because the research began to show that after a student sustained, or anyone sustains, a concussion, the brain is more vulnerable for a period of time during recovery to sustaining a second concussion that takes less force to do more damage when the brain is in this state of recovery.

It can cause severe disability if you are not fully recovered, and you return to sports. And in some rare cases, they believe that it has even caused death in some young adults, adolescents. So, the states passed these laws which raised awareness. Because now when a student hits their head in an athletic event, they need to be pulled out of the game and according to the law someone must assess them who is trained in concussion.

Typically, it's a medical provider of some sort. They then must determine if that student (A) had a concussion and (B) when they can return to play, but it must be managed. So, along with that, the National Football League and the National Hockey League… It's been in the media a lot about chronic traumatic encephalopathy. So, the awareness has been raised not only in schools and in general society, but also with parents.

Now I don't deal with return to play or return to sports. I focus on a student's school and what they do when they return to school. When they return to school, according to the Centers for Disease Control, concussion symptoms fall within four categories. And those four categories are:
• thinking or remembering,
• physical,
• emotional mood, and
• sleep disturbance.

Usually after a concussion, commonly students have headaches. I also frequently see that they have balance problems, dizziness, and feeling tired. Sensitivity to light and noise is a big one, and many individuals do not know that that's even a symptom of a concussion.

So, it's important that especially parents and anyone out there who is talking to someone who's had a concussion talk to them about the symptoms. Because often they think of just memory loss and headaches, maybe loss of consciousness and vomiting as the main symptoms, but there are really so many more, like

• difficulty thinking,
• slowed processing speed,
• difficulty remembering new information,
• trouble falling asleep,
• trouble staying asleep.

And these are all very important concussion symptoms. So, it's important to manage the concussions over time.

Kelly: Right and as a clinical legal nurse consultant, it makes me think of a call I received from an attorney. The attorney said, "Screening for merit," and he proceeded to tell me over the phone about a young player who had a concussion. He was pulled out of the game and then returned to play after being cleared by the emergency doctor, but the parents noticed a change in behavior. He started acting out in school, opting out at home and eventually he committed suicide, and they wanted to blame it on the concussion.

And I thought, "I don't know. There are lots of things. Was there a history of new onset?" like, as you mentioned, headaches? Is it a documented history? So, as we go on, there are so many things out there to follow the symptoms of a concussion. Child and teenage depression and that sort of thing is a whole other section, but you must be aware of what concussion symptoms are.
Brenda: Right. I'm glad you brought that up because it's important to know that as research comes out, it's sometimes hard for medical providers to keep up with all the latest research on all the different medical diagnoses. So, when a student goes to an emergency room, they should never be cleared.

I'm not a medical provider. However, I know from working in the field that the consensus is, a medical provider should never clear a student in the emergency room if that student hit their head because they need to manage the symptoms over time that could show up within 24, maybe 48, hours. Sometimes we don't see the symptoms immediately. It may take a little bit of time, a couple hours or so to manifest, so that's why it's important.

And, the mental health piece is very important now. We are seeing a lot of children, adolescents, who have had concussions, especially multiple concussions. And over time, whether it's organically caused by the hit to the head or from the symptoms that maybe are prolonged, students are experiencing anxiety, depression, suicidal ideation and panic. And we don't know if this was underlying, was this going to occur anyway because mental health issues tend to surface. You know hormones, middle school years, teenagers.

It's hard to siphon it out, and everyone always wants to siphon it out. They want to know, "What is the concussion cause? What does this cause?" And I really try to refocus the conversation to the idea that it really doesn't matter what the cause was. Let's figure out how to support this student.

Kelly: Right, right, right. Okay, so we've discussed the most common concussion symptoms. What are concussion modifiers?

Brenda: The concussion modifiers are important, I believe. Because anytime I'm presented with a child's case to look at, and they've had a concussion, I want to know what is in this child's history that could modify their outcome or modify their recovery time. Most students, of children in adolescence or anybody, really, most individuals are thought to recover within about 28 days. So, after about a month, 70 percent should recover.

Kelly: Okay.
Brenda: Typically, kids recover within two weeks, fast. Now that's the acute phase. So, I always want to know what is in the history. Does the student have a history of migraines, a family history of migraines, a history of learning disabilities, a history of emotional mental health issues, a history of sleep issues? There's even a study where one hospital was looking at whether a history of having a lazy eye could potentially impact recovery.

And if I see that a student has had a history of multiple concussions or a history of learning disabilities, immediately in my head that's a little red flag where I think, "Okay, so I need to prepare this child, an adolescent, and family, whoever it may be, that the student may not recover in a typical four-week period. And it may take a little longer because we must set them up for success. Because if they think they're going to recover within a week or two weeks like their friend, and then it lingers for two months because they have this history of modifiers in their life, that can set them up for some mental health issues like depression and anxiety.

So, it's important that we convey to this young adult population: We expect you to get better. We don't expect this to last long. Because so many students are hearing about the NFL players who then have chronic traumatic encephalopathy, and they're frightened, and their parents are frightened. So, we need to bring down their worries about this.

Kelly: Or Aunt Kelly's worries.

Brenda: Yes, and your worries. Yes.
This is Pat Iyer. Before we continue with the show, I’ll share a resource you’ll find helpful in evaluating head injury cases. I am describing our 6-hour long course called **Falls Course: The Impact of Head Injury**.

I invited nursing experts to participate with me in this course so you would get the tools you needed to analyze a head trauma case.

**What can this course do for you?**

1. **You’ll gain insight and practical tools about how to analyze a head trauma case.** You will gain skill in reviewing facts of a fall case and learn from expert witnesses who have reviewed hundreds of cases.

2. **You’ll learn skills and techniques you can use immediately.** The course is not full of dry theory; it is a fast paced, comprehensive way to learn practical, useful information.

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And you can also watch it on your desktop computer.

Purchase the **Falls Course** at the show notes on podcast.legalnursebusiness.com or if you are listening to this podcast on your phone, check out the show notes for a button to click for more information. Use the code “listened” in the coupon box to get a 25% discount.
Kelly: So, when you say you know the typical recovery could be two weeks to a month, what exactly is cognitive rest?

Brenda: That's a very good question, and the researchers are still trying to siphon that out exactly. But what we know is after a concussion, what happens to the brain is a chemical cascade that occurs to the neurons in our brain.

And during this period, it leads to a metabolic mismatch or a neurometabolic mismatch. So, during this time period, the student will be experiencing symptoms and we look at the period initially as the acute phase of recovery. And typically, in the educational field, we consider the acute phase about four weeks, maybe four to six weeks. Beyond that, we consider the protracted or prolonged or rehab phase.

So, cognitive exertion that occurs early on needs to be supported in school and cognitive exertion is thinking. So, when a student goes to school after a concussion, they should be home for just a few days. The research is saying one to two days is probably pretty good. Then they need to go back to school. But the school also needs to be supporting that student's return by providing academic adjustments, which are informal supports for students during that four-to-six-week period so that the student can remain in school learning while they are recovering from their concussion.

So, by providing informal adjustments such as no tests during that first few weeks, a longer time to complete their work, half of the work load instead of completing all the math problems, the student demonstrates to the teacher that he or she can do the key learning concept for the day and then move on to the next concept.

It's a very delicate balance when a student's in school. We want to keep them in school learning without spiking their symptoms because a lot of times their symptoms will spike from cognitive overexertion from thinking too hard. And while their brain is trying to recover, they will maybe get a migraine, end up in the nurse's office and then must go home. So, we really want to keep them in school.

Kelly: Okay, so it's similar as return to play and it's called "Return to Learn."
Brenda: Yes.

Kelly: Okay.

Brenda: They return to learn, yes.

Kelly: Now is that your phrase or is that a clinical phrase?

Brenda: That phrase was started by Dr. Karen McAvoy who runs a concussion clinic in Colorado. She's a close friend of mine. She started that term years ago because it pairs well with return to play. Now the entire field uses "Return to Learn.” And “Return to Learn” is that phase when the student comes back to school. We are supporting the return to learn because it needs to occur. The student needs to be back at school full-time with academic support due to concussion symptoms before they should return to contact sports.

Kelly: Okay.

Brenda: So, it's step one.

Kelly: Okay, so what would be some key red flags for us as legal nurse consultants when reviewing concussion cases? What would you suggest?

Brenda: Well, I would suggest, first you really want to look at those symptoms. So, look at the Centers for Disease Control chart, which lists the most common symptoms. That's the most common symptom chart to look at. Look at whether the student was experiencing these symptoms beforehand on a regular basis. Some might have headaches all the time and it may not be concussion related.

Also, you want to look through the records very carefully. Once I was working on a case, and I found buried in the school health record that the attorney hadn't received a remark that the student had fallen off the sliding board and sustained a concussion, but that was in no other records. So, it's important to find these records through the school because again, you know that could impact the concussion recovery of this student.

Kelly: Right.
Brenda: Also, how's the student reading? So, when you ask a student, "Show me how you read," a student may read for you and say that the lines seem all squiggly or that they may have to track with their finger. That's not normal to track with your finger. You should be able to read without doing that. But if I see a student doing that, I ask them, "Were you tracking with your finger on the lines before your concussion?" Often, they say no. Well, to me that shows that there could be some ocular issues with the vision processing going on.

So, I also ask questions about their balance. “So, how is your balance? Can you look up and not get dizzy? Can you go up and down stairs without holding a railing?” If the student says that they get dizzy often, that indicates that they should probably be evaluated by a vestibular therapist who is typically like a physical therapist who has extra training in you know vestibular therapy or an ocular. You know they should go in for an ocular evaluation with a neuro-ophthalmologist who is familiar with concussions and the effects of concussions because vestibular and ocular issues are entwined almost.

They're very, very similar. So, a student could be off balance because they have convergence issues with their eyes. These are so common, and so many parents don't even know because it's not talked about a lot. But we know that if a student has a history of prior concussions chances are, they're going to have vestibular issues.

There was a study done out of the Children's Hospital of Philadelphia. If I were to recall, it said in almost 90 percent of the records that they reviewed, these students with prior concussions also had vestibular issues. So, it's important to look at these as red flags.

And, another red flag is when I'm talking with the teacher, I frequently will hear after any severity of brain injury, "Oh, the student is so spacey now. He's daydreaming all the time." Well, to me that means, "Uh-oh is there something going on? Has this student been evaluated by a neurologist because could there be some seizure activity occurring?" And even with concussions, we have seen it. It's less frequently with concussions, but it does occur.

Kelly: Okay. Wow, you've given us lots to think about, a lot.

Brenda: Good.
Kelly: So, how do we get in touch with you when we need some more tips?

Brenda: Okay, well you can reach me. So, I have a forensic in educational consulting work that I do. I have a website. It's www.BrendaEaganJohnson.com. You can reach me there and it has all my contact information. But I am also a brain injury educational specialist, so I work on forensic cases to help bring in and look at the functional aspect of a child's acquired brain injury, including concussion.

Kelly: Okay, well great. Well, thank you so much for your time today.

Brenda: Thank you for having me.

Kelly: All right. And listeners don't worry, we already have her scheduled to come back and give us a little bit more information. So, tune in next week for another great podcast.

Bye-bye.

The Falls Course: The Impact of Head Trauma is ready for you on your desktop or mobile computer. Be sure to see the Learn More button in the show notes of this podcast. You’ll find the show notes on podcast.legalnursebusiness.com or on our new mobile app, biz.edu. Get the app at legalnursebusiness.com/bizedu.

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