

Williams Syndrome

*(begin Brahms music before script)*

Even before Jeremy Vest could talk, his mother Sue says he was moved to tears by the Brahms lullaby.

**Vest, S:** When he started to talk, it was about at year and a half and he said you know that music makes me so sad. Coz we would put it on to help him go to sleep, only he would cry and we didn't know until he was old enough to speak!

Now, Jeremy is twenty years old. And MUSIC .... is a BIG part of his life.

**Cut:** Jeremy on the drums with State Radio.

That's Jeremy on the drums. He is playing with a band called State Radio, at the 9:30 club in Washington DC. When he is not performing or practicing, Jeremy is often Listening to music.

**Vest, J:** I was just in my room listening to Malaguena from a really awesome show called Blast. I mean its mind boggling how they do the things they do. They blind fold themselves, they're flipping their sticks. It's a great show, it's like Fantasia put to music. It's really great!

Jeremy has Williams Syndrome. He is a **good five inches shorter** than his 16 year-old brother, Jesse. He DOES look rather elfin. And like most people with the Syndrome, Jeremy is very friendly and chatty. I met him at his parents' house in Gaithersburg, MD.

**Vest, J:** This is my drum set, Rhitu, I can tell you about it. This is a premier drum set (*start fading out*). I have four cymbals, a splash, a high hat, a rod and a china, but I don't know where it is now.

When Jeremy was little (*pause*), his parents did not know that he had Williams. But, they DID realize that he was very different. He didn't start walking until he was eighteen months old. Later, he would go up to anyone and start talking, even strangers. And yet, he was afraid to go to the playground.

**Vest, S:** He couldn't get on the slide, he wouldn't do anything that was spinning, I mean things were scary for him.

Williams Syndrome is rare. Only one in seventy five hundred people have it. And diagnosing the syndrome was hard until 1993. That's when researchers discovered that the disorder is caused by a set of genes that go missing. A few years later, Jeremy took the genetic test that gave him and his parents the diagnosis. He was ten years old.

Only in the recent years, have scientists begun to get some insight into what is different about the brains of people with Williams Syndrome. Daniel Levitin is a **neuroscientist** at

McGill University, in Montreal. He studies people with Williams Syndrome and has found..... that they are exceptionally sensitive to music.

**Levitin:** They spend more hours in a day listening. And when they do listen, they get more emotionally involved. And when they listen to happy music, it tends to keep them happy for a longer period of time, and when they listen to sad music they remain sad longer.

Music, ..... is often the only thing that absorbs their attention. They usually have a hard time paying attention to anything for long. They also score low on IQ tests and while they are socially outgoing and talkative, they never get very deep into a conversation.

Jeremy sat at the dining room table, chatting with me and his parents. He was constantly moving his feet, wringing his hands and drumming on the table with abrupt bursts of energy. Suddenly he turned to the microphone in my hand, and began telling me about his recent journey back from summer camp.

**Vest, J:** My flight was pretty good. I'd like to thank South West for all their great pilots and great flight attendants for being so caring to me when I am on their planes. Is that going to be on the thing too??

Aaaall Jeremy wanted to do was take me to the basement.... to (*walking down the stairs*) watch him play the drums with his brother on the guitar.

*Clip of Jeremy playing with Jesse.*

Jeremy is a good drummer, and he also plays the piano a little. But his mother Sue says.....that with many **other** things, he struggles to use his hands.

**Vest, S:** Even today, if you watch other children pick up cheerios with a pincer grip, and Jeremy would just scoop them off the table with his hands. Because he couldn't use that grip. His hand writing is barely legible.

How Jeremy's hands can produce complicated rhythms and yet fail to sign his name, is something neuroscientists don't understand. But Levitin says that this is typical for people with Williams Syndrome. They are more likely to play a musical instrument than people without the syndrome, even though they have poor motor skills and eye-hand coordination.

**Levitin:** Many of them struggle to button their shirts, they can't navigate the stairways, And yet, these same individuals can execute the quite precise hand movement needed to play the piano or the clarinet.

Levitin says that research on the musical ability of people with Williams Syndrome have started to reveal things about how all brains work.

**Levitin:** What we've learned is that music is a relatively independent faculty and contrary to what scientists thought 75 years ago, there isn't just an intelligence module.

He says that's why, people with the syndrome can still be very good at music, even though they have trouble with so many other things. Levitin has scanned the brains of people with and without the Syndrome, as they listened to music. In typical brains, specific circuits responded to music. But, in Williams brains, many different parts were activated. Areas of the brain that would not typically have anything to do with music, such as the **brain stem**.

**Levitin:** It's like walking into a house where the walls aren't in the places where you'd expect them to be, plumbing isn't in the place you'd expect it to be. Maybe the sink isn't beside the shower or something. It's more like that.

Levitin also found that a tiny part of the brain called the amygdala, which is typically responsible for our emotional reaction to music, becomes more responsive in people with Williams. He says, this could explain why people with the syndrome react so emotionally to music.

For Jeremy the musical wiring of HIS brain has helped him reach out to people and make more friends.

**Vest, J:** Well, it makes me feel special to have Williams you know. I feel really happy that I have it. Because if I didn't have it, what would I be like? That's what I keep thinking to myself. Would I be different to other people, would I have friends like these? What would I have been doing, I really don't know.

Jeremy graduated from high school last year and is attending the Berkshire Hills Music Academy, in South Hadley, MA. He is training in music and life skills. Jeremy hopes that someday, he will be a **professional musician**.

*(Closing piece – Jeremy with State Radio)*