

## **Hypersensitivity to Sound: A Life Long Malady for Williams Syndrome No Longer!!**

Williams Syndrome children at an early age show signs of enjoying music. Many have the ability of ‘perfect pitch’--the ability to name and produce notes. Additionally they may demonstrate: limited spatial skills and motor control; a friendly personality; an ability to learn and retain music easily; a fascination with spinning things; feeding disorders, especially in infancy; difficulty modulating emotions; a short attention span; and a disconnection between linguistic ability and understanding what was said. Many also demonstrate a hypersensitivity to sound.

Most professionals working with Williams Syndrome children focus on the use of their musical skills, and the enhancement of their language skills. However, little if anything is done to decrease their hypersensitivities to sound, because there are limited resources to address it.

The many types of hypersensitivities to sound are demonstrated by: crying when the vacuum is on, screaming when a fire alarm goes off, covering the ears when there are too many people in the room, shutting out or tuning out when there is too much sound to process, turning the TV volume up, refusing to go into a bathroom, covering the ears even when there appears to no sound around them, and/or noticing an airplane’s presence 10 minutes before every one else. Do you know a Williams Syndrome child who exhibits any of these or similar behaviors?

These hypersensitivities impact the child’s development. When a child is sensitive to sound, it diminishes their attention span because the excessive background noise is distracting and uncomfortable. For example, think about having to listen to someone speaking for one hour while someone else scratches their fingernails on a blackboard. Typically, one’s nerves get on edge, they miss the gist of what was said, they start moving around in their seats, they cover their ears, they “tune out”, or they might shout out “Stop that noise!”. This intermittent listening negatively impacts their receptive and expressive language skills.

Little known is that these hearing issues also affect vestibular functions like gross and fine motor skills, sensory integration, oral motor skills, reading, spelling, listening, attention, focus, and organization skills. Further, some children can develop auditory processing timing lags. All of these issues have a major impact on a child’s overall development.

Dorinne Davis, an Educational and Rehabilitative Audiologist, President/Founder of The Davis Center in Rockaway, NJ, has researched and identified 3 types of hearing sensitivities. Some people have one, two, or all three types of hearing sensitivities. It is important to determine which ones are present when a child demonstrates any of the hypersensitivity symptoms. Ms. Davis has developed a special test battery that determines if one or more of the hypersensitivities are present, or if there are other learning issues associated with how sound is processed by the body.

The next question is what can be done if hypersensitivities are present? Ms. Davis has explored the effectiveness of sound based therapies as a form of intervention. When a type of hypersensitivity has been identified, the appropriate sound based therapy is suggested. In some cases, more than one therapy may be suggested. To date, Ms. Davis has had consistent success with Williams Syndrome clients.

For example, Brianna was four years old when Ms. Davis first met Brianna. She was extremely sensitive to sound and she also had receptive and expressive language issues, fine and gross motor issues, cognitive delays, sensory integration issues, tactile defensiveness, oral motor difficulties, and auditory processing weaknesses. Brianna was identified with more than one hypersensitivity to sound and started a series of sound based therapies. Initially the therapies were intensive—daily in some cases over a 6 month period. They now are intensive for shorter periods of time many months apart. Brianna quickly lost her hypersensitivity to sound so that focus could then be applied to her other learning skills. On last report, her mother reported that she is very talkative, more cognitively aware, playing more appropriately and creatively, and is leveling out emotionally. She is trying new foods and eating more of the foods that she used to avoid. Her cutting skills improved 100%. Her handwriting has improved. Her Occupational Therapist reported that her progress was happening at an accelerated rate. Brianna has become a happier child with her environment and is able to learn more easily.

Gianna was almost 5 years old when she first visited Ms. Davis, and had initially come for testing for one type of hearing sensitivity. This sensitivity was not present and different testing was suggested to determine the most effective therapy to address her hypersensitivity to sound. Gianna was very verbal and language skills were age appropriate when she started. She had fine motor issues and difficulty attending for long periods of time. She was very social. It was determined that Gianna should receive one therapy to address her hypersensitivity. Her hearing sensitivities improved over time to the point that she went into a movie theater without panicking, and she played with “poppers” (toys that if a string is pulled, it makes a popping sound) and pulled the string by herself. Academically she has been improving. Her vocabulary has remained good and she seems to be understanding more of what is said. Her other senses are being enhanced and seem to be overly stimulated. As a result, she was referred, for example, to a behavioral optometrist because a strobe light was bothering her.

Ethan was 13 years old when he first visited Ms. Davis. Sound could be over-whelming to him and he would become aggressive. He had developmental delays in many areas. He also had sensory issues related to touch. He would perseverate with tasks and often had difficulty understanding what was asked of him. He demonstrated all 3 types of hearing sensitivities. A program was suggested. He was able to complete some of the program but not the entire program suggested. His hearing sensitivities diminished and his parents reported that he became more comfortable being alone. He became more verbal and had more appropriate conversations. He was less fixated on particular issues or events. He became more confident with himself. He tried new physical activity like swimming with his arms and legs working together. He began using new words and acted more age appropriate. His attention span improved. His reading skills increased. He still has difficulty modulating the tone and volume of his voice and would benefit from continued sound therapy services.

Each child is different. These three children were uniquely different but all had Williams Syndrome. Help is available for any child with hypersensitivity to sound, especially those with Williams Syndrome. The first step is appropriate testing to determine the appropriate corrective intervention.

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