

## *Auditory Processing Disorders: Why Use MNRI®? One Audiologist's Perspective*

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As an audiologist specializing in Auditory Processing Disorders (APD), I never expected to find myself involved in using manual techniques with my patient population. How I discovered MNRI® and why it has made such a difference in the lives of my patients is the topic of this article.

Auditory processing disorders are quite complex. We simplify things by breaking them down into a few main categories: auditory decoding, auditory integration, and prosodic deficits. Children with auditory decoding problems have 'blurry hearing.' They mis-hear one sound for another, which can lead to great confusion (e.g. 'bite' for 'bike'). Kids with auditory integration deficits have trouble getting sound information going to the right side of the brain to work together with sound information going to the left side of the brain. In essence, these children miss the big picture and are often heard saying, "I don't get it." Children with prosodic deficits have trouble understanding non-verbal speech cues such as voice intonation, facial expressions, and body language. They often make poor eye contact and have trouble understanding emotional aspects of speech (e.g. sarcasm, humor, idioms).

As a 'rookie' audiologist in the area of APD in the late 1990s, I initially set out to retrain the brain using different kinds of computer software programs and brain training games. After a few years, I became frustrated by the fact that these interventions seemed to be only modestly helpful for a handful of my kids. Why did most of the APD children not benefit? They certainly met the criteria based upon my evaluations. Maybe there was something I was missing...something that came before higher order auditory processing, which takes place in the auditory cortex at the top of the brain. Where were the fundamentals of auditory processing?

I began to take a closer look at some preliminary information in my files. Most of the children I evaluated presented with other types of problems besides auditory processing difficulties. Their case history forms showed that they had handwriting problems and eye tracking issues. They had difficulty with balance, attention problems, and poor postural control. "What does this have to do with auditory processing?" I wondered. I could not ignore the fact that the same sets of problems were staring me in the face, case after case.

I began to think a lot about what was happening at the brainstem and cerebellum, the 'ground control' centers of the brain. After all, early in evolution, our 'reptilian brain' worked only through reflexive pathways; there was no cerebrum for thinking. Many of the symptoms I read about in my patients' case histories were related to these lower brain areas, such as abnormal Acoustic Stapedial Reflexes. This reflex is a middle ear muscle reflex that is mediated by the brainstem when a loud sound is presented to the ear, thus protecting



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the inner ear from acoustic trauma. It acts as a buffer against loud noises. In exploring the functions of the brainstem, I learned that many other reflexes are brainstem mediated including our earliest primary motor reflexes that are present at birth such as rooting, sucking, grasp, and the startle or Moro Reflex, to name a few.

Through an organization called Brain Gym®, I was introduced to Dr. Svetlana Masgutova in 2004. At that time, I took my first MNRI® course, Postural and Dynamic Reflex Integration. My eyes opened widely to learn what my intuition had been telling me. We need to go back to the beginning of our brain development and work forward, just as the brain develops from caudal to rostral, or from bottom to top. Every new link in the chain of development attaches to something that comes before it. At the very foundation of our neurological development is the primary reflex system, which serves as the anchor for higher levels of brain development. If there is nothing to anchor to, new learning will not 'stick.' This is what I saw happening to the children I treated with APD. I was simply aiming too high. It was like trying to teach algebra to a child who does not understand basic addition and subtraction. They just cannot get it.

I began my concentrated MNRI® journey in 2009. After five years of thinking about what I had initially learned from Dr. Masgutova, I realized that so many children with APD needed to have their primary reflexes integrated first. I became an avid 'MNRI® Groupie,' taking every course that I could attend while managing to run my neuro-audiology practice. In 2013, I completed my training as a Core Specialist in MNRI® and have begun my training as an instructor in various aspects of the method, including the Visual-Auditory Reflexes integration, where I feel I can be most useful.

In addition to being an MNRI® student, I have had the opportunity to be a researcher with Dr. Masgutova, performing audiological studies on selected children participating in MNRI® Family Conferences and analyzing physiological changes with auditory evoked brainstem responses (ABRs) and Acoustic Stapedial Reflex testing. Although the test data is still being analyzed and is presently inconclusive, it appears that most of the children tested had normal ascending (afferent) auditory system functioning through the brainstem but abnormal descending (efferent) auditory system functioning. There is evidence that the efferent or motor response system largely influences our perceptual intelligence. Motor development will be delayed or inefficient when primary reflexes are poorly integrated. Without appropriate motor responses to sensory stimulation, we may lack some of the ability to fine tune our sensory perception, ultimately affecting our higher order skills such as auditory processing and language development.

Today, I insist that MNRI® testing be a part of every auditory processing evaluation I perform. Research has shown links between the somatosensory system or touch, the auditory system, and the amygdala in the emotional center of the brain through the non-classical auditory pathways (Moller and Rollins, 2002). The phylogenetically older, non-classical auditory pathways have been shown to be active in children up until about 20 years of age. After this time, the more recently evolved, classical auditory pathways take over, providing more finely tuned information to the auditory cortex. It has been proposed that delayed maturation of the non-classical auditory pathways may be involved in some types of neurobehavioral disorders in children. This may explain why parents often report improved auditory and language skills when addressing the somatosensory system using MNRI® techniques.

In closing, I would like to add that one of the most exciting aspects of being a part of the MNRI® team of specialists is that I am joined by wonderful, caring, and dedicated professionals from many different disciplines, all bringing their expertise to our classes and meetings for a collective consciousness about human development. Being a part of the MNRI® team has been one of the most rewarding and fulfilling interventions I have been able to provide for the children and families who visit my practice. I look forward to joining Dr. Masgutova and my MNRI® teammates as we continue to make miracles happen and offer hope and new beginnings to children and families in the U.S. and around the world!

## References

Moller A. R, Rollins P. (2002) The non-classical auditory pathways are involved in hearing in children but not in adults. *Neurosci Lett* 2002; 319: 41-44.



*I would like to give a special thanks to Dr. Masgutova for enlightening me with her brilliant work and for helping so many. For families already benefitting from MNRI®, congratulations and may your loved ones continue to blossom. Please help us to spread the word about MNRI®. For families just beginning their MNRI® journey, your hard work and dedication will be transformed into benefits that will last a lifetime. Enjoy your rewards, and I wish you all good health, strong body and mind, and integrated hearing!*

*– Dr. Leah Light*