

## **AUDITORY INTEGRATION TRAINING IN A NUTSHELL**

by Marcy McCarthy

AIT works by improving synaptic “attention” and efficiency. The improved synaptic “attention” and efficiency are often played out in terms of observable behaviors.

For Auditory Integration Training purposes, we use the Otoacoustic Emissions tester because it gives us a fair, unbiased hearing response profile which we use to guide us in selecting filters on the listening machines. (We use either the BGC or the Earducator machines).

The purpose of AIT is to restore hearing to a more normal level and function. For many individuals, this may mean that sounds are not as offensive post-training. Or it may mean that the processing of language sounds is enhanced.

When we talk about “processing”, it indicates that we are talking about how the brain parses out sound segments to various brain structures and then re-assembles those sound segments into meaningful language components in a quick and efficient manner. So that the auditory cortex receives coherent messages and quickly interprets the messages and retrieves memory components to be able to relate the messages to other stored events and messages.

AIT speeds up messaging and creates more efficient synaptic routing, so that listening to sounds isn't such hard work. The other effect of AIT is to restore balance to basic emotions. That's why it is often recommended for people with chronic depression. Sound segments criss-cross the limbic system (seat of basic emotions) many times in the course of segmenting and re-assembling sounds bits. The increased activity in the area of the limbic system is theorized to restore emotional balance and function.

The auditory messaging also “checks in” with the small brain (cerebellum) – the seat of balance and coordination. That may also be why AIT helps to bring about better sensory integration and helps vision (even making reading easier – since reading involves teamed visual pursuit and tracking movements of the eyes).

The body's sensory integration is dependent upon refined messaging across the various sensory and motor strip areas of the brain. In the cases of some youngsters, sensory integration is disrupted or has never worked at “normal” thresholds and the child must work extra hard to understand their environment through their peripheral sensory system. The world as we know it, may not make sense to them. Life may be particularly unpredictable. By increasing the messaging across the cerebellum (balance and coordination control center), the person is able to improve their awareness and attention to outside influences such as olfaction (smell), touch, movement, and body orientation. Vision may be helped since it is largely based on fine motor ocular movements. When messaging is improved, all sensory elements may benefit.

In conclusion, the benefits of AIT are sometimes seen in the graphs produced by the Otoacoustic Emissions Tester, but in most cases, the results are best observed in the individual's behaviors.

Look for: better emotional modulation, better sensory regulation, which includes hearing, vision, tactual and balance and coordination. When the individual's sensory and emotional systems are balanced oftentimes, improvements are noticed in receptive and expressive language attempts. Since the individuals experience better modulation overall the resultant behaviors indicate they are more motivated to engage in social interactions and social communication.

In the course of putting individuals through the AIT process, we have the parents prepare information at Intake which gives us an idea of present functioning in several areas of development and academic performance. In order to find whether AIT has had an impact on the auditory processing **and** sensory

processing, we must rely upon observable behavioral changes.

As Auditory Integration Training Practitioners, we are using the ears and auditory channels along with our off-times filtered, randomized and unpredictable “music” to change the rate of processing in the brain. AIT changes that rate at which behavioral changes take place. AIT is often said to “accelerate progress”.

#### POST-AIT RECOMMENDATIONS:

##### **S**TRUCTURED MUSIC

Continue therapies as appropriate and as needed. Parents may also consider providing some “structured” background music. “Structured” music is music that is predictable – such as classical music. This type of music helps higher order thinking and math and analytical skills. There are several series of classical music on the market: Such as Mozart to Study By, Read By, Relax with, etc. Tomatis-style listening programs are often very helpful in this regard, i.e.: Samonas or The Listening Program.

##### **E**EG-Neurofeedback or EEG-biofeedback

Consider EEG-Neurofeedback to enhance a quiet attentive state. You may have to search the internet in order to find a practitioner near you.

##### **C**RANIAL SACRAL THERAPY

Consider Cranial-Sacral work to enhance better body and sensory responses. Many Cranial Sacral practitioners are also massage therapists, naturopaths, occupational therapists or movement specialists.

##### **S**PEECH THERAPY

If your child has been having speech therapy, consider either changing the approach to emphasize communication-work or augmenting the speech therapy with a “Floortime” specialist. Stanley Greenspan is the founder of the “Floortime” approach. There are certification programs and levels of expertise that specialists must attain in order to state that they are “Floortime” specialists. Greenspan has developed a very functional series of developmental stages through which an

individual must move in order to have language make sense and be of a functional nature. This approach is more inter-actional and based on developing play skills, which is the basis for gaining abstract-thinking skills for better intellectual functioning.

##### **V**ISION THERAPY

If your child has been engaged in vision therapy, please continue, as this is a very important training process and necessary for better eye teaming and resulting reading skills. If you have not had a visual evaluation lately, please consider making an appointment with a developmental optometrist. Developmental Optometrists evaluate visual processing and not simply the ability to see clearly. They are also involved in assessment of eye movement, eye teaming, eye focusing and visual information processing. Vision, (which includes the ability to identify, interpret and understand what is seen) is learned and developed. If this system has not developed properly, then the brain has not learned to use its visual system. *When vision is working well, it guides and leads; when not, it interferes.*

##### **M**ETABOLIC FUNCTION

Good metabolic functioning is necessary for efficient intellectual functioning. Many youngsters have serious nutritional issues based on poor digestive/metabolic function. There are many DAN-trained physicians (DAN= Defeat Autism Now) who are aware of the specialized laboratories and specialized tests individuals may need which measure food intolerances, food and airborne allergies and sensitivities and intestinal function overall. Many physicians and naturopaths routinely use lab tests to give them indicators to the course of vitamin supplements or enzymes an individual may need in order to restore normal digestive function. Eating a well-balanced diet may improve immune response and keep the body and brain working at optimum levels. Sometimes, a special diet may have to be considered. ?