

## A Whole Body Approach When Using Sound-based Therapies for the Autistic Person

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## The Davis Model of Sound Intervention®

- Uses the power of sound to enhance a subtle energy system called the **Voice-Ear-Brain Connection** which must be balanced in order to demonstrate positive change in learning, development, and wellness. The process uses **specific sound-based therapies**.

## What is sound-based therapy?

- **Sound-based therapy uses sound vibration with special equipment, specific programs, modified music, and/or specific tones/beats, the need for which is identified with appropriate testing.**
- Sound-based therapy goes beyond hearing, beyond auditory processing, and beyond music. Sound-based therapy utilizes the energy of the person and supports change with the person's natural form and function by repatterning this energy.

## Discussion of terms:

- **Sound Healing:** Using tones, mantras, various rhythms and sound patterns, and other sounding techniques to support change with the body's energy patterns
- **Sound Therapy:** Using specific notes of the musical scales to make change with the body's energy patterns usually with a sounding source
- **Sound-based therapy:** already defined
- **Music:** The Artwork of Sound
- **Music Therapy:** Using the Artwork of Sound to make change with emotional, behavioral, and physiological body responses

## Additional Terms:

1. **Hearing** is the physical act of utilizing the ear to receive sound
2. **Listening** involves using the brain in conjunction with the physical act of receiving sound. (Involves a mental process)
3. **Perception** is how the brain receives and uses sound

## Names of Sound-based Therapies:

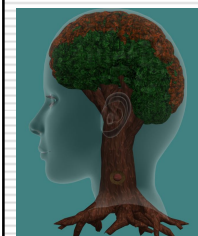
- Auditory Integration Training
- The Tomatis® Method
- BioAcoustics™
- The Listening Program®
- EnListen®
- Samonas®
- Fast ForWord®
- Interactive Metronome®

## All sound therapies are not the same!

- Any sound therapy can make change. It is the correct order of the administration of sound therapies that can make the greatest impact. The order is identified from testing.

## How is the order determined?

- By a systematic approach from the results of a diagnostic test battery that determines if, when, how long and in what order any or all of the many different sound-based therapies can be appropriately introduced.



**The Tree of Sound Enhancement Therapy Protocol® - a Developmental flow chart for the administration of sound therapy.**

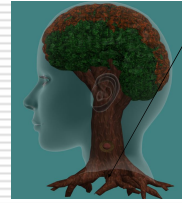
## Developmental Flow



1. Sense of Hearing
2. Body Rhythms
3. General Sound Processing Connections
4. Specific Auditory Processing Skills
5. Academic Skills
6. Overall body stability and maintenance

- While there are many different sound-based therapies that can be administered individually with some level of success, the best outcomes are evidenced when *The Tree* analogy is used.

## The Tree has 6 Parts:



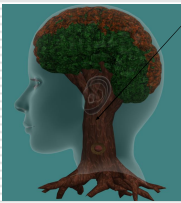
1. **Sense of Hearing**  
□ The "**Root System**" addresses one's sense of hearing. The therapy(ies) offered at this level are a form of **Auditory Integration Training**, which repatterns how the acoustic reflex muscle in the middle ear responds to sound, and subsequently supports the reception of sound in the cochlea. These therapies are modeled after the work of Dr. Guy Berard. The changes evidenced are a result of better sound reception.

## Developmental Flow



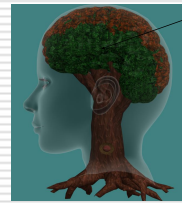
2. **Body Rhythms**  
The "**Seed**" is the foundation for all sound response in the body as it addresses our basal body rhythms, such as the heart beat or breath stream. The therapies at this level of *The Tree* can be utilized at any time in the person's protocol of sound therapies because these skills bring the person back into focus and keep them feeling positive at their core level. These therapies introduce rhythmical patterns to which the body responds physically and emotionally.

## Developmental Flow



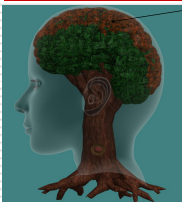
3. **General Sound Processing Connections**  
The "**Trunk**" addresses all responses of the ear for general sound processing stimulation, not hearing. The programs at this level are called **Listening Training Programs** and are modeled after the work of Dr. Alfred Tomatis who established the Tomatis® Method. The changes evidenced are a result of the vibrational stimulation through the parts of the ear: cochlea, semi-circular canals, and vestibule, as well as the bones, circulatory system, nervous system, soft-tissue network, and cell structure of the body.

## Developmental Flow



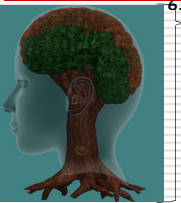
4. **Specific Auditory Processing Skills**  
The "**Lower Leaves and Branches**" address specific auditory processing skills such as memory, sequencing, and discrimination. These skills are inherent in how the brain receives information from the auditory pathway to the brain, specifically from the cochlea to the auditory reception centers in the brain. There are numerous sound-based therapies that address these skills either in a specific skill area such as temporal sequencing, or with general overall auditory processing skills.

## Developmental Flow



5. **Academic skills**  
The "**Upper Leaves and Branches**" address the academic areas such as reading, spelling and handwriting skills, which can only be maximally achieved when the foundation of *The Tree* is in place. People can have these skills as splinter skills but not always process them in their entirety. The programs suggested at this level must include an auditory, visual, and language combination of instructional skills, thereby allowing for full integration of the foundational skills.

## Developmental Flow



6. **Overall body stability and maintenance**  
The "**Overall Maintenance of The Tree**" addresses one's wellness or body support for maintaining the learning and developmental changes obtained with the therapies at the various parts of *The Tree*. The head surrounding *The Tree* reflects the combination of the Voice, the Ear, and the Brain supporting each other for the learning and developmental changes. Currently the voice identifies the body's imbalances and then the ear sends the correcting frequency to the brain and body so that the body can make foundational change.

## What becomes the tool to use?



- **The Diagnostic Evaluation for Therapy Protocol (DETP®)**
- By using:**
  - The connections between the voice, the ear, and the brain
  - The cell's response to sound
  - The 'Tree' analogy

Once the therapy protocol is determined, what is possible?

- Let's determine what and how sound affects the body—we'll review learning, development and wellness issues. All are important as a whole body approach.

### Sound Impacts our Entire Body

- We hear sound through our ears, our skin, our bones, our sense of touch, and our cells
- It affects our physical well-being, emotions, and response to the world around us
- We must hear sound correctly in order to process what is being said

### Positive

- Calming and relaxing
- Brings into focus
- Creates awareness of world
- Supports language development
- Enhances responsiveness

### Negative

- Isolation
- Lack of attention
- Hypersensitivity to all sensory stimulation
- Poor social skills
- Weak motor & vestibular skills
- Poor reading skills
- Weak Auditory Processing skills

### Negative Impact on the Special Needs Child

- Will cover ears
- Will turn TV volume up
- Has fear of sound (phobia)
- Will tune out the world
- Dislikes background noise
- Will react sometimes and not others
- May act "deaf"

### The concepts behind the model

#### □ 3 key points:

1. There are 5 laws which connect the voice, the ear, and the brain. Summarized, **the voice produces what the ear hears, and the ear emits the same stressed frequencies as the voice.** If one is modified, the other changes and the brain sends the correcting response to the body. These laws are known as *The Tomatis Effect* and *The Davis Addendum® to the Tomatis Effect*.

2. **Every cell in the body emits and takes in sound frequencies**, thereby portraying the body as one's "Signature Symphony of Sound®". If there is an 'out of tune' frequency, the 'instruments (cells)' of the body are not supporting the symphony and the music is discordant. The 'out of tune' frequencies are identified. The sound is introduced to the body and the brain then introduces the correct frequency to the cell to 'tune it up'.

- It is not just the incoming sound that we receive by hearing or listening that is important. It is how our entire body's response to sound—both the reception and expression of sound—that keeps us whole.

The body is an orchestra comprised of many different instruments.



As long as the instruments are in tune, the body is in tune.



Animation Factory  
MEMBERS ONLY

How can we determine if your body is in tune?

□ We use your voice, which reflects what your ear and brain receive and perceive.

3. The ear is viewed as the body's global sensory processor and not just a hearing mechanism, as all of the body's senses are stimulated either directly or indirectly through the ear. Sound vibration is also processed through *bone response, cell response, the nervous system, the circulatory system, and the soft tissue network of the body.* The body as a whole is considered a vibrational frequency entity.

### The Ear is the Major Sensory Stimulator for the Body

The ear stimulates our sense of:  
 \* taste \* touch  
 \* sight \* smell  
 \* hearing

Additionally, it affects our balance, emotions, digestion, and social skills.

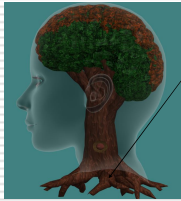
With sound vibration, all senses are stimulated, bringing them into better functional use.

10 cranial nerves are directly stimulated with sound and sensations spread throughout the entire body.

### Diagnosis doesn't matter

- The diagnosis of the person seeking to make change does not matter, for it is the **sound energy patterns of the body that determine the possibilities for change** for each individual.
- In other words, sound-based therapies force the evaluator and the client to focus on the energy patterns of the body, not the disability—neither medical nor educational. **The symptoms, disabilities and challenges are not what are addressed.** Each person is helped as an individual energy entity.

### Root Therapy Changes



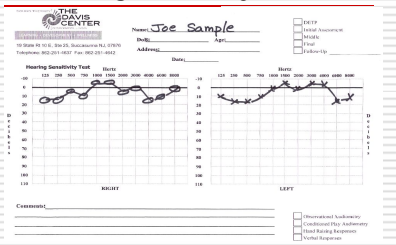
1. Sense of Hearing
  - Improved hearing hyper-sensitivity to sound (one type)
  - Decreased hypo-responsiveness to sound
  - Better reception of sound input
  - Improved sense of self
  - More social awareness

### Root Therapy Category Name: Auditory Integration Training



- A ten day program listening for ½ hour 2 times a day
- Uses special music and equipment to stimulate a muscle in the middle ear
- Should be done with little additional sensory stimulation

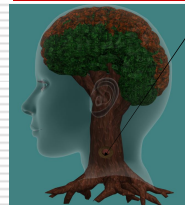
### Auditory Integration Training: Hearing Sensitivity Test



### The Davis Center's Research

1. Measuring pre and post acoustic reflexes  
 Subjects: 259
  - 91% made change from very low to normal
  - 8% made change almost to normal
  - 1% stayed same or regressed

### Seed Therapy Changes



2. Body Rhythms
  - More connected with the world around them
  - More focused
  - More relaxed
  - Better concentration

## Seed Therapy: REI

- Rhythmic Entrainment Intervention (REI)-- a MusicMedicine therapy program
- Uses auditory rhythmic stimulation
- Includes two custom-made audio CDs
- Listen 20 minutes per day for 10 weeks

## Trunk Therapy Changes



- 3. General Sound Processing Connections
  - Decreased sensory hypersensitivities
  - Language skills
  - Reading skills
  - Attention/focus
  - Pragmatics
  - Social skills
  - Communication skills
  - Oral motor skills
  - Vestibular, motor, balance skills
  - And sooo much more!

## Trunk Therapy Category: Listening Training Programs



- Modeled after Dr. Alfred Tomatis's work. He was a French physician and researcher, & developed the "Tomatis® Method" after years of research
- Brain intensive so many sessions are needed. The frequency, duration and intensity of the program helps with the changes.

## Listening Training Programs: Sound Processing Test



## While listening: Important to Use the Entire Body

- Draw
- Work puzzles
- Play games
- Engage in dialogue
- Activities to integrate reflex and sensory systems
- Motor activities

## Draw



## Work Puzzles



## Play Games



## Engage in Dialogue



## Sensory Activities



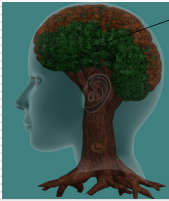
## 100 Autistic Children: Percent of Positive Change Reported by Parents Post Tomatis

Interpersonal Growth	87
Listening and Speech	85
Academic Achievement, Thinking, Learning	81
Attention	80
Behavior	79
Intrapersonal Growth to Know and Express Self	69
Movement, Sports, and Rhythm	66
Musical and Vocal Skills	63
Relaxation	54
Creativity	49
Reading, Writing, Spelling	39
Well-Being	20

## 11 AD/HD Children: Percent of Positive Change Reported by Parents Post Tomatis

Attention	100
Academic Achievement, Thinking, Learning	90.91
Behavior	90.91
Listening and Speech	90.91
Interpersonal Growth	81.82
Intrapersonal Growth to Know and Express Self	81.82
Relaxation	72.73
Creativity	63.64
Movement, Sports, and Rhythm	63.64
Reading, Writing, Spelling	54.55
Musical and Vocal Skills	54.55
Well-Being	36.36

## Leaves and Branches Changes



### 4. Specific Auditory Processing Skills

- Improved memory, discrimination, and sequencing skills
- Improved clarity of incoming receptive language
- Better listening in background noise
- Better awareness of the world around them
- Improved pragmatics of language

## Lower Leaves and Branches Therapies:

- Fast ForWord®
- Interactive Metronome®
- Earobics®
- And many of the Brain Building approaches that are recently on the market

## Head Changes



### 6. Overall body stability and maintenance

- Muscle support
- Biochemical support
- Hormonal issues
- Enhanced learning
- Nutritional support
- Wellness challenge support

- When The Davis Center looks at wellness, we look at your body being in a sense of harmony.

How can we determine if your body is in harmony?

- We use your voice.

- In reality, each of our body's 'instruments' represent a specific frequency or sound. Every part of our body is made up of atoms and molecules. By their very nature, these particles move. Where there is movement, science knows there is friction. Where there is friction, there is frequency; and where there is frequency, there is sound.

So, our body represents many thousands of frequencies!! The easiest way to determine if our body's frequencies are staying in tune is through vocal analysis.

### Voiceprint

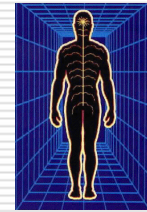
When the frequencies of the body become distorted, the voiceprint will display these distortions.

BioAcoustics explores the potential that the voice is a mathematical representation of the body.

Vocal analysis has supported the notion that the Body is a **Mathematical Matrix of Predictable Frequency Relationships.**

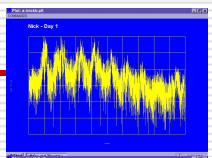
### Frequency Equivalents-

A numeric representation of an element, compound or structure within the body; Including muscles, biochemicals, nutrients, toxins, connective tissue, nerves, organs and pathogens.

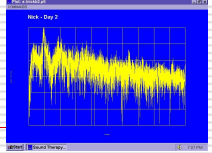


Through low frequency sound presentation, the brain perceives, then generates impulse patterns that are measured as brain wave frequencies. These brain wave frequency impulses travel to the rest of the body via the nerve pathways, helping sustain structural integrity and emotional equilibrium.

Before Sound Presentation



After Sound Presentation



### Vocal Analysis Printout

The following Frequency Equivalents™ have been Identified

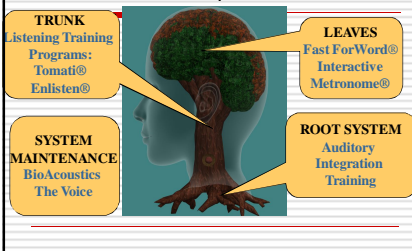
WAVE	ELEMENT
WAVE	Biochemical
L	Palmitic Acid Fatty Acid
L	Estriol Diolone Muscle - Fingers
H	Palmitic Acid Fatty Acid
H	Sulfur Mineral
H	Seleno Amyloid Alpha Biochemical
H	Epidermal Cysteine Sulfide Sulfur Muscle - nose
L	Sulfur Mineral
L	Palmitic Acid Fatty Acid
L	Seleno Amyloid Alpha Biochemical
T	Glucose 6-phosphate enzyme
T	phosphoric est of pyrophosphate biochemical

WAVE	Element	Cell SAR
WAVE <td>Magnesium Chloride</td> <td>Biochemical</td>	Magnesium Chloride	Biochemical
WAVE <td>Magnesium Phosphate</td> <td>Biochemical</td>	Magnesium Phosphate	Biochemical
H	Stibiose	Enzyme-digest carbs
H	Morchella panamensis chlorella	Pathogen
H	Morchella panamensis chlorella	Pathogen
I	MCPAMCPB (Heretics)	Toxin
M	Mecopone (MCPY) (Heretics)	Toxin
I	Menadione	vitamin
L	Mentha-Chin skin	Muscle - mouth
H	Meppagal Chloride	Toxin
H	Melaleuyl C 15H21NO4 (Fungicide)	Toxin
I	Metallothionein	genome
I	Metallothionein	biochemical
I	Metallothionein IF	biochemical
I	Metallothionein IF	biochemical
I	Methacrosin Diacetate	Toxin
I	Methacrylic Acid (Methyl Methacrylate)	Toxin
I	Methacryloyl Chloride	Toxin
L	Methanococcus jannaschii large extra-chromosomal element	Pathogen
H	Methionine	Amino Acid

### Comparison to urinalysis

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>□ Vocal analysis</li> <li>■ Arsenic HH</li> <li>■ Bismuth H</li> <li>■ Boron H</li> <li>■ Chromium Picolinate H</li> <li>■ Cobalt Hydrocarbonyl H</li> <li>■ Copper Arsenite H</li> <li>■ Lithium Acetate H</li> <li>■ Potassium H</li> <li>■ Sodium I</li> <li>■ Zirconium L</li> </ul> | <ul style="list-style-type: none"> <li>□ Urinalysis</li> <li>■ Arsenic present RR</li> <li>■ Bismuth present RR</li> <li>■ Boron present RR</li> <li>■ Chromium Picolinate present RR</li> <li>■ Cobalt present RR</li> <li>■ Copper present RR</li> <li>■ Lithium present RR</li> <li>■ Potassium present RR</li> <li>■ Sodium present RR</li> <li>■ Zirconium present RR</li> </ul> |
|---|---|

### Available Therapies



### OUR BODIES

- Our bodies search for stability between external sound sources and internal body vibrations to create balance. Our bodies react physically and psychologically. Sometimes the body cannot make the change by itself and needs a sound-based therapy to accomplish the change.

### DETP®

- Provides solutions to understanding the complexities of sound-based therapies

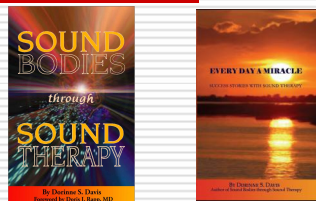
### The Davis Model

- The Davis Model of Sound Intervention is a whole body approach to supporting learning, development and wellness changes. **The Voice-Ear-Brain Connection provides the foundation to make this happen.**

### The Voice-Ear-Brain Connection



### Additional Information:



### Contact Information:

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