



The TOMATIS Method, a teaching process for listening



INTRODUCTION

The TOMATIS Method was developed by Alfred TOMATIS (1920-2001), a French Ear Nose and Throat physician. He devoted a considerable part of his career to studying the relationship between the ear and the voice, and by extension, between listening and communication.

His discoveries were validated at the physiology laboratory of the Sorbonne and were presented to the Academy of Sciences and Academy of Medicine in Paris in 1957 and 1960.

The papers he presented defined the “TOMATIS laws”, stated as follows:

- The voice contains only what the ear hears;
- If you change hearing, the voice is immediately and unconsciously modified;
- It is possible to durably transform phonation by sustaining auditory stimulation for a specific given time (law of remanence).

The TOMATIS Method is based on a number of concepts about how the human being develops, processes information, communicates with self and others and, finally, learns.

In the course of his research Dr. TOMATIS developed a training process that enables the individual to regain skills of analysis, concentration and communication. Indeed, thanks to a set of pedagogical tools, our method simultaneously works on three core functions of the ear, namely hearing, balance and energy.

Taking into account the fundamental role of sensory influence in human function, the TOMATIS Method facilitates:

- Language and communication;
- Learning processes;
- Personal and behavioral development;
- Work on the body, posture and voice; and,
- Learning foreign languages.

As sole owner of the TOMATIS Method, TOMATIS Développement SA is continuing the tradition of its founder while striving to make the method more understandable and accessible and more efficient with the help of technological and scientific progress.

Our company thus combines 50 years of experience in the TOMATIS Method with the latest research in neuro and cognitive sciences in order to develop innovative and non-invasive products to optimize learning, listening and communication processes.



WHAT IS THE TOMATIS METHOD?

A TEACHING PROCESS FOR LISTENING

Listening is the ability to use one's hearing voluntarily and attentively for the purpose of learning and communicating. **Listening is therefore a high-level cognitive function that implies the ability to manage emotions.** It is more than passive reception of sound that depends on a functioning auditory system.

When the mental interpretation of the sensory information transmitted by the ear is misinterpreted, listening is disrupted. In this case we speak of distorted listening. This distortion is related to a dysfunction or weakening of the two muscles of the middle ear, their role being to ensure the harmonious transmission of sound to the inner ear and brain. When the sensory message is distorted, the brain protects itself by triggering mechanisms that confuse listening.

DEVICE TO STIMULATE AND (RE)EDUCATE

The pedagogical tool of the TOMATIS Method is a device called the Electronic Ear. The Electronic Ear exercises the muscles of the middle ear to restore the middle ear's ability to activate listening mechanisms that the brain has in place. Is this true all the time or partially with each client?

In addition, the Electronic Ear focuses the brain's attention on the auditory message. Progressively, the ear learns or re-learns to listen. Literally, we say the ear "starts listening".

- **An electronic gate makes it possible to alternate between two ways of perceiving the same auditory message**

In concrete and very simplified terms, the Electronic Ear triggers the **stapedial reflex**. This reflex causes the contraction of the auditory muscles. It is activated by the sudden switch from a low frequency signal that requires no effort of adaptation or accommodation from the ear, to a high frequency signal that requires a major effort of accommodation from the ear.

This back-and-forth movement between tension and relaxation in the muscles of the ear is rendered possible due to the electronic gate, a device capable of alternating between two states of perception for the same auditory message. This activity can be compared to a gymnastic exercise, which, through **repeated use and progressive mobilization of the ear**, optimizes the transmission of the message to the brain.

• A delayed transmission of sound

The auditory message is transmitted to the brain through air and bone conduction in special headphones that are equipped with earphones and a vibrator. The Electronic Ear is designed to be able to program a delay between the sound transmitted via air and the sound transmitted via bone. Because of this delay, called precession, the brain analyzes the message twice. After sustained auditory stimulation, the brain naturally takes over the function of anticipation performed by the machine.

The Electronic Ear has many other features designed to utilize technological innovations and respond to the latest scientific research.

WHAT IS THE SCIENTIFIC FOUNDATION OF THE TOMATIS METHOD?

Ninety percent (90%) of the sensory messages that stimulate our brain, including movement and touch, involve the ear! The ear thus acts as a sensory integration system.

The corrective action of the TOMATIS Method acts simultaneously on the three core functions of the ear: balance, energy and hearing.

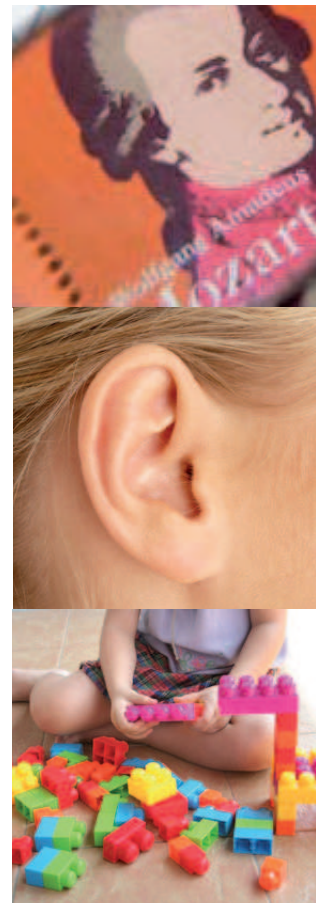
THE BALANCE FUNCTION

Balance depends on the vestibule, the part of the inner ear that informs the brain of the slightest body movement. The ear is therefore involved in controlling posture and maintaining balance. Through its action on the vestibule, the TOMATIS Method allows the body to regain verticality by repositioning the skeleton.

Indeed, under the sustained effect of listening sessions, the consistency of the messages sent to the brain via the vestibule of both the right and left ears is harmonized. As a result, motor responses are noticeably less chaotic, and become more fluid and better organized. One can easily understand the beneficial effect on motor disorders. Moreover, the vestibule plays a fundamental role in integrating the rhythms of both music and language due to its intricate network of connections to the brain.

THE ENERGY FUNCTION

The human ear ensures a function of “cortical energizing”. The ear needs to be stimulated to energize the brain and the body. Sound is necessary for our personal fulfilment. The richer music is in high frequency harmonics, the more efficient its effect. Sounds that are rich in high frequency harmonics stimulate a vast neural network, called the “reticular formation”, which controls the overall activity level of the brain. That’s why we mainly use Mozart violin concertos, with well-known beneficial effects.



We also use Gregorian chant whose particular rhythm has a proven soothing effect.

THE AUDITORY FUNCTION

When hearing is disturbed, this creates not only problems of **discrimination, spatialization and auditory lateralization**, but also a **loss of the ability to isolate an auditory message** from surrounding noise. In this situation, the subject finds herself exposed to a mass of information that she receives with varying degrees of distortion. Understanding messages then require substantial efforts, causing errors, ever increasing fatigue, irritability and, finally withdrawal. Then the environment is experienced as problematic. In these circumstances attention and memory suffer.

WHO WILL TOMATIS METHOD HELP?

Because the ear is a sensory integration system, it plays an efficient role in many areas.

LEARNING DISORDERS

One of the important factors in the development of learning disabilities is a lack of awareness of the appropriate articulatory or physical gesture. This entails a disturbance of short-term memory, a prerequisite for a normal learning process.

As a result, the fields of application directly concern learning processes at school:

- **dyslexia,**
- **dysgraphia,**
- **dyscalculia.**

Other fields of application related to oral language development are grouped under the term of **dysphasia**. Others again concern the programming and acquisition of learned gestures related to **dyspraxia**.

ATTENTION DISORDERS

Attention is the ability to select and maintain an awareness in an external event or a thought. Attention can be divided into **two components**:



- the intensity component of attention

This corresponds to a general state of awareness and alertness that enables the nervous system to be receptive to any form of information reaching it. The action of our method on this component of attention refers to what is called the “*energization function*” or “*dynamogenic function*” of the ear. It concerns children or adults who cannot concentrate for sufficiently long periods on a task to be done, even if this task requires little intellectual effort and is routine or familiar in nature (e.g., a revision or recopying exercise).

- the selective component of attention

This refers to the ability to focus on certain aspects of a situation, while inhibiting those that are deemed irrelevant. It is the ability to resist distraction and to discriminate information at the same time that is relevant. The action of our method for this kind of attention is directed at people who are prone to distraction, and who suffer from frequent lapses in attention that include confusion in understanding. A particular modality of selective attention is the ability to divide attention between multiple sources of information or tasks at one time. The insufficient ability to exercise this kind of attention, which requires a major cognitive effort, may be a source of difficulty or suffering for the child in a school situation.

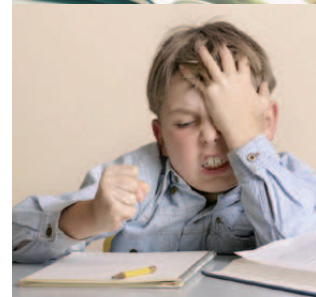
EMOTIONAL DISORDERS

While the importance of exercise for the upkeep of the body is easily understood, we do not always realize that exercise is also important to sustain our brain. It is by stimulating the brain through sensory messages that the brain **energizes** and **relaxes** us. As the ear is the main channel for the transmission of sensory messages from the human body, it plays a key role in human function.

This stimulation may be impaired when the brain triggers a mechanism of inhibition or protection. This mechanism may occur following an isolated traumatic event called emotional shock. The brain also tends to progressively protect itself when the external environment is perceived as aggressive. This may be true of people facing a reorganization of their routine, increased responsibilities, the loss of familiar references, and social pressure as examples. The motivations for doing a course of TOMATIS training in the context of personal development are therefore varied and cover numerous expressions of “*angst*” that may be encountered in modern life. The most commonly cited reasons are **stress, fatigue, overwork, anxiety, and loss of confidence**.

COMMUNICATION DISORDERS

All distortions of listening that are too firmly rooted include the loss of the innate desire to listen which in turn will **lower the desire to communicate**, whether out of resignation or from a lack of confidence resulting from the difficulty to communicate effectively. Communication difficulties come in various forms. For example, they can reveal





themselves in an inability to not only receive the sounds around us without being afflicted by them: a car horn, the slamming of a door, the noisy environment of a restaurant, but also accept some voices, such as that of a co-worker, a relative, a friend. This confuses communication.

Some people find themselves unable to use their voices as a real communication tool, due to a lack of control over the various components of the rhythm of speech: intonation, inflection, volume. Lacking control, the voice will be perceived as aggressive, cold, or devoid of any power of expression by the person being addressed.

PERVASIVE DEVELOPMENT DISORDERS

These are early and severe disorders characterized by retardation and impaired development of social, cognitive and communication skills. The TOMATIS Method has proved its effectiveness in helping people who suffer from **autism** and associated disorders (e.g. **Asperger's Syndrome, Rett syndrome**, etc.). Our method is one approach to help people with such disorders and often works well when integrated with other programs.

HOW DOES THE TOMATIS METHOD WORK?

All practitioners of the TOMATIS Method undergo initial and continued training. Furthermore, they commit to upholding a code of conduct and ethics. Finally, they are supervised and assisted by experienced trainers.

We draw your attention to the fact that **only individuals certified by the company TOMATIS Développement SA are entitled to practice the TOMATIS Method**. We invite you to contact us in case of doubt or to visit our web directory.

THE INITIAL ASSESSMENT

This first contact, intrinsically linked to the practitioner's occupation, serves to assess the subject's problem through tests and questionnaires. This assessment is essential to determine whether a course of auditory stimulation should be advised or not.

If the practitioner has received complementary training, he or she can do a listening test that identifies the subject's listening potential and possible areas of dysfunction.



PROGRAMMING

The program is determined following the evaluation and based on the presenting situation to be treated. Furthermore, depending on the practitioner's level of Tomatis training he or she has flexibility in the program choice. Thus, for practitioners who have done the 3-day training course, the SOLISTEN device is pre-programmed to ensure that the programming is appropriate and effective.

THE LISTENING SESSIONS

Like any muscle stimulation device, the results are meaningful and durable if the listening sessions are sustained, regular and spaced out with rest periods. They are therefore also subject to a structured methodology.

Their duration and regularity are determined in relation to each client. Listening sessions can take place at home with the SOLISTEN device. A listening session lasts 2 hours. To use the SOLISTEN, we recommend two 15-day sessions of 2 hours per day with a break of 4 to 6 weeks between sessions.

THE END ASSESSMENT

At the end of the listening sessions, the TOMATIS practitioner does a second assessment. This assessment evaluates the progress obtained and determines if additional sessions are advisable. The results obtained with the TOMATIS Method are durable. Often it is unnecessary to extend the sessions beyond the initial listening period. However, in certain situations, it may be necessary to extend a program. Or, following a new event such as an emotional shock or illness, it may be necessary to restart a TOMATIS program.





WHAT RESULTS ARE OBTAINED WITH THE TOMATIS METHOD?

In addition to the positive results achieved with our clients and which have made our reputation, our method has also proven its effectiveness scientifically. The research continues to grow as the areas of application of the method are extended. Indeed, the acoustic sensory message plays a key role in the development of the individual and as a result connects to a broad range of disorders. The scientific partners with whom we work include several public bodies (ministries, research institutes, hospitals) as well as universities, specialized associations and foundations. Their involvement ensures the objectivity and reliability of the results presented for you in a non-exhaustive overview in the following tables.

AUDITORY INTEGRATION DISORDERS (LISTENING DISORDERS)

Study by the Ross Swain Center (California)	TAPS subtests (Test of Auditory Perceptual Skills)	Pre / Post (%)
<p>The Ross Swain Center studied the impact of TOMATIS listening sessions on 41 people chosen for their auditory integration problems. These problems mainly affect their listening ability and comprehension.</p> <p>After sustained TOMATIS listening sessions, results show a strong increase in the ability to listen and communicate.</p>	N	41
	Auditory integration (General)	8.4 / 58.3
	Auditory discrimination	14.2 / 68.1
	Auditory memory, figures	9.7 / 46.0
	Auditory memory, inverted figures	19.1 / 37.4
	Auditory memory, words	12.2 / 48.5
	Auditory memory sentences	16.4 / 53.4
	Auditory Integration	23.2 / 56.6
	Direction	31.3 / 66.5

PSYCHOLOGICAL DISORDERS

Du Plessis Study (University of Potchefstroom-South Africa)	Pre / Post level anxiety			
		TOMATIS	Psycho-therapy	Control
	N (number)	10	9	10
	CAS (Children's Anxiety Scale)	9.6 / 7.6	11.0 / 11.3	8.4 / 7.7
	STAIC Trait	42.8 / 32.9	41.2 / 37.1	37.2 / 37.6
	STAIC State (State-Trait Anxiety Inventory for Children)	32.8 / 27.6	30.7 / 28.1	31.3 / 30.0

Du Plessis studied the case of 29 students prone to anxiety. 10 students attended TOMATIS listening sessions, 9 underwent conventional psychotherapy and 10 were selected to form the control group. The TOMATIS group showed a significant reduction in anxiety, while results were mixed for those who received psychotherapy and nonexistent for the control group.

A second Du Plessis study showed that 14.3 months after taking the program, the anxiety level had continued to decline sharply for the TOMATIS group while no change appeared in the control group.

Orthy Study (Foch Hospital, France) and Klopfenstein study (Hospital of Vesoul, France)	Pre / Post (control group)		Pre / Post (TOMATIS group)
<p>The Orthy study compared the anxiety of 683 pregnant women who received traditional childbirth preparation care. Fifty-three (53) of them additionally took short TOMATIS listening sessions.</p> <p>The results show a decrease in anxiety for women who attended the TOMATIS listening sessions while for the control group anxiety increased.</p> <p>Another study conducted by the Gynecology Department of the Hospital of Vesoul with 170 pregnant women showed a decrease in the duration of childbirth of 1 hour 08 mins (from 3 hours 30 mins down to 2 hours 22 mins).</p>	N	683	53
	Hamilton test (test self-administered measure of anxiety)	4.4 / 4.7	5.7 / 4.0



LEARNING AND BEHAVIORAL DISORDERS

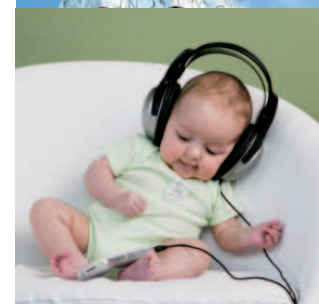
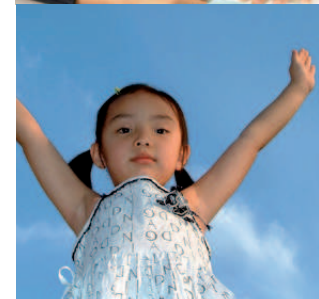
Gilmor Meta-Analysis	Field	N	Average progression (%)
<p>Gilmor's meta-analysis is based on a study of 225 children with learning and communication difficulties.</p> <p>This analysis shows that the TOMATIS listening sessions have a significant impact in the following areas: language, cognitive and psychomotor development, social and personal behavior.</p>	Linguistics	225	41
	Psychomotor	153	32
	Personal and social behavior	225	31
	Cognitive	152	30
	Hearing	77	4

Wilson Study (University Hospital of North Shore - Cornell University, New York)	Test	TOMATIS / Control (% Change)
<p>Wilson studied 26 children suffering from a language disorder. Eighteen (18) children received TOMATIS listening sessions and 8 were assigned to the control group. The results show progress for the TOMATIS group in the following areas: communication, openness of hearing and ability to reproduce sound.</p>	N	18 / 8
	WIG Communication Score (test designed for the study)	22 / 12
	Parent evaluation	34 / 27
	Teacher evaluation	
	Language Domain (non-specified test)	86 / -9, s
	Sound reproduction	38 / 3
	Openness of hearing	



Study 1 and 2 Brickwall House Institute (East Sussex, England)	Test	TOMATIS / Control (% Change)
<p>Brickwall studied 47 dyslexic children suffering from a delay in reading of 4/5 years. Twenty-four (24) of these children underwent TOMATIS listening sessions. The remaining 23 children were assigned to the control group.</p> <p>The results show a significant difference in favor of the TOMATIS group, in reading ability and expression.</p>	N	12 / 12 or 24 / 24 depending on the test
	Receptive Vocabulary (BPVS)	19 / 4,s
	WRAT Reading (raw scores) - Lecture	51,s / 19, s
	WRAT Spelling (Raw scores) - expression	53 / 20,s
	Verbal Fluency (raw scores)	52 / 39,s
	Neal Reading (accuracy)	21 / 11
	Neale Reading (comprehension)	19 / 7

Study of the Nordiska TOMATIS Centre (Sweden)	Areas	Pre. (%)	Post.(%)	Diff. (%)
<p>The TOMATIS centre of Sweden evaluated the impact of TOMATIS listening sessions on 56 people.</p> <p>Significant progress was recorded in terms of attention and energy as well as on motor performance and adaptability.</p>	N = 56			
	Attention	59	39	20
	Motor ability	37	25	12
	Expression	38	28	10
	Energy	47	36	11
	Behaviorand adaptability	46	34	12



The Tomatis Method and You!



- Our listening stimulation devices are innovative and efficient.
- Our training courses are recognized all over the world.

You want to benefit from the Tomatis Method for yourself?

- From now on, you can easily do your listening sessions at home
- Our practitioners received intense and rigorous training courses



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