

Triumph Over Tinnitus

Learn how thousands have used Sound Therapy and integrative medicine to balance the body and restore ear function for tinnitus recovery



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A note from Rafaele Joudry

When I first heard about Sound Therapy I hoped it might help my mother with her minor hearing problems, but I had no idea that it would lead to us to helping thousands of people all over the world to overcome tinnitus for many years to come.

The information I am about to share will you is a breakthrough of pure genius that was given to the world by the ear, nose and throat specialist, Dr Tomatis, and has the potential to revolutionise the health of millions.

This is not just another device or mind technique that may suppress the symptoms and give temporary relief. It is not a drug, with questionable side effects, nor a supplement that is specific and useful to only a few people who have a deficiency. Nor is it a program to teach you how to live with your tinnitus. There are hundreds of these available on the internet and offered by clinics and self help associations. You have probably already been offered and maybe tried a few dozen of those "bandaid" techniques.

What excites me about Sound Therapy is that it is a unique, specialized program that actually enhances natural ear function. It is based on magnificent classical artistry, and not only is it delightfully pleasant to use, but it is life enhancing in so many other ways besides helping with tinnitus.

Working in this field I have found that so often when someone does discover a treatment that has promise, it is only available through therapists and expensive clinics that have big overheads and have to charge high fees for short-term treatments.

What is unique about the portable Sound Therapy that my mother and I produced is that it is low cost, easily accessible and is also effortless and convenient to use. My mother's naturally generous nature made her determined to give this method away to as many people as possible at a price that anyone who needs it can afford. So that is what we have done.

As you read the experiences of those who have had success treating their tinnitus with Sound Therapy you will be spinning with amazement that such a great method exists. You may feel some anger that you have suffered so long without being told about this, and you may be somewhat sceptical about the claims. Many other readers started out that way but were happily surprised and now are enthusiastic to tell others about the amazing benefits of Sound Therapy.

Wishing you peace and rejuvenation!

Rafaele Joudry
Director and Founder

Sound Therapy International

How to use this book

First, congratulations on buying this book and taking the first step to healing your ears.

The purpose of this book is to make you an expert on Sound Therapy for tinnitus, and other ear related difficulties. You will then know if it is something you wish to use.

These tips will help you to get the information you want from this book in the minimum amount of time.

It is important that I'm able, through this e-book, to convey to you all the key information about Sound Therapy and tinnitus, all the relevant theory, how it works and the proven tips and tricks for using it to maximise your success in treating your tinnitus.

What you need to remember is that you are your own therapist with this method, and that if you follow the instructions correctly you have a very good chance of achieving the maximum possible healing for your ears.

This book will explain:

- How remarkable recovery of ear function can be achieved with this method.
- Specific accounts of how Sound Therapy has helped dozens of tinnitus sufferers despite a "no hope" diagnosis from their doctors.
- What tinnitus is, what causes it and how to avoid making it worse.
- How to tailor your own program so you use Sound Therapy in the right way for you.
- The key steps you need to take to improve your chances of success.
- How other conditions such as dizziness, blocked ear, some types of hearing loss and sound sensitivity can also be helped.

Everything is presented so that you can easily skip the parts that don't interest you but be sure you get all the essential information.

What you are about to read is worth conservatively a hundred times the price you may invest in our program. Why? Because of all the money it will save you trying band-aid tinnitus treatments that don't really fix the fundamental problem, and paying high fees for tests that tell you what you already knew but offer no solution.

Just know that you have now discovered the best method in the world for *naturally enhancing ear health*. Remember, anyone who applies Sound Therapy correctly, following the instructions in this book is giving their ears the best input they could have and the best possible chance of healing.

So read on and enjoy the amazing story of our Sound Therapy discovery.

Foreword

by Donna Segal, AuD, Doctor of Audiology

Triumph over Tinnitus

Millions of people are continually looking for assistance in understanding tinnitus. Many people have difficulty putting into words what they are experiencing living with this condition. Tinnitus is frustrating because the cause is often unknown. People are more aware of their tinnitus symptoms when they are under stress or when going to sleep. Many people experiencing tinnitus have difficulty sleeping. Sleep is critical to the body's ability to repair and restore itself to balance. Even after possible medical interactions are ruled out, where can one turn to obtain accurate information on this condition? Now this ebook, *Triumph Over Tinnitus*, provides a clear and concise overview of the most important information you need in your journey to recovery.

Rafaele Joudry, director of Sound Therapy International, demystifies tinnitus and its associated symptoms. This book is outlined with chapters that give basic information on tinnitus as well as more detailed information depending on the reader's depth of interest. The chapters are written step by step in a way that the reader can advance ahead through the book if one prefers less detailed information. This way the book is adaptable to any level of knowledge from the lay person to the healthcare professional or even audiologist.

Triumph Over Tinnitus describes the Sound Therapy program based on the research of the French Ear Nose and Throat physician Alfred Tomatis. His discoveries 45 years ago were remarkable regarding the effect of sound on the functioning of the body. What is so unique about the work of Dr. Tomatis is his focus on listening i.e. the perception of tuning into sound. Since the current research suggests tinnitus being more "in the brain" than in the ear; Dr. Tomatis' work is in alignment with this research. This breakthrough led to using sound to provide therapy for the ear. This is clearly explained in the following chapters of the e-book. The effect of recharging the brain through filtered music has benefited many people with tinnitus and associated symptoms. The unique harmony, rhythm, and composition of the music utilized in Sound Therapy benefits sleep and increases one's energy levels during the day along with a multitude of reported results. The benefits are not limited to tinnitus. The application of Sound Therapy for children and its applications in educational settings offer hope for many teachers and parents as well. This is further explained in the e-book. The reader is also directed to the chapter of listener testimonials in the e-book.

Sound is vibrational energy. We know the therapeutic value of music and how it affects the body and mind on many levels. It influences the emotions and relaxes and assists in balancing the body. I know from personal experience that since I have been using Sound

Therapy, I feel more focused and relaxed. As a healthcare professional, I find that using it after a busy day at work gives me additional energy to accomplish many tasks in the evening without fatigue. It allowed me to stay up almost all night one evening to complete course work on the computer for a doctoral level course I teach on tinnitus. I awoke very refreshed and was surprised that I was not tired after a limited amount of sleep.

I strongly recommend this e-book as an audiologist who has been in clinical practice for 22 years, as well as a parent of a child who was diagnosed with a learning disability.

Personally, I was unwilling to accept the diagnosis and pursued other approaches. The results have been miraculous. Rafaele has offered hope and encouragement to anyone seeking alternative approaches to a variety of conditions in this amazing book. Please read this e-book and share the information with others as you explore the alternatives regarding nutrition and other approaches to addressing these conditions. My hope is that this e-book will be read by as many people as possible to help those looking to heal themselves or someone they love. I am honored and blessed to have learned about Sound Therapy and the work of Dr. Tomatis. As one of the Sound Therapy practitioners, I continue to carry on the work of Rafaele and her mother Patricia.

With sincere gratitude,

Donna Segal, AuD,
Doctor of Audiology
Specializing in Tinnitus in Private Practice
Perception Plus, Inc.
Indianapolis, Indiana USA

Chapter 1

Tinnitus: What is tinnitus and what is the solution?

'In February last, tinnitus arrived in my life and it was dreadful; a very loud hissing noise that was continuous day and night and I became very stressed out.

I began listening to Sound Therapy at the end of April and now, early September, after 650+ hours of listening, the results so far are as follows: -

Tinnitus – **reduced by 80%**Dizziness and fatigue – **reduced by 50%**Intellect – **sharpened**Sleep – **deeper and more restful and a greater appreciation of classical music.**

I am generally happier with my life and will continue to listen to Sound Therapy.

P.S. Thank you for caring.'

Arthur Jefferies. Runcorn, QLD, Australia

This was a letter sent by one of our many happy listeners.

Do I have tinnitus?

If you think you have tinnitus, you do.

How do I know? Because tinnitus is simply a noise in your head that you can hear and nobody else can. One man said his tinnitus was so loud that his wife could hear it, but of course that is not possible!

Why read this book?

This book is different to other books on tinnitus.

It doesn't just talk about the condition for a few chapters and then tell you that you will have to live with it. This book offers a practical easy solution that has helped thousands of people around the world.

The main message of this book

You will learn about a scientifically based method of natural ear treatment called **Sound Therapy**, and how it has proven helpful to a wide variety of tinnitus sufferers.

Sound Therapy is unique among tinnitus treatments because it helps the ear to heal naturally and so removes the cause of the tinnitus.

You will learn how the ear is affected by sound, and a unique and groundbreaking discovery of how sound can also be used to heal the ear.

The right sounds exercise the ear and improve the muscle quality and responsiveness of the middle ear.

You will learn how the brain responds to sound, and how sound can therefore be used to interrupt the tinnitus cycle in the brain.

Chronic tinnitus, like chronic pain, is a recurring signal to an event that has now stopped. Chronic brain-hyperactivity can be stopped if the right stimulus is consistently received

These were the unique discoveries of the brilliant ear specialist Dr Alfred Tomatis, and this book is an account of how his discoveries finally became readily accessible to the world, and to you, and thousands of other tinnitus sufferers who need this therapy.

But first let us begin with some basic information on tinnitus.

Or Skip it!

If you already know a lot about tinnitus feel free to skip now to <u>Chapter 2</u> and read Patricia Joudry's story of how **Sound Therapy** provided her amazing recovery from her ear problems as well as chronic exhaustion, insomnia, creative stagnation and fear of all things technical.

The facts on tinnitus

- Tinnitus affects twenty percent of the population, according to the tinnitus association.
 We could almost call this an epidemic.
- The onset of tinnitus may be gradual or sudden.
- Some people even have it from early childhood and think it is something that everyone experiences.
- For others it may come on quite suddenly and may be quite severe.

 Most are told by their doctors that there is no treatment and they will have to learn to live with it.

Is there hope?

Yes there definitely is. However, the field of tinnitus treatment is full of well intentioned practitioners and organizations who don't have a real solution to the problem. You may have already been discouraged by their pessimism or tried several methods that didn't work, but don't despair.

The approach I am going to offer you here is a home treatment called **Sound Therapy** that is unique, gentle, effective, medically based and has helped thousands of tinnitus sufferers around the world. In the next chapter I will explain the medical and neurological basis for the treatment and exactly how it helps to heal the natural functions of the ear.

While **Sound Therapy** is the answer to tinnitus for many people, for others it is only part of the answer and may work better in combination with another treatment. Our programs are offered with *Nutrition for the Ear* supplements chosen specifically to assist and support the results of your **Sound Therapy** program.

I hope that this book will be a tool to assist you on your journey of selfdiscovery and healing.

The message I wish to portray is that **we can learn to heal ourselves.** We are responsible for our own destiny. Until we begin to search and embark on a journey open-eyed and open-minded we may find nothing. To quote a great source of wisdom: "And I say unto you, Ask and it shall be given you; seek and ye shall find; knock and it shall be opened unto you."

What is tinnitus?

Tinnitus is defined as the condition where a phantom noise or buzzing is heard inside the head. The noise is real to the subject, but no one else can hear it. It does not exist in the outside world, but only in the ear or brain of the listener. The noise could be ringing, buzzing, whistling, clanging or banging. It may be intermittent or continuous.

The name of a symptom

"Tinnitus" is the name of a symptom, not a cause. Health professionals agree that there could be a hundred different causes of tinnitus, but the condition of noise in the ear is always called tinnitus. It is a symptom of some stress or damage that has occurred to the auditory pathway.

¹ The Holy Bible, St Luke, 11:9

Origin

The word tinnitus comes from the Latin *tinnere* (pronounced tin-ear-ee) which means to jingle.²

Pronunciation

Tinnitus can be pronounced in two ways, either *tin-i-tis* with the emphasis on the first "i" or *tin-eye-tus*, with the emphasis on the second "i". Both are considered correct.

Is it important to treat tinnitus?

If you have tinnitus please don't delay treatment, hoping that it will get better on its own. If you do, you risk letting your ears slip into greater and greater weakness from which it is harder to recover.

Your ear is telling you that it has a problem of trauma or imbalance and the sooner you address that the better is your chance of recovery. And remember, **Sound Therapy** doesn't just treat the symptoms, it assists in restoring proper function to the ear, ensuring your long term hearing health and protecting against recurrences.

² Tinnitus: What Is That Noise In My Head? Saunders, Joan, Sandalwood Enterprises, Auckland, 1992, p. 17.

Chapter 2

How can tinnitus be healed?

'My hearing was progressively deteriorating and my social life disintegrating as I could not possibly concentrate on a conversation in an environment with a cross current of various conversations. When trying to sing in church I could not hear my own voice, and so gave up trying. Whereas I used to enjoy music, now it just existed and gave me very little lift. I had to try so hard to distinguish any words a soloist was singing.

'Road noise drove me frantic. The noises I did not want to hear became a maddening roar, and those I wanted to hear I could not.

'After listening to Sound Therapy, all this is changing. It brings tears of gratitude to my eyes, this recharging of life, made possible by this wonderful therapy. I can now hear the timbre in my own voice as I sing equally with that of others, and I can even hear the birds singing as I walk in the park. I am using my hearing aids less and less.

'It is more than just improved hearing though. I find myself able and willing to communicate with people, it is easier to smile and reciprocate love.'

William A. Whiteside, Toowoomba, Queensland, Australia

How can tinnitus be healed by Sound Therapy?

The right sounds exercise the ear and improve the muscle quality and responsiveness of the middle ear.

There are two muscles in the middle ear which respond to sound and need to be in good shape for the ear to work properly.

These two muscles, called the hammer and stirrup muscle, can get too tense, or too weak and tired, through the stresses of life. In particular they may be damaged by noise exposure, an accident, illness or ear trauma.

The good news is, Doctor Tomatis, the brilliant ENT who you can read more about in Chapter four, found a way to make these muscles work better.

You know that if you work out at the gym your muscles bulk up and you get stronger. When athletes have a sports injury, they need to do physiotherapy and get the right exercise to let their muscles heal. Well, it's the same with the ear.

So how do we exercise our ear muscles?

What Dr Tomatis showed is that the muscles respond to sound, if it's the right sort of sound. Unfortunately in today's noisy world, in factories, construction sites and loud concerts, a lot of people's ears get damaged by noise. It is very likely you have been exposed to a lot of noise in the past, as noise is the biggest cause of tinnitus.

Loud sound causes ear damage

When the ear is bombarded with loud noise, the muscles go into shock and stop working. In order to try and protect the ear, they go into spasm, to try and shut out the sound. When this happens day after day, eventually the muscles get rigid and brittle and can't do their job properly any more.

When the muscles are in trauma, the ear cannot recover because good sounds are blocked from entering. Letting it stay in this condition is like if you broke your foot and you kept walking around on it day after day. Adding further damage to an injured part will make it worse and worse so healing is harder to achieve.

To change this two things are needed.

1. Stop exposing your ears to loud noise!

Yes, you have to wear ear protection, or better still change your occupation.

2. Give the ears the right sort of sound to get the right tone back into the muscles.

There is just one way to do this. It's called **Sound Therapy!**

Did you ever hear of the man who tamed the tiger?

He went to a wise man and said "my wife is so ferocious, I can't get anywhere near her. I can't even talk to her. What can I do?"

The wise man told him to go up into the hills where a tiger lived in a cave and to leave food for the tiger and go one step closer every day, and to come back in 90 days.

90 days later the man came back and described how he had the tiger eating out of his hand.

The wise man said, "If you can do that with the tiger, you can do the same thing with your wife."

So how can you tame your ear?

Just like with the tiger, or the man's wife, you need to offer it gentle, soothing sound that will entice the muscles to let go and start working again.

Sound Therapy calms and restores muscle function.

This was the discovery of Dr Tomatis. If the ear is invited to hear gentle, quiet, high frequency sounds, the muscles re-gain their responsiveness and the inner ear becomes opened to high sounds. The next chapter explains how this works.

How is chronic tinnitus like chronic pain? Chronic tinnitus, like chronic pain, is a recurring signal to an event that has now stopped.

When a part of the body gets injured, say your foot, it sends a signal to the brain saying 'help, I'm injured, do something!'

Normally, once the foot is healed, it stops sending the distressed signal to the brain, so the pain stops. However, sometimes, if there's been a lot of scarring, or if there's a lot of stress in the nervous system, the wrong signal keeps going to the brain. Instead of a message coming from the foot saying, "I'm OK, I'm a healthy foot," the brain gets no message, or a very weak message.

Then the brain reacts, like your mother if you stayed away too long and she didn't hear from you. She would get very anxious and would be upsetting all the neighbours, saying "what's wrong with my son, I haven't heard from him." So your brain might be saying "what's wrong with my foot! Listen everyone, there's something wrong with my foot, I haven't heard from it!"

A true story

This was in fact the case with one man who fell off a scaffold on a building site. He fell vertically between the scaffold and the building, landed on his feet and broke both his heels. After that he had chronic pain in his heels for 20 years.

Even after his feet were healed, the brain wasn't getting the right signals, and it kept saying "there's something wrong with my heels. I haven't heard from them." So the brain created a pain signal and every night he would be woken with sharp pain in his heels as though someone was poking him with red hot pokers.

The man was Don Clark, of Bathurst, Australia, and he tells his own story on our DVD that comes with the **Sound Therapy** program. You can also view it on our website. As it happened, Don also had tinnitus, and that was why he started listening to **Sound Therapy**. His tinnitus went away completely, as did his sinus headaches, and amazingly so did the pain in his heels!

Why did this happen?

Chronic brain hyperactivity can be stopped if the right stimulus is consistently received.

What happened for Don was that the brain was getting the stimulation it needed from the **Sound Therapy.** This normalised his brain signals, the brain stopped frantically looking for a signal from the foot and was able to recognise that the foot was OK.

This is possible because of brain plasticity. We now know that the brain is plastic, meaning it can change and adapt, if given the right stimulus. It can build new pathways, learn new responses and heal from trauma.

The same thing happens when there has been an injury to the ear causing tinnitus.

Inside the inner ear there are over 30,000 tiny, hair-like, sensory cells called cilia. These get damaged and flattened by too much noise. This means that the brain is not getting a signal from those particular cilia saying, "Here we are, we're OK, we can tell you what we're hearing."

Each set of cilia is tuned to a particular pitch, so if the cilia at one pitch (or frequency) are damaged, you will lose hearing at that pitch.

What we think happens after noise damage, is that those cilia send a distressed signal to the brain saying "We're hurt, we're hurt, we're hurt!" And that's called tinnitus.

When you listen to Sound Therapy for an extended period, usually that distress signal starts to decrease.

This may be for two reasons.

- 1. Perhaps the gentle vibrations of **Sound Therapy** are actually getting the cilia to respond and heal.
- 2. Perhaps the **Sound Therapy** is giving the brain enough stimulation so that it stops repeating and repeating the message of the hurt cilia. It forms new pathways that respond more appropriately to sound input.

Whatever the reason, we have observed that for many tinnitus sufferers, **Sound Therapy** brings relief, even in cases of long term, intractable, noise induced tinnitus.

Natural healing

Natural tissue and systems can regenerate and heal.

Natural healing simply means helping the body to repair itself, naturally.

It is a phenomenon we all observe regularly, as our bodies have the in-built ability to heal naturally.

Examples of natural healing are a wound healing over, muscles recovering after excessive exercise, bones re-knitting.

Healing occurs naturally if the environment is right. Unfortunately, the world today is counter-productive for natural healing of the ear.

Noise, Noise, Noise

Just think, it is unusual today not to be able to hear a machine of some kind. Computers, fridges, tractors, traffic, airplanes, appliances, air conditioners and factories all put out low frequency machine noise. Whether it is loud or quiet, this noise has a stressful, deadening effect on our whole nervous system, and particularly our hearing. Therefore, it is unlikely today that your ear will heal naturally, unless you do something to help.

Sound Therapy helps the ear to heal naturally

All environmental inputs have an effect that causes either decline or healing. Smoking is bad for the lungs, fresh air is healing. Toxic chemicals are bad for the cells, nutritious food makes them healthier. Loud noise is bad for the ears, but the rights sounds can be beneficial.

Nature has given us the ability to heal ourselves. The body, cells, tissues, muscles and bones, can regenerate and heal if the environment supports this.

The right sort of sound to heal and support the ears is quiet, high frequency sounds. These are found in nature. Bird song, rain, insects and running water all contain rich, beneficial high frequencies. So do good quality voices, supported by good ears that have not lost their high frequency perception.

The voices of children and women are richer in high frequencies and are beneficial to listen to. Sadly for those who suffer tinnitus and hearing loss, family communication is often curtailed when children's or partners' voices can't be heard. It has been a source of joy for **Sound Therapy** listeners who find they can once again hear their grandchildren and are able to talk with them on the telephone.

Living organisms are structured for growth and healing.

If we create the right healthy environment for our organs they will automatically heal, because that is what they are programmed to do.

Treat the organism not the disease

Natural therapies are gentle on the body because they simply provide the fuel and environmental circumstances needed for the body to heal itself.

Rather than using an aggressive, invasive approach to root out and kill the disease, the deficiency is overcome by the body's own inbuilt recovery systems.

These therapies are called wholistic because they support the whole system to work together rather than fixing one part at the expense of others.

For example when you take drugs, they may work well for the particular symptom, but may cause side effects like indigestion or headaches, indicating that the whole system has been stressed.

When you have surgery, it may fix the problem effectively, but the anaesthetic and general trauma is taxing for the body generally.

In contrast, wholistic therapies provide nutrients or stimuli that are good for the body, and usually end up helping our general health in many other ways, as well as the condition we set out to treat!

Function can improve if given the right inputs

Some ear problems require surgery, but after surgery the ear may be left in a weakened overall state as the muscles have been traumatised and weakened. In time they may recover very well, but after any operation, physiotherapy is advised to help the muscles regain their strength and balance. This is also true for the ear. After an operation, an accident or just cumulative noise trauma, the ear can be assisted to function better by **Sound Therapy**, which gives an appropriate, gentle stimulation to the muscles.

In the next Chapter I will explain in detail how **Sound Therapy** heals the middle ear, the inner ear and the hearing part of the brain.

Chapter 3

How Sound Therapy works on the ear

'Before I began using Sound Therapy my hearing was becoming progressively worse. Ear specialists told me it was caused by nerve damage, therefore there was nothing which could be done for me. They said the ringing in my ears would become louder as time went on, thereby reducing my ability to hear. I purchased an 'in the ear model' hearing aid after I found their predictions to be correct. My hearing did indeed deteriorate. I found I had to wear the hearing aid more and more as time went on, to a point where I was wearing it 80% of the time.

'After about 3 weeks of beginning Sound Therapy, the ringing in my ears began to subside. Along with that my hearing also began to improve. One day I felt something almost like a minor earthquake taking place deep within my ears. Since then my hearing has improved to such an extent that I seldom have to use my hearing aid. I am able to function quite well without it now, after 7 months of Sound Therapy.

'To list a few of the other benefits from this therapy: I am able to sleep better and can do with much less sleep than previously required. I am doing less needless worrying, and stressing situations are much easier to cope with than they were before. In fact my entire well being is showing a vast improvement.'

Dan Stuckel, Red Deer, Alberta, Canada:

This chapter explains exactly how Sound Therapy impacts the ear physiologically to restore proper performance to the ear.

Conductive hearing

Conductive hearing is the term given to the role that the middle ear plays in our hearing.

For a detailed anatomical description of the middle ear see appendix.

Sensory stimulation

When sound hits the ear, our sensory system is activated. This is nature's brilliant way of allowing our consciousness to receive inputs from the world, so we know what is going on out there. Some men will joke with me that they would rather not know what their wife is saying, but this can be hazardous.

For example, if as you're going out the door your wife says "Remember our anniversary dinner tonight" and you hear "I'm spreading the paint thinner, alright?" you may say "yes dear" and go out shaking your head and thinking there's no explaining women's

behaviours. When you don't turn up at the restaurant she may think you've had a better offer and decide to make you sleep on the couch for a month.

A bit extreme perhaps. However, accumulated misunderstanding and frustration do take their toll on a relationship. Communication is important to women, and more than one couple has told me that **Sound Therapy** saved their marriage.

Muscles respond

Our muscles are the workhorses of the body and they are tuned to respond to either voluntary or automatic signals from the brain. The muscles in our ear have been assumed to be just an automatic response system that has no role other than protecting the ear from loud noise. Doctor Tomatis, however, has enlightened us as to their very crucial role in our ear's ability to hear accurately and also to recover and heal itself.

Thanks to Tomatis we now know that the ear muscles play a vital role in ear function and health.

The ear muscles moderate incoming sound

Tomatis spent over 50 years studying how sound effects the ear and our health generally. Through his knowledge of embryology and anatomy, he was able to show that the ear muscles play a very active role in our hearing.

The ear muscles control the type of sound that reaches the inner ear

The ear muscles are like the security team guarding the corporation. If they are asleep or suffering after a big bender the night before, (or as in industrial deafness, from the last 40 years), they don't do too well at admitting the right visitors.

They may let in the rabble that are noisy and irritating, but when a sophisticated visitor arrives with a gentle female voice or a violin to play, they may not even register its arrival, so the CEO never knows about his missed appointments (not to mention anniversary dinners.)

The ear muscles control pressure in the ear chambers

There is also the matter of pressure. The middle ear is a pressure chamber, and pressure can only be released through a tube, between the middle ear and the throat, called the 'Eustachian' tube.

If the security team gets too uptight (in other words the ear muscles are in spasm) they won't open the door to let the pressure out, and the environment inside gets quite uncomfortable.

Those suffering from this condition may experience a constant feeling of blocking or popping in the ears, ear pain on altitude (flying, diving or mountain climbing) or a sense of fullness in the head.

All the security guards really need is a good massage, but how do you massage the ear muscles? You guessed it! **Sound Therapy.**

The trouble is, most ear doctors and audiologists (unless they are trained in **Sound Therapy**) are not aware of how the ear muscles can be helped, or indeed of how important they are to the ear's functioning.

The hearing part of the brain

To understand how the ear muscles work, we must understand how they interact with the brain. Ear muscle response is involuntary, yet it is engaged when two things happen.

- 1. We have a genuine psychological desire to listen.
- 2. We give our ears a tune up with Sound Therapy to restore their functional integrity.

It's like driving a car. You need two things

- 1. A driving course to develop your driving skills.
- 2. A Tune Up for your car so it works properly.

Not surprisingly, the desire to listen is, more often than not, directly connected to how well the auditory pathways in the brain have been oiled. When the brain is bombarded, year in year out, with unpleasant noise, we unconsciously shut down, and listening becomes too much like hard work.

Sound Therapy users, on the other hand, find that as the brain pathways are awakened, listening becomes a delight as they discover new registers of sound, start enjoying the birds again and taking a greater interest in people and conversations. You can read many such examples in Chapter Seven or on our website.

How do the muscles work?

Dr George Richards PhD is a well-qualified research audiologist and an advocate of **Sound Therapy**, since it helped his wife and many of his clients with tinnitus.

Drawing on up to date neurological knowledge, Dr Richards presented a paper at the Australian Society of Audiologists conference in 2003 to explain how **Sound Therapy** makes the ear muscles respond.

If you want to read the detailed science behind his theories you can view the full paper on our website under Research. It is called: Auditory Neurology That May Support The Tomatis Theory and other Auditory Intervention Techniques.

For the layperson, here is a summary of the essential message of Dr Richards' paper.

The brain responds to sound

Although sound inputs do not directly control how the ear muscles respond, incoming sounds do affect the brain. As the brain becomes gradually more and more responsive to incoming sounds of superior high tonal quality, the auditory cortex of the brain takes in these sounds. i.e. the CEO is always looking for good offers and relevant messages.

This causes the brain to send signals to the ear

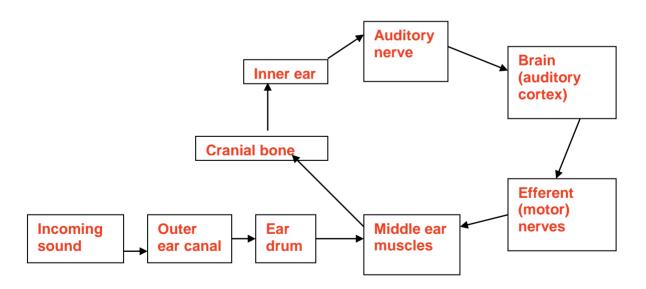
When the brain starts realising that some good messages are coming in, a message is sent via the internal communication system, known as the efferent nerve pathways. These are the motor, or descending, pathways that enable brain centres to direct our muscular activity. Thus, the CEO directs the security team to let in important visitors.

The ear muscles respond to the signals from the brain

The ear muscles, being the loyal doormen, are of course responsive to such direct messages from the CEO. So it is via this private, internal communication system that change occurs, and the ear starts letting in higher quality sounds.

When the ear receives messages via the efferent (motor nervous) system, the ear muscles respond by improving their performance.

The Auditory Feedback Loop



The sensory pathways give us direct access to the brain

This feedback loop is significant because it shows how we can effect healing via input through a simple natural means —sound — using the access points that nature gave us (our sensory pathways) namely the ear.

Gentle exercise is essential to heal muscular damage

When the ear muscles receive direction from the brain, what happens is they respond differently. They become more active, supple, invigorated and responsive. This is how physiotherapy works, and it is the best healing method available for damaged, atrophied or stiffened muscles.

Sound Therapy is the only tinnitus treatment that provides the right stimulus to heal the ear muscles

Sensorineural hearing

This big word refers to the part of our hearing that takes place in the inner ear and the brain.

For a full anatomical description of the inner ear see the appendix.

Briefly, the inner ear is the liquid filled, spiral shaped, bony chamber containing the hair-like, cilia cells. We cannot say that Sound Therapy will definitely improve the performance of these cells as this has not been seen to occur in a laboratory. In fact it is impossible to see this, because if you drilled into the cochlea to see what is happening, you would destroy the cochlea.

What we do know is that some individuals who were diagnosed with sensorineural hearing loss have experienced some improvement when they use Sound Therapy. We thereby surmise that in some cases it may be possible to improve the responsiveness of cilia that have been damaged by noise.

The brain is plastic

Not literally of course, but what plastic means in this sense is that it is malleable, it can change; therefore it can be therapeutically affected. In other words it has a remarkable ability to heal.

You create your own brain map (and your own reality)

Each brain develops individually, just like a tree, influenced by its environment and its intrinsic potential. No two brains are alike in their structure, just as every tree has its unique formation of branches and twigs. If a tree loses a limb, it grows back many more branches. If it is damaged by fire or lightening, it adjusts and keeps growing. If it is given better nutrients and weather conditions it grows more rapidly. So does your brain.

The part of your brain concerned with hearing, the auditory cortex, develops new branches and twigs as it is stimulated by interesting, beneficial sounds.

The more Sound Therapy you listen to, the more your auditory cortex will develop.

Classical musicians and conductors who are exposed to and creating thousands of hours of classical music in their lifetime develop strong neurological highways of musical

intelligence. Classical music combines complex rhythms, harmonies and melodies to a greater degree than any other music.

Exposure to such music has been proven to enhance intelligence, creativity, learning ability, coordination and to prevent senility and memory loss.¹

There are two steps to engaging the nervous system with this type of music.

- 1. The muscles must be reactivated so the music can get past the security doors of the middle ear
- 2. The cilia need time and repetition to begin responding to the gentle sounds.

Those who have never been exposed to classical music may lack this type of brain structure, and at first do not appreciate the intricacies of such music. However, **Sound Therapy** listeners develop their appreciation guickly because of the impact on the ear.

The auditory pathway is nourished quickly by the enhanced, highly filtered music and new brain abilities appear. Listeners report not just reduced tinnitus or improved hearing, but improved golf, tennis, driving, dancing, communication, compassion and sometimes even better sex! (The latter are sometimes hesitant to give us their names, perhaps for fear of getting too many calls!)

Because of its plasticity, any brain, at any age is capable of developing new abilities, building new branches, creating more complexity, functionality and intelligence.

Chances are you are reading this book, not because you want more intelligence, (or better sex) but because you want to get rid of your tinnitus. (Intelligent decision!)

So let's get back to the point. Overcoming tinnitus is a type of brain intelligence, or at least of reformulation of brain structures.

Remember, chronic tinnitus, like chronic pain, is a recurring signal to an event that has now stopped.

In order to stop that signal, the brain needs to change its response. In other words it needs to learn a new response. This requires change — rewiring— restructuring of brain systems. Fortunately, since the brain is "plastic" this is possible. All that is required is the right inputs to get the brain to alter its responses.

¹ Birbaumer, N., Lutzenberger, W. Rau, H., Mayer-Kress, G., Braun, C.,

[&]quot;Perception of Music and Dimensional Complexity of Brain Activity,"

To be published in Intl. Journal of Bifurcations and Chaos, cited on http://www.santafe.edu/~gmk/Pubs/MusicEEG/

Thompson, R. G., Moulin, C. J., A Hayre, S., and Jones, R. W., "Music Enhances Category Fluency In Healthy Older Adults And Alzheimer's Disease Patients", Routledge, part of the Taylor & Francis Group, Volume 31, Number 1 / January–March 2005, cited on

 $[\]frac{http://taylorandfrancis.metapress.com/(wq5ftcnaijh2xhaq0begsn55)/app/home/contribution.asp?referrer=parent&backto=issue,6,6;journal,7,35;linkingpublicationresults,1:101821,1$

Cycle-interrupt will change the brain response

The brain needs new instructions, new stimulus of a kind that is detailed, engaging, activating and multi layered. The most effective form of input to achieve this restructuring in the auditory cortex is, of course, music processed in such a way that it enhances function all along the auditory pathway, including the middle ear, inner ear, auditory nerve and auditory cortex. That is classical music with the special filtering method devised by Dr Tomatis.

This music compels the brain to use its internal telecommunication system (the efferent — motor — nerve pathways) to instruct the ear to change its response. The result: normally the tinnitus stops!

Chronic brain hyperactivity can be stopped if the right stimulus is consistently received

The ear responds to high harmonics

Why is Tomatis's filtering so effective to alter the brain's response? For more detail on Tomatis's discoveries and how they work, see Chapter 4, The Sound Therapy Story.

But essentially, Sound Therapy music has enriched high frequencies. These are the sounds we are programmed to pay attention to in our evolution. Therefore the best way to get the brain's attention and interrupt an ingrained cycle is with high frequencies.

In music the high frequencies are not just a shrill sound played alone, but are an elegant reflection, like a high echo, of the base notes, creating a structure of natural proportions and beauty according to mathematical principles found in nature and classical architecture.

When presented with these sounds, the hair-like, cilia cells are enticed, just like the wild but nervous tiger, to come forward and engage with the music. Even those bombarded and damaged by years of industrial noise — or even gun fire — have proven in case after case, to be reawakened and activated when reached by the high harmonics.

Perhaps it is only because of these principles of nature and form that Tomatis was able to discover the healing properties of music, for it embodies natural structural and harmonic laws within its very form, as laid out by Mozart and his contemporaries. No wonder the ear and brain, when exposed to these principles, are willing to respond in new ways and discover their own inner healing potential.

Chapter 4

The Sound Therapy Story

Tomatis the Genius

Dr Tomatis was one of the irrepressible pioneers¹ of the 20th century. Inventor and researcher, he gave us a unique and valuable tool for healing and education.

Tomatis was born in Nice in 1919. His father was Nicoise and his mother Italian. His birth was apparently not wanted or anticipated. His mother was only 16 years old and had done everything to hide or suppress the growth of the baby, including wearing the restrictive corsets of the time.

Tomatis was born two and a half months premature and weighed just under three pounds.

The midwife took one look at him and immediately discarded him in a waste basket, believing he was dead.

Tomatis would never have lived were it not for his paternal grandmother who had herself borne 24 children and had much wisdom on matters of birth and life. She retrieved him from the basket and revived him.

Tomatis says that he owes his later work on the importance of prenatal life to his own painful beginning.

He believes this engendered his desire to search for and understand that lost nirvana of the womb from which he was ejected too soon.²

Tomatis's relationship with his mother was fraught with difficulty and lack of rapport. Yet far from taking a victim stance in relation to this poor maternal bond, Tomatis instead expresses gratitude for the insight this difficult relationship gave him and how it later fuelled and informed his pioneering work in the field of psychology.

His father, on the other hand was the source of many of Tomatis's exceptional character traits and the parent who gave him his sense of personal value.

Tomatis writes in his autobiography, "I always considered my father an exceptional being with whom I communicated well and shared a close understanding... he was an ear, a listener who was always ready to hear me with true attention." ³

Perhaps it was the great contrast between one parent who could listen and one who could not that gave Tomatis his deep insights into the importance of listening.

¹ The Conscious Ear, Alfred A Tomatis, Station Hill Press, NY 1977 –91 p. xi.

² *Ibid*, p. 1.

³ *Ibid*, p. 4.

"I Must Search"

Another great source of inspiration to Dr Tomatis was a doctor who was called to treat him during one of his many childhood illnesses. At the time he was suffering from three fevers, which he had contracted simultaneously, typhoid, Maltese fever and typhus murin. A parade of doctors had failed to diagnose his condition so finally the well respected Dr Carpocino was called.

After examining Tomatis he pronounced, "I don't know what is the matter with him. I must search for the answer." He did indeed search and succeeded in diagnosing and treating the small boy.

It was his statement "I must search" which had the most profound effect on Tomatis's development and career choice, for from that moment on he decided to do the same.

He would become a doctor so that he could search for answers to what he did not know.⁴

Inspired by his admiration for his father, Tomatis now applied himself to his goals and pursued his studies with gusto and determination.

The foundation of his education in musical awareness was of course laid down by his father, who had an international reputation as a bass singer. He took Tomatis to hear all the great singers of the time and when staying with his son in Paris for two months each year he would practise his repertoire and play the piano while Tomatis studied. Ever since that time, Tomatis has always worked to music.

In 1939 Tomatis was studying medicine at the Sorbonne when war broke out.⁵ He was drafted for service after his first year of medical study.

Tomatis Served first as an infantryman and later as an army physician. While fulfilling this role Tomatis also, by his own initiative, set up a classroom where he ran courses on many subjects for the other soldiers who had interrupted their studies.

Back in occupied Paris he resumed his medical studies, reading nearly all night by the light of a hand-operated generator. He also joined the Resistance movement and became part of their intelligence network as this was the best way he could see to help end the war that was proving so destructive to his country.

During his work at hospitals in Paris he, along with his colleagues, performed incredible feats of endurance helping the wounded with completely inadequate resources. On two occasions he stayed on his feet tending patients for eleven days and nights and then for thirteen days and nights without sleep.

The researcher

After the war he pursued his longstanding desire to enter the field of medical research.

⁴ *Ibid*, p. 10.

⁵ *Ibid*, p. 26.

His choice of specialty was stimulated once again by his love and admiration for his father.

He had observed singer friends of his father's who had vocal problems which mystified the doctors of the day. He hoped that he could help them so he decided to go into ear nose and throat medicine (ENT). His dream was to aid singers who had damaged or lost their voices.⁶

However, his first group of clients was aeroplane mechanics, many of whom had worked in highly detrimental sound environments during the war.

After testing in several different situations, Tomatis noticed that the same subjects produced different audiometric results depending on their beliefs about the possible implications for their career.

In situations where they feared job loss, their hearing results came out quite well, but there was unprecedented change when they had heard news that hearing damage could result in a good pension.

Tomatis wrote, "I was surprised to discover that a perfectly sincere individual, but one who wanted to be diagnosed as deaf, was able to lower his auditory threshold by ten, twenty and even thirty decibels." He was convinced from comparing these results with his interview experience that these motivations were entirely subconscious.

It now struck him that in order to "find out what he did not know" in his medical field he would also have to investigate psychology.

He was shocked to realise the huge lack of psychological content in his medical training.

Meanwhile Tomatis's father had begun referring singers to his son, and he began prodding around in the singing literature attempting to unravel the mysteries of the voice. At the time the prevailing theory was that the voice was controlled by the larynx, and if the singer could not reach a particular note, it was due to a malfunction of the larynx.⁸

Initially Tomatis prescribed strychnine — the standard medical treatment for overstretched vocal chords — and also male hormones, a favourite of wartime medicine. This appeared to be working until two of his patients "choked" on the stage.⁹

Now Tomatis had a flash of intuition, which was the key to his first major discovery. He decided to subject the singers to audiometric tests, and noticed a surprising similarity to those with industrial deafness.

Could it be, he asked, that the singers had deafened themselves with their own, loud voices?

By measuring the intensity of their voices with a sonometer he established that powerful singers could reach 130 or 140 decibels, certainly enough to cause deafness with continued exposure! Especially since 130 decibels at a metre's distance represents 150 decibels inside ones skull!

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⁶ *Ibid*, p. 40.

⁷ *Ibid*, p. 39.

⁸ *Ibid*, p 41.

⁹ Ibid.

He had to conclude that the voice was controlled not by the larynx but by the ear. He was able to verify from his test results that a scotoma (an absence of certain frequencies) in the audiogram exactly matches the same loss of frequencies in the voice.

Thus in 1947 Tomatis came to the formulation of his first law:

"The voice only contains those frequencies that the ear can hear,"

or as he liked to put it, "one sings with one's ear." 10

Tomatis had married by this time but, as he later freely admitted, the relationship was completely unfulfilling as there was no rapport between him and his wife. It was a misguided union, which he entered into only because of his great inexperience with women. Being so consumed by his study and work since the age of eleven he had never acquired the social skills to deal with the opposite sex.

The relationship was also a reflection of his lack of bonding with his mother. Although he had four children with his first wife, their relationship never improved. As he states in his autobiography, *The Conscious Ear*, "There was no love because there was no communication; there was no communication because there was no love." ¹¹

Tomatis therefore continued to lose himself in his work. He invented and manufactured a sonic analyser, which enabled him to analyse the frequency distribution of a voice.

Right ear left brain

Tomatis's next major discovery was that self listening and voice production is controlled by the right ear. This is because the passage of nerve impulses connecting the ear to the larynx and to the cranium is more direct on the right side of the body.

The recurrent laryngeal nerves (belonging to the tenth pair of cranial nerves, the vagus) have to cover a longer route on the left side for two reasons. One is that they have to go around the heart. The other is that the central laryngeal motor area is situated in the left brain. In other words, our main speech centre is in the left brain, and this is most directly reached via the right ear.

Due to the cross-over of all nerve impulses between the brain and the body, the left ear communicates directly with the right brain while the right ear is wired straight to the left brain.

This means that the right ear has the more efficient route on two counts, for language reception and vocal production. Therefore it must direct.

Tomatis says categorically that all great singers and musicians are right-ear dominant.

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¹⁰ *Ibid*, p. 44.

¹¹ *Ibid*, p. 45.

He also states, and other learning specialists confirm his findings, that it is a requirement for efficient processing of language for *any* person that the right ear must lead. We function more efficiently if the right ear directs our listening. ¹²

Tomatis confirmed this discovery by making singers listen to themselves solely through the left ear. He found that no right-eared person could bear to hear their voice in this way for very long or a feeling of great weariness overcame them. Their vocal performance deteriorated to a point where they became confused and distressed and could not continue to sing. The same was true when musicians were made left-ear dominant. Tomatis found that they lost a large part of their ability, were unable to follow the beat or to make the instrument give out its true sound.

An outstanding voice

Tomatis discovered that Enrico Caruso, whom he considered the greatest singer of his time, owed his superb ability to a partial deafness in the right ear. Due to an operation that blocked his Eustachian tube, Caruso was deaf to the low frequencies in his own voice on the right side. The fact that he heard and reproduced only the high frequencies led to the superb and unique quality of his voice.

As an experiment Tomatis decided to give this same listening structure to other singers. He was able to do this by retraining their self-listening with his special filtering device. Not only did it improve their voices but the patients unanimously declared that they felt much better after the treatment.¹³

This led Tomatis to his realisation that we need to receive daily doses of high frequency sound in order to stimulate the cortex of the brain and replenish its energy stores. Tomatis says that we need to receive three billion stimuli per second for four and a half hours per day in order for the brain to function at maximum potential. I consider this perhaps the most important of his discoveries.

High frequency sounds stimulate the brain while low frequencies deplete and diminish brain energy.

If we receive the necessary daily input of high frequency, charging sounds, Tomatis found that creativity and thinking ability are enhanced, energy rises and depression is often alleviated.¹⁴

The Electronic Ear

During this period, Tomatis was developing the device which he eventually called the Electronic Ear. ¹⁵ This machine had the capacity to feed back the subject's voice with the frequencies altered so that they could hear themselves in the correct way.

Thus their ear was reconditioned to accurate hearing, and the voice was also corrected. Later Tomatis found that he could achieve the same result by playing music through the Electronic Ear, specifically the music of Mozart. He found that, provided the subject

¹³ *Ibid*, pp. 53-54.

¹² *Ibid*, pp. 51–52.

¹⁴ *Ibid*, pp. 186-187.

¹⁵ *Ibid*, p. 57.

experienced these altered sounds repeatedly for a certain period of time, the effects would last.

In later years Tomatis trained many different practitioners to use his method and so it became available in about two hundred centres around the world, in addition to his centre in Paris.

A modern doctor's view of Sound Therapy

Respected Sydney otolaryngologist, Professor Gibson, recommends Sound Therapy in about 50% of tinnitus cases.

He is aware that some people, especially if they are a little anxious, need the reassurance offered by a practitioner or a retraining program. However these programs do not offer Sound Therapy, and Professor Gibson explains "With Sound Therapy, they are listening to something, which will bring those nerves into some sort of orderly firing. Also it seems to have a really good calming affect on the limbic system, that amplifier in the brain that's making them so anxious and upset. I think that's why it has been such a big help to many people."

The advantage of portability

Of course, because the Tomatis treatment centres do not use portable equipment, but only treat the clients in the clinic, they do not achieve the same results for tinnitus that we see with the long-term treatment made possible with the portable method.

It may be for this reason that Dr Tomatis never focused a great deal on treating hearing loss or tinnitus. These conditions can sometimes take several months to treat and no-one could afford such long-term treatment in the clinical setting.

Many people over the years have approached Sound Therapy International and explained that they have had treatment in a Tomatis clinic from which they derived great benefit, only to have it wear off in a month or so.

They are delighted and amazed to be able to purchase their own program so cheaply, and that it allows for long-term treatment with no further costs.

They can use it conveniently in their own time and most people find they enjoy listening and continue to listen for many years.

Chapter 5

Sound Therapy goes portable

An unusual family

I am very grateful that my mother never had tinnitus. She had enough problems with her ears as it was. She was unbearably sensitive to loud noise and could not function in a room with a hubbub of voices, a condition which affects about 5% of the population but which has no medical name other than the "Cocktail Party Syndrome".

My mother, Patricia Joudry, was never "normal", and although it was inconvenient at times, I am grateful in the end that she taught me not to be normal too.

My mother and everyone who knew her considered her eccentric.

Her definition of an 'eccentric' is someone who revolves around their own centre rather than everybody else's!

At the same time she was one of the most caring and inspiring people I have ever known. She was a great teacher, an inspired writer and had a real passion to help other people.

Growing up, we knew our mother was odd.

She couldn't socialise like most people. It was so hard for her to cope with being in a noisy room where more than one conversation was going on, that her social activities were limited to an occasional small dinner party.

She had very acute hearing; it was just that she couldn't cope with more than one sound at once. Loud music was never allowed in the house, and in fact classical music was the only kind we were allowed to play in her earshot.

A fast exit

There were times when my mother's sound sensitivity annoyed me. I remember having lunch at the swimming pool cafeteria after our weekly swim.

We always sat perched on the edge of our chairs in terror of someone putting coins in the juke box.

As soon as it happened all the sandwiches and swimsuits would be swept up as our mother fled the room, with us following, to eat lunch out in the car park. We were used to her constant, passionate refrain of, "Just give me quiet!"

We were, of course, trained never to interrupt at the dinner table, in fear of the instant reprimand, "Don't all talk at once, I can't hear when you all talk at once." It was so instant and insistent that we simply did not disobey.

We also knew not to talk to our mother if the tap was running and never to fold paper bags if she was in the room. The sound drove her mad. In my teens it drove *me* mad having to leave the bags all over the kitchen after shopping. (At the time in Canada all shopping came in big, brown, noisy paper bags). But apart from that we were all pretty well adapted to her condition.

My mother the canary

We never knew it had a name though. We all thought of it as just another one of Mummy's little peculiarities.

The thing is, she was way ahead of her time. She was also environmentally sensitive before that term was coined.

Now with the increase in the incidence of chronic fatigue and chemical sensitivity the condition is becoming well known. I am surprised how many of my friends are now allergic to perfume or get headaches and dizzy spells if they walk down the aisle in the supermarket that stocks all the cleaning products. My mother gave up all cleaning products in her later years and I'm sure lived a few more years because of it.

She objected to cigarette smoke before it became the social norm and on a family reunion in England was frequently the cause of our having to shift tables or change restaurants in the middle of a meal. The family became reluctant to go anywhere with her after a while.

My mother was what is termed a canary.

Coal miners would take a canary into the mine in a cage to warn them of noxious gases, which it sensed sooner than humans. When the canary fell off its perch they knew to get out. My mother sensed the danger of cigarette smoke before the researchers worked it out, and was mocked by the family for her impossible social behaviour— but those who have ideas ahead of their time always suffer ridicule.

Her message about the dangers of noise has not yet hit public consciousness, but it's coming.

In France now the legal volume level allowed on personal headphones is 100 decibels.¹ In Japan tourism extends not only to attractive visual settings but to creating peaceful sound-scapes where only gentle, beneficial sounds are heard, such as running water, birds and gentle bells.

Sound Therapy Pioneers

Patricia Joudry and Dr Tomatis were bound to come together, and I happened to be the messenger that made the link.

¹ Campbell, Don. *The Mozart Effect*. Hodder Stoughton, New York, 1997.

I was spending a year in Paris working as an au pair girl and had a chance meeting with Dr Gerard Binet, a Canadian doctor who was training as a Sound Therapist with Dr Tomatis, the inventor of the method.

I was curious to know what Sound Therapy was and even more curious when he said it would help my mother with her curious ear problems.

As it happened, he was going back in a few months to set up the first Canadian Sound Therapy centre in Montreal, just sixty miles from where my mother lived.

My mother was always one to try anything that would improve her health. She had a zest for life and an enthusiasm for living to the fullest that I have seldom seen surpassed.

She went for the Sound Therapy holus-bolus. Where she got the money I don't know, and I never asked. Apparently the treatment cost two thousand dollars. It was worth every penny.

The whole thing seemed quite mysterious to her at the time, but she went on faith, as she did most of her life.

After doing some tests on her listening ability the therapist hooked her up with headphones to a frightening looking array of tape reels and electronic devices. She had to come in every day and spend three hours listening to the special music.

Fortunately it was classical, or she wouldn't have got this far! But it was a little different to the classical music she was used to.

As she listened to the series of tapes the low frequencies were gradually filtered out and the remaining sounds got higher and higher. The music was barely recognisable, and yet on another level it was quite recognisable.

In fact it was as though a deeper part of her being was recognising the sound.

She felt that it was tuning her mind, training it to a higher level, somehow connecting different parts of her brain.

She was encouraged to occupy herself with something else while listening so she brought in her writing pad, and soon found the music was helping to inspire her writing.

Utter exhaustion

After a few days of listening my mother became completely exhausted. Now this was unfortunate because she had always suffered from exhaustion anyway. But this was different.

It was a deep bone tiredness so she felt she could hardly move. In this state she didn't know if she could make her next Sound Therapy session, but she dragged herself in and

told the therapist of her condition. She was a bit nonplussed when he said enthusiastically, "Oh, that's good! That's excellent!"

He went on to explain that the tiredness meant that the therapy was working. He said it was caused by changes occurring in her nervous system and it meant that her ear was about to open, bringing with it the many positive effects of Sound Therapy.

He told her that not everyone experienced the phase of tiredness but for those who did it was a sure indication that they could expect significant benefits from Sound Therapy.

Encouraged by this news, she resolved to go on with the listening. Dr Binet also advised her that it was important not to miss a day at this crucial point in the treatment.

Amazing brain recharge

So she persisted, and it was only a few more days before the breakthrough happened. As she was driving home in the car from her treatment she noticed a steady hum of energy coursing through her whole system.

Every synapse which had previously been wrung out was now singing to an inner rhythm of openness and quiet excitement.

The energy was available to her to be directed and applied to any activity she chose. It gave her mental verve and physical stamina.

With it came the gift of sleep: deep, peaceful, refreshing sleep, something which had eluded her for the decades she had suffered as a chronic insomniac.

Now she was sleeping like a baby and enjoying the energy of a ten year old.

Chapter 2, "Plugged in to the Cosmos", in our joint book *Sound Therapy: Music to Recharge Your Brain* gives the full details of her transformation through Sound Therapy. People sometimes say that the treatment sounds miraculous, and for many it has been. It certainly was for my mother.

Not only did it cure her original listening problems and sound sensitivity, end her insomnia and give her seemingly unlimited energy, it also dispelled her writer's block.

I never heard her complain of writer's block again, except for a short time when she followed me out to Saskatchewan and couldn't get near a Sound Therapy centre.

The monks

Little did I know what a fated path I was following when, from Paris, I moved out to Saskatoon on the Canadian prairies. My mother followed, not realising how much she would miss Dr Binet when the benefits of Sound Therapy wore off; nor realising that I hadn't settled for long and would be off within a year or so to Australia, never to return.

I fell in love with Australia — well, wouldn't anyone in their right mind?

So there was my mother, stranded but now settled in a little house on the prairies and wondering why, when all she longed for was another hit of Sound Therapy. This is where fate comes into play.

As it happened, she had landed not twenty miles from St Peter's Monastery where for some years the Benedictine monks had been using Dr Tomatis's Sound Therapy for the students at their vocational school! They had been taught the method by a psychologist from Ottawa, Dr Agatha Sidlauskas, who was trained by Dr Tomatis.

As soon as my mother caught wind of what was going on at the monastery she was on their doorstep and was introduced to Father Lawrence who was in charge of the Sound Therapy program. He showed her around the monastery and led her into the listening rooms. She could hardly believe her eyes.

There it was, all the same equipment she had seen in Gerard Binet's rooms, and not one but two complete sets! When Father Lawrence told her that she was more than welcome to come and use the equipment herself at any time, she was so excited that she forgot to explain one thing:

She was totally technically incompetent and could not even change her own typewriter ribbons (my youngest sister was still living at home and was able to do it for her).

Changing the tape on a reel-to-reel player and learning how to work all the other strange devices with their blinking lights and dozens of dials was quite out of the question for her.

Left brain right brain

So when Father Lawrence left her alone with the equipment after a brief explanation and dashed off to his prayers, she was dismayed. But, as my father always said, necessity is the mother of invention.

Necessity took over and as my mother started working out the equipment she noticed something remarkable. She was finding it easy!

In fact she was enjoying the challenge and able to problem solve and make obvious connections instead of, in her usual manner, becoming frozen in terror by the very sight of the machines.

Now she remembered an odd occurrence when she first went for her listening test with Gerard Binet. She had thought he must be a clairvoyant because he seemed able to read her personality from her listening test.

He had said to her, "You have trouble dealing with machines and technical things, don't you?" She was astonished and asked him how he could tell this from her hearing results.

He explained that the listening test showed that she was very left-brain oriented, which figures, since she was a writer and it is the left hemisphere that processes language.

She used to say she was so heavily left-brained that it was surprising she didn't go around in circles.

The fact is she often did because she couldn't read a map: a failing of the right brain.

I remember one night in England with two American visitors in the car trying to drive home from Stratford upon Avon. We were lost on the country roads for several hours in the middle of the night, relying on capricious road signs but of course never referring to a map. We never could explain to our father where we had gone!

Sound Therapy has been found to help the right brain spatial distance judgement as well as the left brain language facility by untangling the functions and balancing the two hemispheres.

Many people have said that it has helped their tennis, or dancing, or their judgement in driving. Unfortunately my mother never learned to read a map, but if she had needed to do it to hear Sound Therapy I believe she would have!

Sound Therapy on the loose

As soon as she resumed her listening at the monastery the benefits all came back. There was no warm-up period or fatigue to push through this time; the effect was instant.

She set up camp in the listening room and was there every day from sunrise until dark imbibing the music which was elixir to her brain.

Gradually she brought in all her essential accourrements of writing, her tea tray and electric kettle, her typewriter and electric fan.

She was soon on very friendly terms with the monks who she discovered were trying all sorts of alternative therapies.

They had a regular visiting reflexologist, grew their own alfalfa sprouts and were very interested to learn about her negative ion generator, which she brought to the listening room to improve the atmosphere.

This was in 1983, the year the Sony Walkman™ was first released. My mother had one, which she used to play tapes of normal classical music in the car while driving to and from the monastery.

Father Lawrence spotted this device one day and asked her what the frequency response was. Of course she had never heard of a frequency response, but back then they printed it in the specifications booklet that came with the machine.

It turned out to be 16 thousand hertz (16,000 Hz). That means the machine can play sounds right up to the top of the range of human hearing, something never before possible on such a small cassette player. Father Lawrence was very excited by this news and told my mother that it meant she could do the Sound Therapy on the WalkmanTM.

My mother was mystified as she couldn't see how the great big tape reels used for Sound Therapy could be played on the Walkman™, but of course the answer was simple. Father Lawrence ran the program off direct from the Electronic Ear onto four cassettes, and she took it home.

So there she was, walking on the prairie with the four tapes and the Walkman™. She had the entire Sound Therapy program in her own hands.

As she enjoyed her Sound Therapy under the open sky the thought immediately came that this program should be made available to everyone in this portable form. What a gift she had stumbled across! Someone should market it, she thought, so that others could benefit.

My mother was not in the habit of having entrepreneurial seizures, but this opportunity was too obvious to pass up.

Being a writer made her the perfect person to bring notice of this program to the public. All she needed was the cooperation of the monks to help her with the technical side of the recording.

She drove back to the monastery the next day. Father Lawrence was surprised to see her back so soon and asked, "What are you doing here? We thought we got rid of you!"

In fact the monks had missed her already, so when she told them her idea they were only too eager to help. Brother William was the resident electronics expert and was appointed to assist with the recording.

The monks fully supported her desire to offer her discovery to the world so that Sound Therapy could be made more affordable and help more people.

Whilst there are now 200 Tomatis listening centres around the world, most people do not have the resources, time or money to be able to travel and spend three hours daily at a centre for three months and afford to pay three or four thousand dollars for the treatment. Reducing the cost by 90%, as we have, has increased access to the program tenfold.

During this time I had been finishing my Social Work degree and was working as a community developer in Australia. My mother sent me the manuscript of her book and suggested I help with the marketing of Sound Therapy down under.

World wide results

It was only when the book came out and people started to use the portable program that we realised what an important and valuable tool we were working with.

We began to get letters from listeners saying things like "Sound Therapy has improved my hearing so much, I no longer need my hearing aid," or "Our child has overcome his dyslexia and learned to read" or "My tinnitus has been cured completely by Sound Therapy."

It was incredible! I had never heard of tinnitus until then, but I read up on it and read everything I could find about Dr Tomatis and Sound Therapy.

People were now getting results that hadn't been possible in the listening centres because only with home use could they have the long-term treatment often required for those with hearing problems.

The benefits of extra energy and better sleep could now be maintained month after month and year after year in a most convenient form and at no extra cost to the listener.

I gave up community work and decided to go into Sound Therapy full time. I overcame my fear of public speaking, with the aid of Sound Therapy, and have since spoken to over four hundred community groups and given dozens of radio interviews on Sound Therapy.

I travelled back to Canada in 1993 and met the monks. Father Lawrence was a most delightful, gentle, humorous and interesting man. Brother William was very calm and intelligent, a great source of information. He answered all my questions about the ins and outs of Sound Therapy and the technicalities of recording.

Sound Therapy found its way by word of mouth to over forty-five countries in the first five years alone. The book was reprinted over and over again and the demand continued.

The first edition of this book, *Triumph Over Tinnitus* was released in hard copy in 2001 and has helped to bring the therapy to the attention of many more tinnitus sufferers and professionals.

My mother and I must have spoken on nearly every radio station in North America and Australia. She spent ten years touring and lecturing on Sound Therapy before going back to her creative writing, which I encouraged her to do as she had a lot more to contribute in that field.

I then took up the banner of Sound Therapy and have continued to do the work, establishing Sound Therapy Australia in 1989 and in 2001 I initiated Sound Therapy International, fulfilling a joint vision developed with my mother.

My mother moved to British Columbia on Canada's west coast because she preferred the climate and spent her last ten years writing peacefully in Powell River. When she died in October 2000 she knew that she had helped thousands of people to overcome hearing problems worse than her own.

Practitioners take up Sound Therapy

We now have a team of qualified consultants giving customer service to individuals and practitioners.

In 2000 we began training practitioners to work with the method and soon had over 350 local distributors in 24 countries. This has again taken Sound Therapy out into the community to make it more accessible for those who need it.

My third book *Why Aren't I learning?* published in 2004 covers the broad field of Sound Therapy for children. The increase of Attention Deficit Disorder, Hyperactivity (ADD/ADHD) and other learning disorders tells us we must do something to help our children get the vibrational inputs they need for brain and language development.

Of all the benefits received by Sound Therapy listeners, the results with tinnitus are the most life changing and exciting.

We have found that tinnitus is the number one reason that people come to Sound Therapy, and every week we hear of more happy users who have got relief. To read their experiences in detail see Chapter 7, *The Listeners Speak*.

Chapter 6

How to Use Sound Therapy

'When I was in the German army in January 1944, I had an infection of both inner ears and the Eustachian tubes. Because my temperature was only slightly elevated I was given a few Aspros. The greater part of the problem became chronic.

'A year later I was a gunner in a light armoured car. During gunnery exercise there was a malfunction in the 2 cm. gun which caused some kind of explosion. Fortunately all the hatches were open, but I had little hearing or sense of balance for a few days.

'The result of both incidents was tinnitus with a combination of sounds; a waterfall, ringing and static. My eardrums tended to feel sucked in, quite uncomfortable at times, often I could not pop them out when I blew my nose with nostrils blocked.

'In 1979 a sinus condition developed which I blamed on the type of chalk I was using as a teacher. My singing tended to be out of tune. The range of notes became narrower. For many years I suffered from tiredness, which I now attribute to some degree to the 'low-frequency noise'.

'In January 1987 I had encephalitis and myelitis, endemic to the Murray Valley. At one stage the resulting symptoms were called the M.E. syndrome: chronic lack of energy; diminished long-term and short-term memory, self-inflicted stress, pronounced sensitivity to variations in atmospheric conditions.

'After two months of Sound Therapy (330 hours) this is my assessment:

- Sinus condition has improved gradually and is about 80% better in general.
- Eustachian tubes improved about 50%
- Left ear, much lighter noise of a higher pitch, almost pleasant compared with the original noise. Congestion far less, about 70% better.
- Right ear; very slight ringing, higher pitch, some congestion left, about 90% better.
- Hearing in general has improved. All the sounds are crisper. At the dentist the 'new' crisp sound of the drill nearly made me happy.
- Singing: during walks along the open road, there is a 'resonance space' again in my head, singing is in tune again and I can correct a wrong note.
- Deep refreshing sleep. Requirements shortened by 1-2 hours.
- Energy seems to have increased, I find it easier to start something, have a bit more go.
- Memory has improved slightly. Words of some forgotten songs have come back and dialling a phone number is a lot easier.
- Generally speaking, I feel that a considerable change has been going on within me and apparently still is.'

Sound Therapy is one of the easiest treatments to use for tinnitus. This chapter details what is entailed in the use of Sound Therapy.

Easy as 123

Yes, listening to Sound Therapy is easy, and that's the best thing about it (apart from the benefits you get.) It's easy because,

- 1, it's portable,
- 2, it doesn't interfere with any other activity you might want to do, and
- 3, it doesn't take any time out of your day.

When can I listen?

You can listen to Sound Therapy at any time during the day or night. Each person will find the rhythm that suits them best.

Some listen when they go to bed at night as it helps them get to sleep. If you do this you will probably find the mini earphones that come with the miniature Sound Therapy music player are quite comfortable. Some prefer an overhead style with a lightweight headband and a light weight pad that sits outside the ear.

They may fall out off you are a restless sleeper, but when you wake up you can put them back in and start up the machine again if you wish.

Other people prefer to listen during the day when they are up and about doing hobbies, at work, while travelling, even while having a conversation. You may choose to listen while driving because the music is always played at low volume and should not interfere with hearing the sounds around you.

In fact most people find that Sound Therapy is a good way to help you stay alert while driving. It is also excellent for long plane trips as it helps you to sleep on the flight, alleviates jet lag and may also help with equalising ear pressure. Some people who had great difficulty flying due to ear pressure problems have found that the problem is entirely resolved by Sound Therapy.

We have heard of people listening during reading, writing, composing, piano practice, conversation, selling in a shop, flying, driving, jogging, photography, talking on the phone, watching TV, listening to the radio, listening to other music on the stereo, being interviewed for a video, painting, resting, sleeping, having dental work, childbirth, beekeeping, exercise bike riding, golf, playing bowls, working in the shed, the garden, the office, the computer, teaching in the classroom, practising natural therapies, and we would love to hear what you do during Sound Therapy and even to receive a photo for our newsletter!

Our range of Sennheiser headphones includes suitable models for any activity, whether for active sports, compact for travel, comfortable for sleeping, big ones for maximum

sound quality or even radio headphones that connect to your stereo and allow you to move around the house without wires.

Patricia Joudry wrote:

"Once the auditory opening has occurred, there is a little technique for using your new long days to fullest effect.

When you feel yourself slowing down, sit (or lie) back with a book and your Sound Therapy and read to the music.

Your eyes will grow heavy; very soon they will close and you'll sink down into a mini-sleep which may only be two or three minutes but will be as refreshing as an hour.

You will awaken fully alert, with none of the hungover, groggy feeling that usually follows a daytime sleep. Doing this occasionally, you will find that you never have to come to a long full stop — that is, unless you want to."

How much should I listen?

The minimum recommended listening time is three hours per day for adults. (Half an hour to an hour for children.)

You can listen for longer, and people using Sound Therapy for brain stimulation or learning improvement sometimes listen for as much as eight hours a day or more, with no ill effects.

While some tinnitus sufferers can do this too, others may find this is too much stimulation, especially at the start.

Our free bonus Self Help Workbook that comes with the listening program includes a Personalised Listening Routine Assessment to help you work out exactly the right routine for your condition and state of health.

Until the opening occurs, it's essential that you put in the recommended hours daily. Once you've achieved the breakthrough, and the new energy patterns are firmly established, you can vary the listening time as you wish, but, as Patricia Joudry said, at the start there are two rules that can't be emphasised too much.

Firstly: The listening must be done regularly. "Spot listening," picking it up now and then, is useless. To do it halfway will not give half results: it will give no results at all.

Compare it with a weight lifter lifting weights.

The muscles must have the daily, unremitting exercise if they are to develop.

It is the same with the development of the middle ear muscles, those which bring about the transformation in listening and cause all the rest to happen.

Secondly: Don't look for quick results. Allow two to four months before expecting to notice any change. The occasional person takes much longer.

It is a process, a re-education of the ear, not Aladdin's lamp. Some people put on the headphones for five minutes and say, "It isn't doing anything for me."

That's like picking up a foreign language textbook and flipping through it with your thumb and saying, "I can't speak the language yet." The new language of frequencies has to be acquired, and the rates of speed are as individual as individuals themselves. Some listen for a month or two and then fall into discouragement because someone else made the breakthrough in half the time.

The other person was probably predominantly left-brained, an audio type, and lacked the childhood traumas that contribute so much to closing off the receptivity of the ear.

The longer it takes for the ear to open to the recharging effect of the high frequencies, the more the life force has been dammed up and the more essential it is to release it.

Only the very exceptional person starts responding within a few weeks. Everyone wants to be exceptional, so will hope to fall into that category. If you're doing Sound Therapy at all, you are exceptional enough.

How long will it take?

The length of time varies with each individual. As a general rule, 300 hours of listening are necessary (over 3 months) before a significant shift in energy occurs.

With tinnitus the results are more variable as it depends on the degree of damage or degradation of your ears.

Some have a result in a couple of hours but for others it can take several months for the tinnitus to respond.

A few people require less; some take longer; but if you persist there is no doubt that it will have its result.

Does it have to be all in one block?

The listening does not have to be done at one stretch but can be spread out over the day and evening as convenient.

It is better, in fact, to have a few breaks, to do some vocalising — humming, singing or even talking — as the voice is also an instrument of recharge.

You can do an hour here and an hour there and it will be just as effective, as long as you do get in your three hours per day (or the level recommended for you.)

However, it is very important not to entirely miss a day in the first three months because you are retraining your ear and building its resilience each day.

If you miss several days it will set back your progress considerably, so make sure you listen every day, even if you don't get the full hours in on some days.

Must it be listened to through headphones?

Yes, Sound Therapy must always be played through headphones to get the therapeutic effect. There is no real value in playing it through speakers into a room.

This is because the high frequencies are a very short wave which does not travel well across distance. It is also because the right ear emphasis, which is built into the recordings and comes through on the headphones, is an important part of the therapy.

Why is the right ear louder?

The right ear is louder in all Sound Therapy recordings because people function better if the right ear takes a directing role in our listening.

This is one of the important discoveries made by Dr Tomatis and it applies to all people whether right or left handed.

As long as you put the headphone marked R to the right ear you will receive the right ear emphasis.

After a time this emphasis begins to sound natural, and your normal music, with equal balance, seems rather strange.

If you have hearing loss in one ear more than the other, you will have adjusted to it. Sound Therapy may improve the balance so you should always keep the right headphone on the right ear, even if your left ear is worse. Sound Therapy still works on both your ears and you may even notice improvement first on the left side.

How loud should the volume be?

The volume should never be loud as any loud sound can damage the ear.

It is best to set the volume when you are in a quiet room to a level so that you can just hear it.

Then if you go out into a noisier environment, do not turn the volume up to try to compete with surrounding sound. Even though the level is so low that you may hardly hear it through traffic etcetera that does not matter. It will still be working on your ear.

Of course if you have hearing loss you will need the volume louder than other people, but you may find that as your hearing improves, you can turn it down.

What if I use a hearing aid?

If you use a hearing aid you can still use Sound Therapy. You can listen either with or without year hearing aids. If listening with your hearing aids in then you will need to use a set of headphones with a headband, not the mini ear buds that fit into the ear.

The advantages of listening with your hearing aids in are

a) if your hearing loss is quite severe this may be the only way you can hear the Sound Therapy, and

b) it means you can use Sound Therapy as you go about your day when you need to have your hearing aids in.

The advantages of listening without your hearing aids in are that you will get a greater exposure to very high frequencies. This is because hearing aids only magnify the mid frequencies, not the high frequencies. Also it may be more comfortable at night when you do not wish to wear your hearing aids.

It is generally recommended to do some of your listening with your hearing aids and some without.

Can I listen during sleep?

Yes, during sleep is a great time to listen.

Sound Therapy helps most people get to sleep more easily and to get more value out of sleep.

Even though you are not conscious of the sound while sleeping, Sound Therapy is still working on your ear and brain, and will be just as effective as while you are awake.

The wires get caught on things!

This is the biggest hazard faced by Sound Therapy listeners!

It is not actually a hazard to you, but to your music player. Some people have even cited it as a reason not to use Sound Therapy because they find it annoying getting caught up. However there is an easy solution!

If you are going out and about, wearing it at work or in the garden, simply put the wires inside your clothing.

It may take a couple of minutes to organise this but it will set you up for an easy day's listening. Our players are always sold with an easy method for carrying such as a clip or lanyard.

Click Here To Order Now

What equipment do I need?

All listeners begin with the Listening Foundation Program which includes six hours of progressively filtered Sound Therapy music. As a special bonus to our E-Book readers you will also receive an interactive Workbook and three month email support program to help you get more value out of your listening.

The Listening Program

The program is comprised of four filtered music albums, totalling approximately six hours of filtered music with ascending frequencies. These albums use the special Sound Therapy filtering system devised by Dr Tomatis and refined over the last 20 years by Patricia and Rafaele Joudry.

It is the activation and filtering of the music which renders it into a powerful therapeutic program for the ear and brain.

The four albums are required to give you the gradually ascending frequencies over six hours of music which gradually acclimatises the ear to the higher sounds. This also gives you enough variety so that you don't become tired of the music. Variety is essential so that the program stimulates the brain.

The recordings are made using our proprietary recording methods which have been refined over thirty years since the method was first taught to Patricia Joudry by the monks.

Warning – beware of other programs that claim to apply Tomatis's principles but are sold cheaply by companies which are not specialists in this type of therapy. See below

for a more detailed explanation of why we use such high standards in our recording technique.

The Listening Foundation program is sufficient to obtain a significant benefit from the program, though we do offer specialised advanced programs which many of our listeners take advantage of later on to further enhance their listening results and pleasure.

Free Bonuses!

The Sound Therapy Self Help Workbook

This is an essential element of the program which makes it possible for listeners using this program at home in their own time to experience the full benefits and support that would be offered through clinical treatment. It includes the following items:

Two info packed DVDs for education and full understanding of the Sound Therapy program, what to expect, what others have experienced and how to get best results, including expert lectures, user testimonials graphic anatomical examples and clinical results.

DVDs

- 1. Creating Enhanced Listening Around the World a professionally presented educational documentary on self help Sound Therapy
- 2. Sound Therapy lectures by Rafaele Joudry and several experienced Sound Therapy consultants who share their clinical experience.

Written support materials:

- Listeners Guide and Workbook a detailed workbook addressing all the frequently asked technical and clinical questions, tips on further information and step by step instructions to ensure your listening success.
- Listener Profile a detailed self assessment system which will diagnose the need and areas of probable benefit of using Sound Therapy for you.
- Listening Routine Assessment a testing document that assists you to easily work out your personalised listening routine based on your level of auditory and neurological fitness.
- Listeners' Log and Progress Summary
 – a simple diary system for those who wish
 to use it which adds value to your program by increasing self awareness and
 reflection and assists your Consultant to provide more informed support.
- Catalogue of advanced Programs to further enhance your listening.

Ongoing listener support

Our commitment at is to ensure that all our listeners get maximum benefit from the Sound Therapy program.

Our support does not stop when you buy the program, because the price of the program includes our ongoing listener support provided by email when you purchase one of our complete programs.

This is to help you maintain motivation and ensure that any temporary setbacks, technical problems or health questions do not interfere with your listening results.

Our program comes pre-loaded on a miniature portable high quality music player, specially designed for Sound Therapy.

The player comes with earphones, which sit in the outer ear like a hearing aid. If you prefer, you can purchase a range of other models of high quality lightweight headphones. It is very important to find a model of headphone that is comfortable and convenient for you. The better quality the sound, the better your therapeutic results are likely to be, so it is not worth economising on headphones.

If two people in the house are doing the therapy, they should not try to share a portable player. The main feature of the self therapy is the freedom to listen when you choose, and relationships could come to grief, or valuable listening hours be lost through wrestling over the equipment!

How are Sound Therapy recordings different from a normal recording?

Sound Therapy albums are made with the special equipment developed by Dr Tomatis which alters the frequencies of the music. You will notice when you listen to Sound Therapy recordings that they sound a little strange. You will notice fluctuations in the music between high and low sounds as the activation of the Electronic Ear is applied. These frequent changes in tonal quality are exactly what provides the stimulating effect for the middle ear muscles. You will also notice as you work through our series of basic albums that the low sounds are progressively removed and the high sounds are augmented more and more.

As well as strengthening the ear muscles, this filtering process recreates our pre-birth sound experience and provides a recharging effect for the auditory cortex while helping to heal old emotional blockages.

The series of albums in the Listening Foundation program are gradually filtered, starting at normal, and gradually increasing the level of filtering throughout the series. This aids the ear in tuning itself gradually to the high frequency sounds, which are beneficial to the

auditory pathways. Once adjusted, the ear can accommodate highly filtered sound comfortably, so listening to the more advanced albums in our range can be beneficial.

Although the filtering varies on the albums, they are recorded from first to last through the Electronic Ear, and it is this device which distinguishes Sound Therapy from several other high frequency systems, or simple Music Therapies.

It is the 'rocking effect' of the Electronic Ear which exercises the middle ear and opens the auditory system to the full range of frequencies. It is somewhat similar to the Bates method for strengthening the muscles of the eyes through exercise.

However, very few people are willing to stick with those exercises, because they are boring. They are something you have to do, whereas with Sound Therapy the Electronic Ear does it for you! Its unique sound is detectable through the music as a faint, intermittent hissing, rather like snow striking a window. It may detract from the purity of the sound, but is doing a world of good, and so the sound has to sacrifice a little.

The secret of the monks

The basic Tomatis technology was passed on to Patricia Joudry by the Benedictine monks, as described in her book, *Sound Therapy: Music to Recharge Your Brain*. This device filters the sound in a purely analogue medium. Those who have tried to apply Tomatis's discoveries in using a digital device have achieved a poor imitation which does not allow for the strength of filtering and activation that can be achieved in the analogue medium.

How it helps tinnitus

There is of course no guarantee that Sound Therapy will help tinnitus. The reason it has been found to help, in many cases, is probably because it gives a complete, rehabilitative workout to the entire auditory pathway.

This pathway includes the middle ear, the inner ear, the auditory nerves, the brain stem, cerebellum, limbic system and cerebral cortex.

To the degree that a person (body and mind) has a level of fitness and health where healing is possible, Sound Therapy may restore and revitalise the neuro-muscular and cortical systems to cause an end to tinnitus.

Do I need to go for a consultation?

The beauty of Sound Therapy is that it is a self-help program so there is no need to attend a consultation.

Having read this ebook you will be well prepared to conduct your own listening program. The convenience and portability of Sound Therapy are unsurpassed, and it gives you the freedom to manage your own program, listen at your own speed and for as long as you need to.

Some words from Patricia Joudry

Because she says it better than I ever could, here are some excerpts from my mother's first Sound Therapy book where she describes how to listen:

"First, don't listen. Do something else and let the music happen without too much conscious attention — though if you want to pause and listen now and then, there's no harm in that.

"You don't have to embroider doilies or under employ your intelligence with jig-saw puzzles, though when you want to relax with such activities, it's a very good time to do the listening. In the main you just play the music while carrying on with your day. Listen at home, on the way to work — driving, walking or taking the bus — maybe even on the job, though it's likely to be more acceptable with some kinds of jobs than others.

"If you're self-employed, you're home free. A stereo repairman listens most of the day at his bench; so does a goldsmith. A chiropractor uses it while doing his adjustments and doesn't need an adjustment himself any more at the end of the day.

"To listen while reading is to impress the words more firmly on the mind, and so it's ideal for study. You can listen at meals or in coffee breaks. Try playing it at imperceptible volume while watching TV; it will give protection against that dragged-out feeling and leave you alert enough to do something useful afterwards.

"For the homemaker it lightens the hours at the stove and sink, clipped to the belt or carried around the neck. It's useful at the sewing machine or typewriter, to counteract the sound of the motor; particularly when using the vacuum cleaner or electric mixer. When the kids get too rowdy, promise them ten minutes' listening each. This should always be treated as a special privilege for children, never applied under compulsion; it's too good to ruin. It has a profound effect on the young, forming mind, and therefore is most valuable of all for pregnant women. People claim to have produced genius children by the use of Sound Therapy throughout pregnancy. Never mind genius: it's enough if the embryonic brain forms to its best advantage.

"If you're a meditator you'll find it a great benefit in meditation, taking you into the deep state more easily and quickly. An excellent time to use it is after a meal, when the blood leaves the brain for the digestive system and ordinarily makes you tired; the brain recharge will eliminate the tiredness and also aid digestion due to the relaxation it gives. Play it while resting, and at night when going to sleep. If you like to read in bed, take your Sound Therapy with you, and you'll soon fall asleep over your book, half waking a little later to put out the light. The time that it plays during sleep is the most beneficial of all, as the sound flows unobstructedly into the unconscious mind.

"I have found that to listen while travelling brings me to my destination without a trace of tiredness. The cause of the exhaustion that usually accompanies travel is the barrage of

discharging sounds that attacks the system from the minute you enter the airport. Airports and railway stations are thick with low frequency sounds: the hum of machinery, fluorescent lights, computers, luggage carts, P.A. announcements. The plane interior emits an aggressive low frequency noise that systematically drains energy from the brain. Though the high frequency music is a faint sound in comparison, it will counteract these insidious drones, and bear us above the damage as surely as the plane itself carries us high over the earth."

The healing crisis

When the ear is about to open, there's often a signal. You may get terribly tired or you may feel irritated or actually feel a shift inside you ear. Some people have even described it as a mini earthquake.

Father Lawrence has come up with a good image: "You might picture the brain at this stage as being like a bowl of jelly, held in the hands and very gently shaken."

The pathways are being subtly rearranged, and as they settle into new and more harmonious patterns the new-found energy is released.

The tiredness may last for a week, a little more, a little less. It's a very relaxed condition, usually coming on in the evening, and you just sleep it off. It is the last tiredness you will ever know, if you continue the regular recharging.

In most cases this tiredness precedes the inrush of vitality, but some people have been known to get the energy first and the tiredness later — or not at all.

There is a period for some, on the cusp of change, when you should refrain from playing the music while driving, for you could drop off to sleep. There could also at some point be a slight aching of the ears as the muscles start to work in a new way.

It's a sign that the Electronic Ear is changing the nature of the auditory system and is a good sign.

It will soon pass. Some people report a touch of dizziness from time to time, and this passes too.

Occasionally tinnitus sufferers have experienced an increase in their tinnitus as the ear is awakened back into receptivity and the cilia become receptive again to outside sounds. This generally passes once the change has been assimilated by the ear.

The final result

No specific result can be predicted where the ear has been damaged. It is totally dependent on the resilience of that particular person, and also relates to other environmental factors such as noise, diet and mental attitude.

When it comes to health, no result is final as there is always room for growth, for new discoveries and you never know when something will change to give you a new lease on life.

As I watched my mother undertake Sound Therapy in her sixties, it seemed to me that she was twenty years younger. For her the recharging of the brain was the most profound effect and she wrote:

"The time comes when the effect is more or less permanent; the auditory system has been changed and acts, as it were, like a dynamo recharging the central battery, which in turn distributes energy to the whole nervous system. You will have learned to tune into the high frequencies wherever they exist. Linda Anderson, the writer, says: 'I'm charged by everything now — my regular music, my own voice, the voices of others, bird songs and the sound of rain.'

"The initial effect can be dramatic, but don't count on it. More often than not it's a gradual thing. The new energy comes creeping in; the expanding glow is subtle. You're feeling terrific — but can you be sure of what's causing it? Sceptical people invariably cast about for every reason under the sun that might explain the unaccustomed vitality and serenity. It's the moon, or some new medication, or maybe self-hypnosis — until the day comes when they can no longer deny that it is the Sound Therapy and nothing but the Sound Therapy. Once openly acknowledged, enthusiasm grows and before they know it they're trying to convert all their friends."

Chapter 7

The Listeners Speak

Letters received from our listeners

Here we give excerpts from many letters received by Sound Therapy International over the years.

We have been receiving these letters since the 1980s and have received reports of benefits for a great diversity of conditions as well as tinnitus and dizziness.

Other conditions that have been helped include phantom pain, sleep, stress, energy levels, focus and concentration, creativity, memory, learning ability, dyslexia, autism, Down's Syndrome, epilepsy, schizophrenia, attention deficit disorder (ADD/ADHD), weight loss, addictions, headaches, confidence, communication, emotional openness, family relationships, chronic fatigue, driving and sports performance.

To read more about how Sound Therapy can help other conditions see our original book, <u>Sound Therapy: Music to Recharge Your Brain.</u> Or to read how it has helped families with children refer to our latest book, <u>Why Aren't I Learning?</u>

The letters we have included here are only the ones which refer to hearing, tinnitus or dizziness.

Mrs. Gertrude Rempel Brown, Vancouver, Canada:

'It was pure accident that I heard Patricia Joudry being interviewed on radio. The word tinnitus caught my attention, and I began the Sound Therapy. My tinnitus, which my doctor said was incurable, was cured after several weeks of 3 hours a day listening. I had tinnitus for two years — and it was SHEER HEAVEN when it stopped — not to have incessant ringing in my ears. It also gives me a sense of well being. I am lending the book to my doctor!'

Ed Rohner, President, United Fretters Ltd., Saskatoon, Canada:

'The greatest benefit that Sound Therapy has had for me so far is in the area of hearing. I have a noticeable improvement in hearing and need less volume on my player all the time. Also, I'm aware of having acquired the capacity for more highs. Most important of all for a musician, I am getting closer to pitch. I find I'm able to compensate the tuning which is required on any string instrument. With the increase in musical perception I am getting much more critical of sound. I firmly believe that a person who was tone deaf would be able to change that condition with Sound Therapy.'

Shirley Cowburn, Wigan, England:

'In addition to helping my tinnitus, Sound Therapy has made another wonderful difference in my life. My balance, which was very unsteady, following ear operations 30 years ago, has completely recovered, and this is marvellous for me and my family.'

Gladys Irwin, West Pennant Hills, NSW Australia:

'After a hearing test three years ago, I was fitted with hearing aids, which proved helpful. After several months the tinnitus in the right ear was so strong that the aid was useless.

'When I learned about Sound Therapy early in 1981, I purchased the book which I found fascinating, so I tried the program. For eight months I have persevered with the treatment. In the last three months I realised my hearing had improved so that I can now do without the aids.

'This was confirmed recently when I was examined by an ear, nose and throat specialist, who said that I had the hearing of a woman forty – I am eighty-seven!

Now I can hear the Bell Birds unaided!'

Darrell Johnson, Delisle, Saskatchewan, Canada:

'About four years ago I started getting ringing in the left ear, followed by light-headedness and dizziness. Sometimes I couldn't stand without falling. This I was getting about once a month, then twice a month, soon twice a week and not long later three or four times a day. My doctor told me I had Meniere's Syndrome, which is a problem of the inner ear past the stirrup. There wasn't much that could be done; I would just have to put up with it. Being my age was 53, I knew I would be quite some time putting up with this problem.

'Then I heard about Sound Therapy and I bought the program. Now, four months later, I have no light-headedness and dizziness, and the ringing in my left ear has gone. The hearing in my left ear has also improved. I can't express how much Sound Therapy has done for me. I am never dragged out and tired any more. I can stay up very late at night and still get up rested early in the morning. Also, I don't get uptight and stressed about the little setbacks of the day, but can just relax and take them in my stride. I even find it easier to talk to people — am not so shy! It's like a new life.'

Flick Evans, Somers, Victoria, Australia:

'In the early part of 1989, I began to suffer from Tinnitus and only by mid 1989 had received medical advice that nothing could be done about it. I read the Sound Therapy book from cover to cover at least four times, and each time put it down—convinced that it was just too good to be true.

I mentioned it to a member of our local library, who told me that her daughter was using the program and '... wished that she had started 2 years earlier.' So I decided to try it, without any great hopes or expectations.

I had been listening for approximately 100 hours when I suddenly became aware that the tinnitus whistle had stopped – I wasn't sure WHEN it stopped – but it had.

'About the same time I noticed distinct improvement in hearing to my left ear – there had been noticeable loss in that ear for about 3 years.

'I had a client who served in the Royal Navy during the last War – in Gun turrets on board ships in action. His hearing was affected to the extent that one had to raise ones voice when conversing with him. After my hearing improvement I started talking to him about Sound Therapy -- and eventually found him with his own program. A few weeks later I received a phone call at 11 p.m. one evening. It was my client -- and his message was that... I thought I would ring and let you know that I have just heard my wife's Microwave 'BEEP' for the first time.' 'nuff said!

'I do not know what response others will get from the program. I can only say that I have been VERY, VERY satisfied.'

Julia Angel Gulenc, Moorabbin, Victoria, Australia:

'About eight years ago, I read an article in a women's magazine about the damaging effects of loud noise on our hearing. Sound Therapy was mentioned.

Since I was suffering of frequent ringing in my ears, was very sensitive to noise, with frequent headaches etc., I rang the phone number given on the article.

'I read the book in one sitting. I was so impressed, that immediately after reading it, I purchased the program. I have said many times since, that the few hundred dollars I spent buying the Sound Therapy program was the best investment I ever made for my health. From the very first moment I started listening, I knew it was going to do me good.

'I couldn't get enough. I listened for 6 hours straight. That same night I slept with my headphones on. I was amazed and very pleased.

'A few months later, the ringing in my ears, my regular dizzy spells, and my headaches, were largely gone. I felt so energized that I went from needing 8-9 hours sleep a night, to only 7. Many times since, I have woken up feeling fully rested after only 5 or 6 hours of sleep.

'Sound Therapy has certainly made a great difference to the enjoyment of my life. My ears and I are very grateful.'

Nevell Phelps, Moree, NSW, Australia:

'I suffered from Tinnitus for several years until it reached the stage where it was difficult to go to sleep. I consulted a doctor who advised that there was nothing that could be done to cure the problem. My wife then bought me your Sound Therapy program. After several months the annoyance had abated considerably and for years now I haven't the slightest sign of it returning.

'Thanking you for your incalculable assistance in the past.'

Annaliese Palsans, Ahrensburg, Germany:

'It's a wonder! Your sound therapy has helped really. One morning, it was the 22nd of August, I suddenly noticed that the noises on the left ear had gone. I switched on the television to see if the speakers words are more clear, and they were. I couldn't believe and knocked on wooden things -- Germans do that to make sure that a situation will stay long. I didn't tell Jurgen but the whole day I put the buttons in and off the ears to make sure there are still no noises. Up to this day I have no noises in the left ear and can hear very well the whole day. At first (my doctor) wasn't very interested. The audiogram tells him the truth. My left ear is as good as it had been before all the trouble began. He has never had a patient whose ears had become better again, when they had been as bad as mine.'

Two weeks later.

'I'm still happy, for the good success goes on. Now the right ear, too starts to get better. There are still noises but I can hear the music on a lower condition so by and by there changes something too.

'Friends of mine often tell me, that I'm now again this person they have known before I became ill, though I thought I had never shown how desperate I was. They must have noticed it.'

K. Joseph Biggs, Burleigh Heads, Queensland, Australia:

'Looking back over past years, I have come to the conclusion that somewhere in my childhood, I closed off my hearing level to a point where the darkness of retreating eventually overcame my ability to want to hear.

'...by the time I was 35, I had passed through some of the most disastrous years of my young life. About that time I contracted an industrial disorder where industrial noises repeat in the hearing long after the noise is out of range. Within the next four years, I made an appointment (out of sheer frustration) with a specialist who performed a stapedectomy.

'I say categorically, no person should be subjected to this dangerous treatment before being alerted to the alternative treatment, which Sound Therapy provides.

'I was always mentally drained, the numbness was still there and there seemed something pressing on the ears which affected my ability to hear. My doctor shrugged his shoulders and said the audio test was the same as that taken about four years ago.

'I commenced Sound Therapy in January 1991. After about 200 hours of listening everyday...I noticed some changes, headaches diminished, tiredness fading, less restless sleep. Shoulder and back pain reduced, posture improved, better sense of direction of sound, improved sense of balance. Hearing improved, fuzzy noises in ears not so apparent.

'Previously, trying to talk to a group of people in a room was nearly impossible.

'I have now clocked up 444 continuous days for a total of 2043 hours, and now average about 3.5 hours per day. You don't have to be sick to gain benefit. One very noticeable benefit is the correlation between resonance in the voice and the ear. If you can hear better, you can speak better.

'Noises in the ear (by the way aggravated by an operation) at times now reduce to zero. I am not embarrassed by noisy locations, or entering into casual conversation. Sometimes there is pain in the ears, but this soon passes. The need for sleep is reduced to about six hours per night.

'Being able to express thoughts better, do not tire easily – more energy, posture improved, mental alertness, self-confidence, better concentration, more relaxed – but alert, some dizziness – soon passes.

'There is no doubt in my mind, the findings of Dr Tomatis are widespread, with outside noise levels discharging our energy and childhood problems being carried into adult life....a great deal of credit must go to Patricia Joudry for her effort in making the treatment available.'

Patrice Hosking, Dandenong, Victoria:

'I have used your program, and I found it extremely good. In my case I have the tinnitus badly in the ear, and I found as my body has straightened up, your program has helped to straighten it up a lot quicker. I very rarely get tinnitus now, the only time I might get it is when I am extremely, extremely tired and I've had extremely long hours and stress. But it's very, very rare that I ever get any ringing in the ears now. And I used to be very bad.

'I wore the headphones and the music to bed, that was one way I used to do it, and I always use Sound Therapy for air-travel. I travelled from here right through to France and every time I went up in the aircraft I put the Sound Therapy on. I didn't have ear trouble at all, I had no popping in the ears, nothing, and I wore it all the time that I was in the plane. I had no ear trouble and I wasn't fatigued like the others were when they got to the end of their trip. So I tell you I really bashed that program and I really got results. I could say that I've got quite acute hearing still for my age of 72.'

Sarah Shearer, Sydney, Australia:

'This is my 8th day of sound therapy and already it is making a huge impact on my life in several areas. I am starting to feel a deep inner contentment and a sense that all will be well. I play the music for about 10 hours a day, with these results so far:

- instant relief from stress/fear/anxiety
- decreased tinnitus after 6 days
- sleeping pattern changing still taking a long time to fall asleep but once I am asleep, I sleep deeper and stay asleep for longer rather than waking every hour.

The music you have chosen is superb - the first few days it was just a warm blur but now I hear every note with new delight.'

E. Davison, Kincumber, NSW, Australia:

'I have only been using the program for a week and the 2nd day, the tinnitus ceased.'

Chapter 8

How to get started

So after reading all this you must be wondering, "How can I get started with Sound Therapy now?"

Before beginning your Sound Therapy just remember, as many of our other listeners have found:

- This may change you in some unexpected ways
- Your energy levels, brain function and attitudes may all shift as a result of Sound Therapy
- Sound Therapy may become a cherished part of your routine that is with you for many years like a very good friend
- Enhanced listening may lead to better communication and closer relationships
- Extra energy may mean you tackle and get things done that you have been putting off for years
- The specific stimulation to your ears may mean your tinnitus reduces or ceases
- Your hearing may improve so that you can resume social and work activities that you used to enjoy
- You may become more positive and optimistic
- You may find you can handle stressful situations much more easily
- There may be some temporary adjustment problems with your ears
- During your listening, re-read this book any time you are discouraged or need some encouragement
- Read and study the other educational materials made available with your Sound Therapy program
- It may take just a few days or it may take months to fully access your potential results from Sound Therapy

Are you ready for change? If so, here are your options:

The Ultimate Tinnitus and Hearing Improvement Program

The Complete Sound Therapy Program

The Economy Sound Therapy Program

See next pages for details...

The Ultimate Tinnitus and Hearing Program

Recommended for those with severe tinnitus or hearing issues and to support stress relief and general well being



Includes:

Listening Foundation Program valued at \$599.00
Building Ear Brain Connections program valued at \$574.00
Nutrition For the Ear valued at \$130.00

Plus Free Bonuses:

• 2 Listener's Workbooks valued at \$107.00 A 10 week interactive support program including email support

• 2 DVDs valued at \$35.90 Introduction to Sound Therapy with short documentaries and TV Segments Lectures on Sound Therapy for learning and brain conditions by practitioners

6 Months of Progress Consultations

valued at \$177.00

• Sennhesier Headphones

valued at \$71.99

Sound Therapy Softcover Book

valued at \$24.95

• Triumph Over Tinnitus Softcover Book

valued at \$24.95

TOTAL VALUE \$1744.79

Only \$1299*



^{*} prices subject to change

The Complete Sound Therapy Program

Recommended for tinnitus, mild hearing issues, stress relief and general well being



Includes:

Listening Foundation Program

valued at \$599.00

Nutrition ForThe Ear

valued at \$130.00

Plus Free Bonuses:

• Listener's Workbook valued at \$53.50

A 10 week interactive support program including email support

• 2 DVDs valued at \$35.90 Introduction to Sound Therapy with short documentaries and TV Segments

Lectures on Sound Therapy with short documentaries and TV Segments

Lectures on Sound Therapy for learning and brain conditions by practitioners

• 3 month Progress Consultation

valued at \$136.00

Sound Therapy Softcover Book

valued at \$24.95

TOTAL VALUE \$979.35

Only \$729*



^{*} prices subject to change

The Economy Sound Therapy Program

Recommended for tinnitus, mild hearing issues, stress relief and general well being at a budget price



Includes:

Listening Foundation Program

valued at \$599.00

Plus Free Bonuses:

- Listener's Workbook valued at \$53.50 A 10 week interactive support program including email support
- 2 DVDs valued at \$35.90 Introduction to Sound Therapy with short documentaries and TV Segments Lectures on Sound Therapy for learning and brain conditions by practitioners

TOTAL VALUE \$688.40

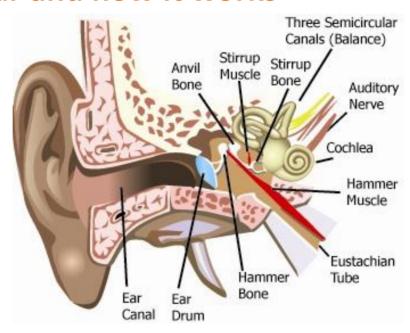


^{*} prices subject to change

Appendix

Anatomy of the Ear

The ear and how it works



Anatomy of the ear

The whole internal mechanism of the human ear would fit into a match box, yet it can perceive sounds as subtle as a pin dropping or as loud as a clap of thunder overhead. No manufactured device can come close to the fidelity of the human ear.

The ear is generally described in three parts: the outer ear, the middle ear, and the inner ear or *cochlea*.

The outer ear

The part of the ear which is seen on the side of the head is called the *pinna*. The role of this interestingly shaped piece of cartilage is to direct the sound into the ear canal in such a way that it enhances the person's perception of the direction from which the sound came. The ridges and crevices of the *pinna* cause subtle delays or echoes in the sound waves which the brain can interpret to indicate the direction of the sound source. The outer ear canal is three or four centimetres in length, leading from the pinna to the ear drum.

Discover your middle ear

The eardrum (*tympanum*) is a membrane covering the entrance to the middle ear. It is much like the skin used on a drum and vibrates with the incoming sound. The middle ear cavity is an air-filled chamber encased within the solid bone of the cranium. The only opening between the middle ear and the outside environment is the Eustachian tube, which leads into the back of the throat. This tube allows us to equalise the pressure in the middle ear with the outside air pressure. The ear drum, being elastic, can accommodate slight pressure changes. However, if there is a large pressure change, as in the ascent of an aeroplane, unless the air pressure in your middle ear is equalised with the outside air pressure it will be quite painful as the eardrum is stretched. You can feel the pressure change in your middle ear if you hold your nose and then gently try to blow through it. You should feel your ears pop as the pressure changes in you middle ear, because you have just blown air into your middle ear through your Eustachian tube.

Inside the middle ear chamber is a chain of three bones, or ossicles, called the hammer, the anvil and the stirrup. Attached to the bones are two tiny muscles, which serve to move the bones, thus adjusting the pressure chambers of the ear. The role of these muscles is to fine tune the ear to make it receptive to the incoming sounds. The hammer muscle adjusts the tension of the eardrum. The stirrup muscle adjusts the pressure of the stirrup on the inner ear, affecting the pressure acting on this inner chamber.

The inner ear

The inner ear is a fluid-filled chamber, also encased in the cranial bone. It contains the organs of both hearing and balance. The vestibular system (or semicircular canals) houses the organs of balance while the spiral shaped cochlea houses the organ of hearing (known as the *organ of corti*).

The three semicircular canals are arranged perpendicular to one another. They each detect a different movement of the head. The canals are lined with cilia, (fine, hair like sensory cells) which detect the movement of fluid and communicate these changes to the vestibular nerve. The actual hearing organ, the 'organ of corti' lines the spiral of the cochlea. Mounted on it are more *cilia*, which transform the sound vibrations into chemical signals and relay them to the auditory nerve. In total there are about 30,000 cilia in each ear.