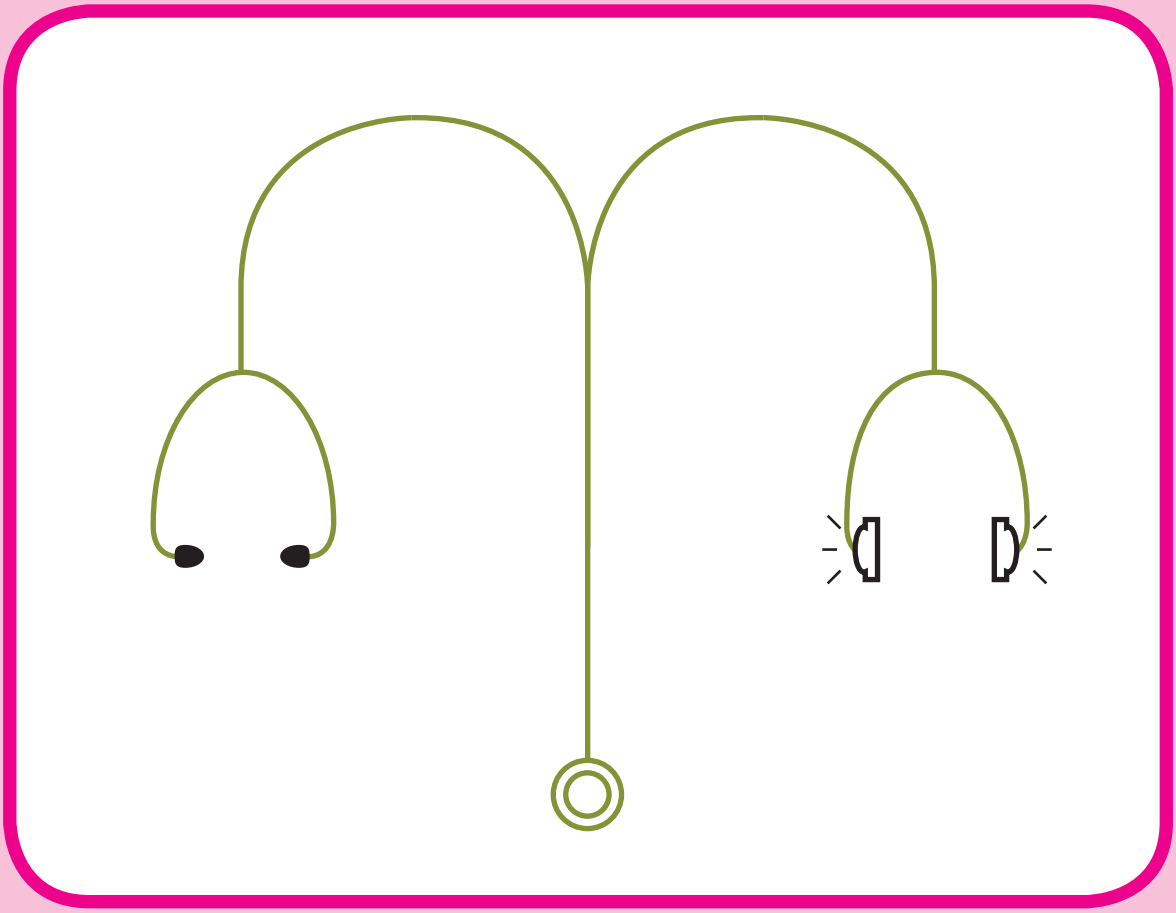
# MUSIC THERAPY



Hiroshi Bando, MD, PhD, FACP

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Music Therapy

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# About the Author

**Biography:** Dr. Bando graduated from Tokushima University, School of Medicine in 1981. After obtaining the ECFMG certificate, he participated the family practice residency program in United States. He engaged in the research of endocrine and metabolic diseases in Tokushima University as an instructor and assistant professor. He has been board member and specialist in several medical societies, such as diabetes, primary care, anti-aging medicine, integrative medicine (IM), music therapy and sport medicine. Besides medicine, he has been a pianist with the award of silver medal in the European International Piano Concours (EIPIC) in Japan (2013), and an athlete with award of gold medal in in-line skate and athletic games in Japan. He has written more than 2000 published articles including medicine, culture, music, sports, essay and so on with more than 30 books. He has been the editor-in-Chief of several English medical journals.

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- Chairman of Annual Meeting, 20th Japanese Biomusic Association (1999)
- Chairman of Annual Congress, 9th Japanese Association of Music Therapy (2009)
- Volunteerism & Community Service Award of American College of Physicians (2011)
- Chairman of Annual Meeting, 7th Japan Society of Music and Medicine (2014)
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# Chapter 1

# INTRODUCTION

In the fields of integrative medicine (IM) and complementary and alternative medicine (CAM), music therapy (MT) has been well-known and prevalent (1). MT has been widely understood and accepted by clients and patients. The reason may be that everyone likes music, each client's preference is considered to some extent, and its practice does not cost much (2).

The World Federation of Music Therapy (WFMT) formerly demonstrated five typical five kinds of MT, all of which are well-known worldwide (Table 1).

In this article, general information concerning MT will be provided (11). They include several points of view, such as historical episodes, philosophies, human feelings, definitions, important principles, tips for MT sessions, and so on. Please enjoy the impressive world of MT.

## ORIGIN OF MUSIC

Pythagoras (in English), Πυθαγόρας (in Greek), or Pȳthagórās (in Latin) (BC 582–496), a famous philosopher and mathematician of the ancient Ionian Greek era, and the founder of Pythagoreanism, is credited with the origin of music. His politico-religious lectures influenced the philosophies of Plato and Aristotle, leading to the origin of fundamental Western philosophy.

**Table 1** Typical music therapies

| |
|---|
| **1) A Cognitive-behavioral Approach by Rolando Benenzon** |
| The key word "ISO" stands for Sound Identity, which means the total energies consisting of sounds, movements, smells, colors, emotions, and so on. (3) |
| **2) Music Psychotherapy by Mary Priestley** |
| Analytical Music Therapy (AMT) is a broad psychodynamic approach. It is to encourage patients to express their emotions, and create distinctive communication values. (4) |
| **3) Behavioral Music Therapy by Clifford Madsen** |
| It is applying behavioral therapy to music therapy, promoting behavioral change and building healthy foundations for social, emotional, and intellectual capacities. (5,6) |
| **4) Nordoff-Robbins therapy by Paul Nordoff and Clive Robbins** |
| It is an improvisational and compositional approach to individual and group therapy, which is from the pioneering teamwork of both for long years. (7,8) |
| **5) Guided Imagery and Music (GIM) by Helen Bonny** |
| It is a psychodynamic and multimodal therapy, which incorporates music listening in a deeply relaxed state to stimulate imagery, memories, and feelings. (9,10) |

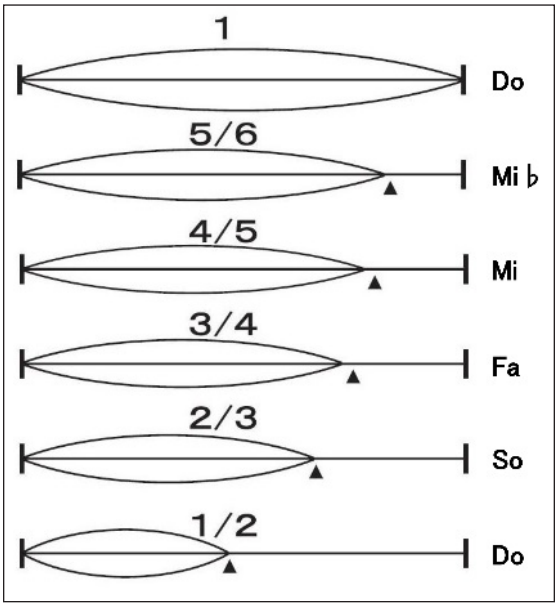
Pythagoras was also an excellent musician. He noticed that the sound from the hammers of several craftsmen showed resonance, which was somewhat harmonious. Then, he started to research on the sound, and identified that the sound pitch was related to the weight of the hammer. Mathematically, the weight of the hammer showed the simple ratio of (6, 8, 9, 12) (Figure 1).

Subsequently, the study was conducted with constant weight and varying string lengths. As a result, Pythagoras found that the simple ratio of pitches is present with harmony. This is the basis of the music scale with 12 notes where Pythagoras discovered Do Re Mi (Figure 2).

It is said that he was the first person who identified himself as a "philosopher." He also gave the comment, "everything has its rhythm, such as a numerical number, religion, and music." He gave an impressive talk on the following lines. There is music flowing in the heavenly universe. Ordinary people can't hear the music, but only a few people whose mind is transparent and cleansed can. He recommended an ideal daily life with a purified heart and mind. It is important for people to keep their minds clean. If they can always maintain their minds clean, they can regain the harmony of their heart and mind. These ideas seem to be rooted in oriental cultures and an oriental way of thinking.

**Figure 1** Pitagoras.


**Figure 2**




## GREEK PHILOSOPHY

After Pythagoras, there were two great philosophers, Socrates and Plato, during the classical period in ancient Greece. The young Aristoteles joined Plato's Academy in Athens, and learned and obtained much information until the age of 37 (Figure 3). Aristoteles (in English) whose name was the same in Greek (Ἀριστοτέλης) and Aristotélēs (in Latin) established the Lyceum and Peripatetic school of the philosophy and Aristotelian tradition. Then, people have called him "Father of Western Philosophy." He taught a variety of subjects, such as physics, biology, logic, metaphysics, ethics, poetry, rhetoric, music, psychology, politics, and so on.

**Figure 3**

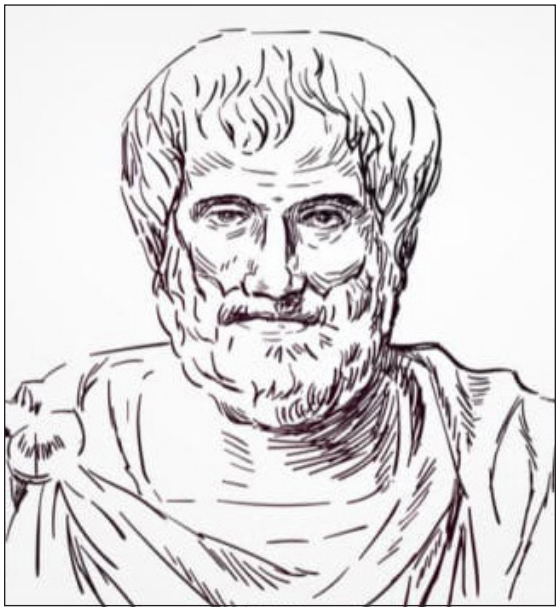
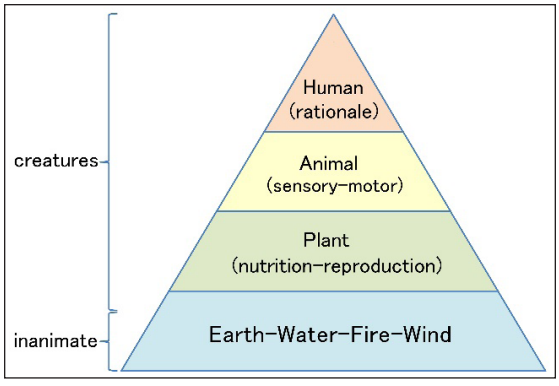


**Figure 4**




Aristoteles proposed the four-story triangle explaining the levels of humans, animals, plants, and others (earth, water, fire, and wind) (Figure 4). At that time, this was actually a novel concept for explaining these factors on the earth.

When a person feels happy or sad, he or she may feel joyful or cry out of sadness. Humans may express stagnant emotions and conflicts. Aristoteles commented that if you act in synchronization with his or her mind at any given moment, the harmony of the mind will be restored. This is rather a Western way of thinking, which is contrary to what Pythagoras postulated.

Aristotle on the other hand said that when you are happy you may be happy, when you are sad you may cry and express stagnant emotions and conflicts. He argued that if you act in sync with the mind at that time, the harmony of the mind will be restored. This is truly a Western way of thinking.

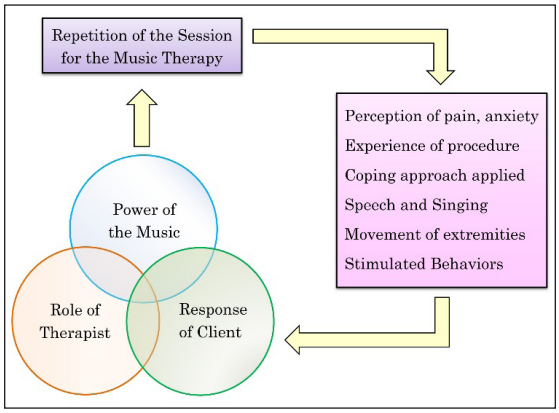
## ISO PRINCIPLE

The "Iso Principle" was postulated by Altshulter (12, 13). It has been the main concept and method of intervention in the context of mood management in MT sessions. The practical application of the Iso principle is seen various scenarios. It is beneficial for mood management in the practical sessions (14).

Listening to music has been a nonpharmacological intervention, and its characteristic highlight involves the preference of each patient (15). Each preferred music-listening protocol can be utilized along with information technology, and it can bring about a remarkable improvement in mood condition (16). For women with depression, listening to the utilized music could change a depressed mood to a tranquil mood state (17). In healthy subjects, and training athletes, listening to music intervention brought about positive effects (18). Athletes had experiences wherein listening to music significantly altered their mood state, which in turn improved their sports performance (18).

In Figure 5, the working model of MT has been described. Related factors are three, which are (i) the therapist, (ii) role of music, and (iii) patient responses. These are combined and merged with the individual's experience of the MT session (19). These processes can bring about several perceptions, such as pain, anxiety, various approaches, and behaviors. Consequently, the music therapist provides these feedbacks for re-assessing and re-focusing the intervention (Figure 5).

**Figure 5**




## MOVED BY MUSIC

In relation to the Iso Principle, there are actually some examples in MT (20). Humans are susceptible to crying when watching a tragic movie in the theater. In such cases, humans feel lighthearted after a good bout of crying. Such sad situations and the crying experience can release stress. It sort of clears the mind, and this process is "the catharsis of the heart." This cathartic effect involves the phenomena of tears and chills from a psychophysiological emotional peak in response to music and art (21) (Figure 6). Tear-eliciting songs tend to be calmer than chill-eliciting songs. These results suggested that tears would bring pleasure from emotions of sadness and that these phenomena would be a psychophysiologically calming function (21) (Figure 7).

Similarly, when listening to music or singing, it is good to choose a song that is close to the person's mood and heart condition. Conversely, when the mind is extremely depressed, a person usually refuses rhythmic and pleasant music. The reasons are that the depressed mind cannot tolerate such music with a cheerful atmosphere.

When a depressed female listens to beautiful music and is moved, she may

**Figure 6** Changes from mean response in Skin Conductance Response

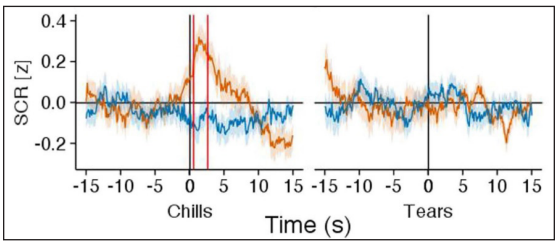
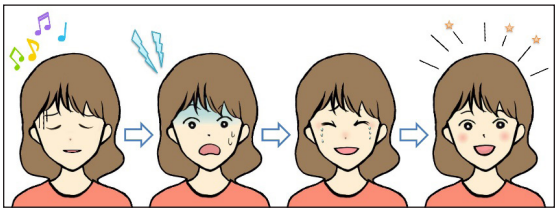



**Figure 7** Music to sad mood, moved with chill, tears, clear mind



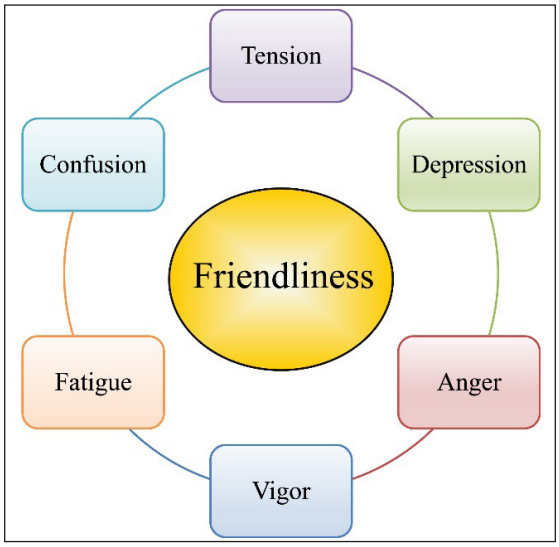
develop chill and tears. Such experience with be soothing to the weakened heart and would purify and clear the mind after crying. Consequently, music has a great power to influence and control our mind and heart.

## HUMAN FEELINGS

MT studies the relationship between music and human feelings, and deals with the adequate situation properly. What kind of human feelings and moods are there? One of the references for research would be Profiles of Mental States (POMS). This study was initiated by Nair et al. several decades ago (22), and its concept is easy to understand.

The overall structure has six factors, namely: (i) tension or anxiety, (ii) depression or dejection, (iii) anger or hostility, (iv) vigor or activity, (v) fatigue or inertia, and (vi) confusion or bewilderment (Figure 8). POMS has been widely used for the research of MT.

**Figure 8**




Recently, the second version of POMS has been proposed. In the second version, one extra factor, the seventh factor, namely, "Friendliness," has been added to the previous six factors(23). Friendliness seems to be an ideal situation with stable and calm condition of our mind. We can assume that initially there are six subjects with six types of feeling and moods. Then, we make each person listen to the selected music, which is appropriate for each mood based on the concept of the Iso Principle. Consequently, after a while, each person would feel comfortable and develop an attitude of friendliness (24).

MT sessions have been applied in various forms of medical care. In particular, music has been effective in bone marrow transplantation (BMT) patients. Patient-preferred live music (PPLM) showed positive changes in pain, relaxed/anxious, wide awake/drowsy, and cheerful/depressed states (25).

## LISTENING TO THE SOUND

The definition of sound is easy to understand. Sounds exist naturally, and are physical and natural scientific aspects and processes. It is transmitted using the vibration of air molecules, and seems to be purely a matter of physical existence (Figure 9).

On the other hand, it is difficult to define music. The following explanation is generally popular. It is an art by sound and is supposed to play songs assembled in various forms based on beats, verses, timbres, harmony, and so on. Music exists in the human society and is culturally loved by everyone. From the above, music exists between both natural sciences and social sciences.

There have been many episodes in which music has been proven to be good for health. Ancient Egyptians call music "the doctor of the soul." In ancient Greece, the melody of music or song was believed to bring excitement, euphoria, calmness, and stability to human emotions and souls. Historical founders of medicine, such as Egypt's Imhotep, Asclepius in Greece, and Hippocrates, had prescribed music for physical and mental harmony as well as sports, play, work, and others (Figure 10).

**Figure 9**

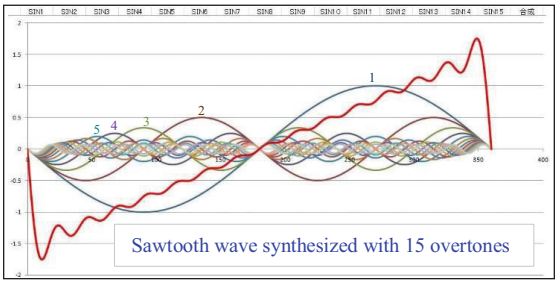
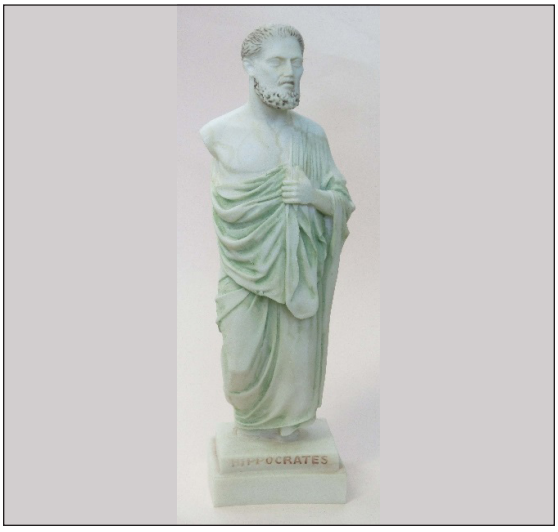



**Figure 10**

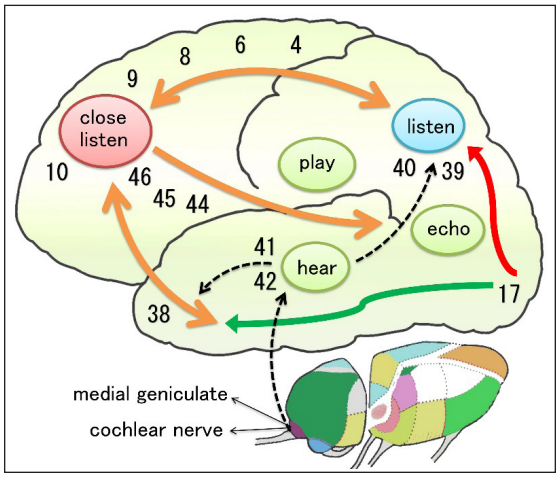


The definition MT has some differences due to the situation of each country, which is translated to Musik Therapie (German), Musico Therapie (French). As for the American Music Therapy Association (AMTA), the definition of MT is as follows: MT is the use of music in the accomplishment of therapeutic aim: the restoration, maintenance, and improvement of mental and physical health. It is the systematic application of music, as directed by the music therapist in a therapeutic environment, to bring about desirable changes in behavior.

Humans can listen to or hear the sound through the auditory pathway. It includes cochlea, cochlear nucleus, superior olive, inferior colliculus, medial geniculate nucleus, and the auditory cortex. The auditory cortex is part of the temporal lobe, which processes auditory information in humans and other vertebrates.

This is a part of the auditory system, responsible for performing basic and higher functions in hearing, such as possible relations to language switching. Research is ongoing with regard to the development of a new theory known as Neurologic Music Therapy (NMT) (26, 27) (Figure 11).

**Figure 11**




## PURPOSE OF THE MUSIC THERAPY

The purpose of MT is to treat patients using the beneficial and characteristic power of music. The subjects have been classified into several groups shown in Table 2. There are some definitions of MT by several music associations in foreign countries. The common content would be as follows: It is the adequate usage of music for physiological, psychological, and social functions. The purpose is to recover from physical and mental disability, to maintain and improve function, and to improve the quality of life through the change of behaviors by intentional use of music.

MT has a profound function and impact on human body and mind. The influences have been observed in the light of physiological, psychological, and social aspects. General goals for these phenomena have been important.

Firstly, the physical and physiological goals are summarized in Table 3. Among them, the physical function can be increased by listening to music, singing songs, playing a certain instrument, and others. Furthermore, the sensory function can be

**Table 2 Subjects for the efficacy of music therapy**

| |
|---|
| **<Healthy subjects>** |
| Healthy young and elderly people |
| **<Patients with some diseased state>** |
| Subjects with various diseases and some handicaps |
| Subjects with mental and psychosomatic disorder |
| Children/Adults with intellectual disability in welfare |
| Subjects for therapeutic music activity in education |

**Table 3** Physical and physiological goals

| <Improvement of physical function> |
|---|
| Large movement: arm with drum percussion |
| Fine movement: fingers playing instruments |
| Speech: improving speaking pronunciation |
| Singing: increasing breathing function |
| <Improvement of sensory function> |
| Attention noise to surrounding environment |
| Discrimination of minute sound and music |
| Adaptation to the soundscape with curiosity |
| Generation of various sounds with stimulation |

improved by music in a concentrated manner. In this case, a synergistic effect can be found if respiratory and motor functions are developed in association with simultaneous exercise, accompanied by rhythmic stimuli.

Secondly, the psychological and emotional goals are shown in Table 4. Among them, MT has the potential function to alleviate dementia and mild cognitive impairment (MCI) in the elderly. In addition, it is possible to transmit one's emotion to others using music when one cannot describe by words. When there are various types of stress, familiar and favorite music can give a sense of psychological stability and fulfillment. In particular, when the client is healthy and has no particular illness, music plays an important role in releasing stress from daily life.

Thirdly, general goals in terms of interpersonal and social aspects are revealed in Table 5. The presence of music promotes the development of language functions and facilitates interpersonal communication skills. Furthermore, there is a meaningful treatment, namely, Melodic Intonation Therapy (MIT), in the field of MT. It has been effective for movement aphasia (*Broca aphasia*).

**Table 4** Psychological and emotional goals

| **<Cognitive function>** |
|---|
| Counting and writing: number and words |
| Singing: Concentration and memory |
| Perception ability: music and time |
| **<Emotional function>** |
| Interacting with Sound: emotional acceptance |
| Convey emotional feelings by sound |
| Eliminating stressful negative emotions |
| **<Psychological satisfaction>** |
| Reducing anxiety and gain a sense of belonging |
| Increasing self-esteem by familiar music |
| Positive stimulus for new experience |

**Table 5** Interpersonal and social goals

| **<Communication skills>** |
|---|
| Language development by clear pronunciation, |
| Speech recovery for regulating intonation |
| Melodic Intonation Therapy (MIT) |
| Effective MIT to Broca aphasia |
| **<Social functions>** |
| Personal response: Fully responding to requests |
| Group response: improved adaptability to others |
| Adequate dealing with various matters |
| Role in music: learning social order |

Its rehabilitation method includes simultaneous speaking and singing, which is a specific training utilizing melody matched to speaking language words with natural intonation and rhythm. Speaking the language has the characteristic aspect of musical rhythm, pitch, high or low voice with intonation. Consequently, the interpersonal relationships will facilitate social activities

by the improved communication skill with the training and rehabilitation using music.

On the other hand, the purpose of MT can be considered from other points of view. For example, what are the needs of a healthy client and a patient with a certain disease? Although the subjects range in age from children to the elderly, they have various health problems or diseased states.

MT has been widely recognized and recommended for lots of people, and positive effects of MT are expected. Their various kinds of needs are summarized in Table 6.

**Table 6 Music Therapy Needs from the Target**

| <Younger generation> |
|---|
| Developmental support for children |
| Learning support for various students |
| Physical and psychological relaxation |
| **<Elder generation>** |
| Health maintenance and care for the aged |
| Rehabilitation after illness or accident |
| Palliation of symptoms of dementia |
| Relieving pain caused by various diseases |
| Mental care in various diseased situations |

Chapter 2

# CLASSIFICATION OF THE MUSIC THERAPY

The types of MT have been roughly divided into individuals or groups according to the number of subjects (Table 7). Furthermore, it can be divided into two categories, such as the passive case of listening to music and the active case of singing and playing some instruments. This classification has been useful and easy to understand the various situations of the MT in the medical practice and care.

Back Ground Music (BGM) is popular, which seems to be passive appreciation therapy without intension. Furthermore, listening to one's favorite music on the walk-man is also an example of recreation through passive health music.

On the other hand, "Karaoke" is an active singing therapy. It is a well-known music culture that originated in Japan and is now practiced across the world. The name karaoke comes from kara (nothing, empty) + oke (orchestra). Historically, there was a music record for practice. It was music minus one (MMO), meaning the music lacking one part. For example, MMO of the piano concerto was an orchestra performance where only the piano part was missing.

Among the above classifications, the most frequent cases have been the group sessions held at medical and care facilities for the elderly people. The actual practice of MT has been useful and effective for those elderly people with dementia and MCI. They can stimulate their body and mind by listening, speaking, singing, and moving their hands and feet in tune with the rhythm of the music.

**Table 7** Classification of music therapy

| |
|---|
| **<Group session>** |
| Performed frequently in the nursing home and others.<br>Usually music therapist can manage 20-30 people. |
| **<Personal session>** |
| A music therapist visits one client in the private room.<br>Performs verbal and music communication together. |
| **<Passive music therapy>** |
| Listening to music in passive situation such as BGM.<br>Familiar and favorite music is often chosen and used. |
| **<Active music therapy>** |
| Singing and playing the instrument in active manner.<br>Often including rhythmical motion of hands and feet. |

Chapter 3

# INDICATION OF MUSIC THERAPY

MT has been used in various situations. Frequently used situations and indications are roughly classified into three categories.

The first group involves various diseases, which influence psychosomatic disorders. In other words, psychological and mental factors are involved in the emergence and exacerbation of the diseased states (Table 8).

**Table 8** Indications for various diseases

| <Psychosomatic and related diseases> |
|---|
| Assential hypertension, asthma, COPD |
| Peptic ulcer, irritable bowel syndrome |
| Old myocardial infarction, angina, migraine |
| Tension headache, rheumatoid arthritis |
| Depression, insomnia, menopause |
| Stress related disorder, indefinite complaint |
| Medically unexplained symptoms (MUS) |
| **< Psychiatric diseases >** |
| Anorexia nervosa, bulimia nervosa |
| Neurosis, schizophrenia, others |

**Table 9** Indications for care/ rehabilitation

| <Childhood> |
|---|
| School refusal, autism, mental retardation |
| Visual impairment, hearing impairment |
| Hyperactivity disorder, others |
| **<Adult and Elderly>** |
| Mild cognitive impairment (MCI) |
| Dementia, terminal care |
| Rehabilitation for paralysis |
| Walking exercise for Parkinson's syndrome |
| Breathing practice after lung surgery |

In addition to the treatment of the causative disease, it is necessary to consider lifestyle habits and drug administration that reduce psychological stress. Among them, singing is of great importance for chronic obstructive pulmonary disease (COPD), including bronchial asthma. Asthmatic patients can train for better respiration with their lips squeezed while singing for long. This training makes the narrow bronchus to expand, leading to smooth breathing.

The second group involves disease care and rehabilitation (Table 9). Among them, MT is beneficial for gait training in Parkinson's syndrome. They can walk easier when some factors are present, such as the sound of clapping, regular rhythms of music, and regular intervals of lines on the floor. It is, important to stimulate the ability of hearing, vision and motor function in rhythmical condition.

The third group involves prevention for medical practice and specific medical circumstance (Table 10). As for physical and psychological control, adequate mental and emotional relaxation would be important.

**Table 10** Indications for prevention

| <Physical and mental control> |
|---|
| Mental relaxation |
| Emotional adequate control |
| Control of tension, depression, anger |
| Reduce anxiety in special situations |
| **<Specific medical circumstance>** |
| Reduction of anxiety in the room |
| Dental treatment, operating room |
| Daily hemodialysis |

**Table 11** Indication from the body and mind

| <Physical aspect> |
|---|
| Support children's natural development |
| Health maintenance and care prevention |
| Rehabilitation after illness or accident |
| Relieve persistent pain of illness |
| **<Psychological aspect>** |
| Support environmental support for learning |
| Both of mental and physical relaxation |
| Relieve symptoms of dementia and MCI |
| Care for the mind on various issues |

Among various specific medical disciplines, dental practice could become one discipline where MT can be employed. There are two masking effects that are characteristic points in the actual practice. One is to wear a mask covering the mouth for protective hygiene, and the other is the masking effect with the music power of BGM, which hides offensive noises from scraping the teeth using the dental instrument.

From the perspective of the body and the mind, the indication for MT includes physical and psychological aspects (Table 11). The former shows the power of music in the development of body and mind of children, health maintenance and progress in adults, rehabilitation of the injured people, and relief from pain in various illnesses.

On the other hand, the latter shows the power of music in environmental support for learning in children, mental and physical relaxation in adults, and relieving of symptoms of dementia and MCI in the elderly.

From the above-mentioned, it is clear that MT caters to several categories of indications for a variety of aspects with the remarkable power of music aimed at physical and psychological well-being.

Chapter 4

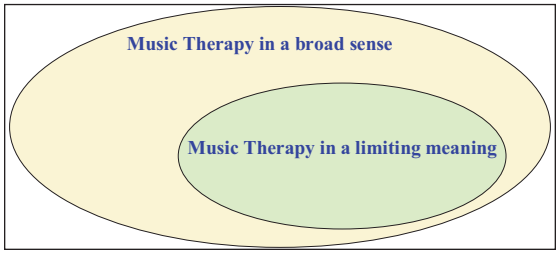
# Effects of music therapy

MT has a wide range of effects. When considering a variety of effects, it is necessary to classify and consider several situations. MT includes (i) passive sessions of listening to music and (ii) active sessions of singing and playing instruments. MT session can be roughly divided into two categories (Figure 12).

The former is MT in a broad sense. The target person is a healthy person. In other words, it is a recreational music activity. It is often seen that healthy people use walk-man for entertainment. Therefore, it is just OK, when a person feels happy to listen to, sing, or play musical instruments. There is no need to evaluate the effect before and after the activity.

The latter is MT in a limited sense. The subjects are patients with some physical and mental health problems. When a patient usually takes medication, it is common to compare symptoms and laboratory data before and after. The reasons are the necessity for evaluation of whether the treatment was effective or not. Similarly, music seems to be a kind of medicine of sound. If the client feels pleasant and happy in response to the MT session, it cannot be evaluated as effective. It is just feeling comfortable for a subjective mood. It is necessary to compare some objective data between before and after the session.

**Figure 12**




When we discuss the effects of MT, it is always important to pick up some adequate biomarker to compare before and after the session. In actual medical practice and care, the most popular situation would be the session for elderly people with some dementia and MCI. In such cases, changes in the cognitive level, QOL, and Activities of Daily Living (ADL) should be assessed before and after the session to determine the effectiveness of the therapy.

The effects of MT are too diverse depending on the situation. Furthermore, their degree has been also different. Then, it is easy to understand the effects of MT from the following four aspects (Figure 13).

Firstly, there are several physical effects of MT (Table 12). Music relaxes our muscles and joints. First-class professional athletes often listen to their favorite music just before big championship games. Furthermore, well-known effects of music would be the alleviation of pain. Its mechanism involves reducing the anxiety and the depressive state. This clinical efficacy may be beneficial for terminal cancer patients with severe pain.

**Figure 13**

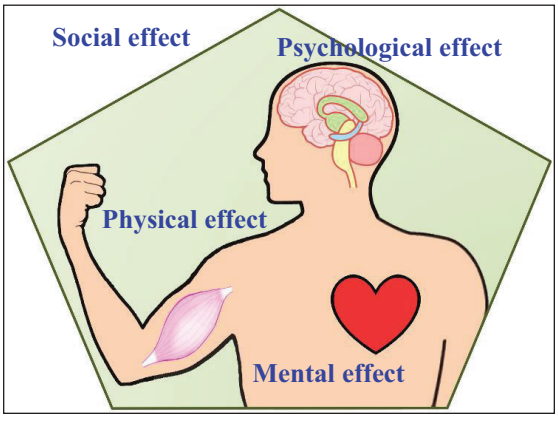


**Table 12** Physical effects

| |
|---|
| Relax muscle and joint tension |
| Alleviate the pain by reducing anxiety |
| Break the vicious circle of chronic pain |
| Help physical movement more actively |
| Regulate the autonomic nervous system |

**Table 13** Psychological effects

| |
|---|
| Reduce anxiety and depression |
| Remind meaningful events related to music |
| Give action to the unconsciousness level |
| Express emotions without verbal words |
| Recognize the reality with hoping a dream |

**Table 14** Mental effects

| |
|---|
| Enable internal emotional expression |
| Feel comfort, relaxation, and healing |
| Make confident and positive attitude |
| Bring out suppressed anger and doubt |
| Notify the meaning and worry of life |

**Table 15** Social effects

| |
|---|
| Join the session in a group style |
| Become a communication opportunity |
| Be a change of the mood with pleasure |
| Enhance mutual connections with people |
| Stimulate spiritual exchanges each other |
| Enable to make oneself socially accepted |
| Make connection to life before the illness |

Secondly, MT has the positive power of catering to the psychological aspects of people (Table 13). Most people probably like music, and feel less anxiety or depression when listening to their favorite music. We sometimes remember past experiences when we listen to a certain type of music. This is the phenomenon of retrospective treatment, observed in everyone. Our memories are always combined linked to specific music and our five sensations, which are present under our consciousness level as a deep memory.

Thirdly, mental effects are found in music and MT (Table 14). There are similar words concerning mental faculties, such as heart, mind, and spirit. The meanings of these words overlap, and there are rather similar usages and a deep connect between the mental and the spiritual. In response to MT, a person can express his or her sympathy and emotion. Music can directly stimulate human emotion at the consciousness and unconsciousness levels. Favorite music in appropriate situations in our daily lives can often make us feel comfortable, relaxed, and have a pleasant time, thanks to the soothing power of music. Consequently, we can progress forward in our daily life with mental stability, spiritual growth, robust confidence, and a positive attitude, so as to lead a long life.

Fourthly, there are a variety of social effects of MT (Table 15). Music can become a common communication tool that can always connect people. Music enables to listen, sing, and play musical instruments together with other people. When we sing harmonized songs together with 2–4 different melodies, we sometimes experience supreme, divine-like happiness. Probably, it may be the phenomenon of the common sub-consciousness advocated by Yung et al., who was a famous psychologist and is credited with developing a new systematic psychology.

Taking advantage of music and MT, we probably can match the sounds and voices together with the people around us, unite our heart/mind/spirit mutually, unite our feelings into one, and also feel a sense of unity in the sub-consciousness or unconsciousness levels.

Chapter 5

# ACTUAL SESSION OF MUSIC THERAPY

MT sessions have been conducted and continued at different TPOs (time, place, and occasion) for different subjects, including healthy people, the elderly, patients with dementia and moderate cognitive impairment, and patients with various diseased states. Among them, often frequent cases were opportunities for group sessions for elderly people in the nursing home or various medical and health facilities.

If the client is an elderly patient with dementia, there are some purposes for the session. They are (i) maintaining and restoring the gradually decreasing alertness, (ii) recalling the functions that the patients had before, (iii) making patients sing and talk concerning their previous experiences, (iv) restoring their memories through their songs and lyrics, (v) developing the abilities of QOL and ADL in addition to the progress of the session, (vi) stimulating their isolated mentality in a group, (vii) giving them an opportunity for pleasant social communication and expected activity to have a significant life.

Sessions for the elderly are on average about 40–50 min long. The standard contents of such a session are summarized in Table 16. Subjects are healthy elderly people or patients with dementia and MCI. The authors have been conducting MT sessions for children with intellectual disabilities, healthy elderly people, dementia patients, and so on. An example is shown in Figure 14. It incorporates conversation, singing, and physical exercises in tune with the seasons.

What is important in the actual session? There are three points.

**Table 16 Usual steps of music therapy session**

| |
|---|
| 1) Greeting: grasp the general mood and situation |
| 2) Light exercises: relax the body and make stretch |
| 3) Breath & speech: strengthen respiration function |
| 4) Introduction: icebreaking for sing and movement |
| 5) Seasonal Songs: stimulate by talks and songs |
| 6) Familiar song: recall the long-term memory |
| 7) Game: activate brain and memory training |
| 8) Ensemble: sing and dance moving the body |
| 9) Greetings: promise of pleasant reunion |

**Figure 14**


Firstly, we have to think as to what point should be focused on depending on the subjects. In the case of healthy subjects, priority would be for enjoyment. For elderly people with dementia, the emphasis would be to have mutual conversations to stimulate retrospective treatment. As for exercise and MT, first move the fingers, hands, and arms, followed by trunk and feet.

Secondly, MT is not only about using music but also enjoying mutual communication. Always include weather, the previous day's news, season's fruits, local topics, and related matters.

Thirdly, we manage to communicate and develop mutual narrative stories so as to stimulate various retrospective matters, such as workings, hobbies, travels, and other activities.

From the above, adequate application of music and talk would be essential. We should choose words and music that stimulate the five senses as much as possible. As for the introduction and the main content of the session, we can use a variety of topics related to the five senses in humans. These are summarized in Table 17.

**Table 17** Stimulation for five senses

| |
|---|
| Hearing: insect, animal and bell sounds |
| Visual: landscape, flowers, pictures, TV |
| Olfactory: smell of food, fruit and flower |
| Taste: seasonal food, fruit, fish, flower |
| Tactile: play, work, seasonal changes |

Our MT team has conducted various sessions in hospitals, such as lobby concert and hospice concert (28) (Figure 15). For elderly subjects, the focus would be the practice of speech and vocalization. Older people tend to suffer from aspiration pneumonia. Then, to maintain the swallowing function, the pronunciation practice of pa-ta-ka-ra is beneficial for mouth and tongue (29). It is effective rehabilitation for neurophysiological stimulus. Associated with music, participants can continue clapping hands and stamping the feet. Thus, session activities would have beneficial effects for body and mind, leading to a happy feeling.

**Figure 15**

Chapter 6

# ORIGIN OF MUSIC THERAPY

What is the origin of MT? When any baby or infant sleeps in any country across the world, the mother speaks gently and sings a lullaby (Figure 16). The mother's words and music would become a nostalgic experience to heal the heart. These soothing memories are present at the superficial and the deeper levels of our psyche.

A study of lullabies in the hospice was conducted by board-certified music therapists (MT-BCs) (30). The outcome for the needs of the patient and the family would be as follows (Table 18). The most common needs showed: (i) comfort/relaxation, 73.2%; (ii) pain/discomfort, 60.9%; and (iii) anxiety, 57.3%. In contrast, the most common intended outcomes of lullaby intervention in hospice MT were: (i) increasing relaxation/comfort, 76.8%; (ii) decreased stress and anxiety, 74.4%; and (iii) decreasing pain/pain perception, 37.8%.

**Figure 16** Good sleep by Lullaby would be Supreme music therapy

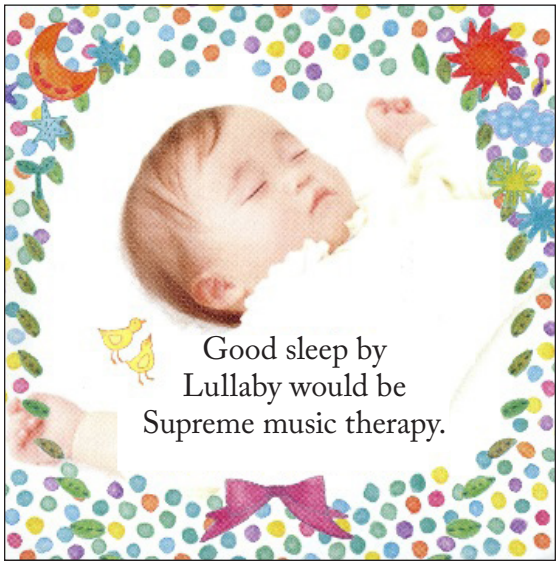



**Table 18** Lullaby Interventions in Hospice Music Therapy

| Patient/Family Needs by Lullaby Interventions | (%) |
|---|---|
| Comfort/Relaxation | 73.2 |
| Pain/Discomfort | 60.9 |
| Anxiety | 57.3 |
| Agitation | 52.4 |
| Terminal Restlessness | 36.6 |
| Family Bedside Vigil | 36.6 |
| Spritual Support | 20.7 |
| Insomnia/Sleep disturbance | 17.1 |
| Dyspnea | 15.9 |
| Isolation/Social Withdrawal | 12.2 |
| **Intended Outcomes of a Lullaby Intervention** | |
| Increasing Relaxation/comfort | 76.8 |
| Decreased Stress and Anxiety | 74.4 |
| Decreasing Pain | 37.8 |
| Decreasing Fear/Increasing Safety | 35.4 |
| Improved Sleep/Decreasing Insomnia | 34.2 |
| Transition | 26.8 |
| ReminisenceLife review | 20.7 |
| Increasing Emotional support | 20.7 |
| Increasing sensory Stimulation | 19.5 |
| Decreasing dyspnea | 17.1 |

Furthermore, there are some differences concerning the detailed interventions, such as comfort and relaxation, family and familiarity, and adequate needs for specific patients. These results supposed that music therapists would use lullaby intervention in the hospice for meeting the needs of patients and their families.

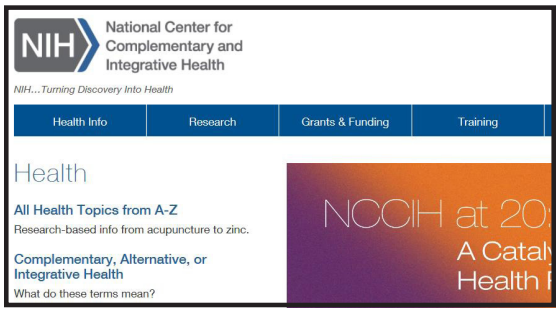
## NIH AND NCCIH

In the United States, the National Institutes of Health (NIH) set the Office of Alternative Medicine (OAM) in 1992 (31). It had changed to the National Center for Complementary and Alternative Medicine (NCCAM) in 1998. After that, it has changed to the National Center for Complementary and Integrative Health (NCCIH) (Figure 17).

NCCIH has sent out medical information concerning CAM and IM, and related workshops (32, 33). There is an information site, which is "5 Things To Know About Complementary Health Practices for Cognitive Function, Dementia, and Alzheimer's Disease" (34). Among five comments, the second one is as follows: preliminary studies of some mind and body practices, such as MT, suggest that they may be helpful for addressing some of the symptoms related to dementia, such as agitation and depression. Several studies on MT in people with Alzheimer's disease have shown improvement in agitation, depression, and quality of life (35–38).

Lastly, the author is a physician, pianist, and certified music therapist credited with conducting MT lectures and sessions for years. In 2009, he served as the chairman of the annual Congress of Japan Music Therapy Association (JMTA) with a total of 6000 participants. Furthermore, he has been the chairman of the Shikoku island division of Integrative Medicine Japan (IMJ), and has published more than 10 annual journals. We hope that this article will contribute to the development of integrated medicine in a broad area.

**Figure 17**

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# MUSIC

# THERAPY