

# MUSIC THERAPY IN PSYCHIATRY



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# What is music therapy?

- Music therapy is a special type of therapy where forms of musical interaction and communication are used alongside verbal communication. (*Gold et al, 2009*)
- Systematic process of intervention wherein the therapist helps the client to promote health, using music experiences and the relationships developing through them as dynamic forces of change. (*Bruscia, 1998*)

# What is music therapy?

- Music Therapy is an established healthcare profession that uses music to address physical, emotional, cognitive, and social needs of individuals of all ages.
- Music therapy interventions can be designed to promote wellness, manage stress, alleviate pain, express feelings, enhance memory, improve communication, promote physical rehabilitation.  
*(American Musical Therapy Association, 2009)*

# What music therapy is NOT?

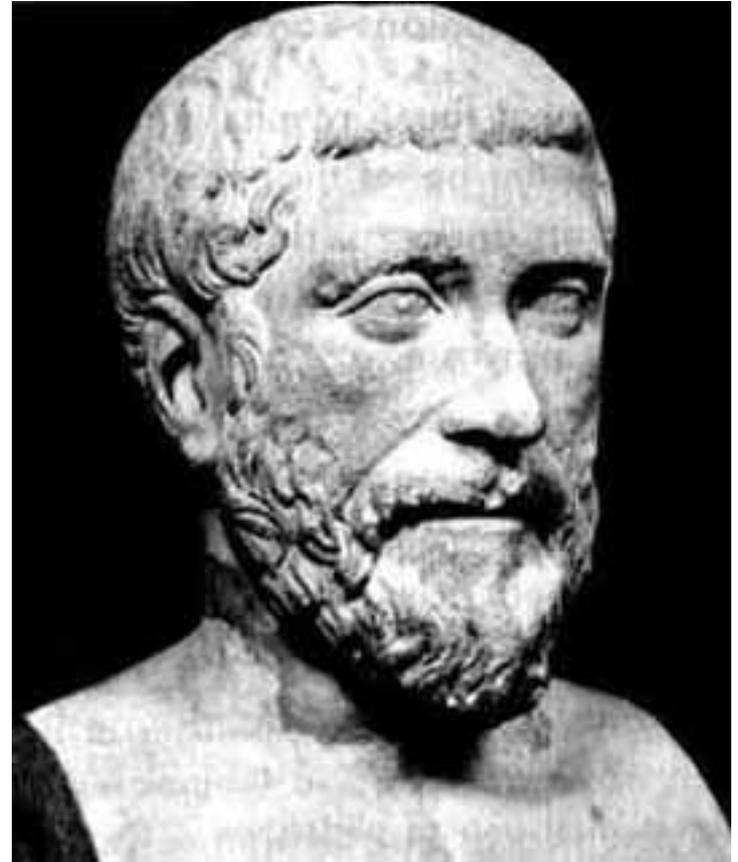
- Treatments rely solely on the direct effects of music alone, which do not involve or depend upon a process of intervention and change within a client-therapist relationship are not music therapy.
- The term “*music medicine*” is sometimes used to distinguish such treatments from music therapy.

*(Bruscia, 1998 ; Gold et al, 2009)*

# History of Music Therapy

- Using music as a healing medium dates back to ancient times which is evident in biblical scriptures and historical writings of ancient civilizations such as Egypt, China, India, Greece, and Rome.
- The oldest known documentation of medical practices, the Kahum papyrus, refers to the use of incantations for healing the sick.
- Greek philosopher Pythagoras is considered the founder of music therapy in the 6<sup>th</sup> century.

*(Prickett, C & Standley, J, 1994 ;  
Nillson, 2008)*



# History of Music Therapy

- The first documented music medicine in a general hospital began in 1484 in the Beyazid Hospital (*“Beyazit Kulliyesi”*), in the city of Edirne, during Ottoman Empire.
- Mental Disorders were treated with music and each key (*“makam”*) of classical Turkish Music were used to treat a different disease.

*(Poch, 1970)*

# *“Beyazıd Kulliyesi”*, Edirne, Turkey



# History of Music Therapy

- In 1744 A. J. Rodríguez in Spain, established the basis of a scientific theory of Music Therapy in his work :  
“Palestra Crítico Médica”  
(Medical Critical Arena)
- In 1800, Florence Nightingale in France recognized the power of music in hospital wards during Crimean War and used it to aid in the healing process for soldiers.  
*(Poch, 1970 ; Nilsson, 2008)*



# History of Music Therapy in US

- Music therapy in the United States of America began in the late 18th century.
- The profession of music therapy in the United States began to develop during W.W.I when music was used in Veterans Administration Hospitals as an intervention to address traumatic war injuries.
- Veterans actively and passively engaged in music activities that focused on relieving pain perception.



*(Music as Medicine,  
www.musicasmedicine.com,  
University Hospitals, CWRU, 2009)*

# History of Music Therapy in US

- In 1950 a professional organization was formed by a collaboration of music therapists that worked with veterans, mentally retarded, hearing/visually impaired, and psychiatric populations.
- This was the birth of the National Association for Music Therapy (NAMT)

*(Music as Medicine, [www.musicasmedicine.com](http://www.musicasmedicine.com), University Hospitals, CWRU, 2009)*

# History of Music Therapy in US

- In 1998, NAMT joined forces with another music therapy organization to become what is now known as the American Music Therapy Association (AMTA).

*(Music as Medicine,  
www.musicasmedicine.com,  
University Hospitals, CWRU, 2009)*



# History of Music Therapy in US

- U.S. Army's Reconditioning Program, which uses music for physical reconditioning, educational reconditioning, and occupational reconditioning program became the first official recognition of music as a therapeutic means to be used in military hospitals in assisting the sick and injured during recovery.
- Toward the end of World War II, musicians were assigned to military hospitals to work directly with patients and it was during this time period that led to the establishment of the music therapy profession.

*(Tyson, F. 1981)*

# Music Therapy in US - *Current Practice*

- The first undergraduate degree program in the US and the world was founded at *Michigan State University* and the first graduate degree program at the *University of Kansas*. More recently *Temple University* and *Lesley University* have founded a music therapy Ph.D. program.
- Currently there are 68 undergraduate and 25 graduate programs approved by the association across the nation.
- Music therapist is most commonly designated by MT-BC (Music Therapist-Board Certified), this is given by the Certification Board of Music Therapists.

*(American Musical Therapy Association, 2009 ; CWRU  
www.musicasmedicine.com , 2009)*

# Music Therapy in US - *Current Practice*

- A degree in music therapy requires proficiency in guitar, piano, voice, music theory, music history, reading music, improvisation, as well as varying levels of skill in assessment, documentation, and other counseling and health care skills depending on the focus of the particular university's program.



*(American Musical Therapy Association, 2009)*

# Music Therapy in US - *Current Practice*

- To become board-certified in the United States, a music therapist must complete course work at an accredited AMTA program at a college or university, successfully complete a 1040 hour Music Therapy internship, and pass the Certifying Board examination.
- Music therapy services have been identified as reimbursable under Medicaid, Medicare.

*(American Musical Therapy Association, 2009)*

# Music Therapy in Mental Health : Indications

- Usually tailored to an individual patient and patient's specific needs more than to a specific clinical diagnosis.
- Contents of therapy are negotiated with the patient within the process of therapy, based on a variety of individual traits.
- No direct link between a patient's clinical diagnosis and the specific techniques used in therapy.

*(Gold et al, 2009)*

# Music Therapy in Mental Health: Indications

## Psychotic Disorders

- Schizophrenia
- Schizoaffective Disorder
- Drug induced psychosis

## Mood Disorders

- Major Depressive Disorder
- Bipolar Disorder
- Adjustment Disorder
- Bereavement

*(Pubmed Search, accessed June 15, 2009)*

# Music Therapy in Mental Health: Indications

Anxiety disorders

Developmental Disorders

- Autism, Mental Retardation

Neurological Disorders

- Dementia
- Parkinson's Disease

*(Pubmed Search, accessed June15, 2009)*

# Music Therapy in Mental Health: Types

## **Background Music Therapy**

- Background music therapy is a form of therapy in which music is heard for an average of 8 to 12 hours per day as part of a hospital routine.
- It is transmitted via audiotapes and radio.
- The aim of this therapy is to create a calm environment in the hospital.

*(De Sausa, 2005, The role of music therapy in psychiatry)*

# Music Therapy in Mental Health: Types

## **Contemplative Music Therapy**

- Contemplative music therapy helps patients appreciate the significance of music and art in general.
- Before music is played for patients, they are given a biography of the composer and other details about the music. This may be administered in a group setting or individually.

# Music Therapy in Mental Health: Types

## Contemplative Music Therapy

- This facilitates the uncovering of morbid experiences, termed communicative music therapy, and causes emotional enlivenment.
- Also termed reactive musical therapy.
- In contemplative therapy, both the music that soothes as well as the group setting and the group therapy used bring out morbid experiences of the patients. This therapy also aims to soothe agitation and alleviate sadness. (*De Sousa, 2005, The role of music therapy in psychiatry*)

# Music Therapy in Mental Health: Types

## **Combined Music Therapy**

- In combined music therapy, music therapy is used in conjunction with other therapeutic procedures.
- Unlike background music therapy, it calls for the patient to select musical compositions that enhance therapeutic outcome and suit the patient.
- Sometimes in this form of music therapy, hypnosis is conducted while the subject listens to the music. This music is often accompanied by suggestion under hypnosis that improves the therapeutic outcome.

# Music Therapy in Mental Health: Types

## **Combined Music Therapy**

- The patient is asked to select music he likes as it will soothe him better, and here music is used as an adjuvant to various other therapies.
- This form of music therapy has been used in combination with cerebral electro sleep therapy and behavior therapy methods such as autogenic training. (*De Sousa, 2005, The role of music therapy in psychiatry*)

# Music Therapy in Mental Health: Types

## **Executive Music Therapy**

- Executive music therapy consists of individual or group singing and playing musical instruments.
- Patients with long hospital stays are the best candidates for this form of therapy.
- It was suggested that executive music therapy be incorporated into the occupational therapy routine. (*De Sousa, 2005, The role of music therapy in psychiatry*)

# Music Therapy in Mental Health: Types

## **Executive Iatromusic Therapy**

- In executive iatromusic therapy, a musician performs in children's psychiatric units.
- This form of therapy frequently is used in managing emotionally disturbed, mentally retarded, and dyslexic children. (*De Sousa, 2005, The role of music therapy in psychiatry*)

# Music Therapy in Mental Health: Types

## **Creative Music Therapy**

- In creative music therapy, patients write songs, compose music, and play instruments as a form of catharsis.
- Grief over a deceased loved one, oppression, and repressed feelings and fears are thought to be well expressed in music and song.

*(De Sousa, 2005, The role of music therapy in psychiatry)*

# Music Therapy in Mental Health: Techniques

- All these different modes of ‘music experiences’ become therapeutic by being used in the context of a therapeutic relationship.
- Verbal discussions, reflections, or interpretations connected to the music are important to help clients explore the potential meaning of an experience, and relate a new experience within therapy to situations in the client’s life.

*(Gold et al, 2009)*

# Music Therapy in Mental Health: Techniques

- Music therapists are specifically trained to intervene therapeutically, for example to support by providing rhythmical or tonal grounding, to clarify, to confront or to challenge the client's expression in the music.

*(Bruscia, 1987; Wigram, 2004)*



# Music Therapy in Mental Health :

## Evidence to date

- Several systematic reviews and meta-analyses have been conducted to examine effects of music therapy in the field of mental health.
- Main focus was on articles which studied music therapy on depression, schizophrenia, autism, dementia, substance dependence and anxiety.

# Music Therapy in Mental Health :

## Evidence to date

- *Cochrane systematic review* : Music Therapy for schizophrenia or schizophrenia-like illnesses, *Gold, Haldal et al, 2005*
- *Cochrane systematic review* : Music therapy for depression, *Maratos et al, 2008*
- *Systematic review* : The anxiety and pain reducing effects of music interventions, *Nillson, 2008*
- *Systematic review* : Music therapy for the treatment of patients with addictions, *Mays et al, 2008*

# Music Therapy in Mental Health :

## Evidence to date

- *Cochrane systematic review : Music therapy for autistic spectrum disorder, Gold et al, 2009*
- *Cochrane systematic review : Music therapy for people with dementia, Vink et al, 2009*
- *Systematic review and meta-analysis : Dose-response relationship in music therapy for people with serious mental disorders, Gold et al, 2009)*

# Music Therapy in Mental Health :

## Evidence to date - Schizophrenia

- Cochrane systematic review, *music therapy for schizophrenia or schizophrenia-like illnesses*, 2005
- Six randomized controlled trials from 1994 to 2004 were included that compared music therapy with standard care or other psychosocial interventions for schizophrenia.
- *Conclusion:* Music therapy as an addition to standard care helps people with schizophrenia if a sufficient number of music therapy sessions are provided.
- Significantly improved areas were global state, general and negative symptoms and functioning.  
(*Gold and Heldal et al, 2005*)

# Music Therapy in Mental Health :

## Evidence to date - Depression

- Cochrane systematic review, *music therapy for depression*, 2008
- Five randomized controlled trials from 1992 – 2006 were included comparing music therapy with standard care or other interventions for depression.
- *Conclusion:* Findings from individual randomized trials suggest that music therapy, at least in short term, is associated with improvements in mood.  
(Maratos et al, 2008)

# Music Therapy in Mental Health :

## Evidence to date : Autism

- Cochrane systematic review, *music therapy for autistic spectrum disorder*, 2008
- Three randomized controlled trials from 1995 to 2005 were included comparing music therapy or music therapy added to standard care to “placebo” therapy, no treatment or standard care.
- *Conclusion:* Findings indicate that music therapy may help children with autistic spectrum disorder to improve their communicative skills.  
(Gold et al, 2009)

# Music Therapy in Mental Health :

## Evidence to date : Dementia

- Cochrane systematic review, *music therapy for people with dementia*, 2009
- Five randomized controlled trials from 1993 to 2005 that reported clinically relevant outcomes associated with music therapy in treatment of behavioural, social, cognitive and emotional problems of older people with dementia
- *Conclusion:* Methodological quality and the reporting of the included studies were too poor to draw any useful conclusions.

(Vink et al, 2009)

# Music Therapy in Mental Health :

## Evidence to date : Anxiety

- Systematic review , *anxiety and pain reducing effects of music interventions*, 2008
- 42 randomized controlled trials of the effects of music interventions in peri-operative settings.
- *Conclusion*: Music intervention had positive effects on reducing anxiety and pain in half of the reviewed studies.

# Music Therapy in Mental Health :

## Evidence to date : Addiction

- Systematic review, *music therapy for the treatment of patients with addictions*, 2008
- Few studies were included which assessed the use of music therapy in the treatment of patients with addictions.
- *Conclusion: No consensus exists regarding of the efficacy of music therapy as treatment for patients with addictions.*

(Mays et al, 2008)

# Music Therapy in Mental Health : Evidence to date : Dose-response

- Systematic review and meta analysis, *dose-response relationship in music therapy for people with serious mental disorders*, 2009
- The most comprehensive systematic review and meta-analysis of the effects of music therapy in adult mental health to date.
- All existing prospective studies from 1989 to 2007 were included and combined using mixed-effects meta-analysis models.  
*(Gold et al, 2009)*

# Music Therapy in Mental Health :

## Evidence to date : Dose-response

- Nine countries and three continents are represented in this analysis. (N=691)
- Psychotic disorders (N=456) , 2/3
- Non-psychotic disorders (N=235), 1/3
- MT in group settings, 2/3
- MT in combined and individual settings, 1/3
- Most used a combination of different models : improvisation, singing and/or writing songs, listening to music, verbal reflection around the music experiences

# Music Therapy in Mental Health : Evidence to date : Dose-response

- *Conclusions:* Music therapy, when added to standard care, has strong and significant effects on global state, general symptoms, negative symptoms, depression, anxiety, functioning and musical engagement. Significant dose-effect relationships were identified for general, negative and depressive symptoms, as well as functioning.

*(Gold et al, 2009)*

# Music Therapy in Mental Health : Evidence to date : Dose-response

- *Conclusions:* Results showed that effects do not depend on diagnosis, which confirms music therapy's broad applicability.
- The results did not depend on the study design.
- Effects do depend on the number of sessions.
- “Dosage” of the MT is the best predictor of its effects, explaining more than %70 of the variance.

*(Gold et al, 2009)*

# Music Therapy: Proposed mechanisms

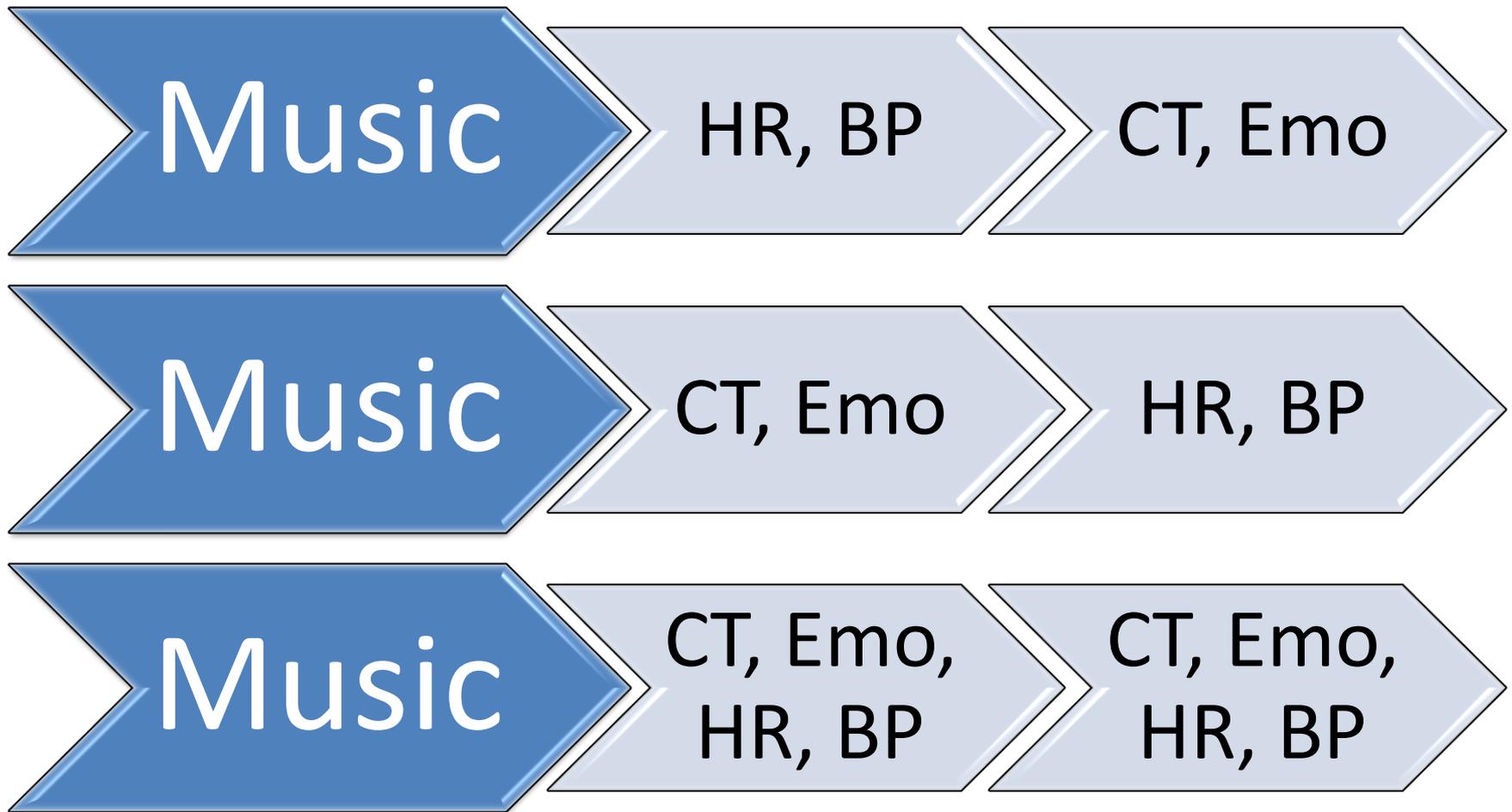
## Physiological framework

- Most of the studies on the effects of music therapy have identified several psychological and physiological responses to music.
- Some explanations have been proposed to identify these responses.

*(Watkins, 1997)*

# Music Therapy: Proposed mechanisms

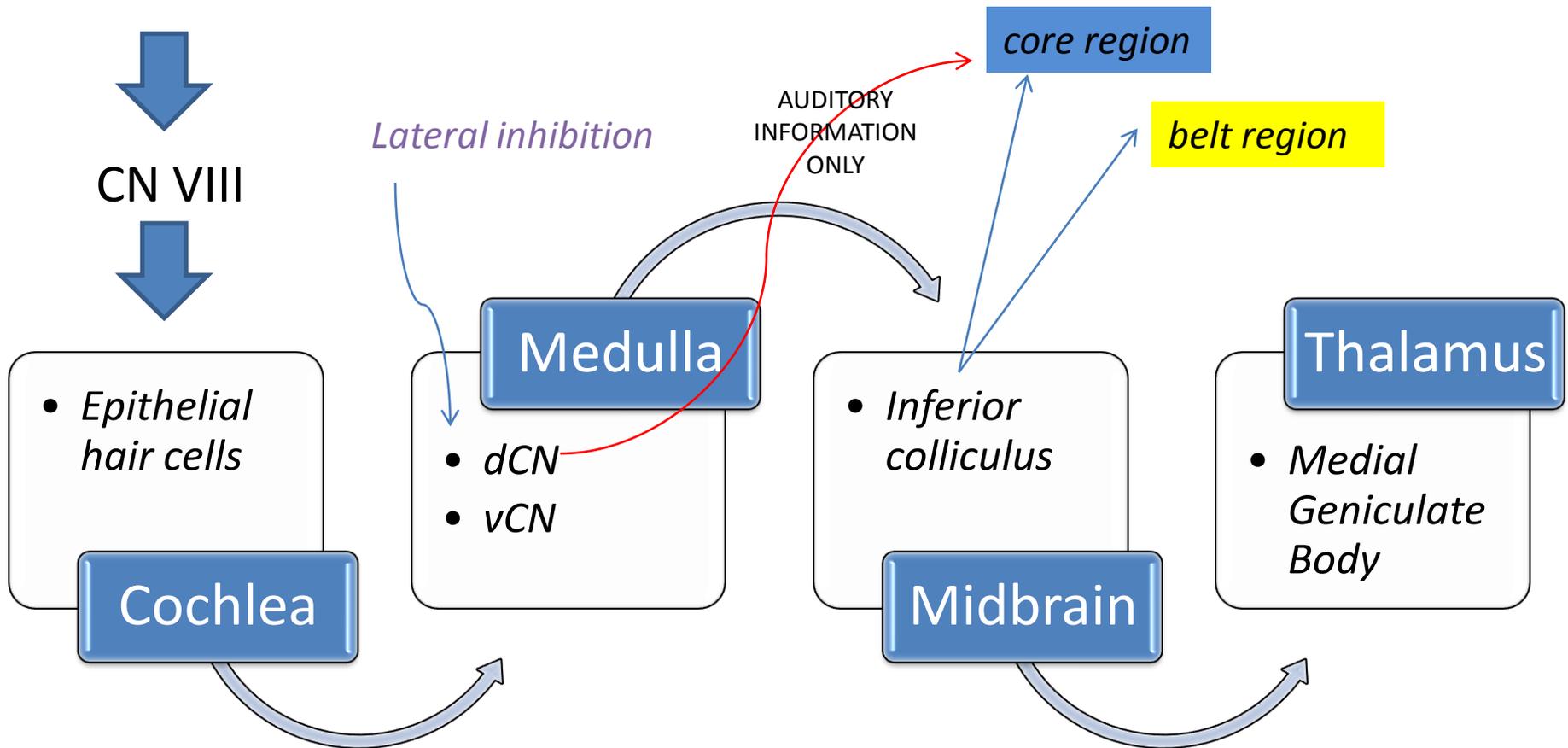
## Physiological framework



# Music Therapy: Proposed mechanisms

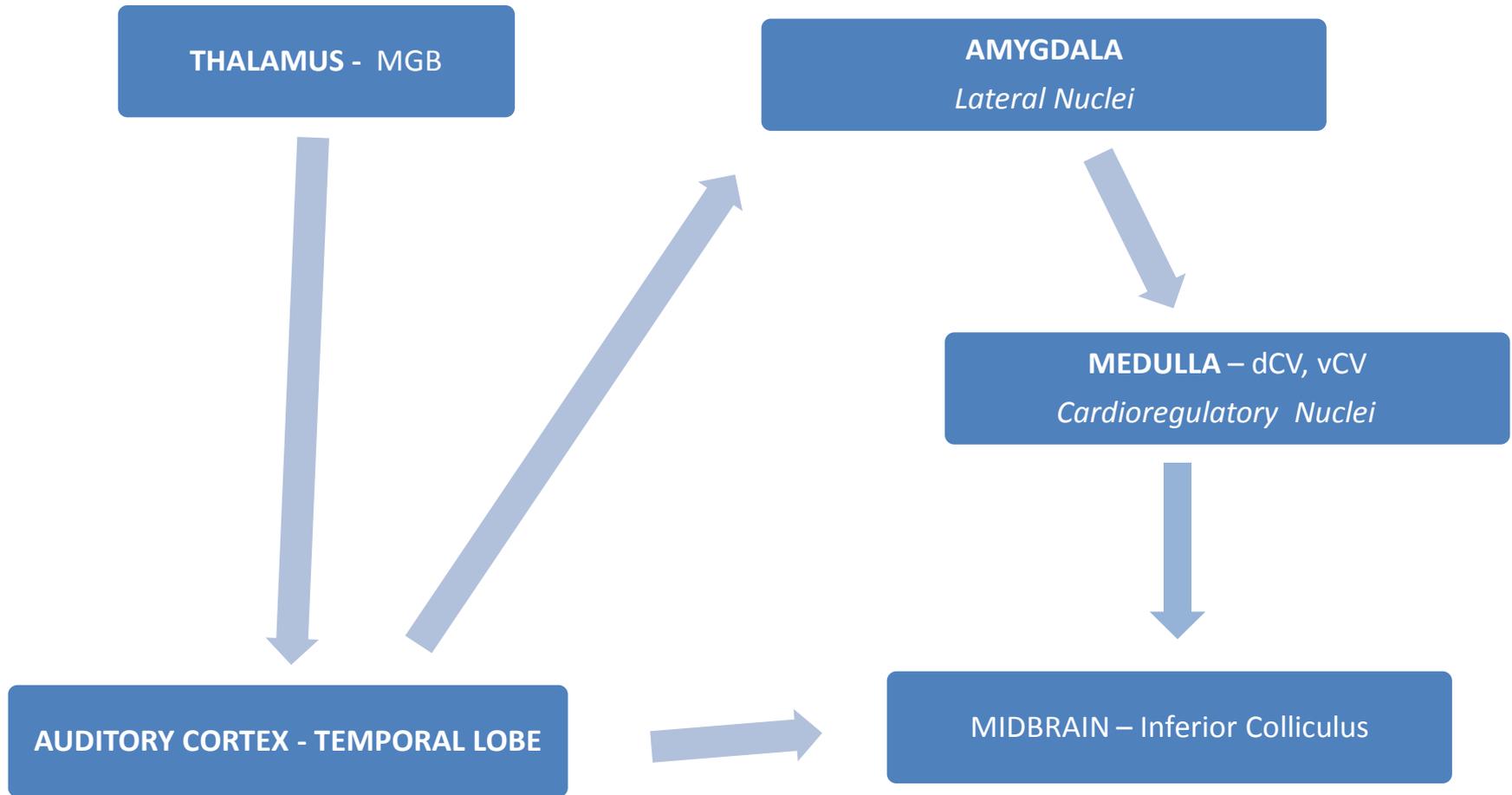
## Auditory Pathways

**MUSIC**



# Music Therapy: Proposed mechanisms

## Auditory Pathways



# Music Therapy: Proposed mechanisms

## Auditory Pathways

- Interpretation of pitch, loudness, location and meaning of auditory stimuli is complex.
- It involves analysis of frequency, duration, amplitude and time interval distributions of neural impulses and their modulations.
- Analysis of neuronal impulses produced by auditory stimuli occurs at all levels in the central auditory pathway.

# Music Therapy: Proposed mechanisms

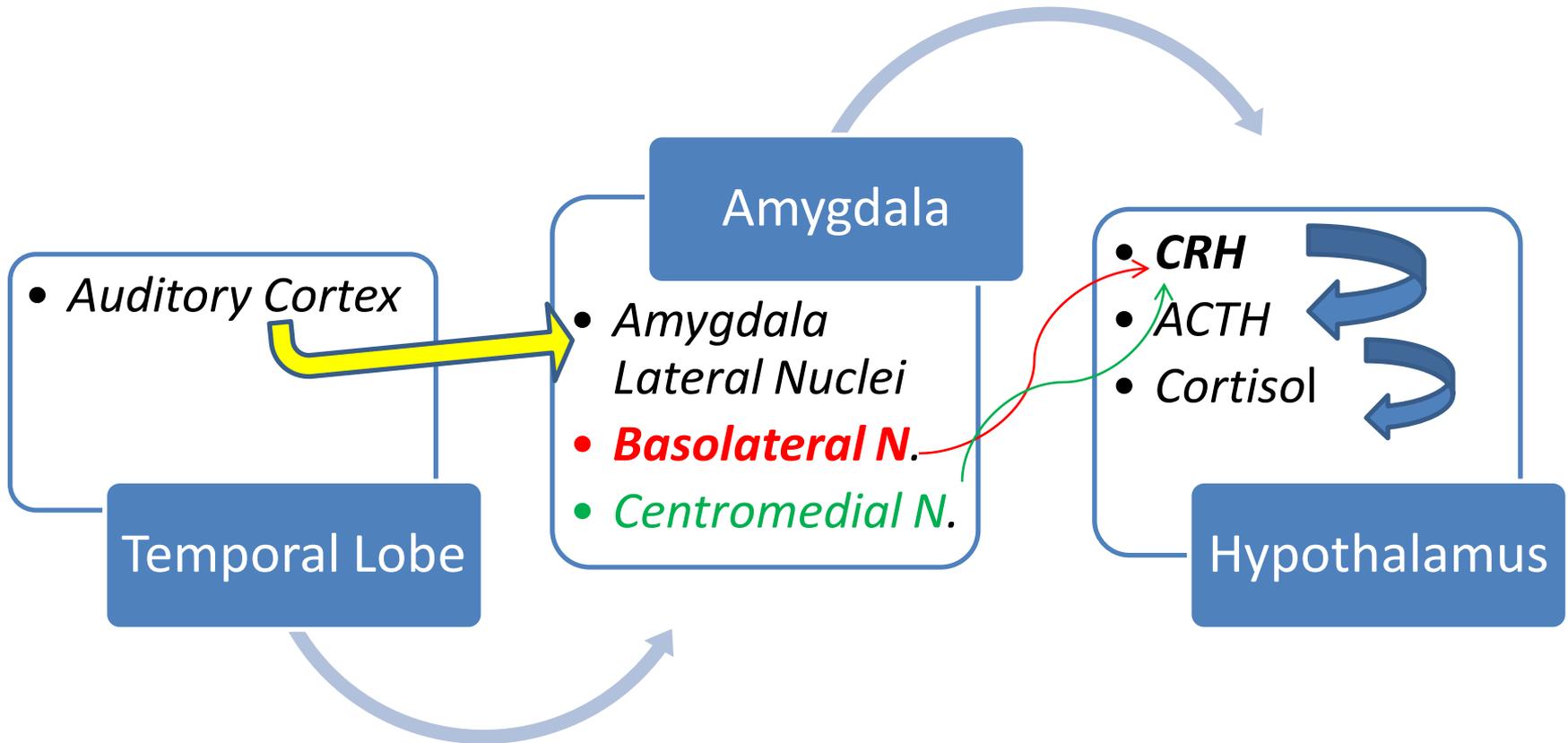
## Auditory Pathways

- Theoretically, identification of neurons in the central auditory pathway and their projections to brain centers that regulate BP, HR, or anxiety level might be the first step in providing evidence for a mechanism whereby music modifies physiological and psychological responses.

*(Watkins, 1997)*

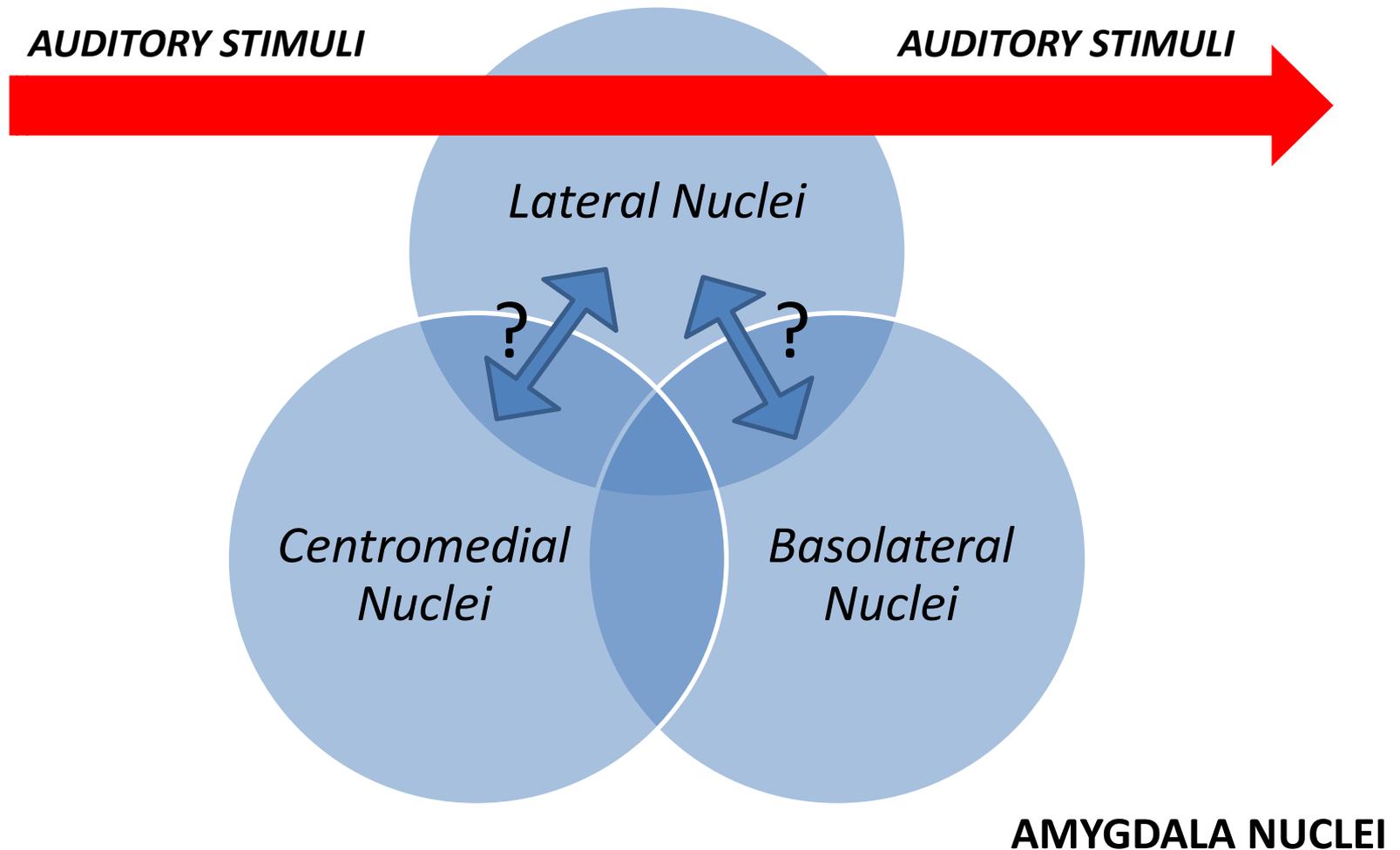
# Music Therapy: Proposed mechanisms

## Endocrine system interactions



# Music Therapy: Proposed mechanisms

## Endocrine system interactions



# Music Therapy: Proposed mechanisms

## Physiological framework

- Music likely reduces alterations in the hypothalamic-anterior pituitary-peripheral hormone axes that produce cortisol and growth hormone.
- Music may also increase growth hormone levels, which can induce decreased production of cytokines such as IL-6 by white blood cells.
- Dopaminergic neurotransmission has also been implicated as a means by which music can modulate the central nervous system.
- Another commonly accepted theory is that music acts as a distractor, focusing the patient's attention away from negative stimuli to something pleasant and encouraging.

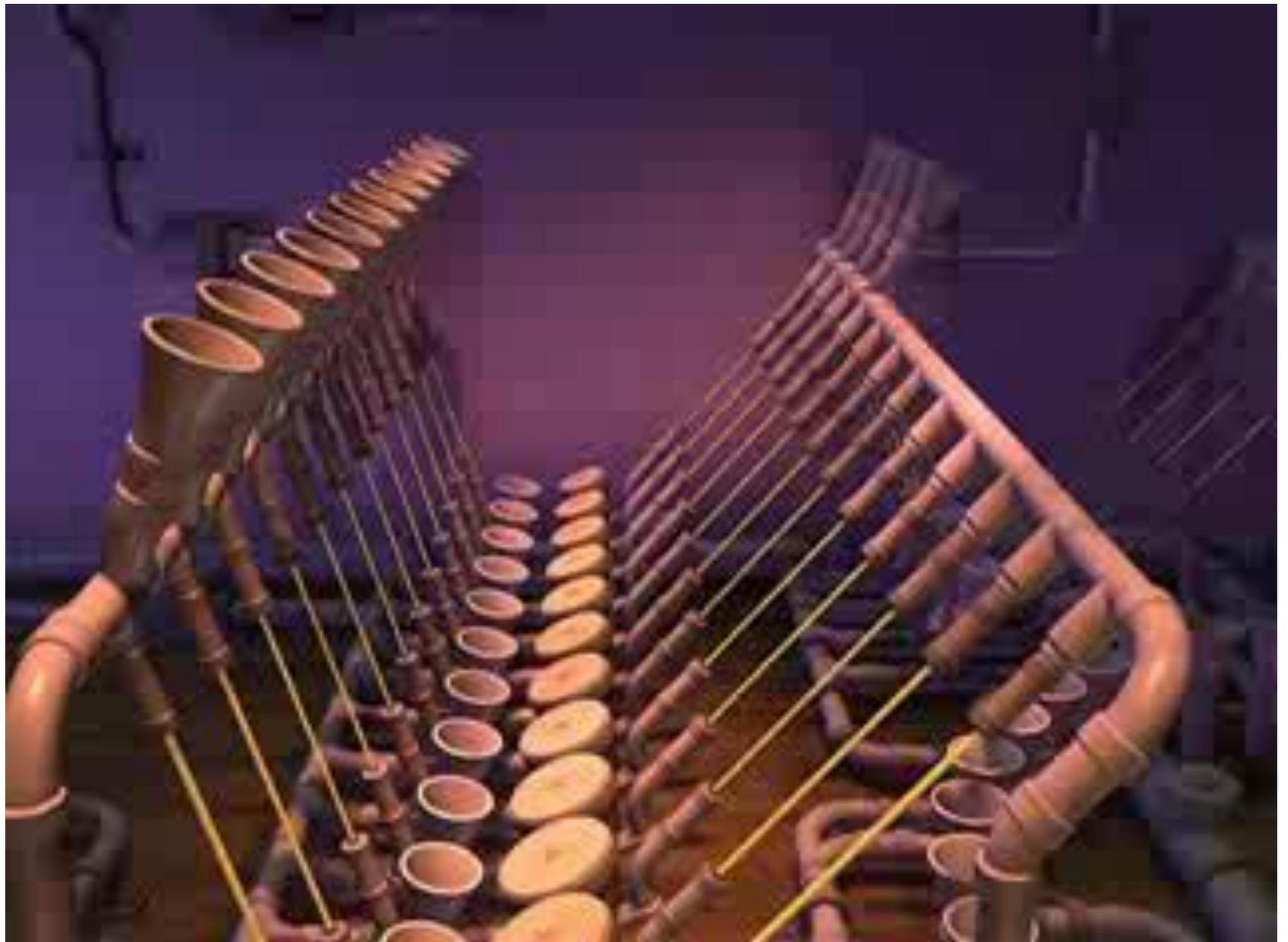
*(Nelson et al, 2008 ; Nillson, 2008)*

# Music Therapy: Proposed mechanisms

## Physiological framework

- Exact neural pathways mediating the psychological and physiological responses of the music are unknown.
- How “music” is processed by the human brain remains being a mystery.





# Music Therapy in Mental Health :

## Conclusions

- Indicated for a broad range of serious mental disorders.
- Proven an effective therapy for serious mental disorders.
- Helps patients to improve global state, symptoms and functioning.
- It may be an effective therapy for a population which often does not respond easily to traditional approaches.



# Music Therapy in Mental Health :

## Conclusions

- Music has no doubt plays a critical role in the lives of human beings.
- Incorporating music therapy into regular therapy programs for psychiatric disorders can help speed recovery and also help make therapy a more positive experience.
- Music therapy is valuable but relatively unexplored asset in the field of psychiatry and psychotherapy.

# References

- Dose-response relationship in music therapy with serious mental disorders : Systematic review and meta-analysis, Gold et al, 2009
- Music therapy for schizophrenia or schizophrenia-like illnesses : Systematic review, Gold et al, 2005
- Music therapy for depression : Systematic review, Maratos et al, 2009
- Music therapy for autistic spectrum disorder : Systematic review, Gold et al, 2009
- Music therapy for people with dementia : Systematic review, Vink et al, 2009
- Anxiety and pain reducing effects of music interventions : Systematic review, Nilsson, 2008
- Treating addiction with tunes : Systematic review of music therapy for the treatment of patients with addictions, Mays, 2008
- Is there a role for music therapy in the care of the severely mentally ill?, Grocke et al, 2008
- Music Therapy : Proposed physiological mechanisms and clinical implications, Watkins, 1997
- Music Therapy in the 19<sup>th</sup> Century America, Davis, 1987
- The patients can't wait, and why should they?, Gifford, 2009
- The role of music therapy in psychiatry, De Sousa, 2005
- Guyton Textbook of Physiology, 9<sup>th</sup> Edition
- Defining music therapy, Bruscia, 1998
- Resource oriented music therapy for psychiatric patients with low therapy motivation, Gold et al, 2005
- American musical therapy association website, [www.musictherapy.org](http://www.musictherapy.org)
- Youtube web site , [www.youtube.com](http://www.youtube.com)
- Case Western Reserve University Music Medicine website, [www.musicasmedicine.com](http://www.musicasmedicine.com)
- Nordoff-Robbins Musical Therapy Foundation of New York University website, <http://steinhardt.nyu.edu/music/nordoff/>

*Glen Gould Plays Bach*

