

# the Evidence behind using Music Therapy with Persons with Autism

Music therapy uses live music making and composition techniques to encourage children, adolescents and adults with autism spectrum disorders to engage in spontaneous and creative musical activities.

The therapist and client use a variety of percussion or tuned instruments, or voice, to develop shared and interactive musical communication (including direction, leadership opportunities, expressive dynamics etc).

Clinical work and research finds that music therapy can be used to develop social engagement, joint attention, communication abilities, while also addressing emotional needs and quality of life.

**Music therapy is a particularly important intervention for children with autism spectrum disorders to engage and foster their capacity for flexibility, creativity, variability, and tolerance of change.**

- Reitman, M. R. (2005). Effectiveness of music therapy interventions on joint attention in children diagnosed with autism: A pilot study (Doctoral dissertation, Carlos Albizu University, 2005). *Dissertation Abstracts International*, B66(11). (AAT 3195248)
- Umbarger, G.T. (2007). State of the evidence regarding complementary and alternative medical treatments for autism spectrum disorders. *Education and Training in Developmental Disabilities*, 42(4): 437-447.

**Preschool children in an early intervention music therapy program show high on-task behavior during sessions and a high success rate in language development, social skills, cognitive concepts, motor skills, and music knowledge.**

- Standley, J. M., & J. E. Hughes (1996). Documenting developmentally appropriate objectives and benefits of a music therapy program for early intervention: A behavioral analysis. *Music Therapy Perspectives*, 14(2), 87-94.

**Music therapy interventions and structured instrument playing are effective to improve social skills in school-age populations. Social problem solving skills in 5-year-old students are increased on a long-term basis through creative musical activities. Positive affect induced by music helps to improve social problem solving skills in middle school students.**

- Bryan, T., Sullivan-Burstein, K., & Mathur, S. (1998). The influence of affect on social-information processing. *Journal of Learning Disabilities*, 31(5), 418-426.
- Ulfarsdottir, L., & Erwin, P. (1999). The influence of music on social cognitive skills. *The Arts in Psychotherapy*, 26(2), 81-84.

**Music is an effective prompt and reinforcer to increase verbal response in preschool-age children with limited verbal communication.**

- Braithwaite, M., & Sigafos, J. (1998). Effects of social versus musical antecedents on communication responsiveness in five children with developmental disabilities. *Journal of Music Therapy*, 35(2), 88-104.
- Buday, E. M. (1995). The effects of signed and spoken words taught with music on sign and speech imitation by children with autism. *Journal of Music Therapy*, 32(3), 189-202.

## Background

The central impairments of people with autistic spectrum disorder (ASD) include social interaction and communication. Music therapy uses music and its elements to enable communication and expression, thus attempting to address some of the core problems of people with ASD.

Objectives

## Objectives

To review the effects of music therapy for individuals with autistic spectrum disorders.

Search strategy

## Search Strategies

The following databases were searched: CENTRAL, 2005, (Issue 3); Medline, (1966 to July 2004); Embase, (1980 to July 2004); LILACS, (1982 to July 2004); PsycINFO, (1872 to July 2004); CINAHL, (1982 to July 2004); ERIC, (1966 to July 2004); ASSIA, (1987 to July 2004); Sociofile, (1963 to July 2004); Dissertation Abstracts International, (late 1960's to July 2004). These searches were supplemented by searching specific sources for music therapy literature and manual searches of reference lists. Personal contacts to some investigators were made.

Selection criteria

## Selection Criteria

All randomised controlled trials or controlled clinical trials comparing music therapy or music therapy added to standard care to "placebo" therapy, no treatment or standard care.

Data collection and analysis

## Data Collection and Analysis

Studies were independently selected, quality assessed and data extracted by two authors. Continuous outcomes were synthesised using a standardised mean difference (SMD) in order to enable a meta-analysis combining different scales, and to facilitate the interpretation of effect sizes. Heterogeneity was assessed using the  $I^2$  statistic.

Main results

## Main Results

Three small studies were included (total  $n = 24$ ). These examined the short-term effect of brief music therapy interventions (daily sessions over one week) for autistic children. Music therapy was superior to "placebo" therapy with respect to verbal and gestural communicative skills (verbal: 2 RCTs,  $n = 20$ , SMD 0.36 CI 0.15 to 0.57; gestural: 2 RCTs,  $n = 20$ , SMD 0.50 CI 0.22 to 0.79). Effects on behavioural problems were not significant.

Authors' conclusions

## Conclusions

The included studies were of limited applicability to clinical practice. However, the findings indicate that **music therapy may help children with autistic spectrum disorder to improve their communicative skills**. More research is needed to examine whether the effects of music therapy are enduring, and to investigate the effects of music therapy in typical clinical practice.

Gold C, Wigram T, Elefant C. Music therapy for autistic spectrum disorder. Cochrane Database of Systematic Reviews 2006, Issue 2. Art. No.: CD004381. DOI: 10.1002/14651858.CD004381.pub2.

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