

# Music Therapy May Benefit Autistic Children but need larger RCTs

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## Background

Music therapy involves the use of musical experiences (songs, listening to music, free and structured improvisation) as a non-verbal or pre-verbal language to promote health.

During music therapy, a therapist musically responds to the child's sounds and movements, singing a running commentary to the child's actions, using play routines or stories set to music, or songs involving imitation. Although therapy methods can vary, sessions range from a few minutes daily to longer weekly sessions, and may run for weeks or years. [3]



Music therapy encourages and supports developments in communication. It is believed that the positive response to music can help one improve social, language and motor functioning goals. [2] The sound dialogues between mothers and children are akin to music. Children are very sensitive to the rhythmic and melodic dimensions of maternal speech.

## Aims

To assess the effectiveness of music therapy for children with ASD

Population	Children with ASD
Intervention	Music therapy
Comparators	"Placebo" activity – Therapeutic attention without the use of music
Outcome	Communication, behaviour

## Methods

**Search terms:** music, autism, autistic

**Databases:** Ovid, Medline, Google Scholar

**Search hits:** 1 HTA, 1 meta-analysis, 1 systematic review, 1 review and 4 primary studies (2 RCTs, 1 comparative study, 1 case series)

## Fast Facts: Autistic Spectrum Disorder (ASD)

- Children with ASD, a recognized developmental disorder, have difficulties in all aspects of communication.
- They are unable to understand other people's feelings and hence, cannot respond appropriately.
- Worldwide prevalence: 5-63 children per 10,000 [1]

## Research & Evidence

- The single meta-analysis of pooling 9 small studies (n=75) concluded that music therapy is effective. Overall effect size was 0.77 (95% CI: 0.46-1.08) [4]
- The systematic review acknowledged that music therapy may help to improve communication although the effects have yet to be proven enduring [1]. On the contrary, the HTA concluded that music therapy has not been shown to be better than other behavioral therapies [3]. The discordance is despite 2 of 3 studies included were common between the systematic review and the HTA.
- Primary studies generally suggest that music therapy improves communication and behavior. [5-8] Studies to date have been small (n≤11)

## Conclusion

Music therapy potentially has benefits for communication and to a lesser extent, behaviour of children with ASD, although results were inconclusive. Larger RCTs are needed to demonstrate positive effects of music therapy.

1. Gold C, Wigram T, Elefant C. Music therapy for autistic spectrum disorder. *Cochrane Database of Systematic Reviews*. 2006, Issue 2.  
 2. Farmer KJ. The effect of music vs nonmusic paired with gestures on spontaneous verbal and nonverbal communications of skills of children with autism between the ages 1-5 (Master's thesis). Tallahassee, FL: Florida State University (School of Music); 2003.  
 3. Bai QH I. Music therapy for children with autistic spectrum disorder. In: *Bazian Ltd (Ed) STEEP*; 2004. 4(1). Bazian Ltd and Weissen Institute for Health Research & Development, University of Southampton.  
 4. Whipple J. Music in intervention for children and adolescents with autism: A meta-analysis. *Journal of Music Therapy* 2004; 41(2):90-106.  
 5. Brownell MD. Musically adapted social stories to modify behaviours in students with autism: four case studies. *Journal of Music Therapy* 2002; 39(2):117-144.  
 6. Busby EM. The effects of signed and spoken words taught with music on sign and speech imitation by children with autism. *Journal of Music Therapy* 1995; 32(3): 189-202.  
 7. Edgerton CL. The effect of improvisational music therapy on the communicative behaviours of autistic children. *Journal of Music Therapy* 1994; 31(1):31-62.  
 8. Music therapy in the assessment and treatment of autistic spectrum disorder: clinical application and research evidence. Accepted for publication.