Can music therapy improve social interaction and verbal communication in individuals with autism spectrum disorder?

**EVIDENCE-BASED ANSWER**

Music therapy may improve social interaction and communication compared with standard care (SOR: B, systematic review of small RCTs and additional small RCTs). When compared with social skills training, music therapy may improve eye gaze and joint attention (SOR: C, small RCT).

A 2014 Cochrane review (10 RCTs, N=165) examined the effects of music therapy intervention on social interaction and communication among children (3–12 years old) with autism spectrum disorders.¹ Interventions ranged from 5 days to 7 months, were delivered by a professional music therapist, and included improvisation, singing songs/vocalizations, and listening to recorded or live music. Social interaction and communication skills were measured using several validated scales, so results were reported as standardized mean differences (SMD), where 0.2 is considered small, 0.6 moderate, 1.2 large, and 2.0 very large.

Compared with placebo, music therapy improved social interaction within therapy sessions (1 RCT, n=10; SMD 1.1; 95% CI, 0.02–2.1) and outside therapy sessions (3 RCTs, n=57; SMD 0.71; 95% CI, 0.18–1.3). Music therapy improved nonverbal (3 RCTs, n=30; SMD 0.57; 95% CI, 0.29–0.85) and verbal communications (6 RCTs, n=139; SMD 0.33; 95% CI, 0.16–0.49) compared with placebo within the session. However, no differences were noted between groups for communication skills outside the therapeutic context (nonverbal communication, 3 RCTs, n=57; SMD 0.48; 95% CI, −0.02 to 0.98; generalized verbal communication skills, 2 RCTs, n=47; SMD 0.30; 95% CI, −0.28 to 0.89).¹

A 2014 nonblinded, RCT (N=17) compared a 5-week music therapy intervention and a nonmusic social skills group for changes in social skills of children (aged 6–9 years) with severe autism spectrum disorder.² Children were randomized into “in-home, family-centered” music therapy plus early childhood intervention or early childhood intervention only. The music therapy group was facilitated by an accredited music therapist. Social interaction was assessed by the Vineland Social-Emotional Early Childhood Scale, with a mean of 100 and a standard deviation of 15 (scores ≥85 indicate adequate skills) as well as the preschool version of the SRS. Communication was evaluated by the MacArthur-Bates Communicative Development Inventories, Words, and Gestures, where scoring is based on the number of words produced. Scores below the 10th percentile reflect a delayed productive vocabulary.

At postintervention, the music therapy group had better social interaction than the early childhood intervention only group for the Vineland Scale (mean change 22 vs 0.9; P<.01). However, no significant change was noted between the music therapy and early childhood intervention groups on the preschool SRS (−7.70 vs −1.4; P=.34) or the MacArthur-Bates Inventory (79 vs 59; P=.55).³

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