Anthem

Clinical UM Guideline

Subject: Activity Therapy for Autism Spectrum Disorders and Rett Syndrome
Guideline #: CG-BEH-15
Status: Reviewed
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Description

This document addresses activity therapy (for example, music, dance, art or play therapies) when used to treat autism spectrum disorders (ASDs) and Rett syndrome. ASDs, as defined in the fifth edition text revision of the American Psychiatric Association's (APA) *Diagnostic and Statistical Manual of Mental Disorders*(DSM-5-TR).

Clinical Indications

Not Medically Necessary:

Activity therapy, including but not limited to music, dance, art or play therapies, is considered**not medically necessary** for the treatment of Autism Spectrum Disorders and Rett syndrome.

Coding

The following codes for treatments and procedures applicable to this guideline are included below for informational purposes. Inclusion or exclusion of a procedure, diagnosis or device code(s) does not constitute or imply member coverage or provider reimbursement policy. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage of these services as it applies to an individual member.

When services are Not Medically Necessary:
For the following procedure code, or when the code describes a procedure designated in the Clinical Indications section as not medically necessary.

HCPCS	
G0176	Activity therapy, such as music, dance, art or play therapies not for recreation, related to the care and treatment of patient's disabling mental health problems, per session (45 minutes or more)

ICD-10 Diagnosis	
F84.0	Autistic disorder
F84.2	Rett's syndrome
F84.3	Other childhood disintegrative disorder
F84.5	Asperger's syndrome
F84.8	Other pervasive developmental disorders
F84.9	Pervasive developmental disorder, unspecified

Discussion/General Information

In 2022, the American Psychiatric Association (APA) released the 5th edition text revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR). Like the 5th edition, this edition of the DSM combines several previously separate diagnoses under the single diagnosis of "autism spectrum disorder." This diagnosis includes the following disorders, previously referred to as: atypical autism, Asperger's disorder, childhood autism, childhood disintegrative disorder, early infantile autism, high-functioning autism, Kanner's autism, and pervasive developmental disorder not otherwise specified. All of these conditions are now considered under one diagnosis, ASD. It should be noted that Rett syndrome is not included in the new DSM-5-TR ASD diagnostic group.

The DSM-5-TR describes the essential diagnostic features of autism spectrum disorder as both a persistent impairment in reciprocal social communication and restricted and repetitive pattern of behavior, interest or activities. These attributes are present from early childhood and limit or impair everyday functioning. Parents may note symptoms as early as infancy, and the typical age of onset is before 3 years of age. Symptoms may include problems with using and understanding language; difficulty relating to or reciprocating with people, objects, and events; lack of mutual gaze or inability to attend events conjointly; unusual play with toys and other objects; difficulty with changes in routine or familiar surroundings, and repetitive body movements or behavior patterns. Children with childhood disintegrative disorder are an exception to this description, in that they exhibit normal development for approximately 2 years followed by a marked regression in multiple areas of function.

Individuals with ASD vary widely in abilities, intelligence, and behaviors. Some children do not speak at all, others speak in limited phrases or conversations, and some have relatively normal language development. Repetitive play skills, resistance to change in routine and inability to share experiences with others, and limited social and motor skills are generally evident. Unusual responses to sensory information, such as loud noises and lights, are also common. Children unaffected by ASDs can exhibit unusual behaviors occasionally or seem shy around others sometimes without having ASD. What sets children with ASD apart is the consistency of their unusual behaviors. Symptoms of the disorder have to be present in all settings, not just at home or at school, and over considerable periods of time. With ASD, there is a lack of social interaction, impairment in nonverbal behaviors, and a failure to develop normal peer relations. A child with an ASD tends to ignore facial expressions and may not look at others; other children may fail to respect interpersonal boundaries and come too close and stare fixedly at another person. Individuals with ASDs may require additional assessments to differentiate between ASDs and other conditions that may co-occur, such as limited intellect.

The exact causes of autism are unknown, although genetic factors are strongly implicated. A study released by the Center for Disease Control and Prevention (2014) indicated that the incidence of ASD was as high as 1 in 68.

Rett syndrome is a disorder of the nervous system that leads to regression in development, especially in the areas of expressive language and hand use. In most cases, it is caused by a genetic mutation. It occurs almost exclusively in girls and may be

misdiagnosed as autism or cerebral palsy.

Seventy-five percent of Rett syndrome cases have been linked to a specific genetic mutation on the X chromosome. This gene contains instructions for creating methyl-CpG-binding protein 2 (MeCP2), which regulates the manufacture of various other proteins. Mutations in the MeCP2 gene cause these other proteins to be produced incorrectly, which damage the maturing brain. Studies link mutations in this gene. Most cases of the mutation arise spontaneously without any traceable cause. However, there also seem to be some clusters within families and certain geographic regions, for example Norway, Sweden, and Northern Italy.

A child affected with Rett syndrome normally follows a standard developmental path for the first 5 months of life. After that time development in communication skills and motor movement in the hands seems to stagnate or regress. After a short period, stereotyped hand movements, gait disturbances, and slowing of the rate of head growth become apparent. Other problems may also be associated with Rett syndrome including seizures, disorganized breathing patterns while awake and apraxia/dyspraxia (the inability to program the body to perform motor movements). Apraxia/dyspraxia is a key symptom of Rett syndrome and it results in significant functional impairment, interfering with body movement, including eye gaze and speech.

There are a large variety of potential treatments for ASDs and Rett syndrome, including activity-based therapies such as music, dance, art and exercise therapies. Impairments associated with ASDs and Rett syndrome are often severe, and treatments include attention to comorbid medical and behavioral conditions. Activity therapy uses physical or creative approaches to address therapeutic goals such as improvement in behavioral, social, motor, communicative, and/or cognitive functioning. The medical service is administered to address these therapeutic goals rather than for recreational purposes. Activity therapies are usually individualized, and are generally conducted by professionals trained in the specific discipline such as Master's level art or music therapists.

The use of various activity therapies have been investigated for the treatment of ASDs. Several randomized controlled trials (RCTs) have been published, including evaluating karate (Bahrami, 2016), theater (Corbett, 2016), music (Bieleninik, 2017; Rabeyron, 2020) and dance/movement (Amonkar, 2021; Chen, 2022; Hildebrandt, 2016; Koehne, 2016; Srinivasan, 2015) interventions. The studies did not consistently find that the interventions provided clinically important benefits.

One of the most recent and larger RCTs on activity therapy was published in 2017 by Bieleninik and colleagues. The trial, which was multicenter and assessor-blinded, randomized 364 children with ASD to high-intensity music therapy (n=90), low-intensity music therapy (n=92) or no music therapy (n=182). The music interventions lasted for 5 months and all study participants received enhanced standard care. The investigators did not find an additional effect of music therapy beyond that of enhanced standard care. Compared with baseline, at the end of the 5-month treatment period, there were no statistically significant differences among groups in the primary outcome, the social affect score of the Autism Diagnostic Observation Schedule (ADOS). Findings on the primary outcome were similar at the 12-month follow-up. Moreover, 17 of 20 secondary outcomes did not differ significantly among groups.

The literature on some activity therapies has been summarized in systematic reviews. In 2017, the Agency for Healthcare Research and Quality (AHRQ) published a comparative effectiveness review on interventions targeting sensory challenges in children with ASDs (Weitlauf, 2017). Music therapy was one of the interventions addressed in the review. The authors identified four RCTs and one non-randomized comparative trial evaluating music-based interventions. The studies included a total of 115 children and the duration of treatment ranged from 6 to 20 weeks. Interventions were heterogeneous in that they evaluated different interventions of varying durations and reported on different outcomes. All but one study reported outcomes in the immediate post-intervention period and the other study reported 2-month follow-up data. The authors noted that all studies were small and short-term and stated that no conclusions could be drawn from the literature on the efficacy of music therapy for children with ASDs.

A number of systematic reviews have addressed exercise interventions for individuals with ASD (Bremer 2016; Chan, 2020; Dillon, 2017; Healy, 2018; Jia, 2023). For example, Chan and colleagues (2020) identified 12 controlled studies evaluating the impact of physical activity interventions in individuals younger than 18 years old and reported communication or social functioning outcomes. Meta-analyses found small to moderate benefits of physical activity on communication (SMC [standardized mean change], 0.27; 95% confidence interval [CI], 0.06 to 0.48; $p<0.01$) and social functioning (SMC, 0.39; 95% CI, 0.15 to 0.63; $p<0.01$). After statistical adjustment to account for publication bias, the effect size was smaller and remained statistically significant for the communication outcome (SMC, 0.22; 95% CI, 0.003 to 0.43; $p<0.05$), but was no longer statistically significant for social functioning (SMC, 0.27; 95% CI, -0.004 to 0.54; $p=0.053$).

In 2023, Jia and colleagues published a systematic review of 14 RCTs comparing a physical exercise intervention in individuals with ASD to routine rehabilitation or no intervention. The outcome of interest was social communication disorder; the authors did not discuss outcome measurement tools. The frequency and duration of exercise sessions, and the duration of the intervention varied across studies. Only 3 studies had blinding of outcome assessment and 2 had blinding of therapists. A pooled analysis of data from the 14 studies found a pooled effect size of the intervention of SMD= 0.45 (95% CI, 0.15 to 0.74), $p<0.05$. It is difficult to draw conclusions from this finding due to methodological limitations and variability among studies.

In 2022, the Cochrane collaboration published a systematic review of RCTs on music therapy delivered by a professional therapist for people with ASDs (Geretsegger, 2022). The authors identified 26 controlled trials that compared music therapy to a 'placebo' intervention in 15 trials and to standard care in 11 studies. Several primary outcomes were assessed. There were no statistically significant differences between groups in the global improvement variable at short-term (1-5 months) follow-up (2 studies) or medium-term (6 to 11 months) follow-up (1 study). Similarly, there were no statistically significant differences between groups at either the short- or medium-term follow-ups in the other primary outcomes, social interaction, verbal communication, or quality of life. For the outcome total autism symptom severity, a pooled analysis of 2 studies found a significant benefit of music therapy at short-term follow-up (2 studies) but not at medium-term follow-up (1 study). There were a small number of studies available for pooled analyses, but the review did not find a significant impact of music therapy on the outcomes of interest in individuals with ASDs.

A non-randomized controlled study was published in 2019 by Chou and colleagues on music therapy for individuals with Rett syndrome and their families. Eleven families enrolled in a twice weekly music therapy program and 12 families did not receive music therapy. After adjustment for baseline severity, the music therapy group had significantly improved scores on outcome measures such as the Vineland Adaptive Behavior Scales and the Rett Syndrome Motor Behavioral Assessment compared with families that did not receive music therapy. A limitation of this study is that it was not randomized and groups may have differed in ways that affect outcomes such as the degree of interaction or level of communication between parents and children.

There are few well-conducted controlled studies evaluating activity therapy for individuals with ASDs or Rett syndrome. Overall, activity interventions have not demonstrated an improvement in the pathological manifestations of ASDs or Rett syndrome in appropriately designed and conducted clinical studies. Although activity therapies are unlikely to pose a direct harm to individuals with ASDs or Rett syndrome, given their uncertain benefit, they may compete with validated treatments for time, effort and other resources, which itself presents a potential risk.

Definitions

Activity therapy: Activities, such as music, art, dance, play and theater, which are used for therapeutic rather than recreational or

diversional purposes.

Asperger's syndrome: A developmental disorder that affects the parts of the brain that control social interaction and communications.

Autism Spectrum Disorders: A collection of associated developmental disorders that affect the parts of the brain that control social interaction and verbal and non-verbal communication.

Childhood disintegrative disorder: A developmental disorder characterized by marked regression in multiple areas of functioning following a period of at least 2 years of apparently normal development.

Rett syndrome: A developmental disorder that affects the parts of the brain that control social interaction, communications, and motor function.

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13. Koehne S, Behrends A, Fairhurst MT, Dziobek I. Fostering social cognition through an imitation- and synchronization-based dance/movement intervention in adults with autism spectrum disorder: a controlled proof-of-concept study. Psychother Psychosom. 2016; 85(1):27-35.
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Government Agency, Medical Society, and Other Authoritative Publications:

1. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition Text Revision. DSM-5-TR. Washington, DC. February 2022.
2. Centers for Disease Control and Prevention. Prevalence of Autism Spectrum Disorder Among Children Aged 8 Years — Autism and Developmental Disabilities Monitoring Network, 11 Sites, United States, 2010. Morbidity and Mortality Weekly Report (MMWR). 2014; 3(SS02):1-21.
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Index

The use of specific product names is illustrative only. It is not intended to be a recommendation of one product over another, and is not intended to represent a complete listing of all products available.

History

Status	Date	Action
Reviewed	11/09/2023	Medical Policy & Technology Assessment Committee (MPTAC) review. Updated Discussion/General Information and References sections.
Reviewed	11/10/2022	MPTAC review. Material on the DIR®/Floortime™ Model moved to CG-BEH-02. Description, Discussion/General Information, References and Index sections updated.
Reviewed	11/11/2021	MPTAC review. Discussion/General Information and References sections updated.
Reviewed	11/05/2020	MPTAC review. Discussion/General Information and References sections updated. Reformatted Coding section.
Reviewed	11/07/2019	MPTAC review. Discussion/General Information and References sections updated.
Reviewed	01/24/2019	MPTAC review. Discussion/General Information and References sections updated.
Reviewed	03/22/2018	MPTAC review.
New	02/23/2018	Behavioral Health Subcommitee review. Initial document development. Moved content of BEH.00004 Activity Therapy for Autism Spectrum Disorders and Rett Syndrome to new clinical utilization management guideline document with the same title.
