

Clinical Practice Guideline: Auditory Integration Therapy – Facilitated Communication

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Product: Specialty

Related Policies:
 CPG 149: Sensory Integrative (SI) Therapy
 CPG 165: Autism Spectrum Disorders - Outpatient Rehabilitation Services (Speech, Physical, and Occupational Therapy)
 CPG 166: Speech-Language Pathology/Speech Therapy Guidelines
 CPG 257: Developmental Delay Screening and Testing
 CPG 287: Stuttering Devices and Altered Auditory Feedback (AAF) Devices
 CPG 288: Augmentative and Alternative Communication (AAC) and Speech Generating Devices (SGD)
 CPG 289: Voice Therapy

GUIDELINES

American Specialty Health – Specialty (ASH) considers auditory integration therapy (AIT) or facilitated communication (FC) therapy unproven for any indication because their effectiveness has not been established.

Summary Evidence in the published, peer-reviewed scientific literature is not sufficient to support the efficacy of AIT or FC for autism, mental retardation, developmental delays, behavioral disorders, or any other indications. The peer-reviewed literature fails to demonstrate that these interventions, compared with other treatments or with no treatment, provides clinically relevant, long-term improvements in health outcomes. The role of these interventions in the management of these conditions or other indications is not known at this time.

DESCRIPTION/BACKGROUND

Auditory Integration Therapy/Training (AIT)

Auditory integration therapy or training (AIT) refers to listening to music that has been computer modified to remove frequencies to which an individual demonstrates hypersensitivities and to reduce the predictability of auditory patterns and is usually provided by a speech pathologist or audiologist. The individual listens via headphones to a program of specially filtered and modulated music with wide frequency range. The treatment program consists of 20 half-hour sessions during a 10- to 12-day period, with 2 sessions daily. Auditory thresholds are determined via audiograms. The audiogram is then

1 reviewed for evidence of hyperacusis (i.e., an abnormal sensitivity to sound). A clinical
 2 history of sound sensitivities and behavior is also reviewed. Audiograms are repeated
 3 midway and at the end of the training session to document progress and to determine
 4 whether further treatment sessions are necessary. AIT aims to address the sensory problems
 5 which are said to cause discomfort and confusion in people with learning disabilities,
 6 including autism spectrum disorders. These hypersensitivities are believed to interfere with
 7 an individual’s attention, comprehension, and ability to learn. Thus, it has been proposed
 8 for improving abnormal sound sensitivity in these individuals with behavioral disorders,
 9 including autism spectrum disorders. Berard, whose method is the most widely studied,
 10 theorizes that auditory distortions may result in such behavioral disturbances as autism
 11 spectrum disorders, learning disabilities, depression, and aggressiveness. Berard suggests
 12 that AIT treats these distortions by exercising the middle ear muscles and auditory nervous
 13 system similar to physical therapy retraining muscles for orthopedic conditions. An
 14 audiogram, frequently the first step in the Berard method of AIT, is believed to help
 15 identify the presence of the auditory abnormalities and is used to monitor possible changes
 16 as a result of treatment. Berard claims that following AIT, children’s audiograms that
 17 previously had peaks and valleys, demonstrating areas of hyper- and hyposensitivity, are
 18 “flattened,” reflecting the elimination of auditory distortions and, subsequently, an
 19 improvement in behavioral abnormalities. According to Berard, optimal treatment consists
 20 of two half-hour sessions per day separated by a minimum of 3 hours, for 10 consecutive
 21 working days. A 2-day weekend interruption is acceptable. Despite current practice in the
 22 United States, Berard does not recommend follow-up sessions or any modifications to this
 23 treatment regimen. Results are evaluated by reviewing the audiogram obtained at the end
 24 of the 20 sessions and behavior changes at other post-treatment intervals.

25 26 **Facilitated Communication (FC)**

27 Facilitated Communication (FC) is a method of providing assistance to a nonverbal person
 28 by typing out words using a typewriter, computer keyboard, or other communication
 29 device. FC involves supporting the individual’s hand to make it easier for him or her to
 30 indicate the letters that are chosen sequentially to develop the communicative statement.
 31 Facilitated communication bills itself as a way to allow individuals with autism, intellectual
 32 disability, or a condition like cerebral palsy to communicate by means of a “facilitator.”
 33 Facilitators provide pressure to the hand, wrist, or arm, guiding the individual to letters,
 34 words, or pictures—typically on a keyboard, smartphone, or tablet. Whereas a prompt is
 35 an accepted educational technique to initiate an action (as distinct from “hand-over-hand,”
 36 which is used to teach the action itself outside an attempt to communicate), facilitation is
 37 typically provided throughout the communication process. Proponents claim that this
 38 manual prompting by a trained facilitator provides expressive language abilities to a wide
 39 range of individuals, including those with severe intellectual disabilities or autism. FC has
 40 been at the center of a growing controversy because several scientific studies have
 41 suggested that facilitators may unintentionally influence the communication, perhaps to the
 42 extent of actually selecting the words themselves.

1 EVIDENCE REVIEW

2 Auditory Integration Therapy/Training (AIT)

3 Although at least three AIT methods currently exist, the Berard method has emerged as the
 4 most used in the United States and has been described most often in professional literature,
 5 which is limited. The Agency for Healthcare Research and Quality (AHRQ) published a
 6 comparative effectiveness review of therapies for children with autism spectrum disorders.
 7 Among the allied health therapies in the review was auditory integration therapy. The
 8 research provided little support for its use. Specifically, two fair-quality studies of auditory
 9 integration showed no improvement associated with treatment. AHRQ also published a
 10 comparative effectiveness review on interventions for adolescents and young adults with
 11 ASD. Among the allied health therapies, studies of music therapy reported some
 12 improvements in social skills using invalid measures, thus there is little support for its use.
 13 Sinha et al. (2004) completed a Cochrane Database Systematic Review to determine the
 14 effectiveness of AIT or other methods of sound therapy in individuals with autism spectrum
 15 disorders (ASD). Randomized controlled trials of adults or children with ASD were
 16 included using AIT or other sound therapies involving listening to music modified by
 17 filtering and modulation. Control groups could be no treatment, waiting list, usual therapy,
 18 or placebo equivalent. Outcomes sought were changes in core and associated features of
 19 ASD, auditory processing, quality of life and adverse events. Meta-analysis was attempted
 20 but deemed inappropriate at present due to heterogeneity. No trials assessing sound
 21 therapies other than AIT were found. Six RCTs of AIT, including one cross-over trial, were
 22 identified with a total of 171 individuals aged 3-39 years. Four trials had fewer than 20
 23 participants. Seventeen different outcome measures were used. Only two outcomes were
 24 used by three or more studies: Aberrant Behaviour Checklist (ABC) (5) and Fisher's
 25 Auditory Problems Checklist (FAPC) (3). Three studies (Bettison, 1996; Zollweg, 1997;
 26 Mudford, 2000) did not demonstrate benefit of AIT over control conditions. The remaining
 27 trials (Veale, 1993; Rimland, 1995; Edelson, 1999) reported improvements at 3 months for
 28 the AIT group based on improvements of total mean scores for the ABC, which is of
 29 questionable validity. Rimland (1995) also reported improvements at 3 months in the AIT
 30 group for ABC subgroup scores. No significant adverse effects of AIT were reported.
 31 Based on these results, authors concluded that more research is needed to inform parents',
 32 caregivers' and practitioners' decision making about this therapy for individuals with
 33 autism spectrum disorders. In 2011, Sinha published an update to the 2004 Cochrane
 34 review of AIT and other methods of sound therapy. At this time, authors identified six
 35 randomized controlled trials of auditory integration therapy and one of Tomatis therapy,
 36 involving a total of 182 individuals aged three to 39 years. Two were cross-over trials. Five
 37 trials had fewer than 20 participants. Twenty different outcome measures were used and
 38 only two outcomes were used by three or more studies. Again, meta-analysis was not
 39 possible due to very high heterogeneity or the presentation of data in unusable forms. The
 40 same conclusions were determined as the 2004 review for the AIT studies. The study
 41 addressing Tomatis therapy described an improvement in language with no difference
 42 between treatment and control conditions and did not report on the behavioral outcomes

1 that were used in the auditory integration therapy trials. Again, authors concluded that there
2 is no evidence that auditory integration therapy or other sound therapies are effective as
3 treatments for autism spectrum disorders. As synthesis of existing data has been limited by
4 the disparate outcome measures used between studies, there is not sufficient evidence to
5 prove that this treatment is not effective. However, of the 7 studies including 182
6 participants that have been reported to date, only 2 (with an author in common), involving
7 a total of 35 participants, report statistically significant improvements in the auditory
8 integration therapy group and for only two outcome measures (Aberrant Behaviour
9 Checklist and Fisher's Auditory Problems Checklist). As such, there is no evidence to
10 support the use of auditory integration therapy at this time. Given these findings, the
11 published peer-reviewed scientific literature does not support the efficacy of AIT for the
12 treatment of patients with learning disabilities, autism, and other behavioral disorders.

13
14 The American Academy of Pediatrics (AAP) published a statement noting that as yet, there
15 are no good controlled studies to support the use of AIT for children with autism. It is also
16 noted that, until further information is available, the use of these treatments does not appear
17 warranted at this time, except within research protocols (AAP, 1998/2006/2010). American
18 Speech-Language-Hearing Association (ASHA) prepared an evidenced-based technical
19 report regarding AIT (ASHA, 2004). They noted that, despite approximately one decade
20 of practice, this method has not met scientific standards for efficacy and safety that would
21 justify its inclusion as a mainstream treatment for a variety of communication, behavioral,
22 emotional, and learning disorders. The American Academy of Audiology believes AIT by
23 any name to be entirely investigational. The Academy believes that prospective, systematic
24 research of this technique is needed to demonstrate its efficacy. Pursuant to Principle 5 of
25 the Code of Ethics, the Academy believes that the experimental status of this technique
26 must be clearly explained to consumers before they are entered into treatment.

27
28 The American Academy of Child and Adolescent Psychiatry (AACAP)'s practice
29 parameter for "The assessment and treatment of children and adolescents with autism
30 spectrum disorder" stated that "There is a lack of evidence for most other forms of
31 psychosocial intervention, although cognitive behavioral therapy has shown efficacy for
32 anxiety and anger management in high functioning youth with ASD. Studies of sensory
33 oriented interventions, such as auditory integration training, sensory integration therapy,
34 and touch therapy/massage, have contained methodologic flaws and have yet to show
35 replicable improvements." The National Institute for Health and Clinical Excellence
36 (NICE) published guidelines for the management and support of children and young people
37 on the autism spectrum (NICE, 2013). The recommendations for treatment address
38 interventions that should not be used for autism in children and young people including
39 auditory integration training to manage speech and language. Li et al. (2018) investigated
40 the efficacy of AIT for children with ASD compared with those in control group by using
41 meta-analysis. Outcome of interest included childhood autism rating scale (CARS), autism
42 behavior checklist (ABC), intelligence quotient (IQ), and autism treatment evaluation

1 checklist (ATEC). Thirteen RCTs with 976 children with ASD were included for analysis.
 2 Results showed that children with ASD had significantly lower ABC scores and ATEC
 3 scores in AIT group compared with that in control group. The analysis of pooled statistics
 4 put forward AIT could increase the IQ score when compared with that in control group. A
 5 negative association was found about CARS scores between AIT group and control group.
 6 In conclusions, AIT can reduce the score of ABC and ATEC and can increase the IQ score
 7 among children with ASD in Chinese. Therefore, it is recommended for Chinese children
 8 with ASD to receive AIT. Several study limitations existed and thus, findings need
 9 confirmation with improved study design.

10
 11 Shahrudin et al. (2022) mapped the evidence from the relevant studies regarding the use of
 12 music and sound-based intervention for autism spectrum disorder (ASD) using a scoping
 13 review study design. Four major themes emerged from 39 studies that matched the
 14 inclusion criteria as follows: (1) forms of sound therapy discussing methods of sound
 15 therapy and stimulus used, (2) duration of the intervention explain in terms of listening
 16 time and total listening sessions, (3) clinical characteristics of the intervention exploring
 17 the main interest of sound therapy study in ASD, and (4) evidence for the intervention
 18 effectiveness looking into the positive, negative, and mixed findings of previous studies.
 19 Each theme was explored to identify the knowledge gaps in sound-intervention therapy.
 20 This review demonstrated the need for further studies to address several issues including
 21 identifying the effectiveness of sound-therapy intervention for ASD according to the
 22 individual sound types, the minimum duration for ASD sound-therapy intervention and
 23 more details on the use of technology, and clinical features of the sound-therapy
 24 intervention. These elements are important to further demonstrate the effectiveness of
 25 sound therapy intervention for ASD children.

26
 27 AIT devices do not have FDA approval for treating medical, behavioral, or emotional
 28 disorders. The FDA has banned the importation of AIT devices such as AudioKinetron
 29 (SAPP, France) and Electronic Ear (Tomatis Electronics, France).

30 31 **Facilitated Communication (FC)**

32 Facilitated Communication (FC) is a technique whereby individuals with disabilities and
 33 communication impairments allegedly select letters by typing on a keyboard while
 34 receiving physical support, emotional encouragement, and other communication supports
 35 from facilitators. The validity of FC stands or falls on the question of who is authoring the
 36 typed messages—the individual with a disability or the facilitator. Thus, FC has been at
 37 the center of debate because several scientific studies have suggested that facilitators may
 38 unintentionally influence the communication, perhaps to the extent of selecting the words
 39 themselves. Tostanoski et al. (2013) reviewed the history and damage caused by facilitated
 40 communication (FC) and highlights the parallels between FC and the Rapid Prompting
 41 Method (RPM). FC involves a therapist (or facilitator) supporting the hand of a person with
 42 autism while a message is typed on a letter board. Authors state that FC is widely

1 acknowledged to be a pseudoscientific, unsafe, and unethical treatment for people with
2 autism. RPM is a more recent intervention for people with autism that involves the
3 facilitator holding and moving the letter board while the individual with autism moves their
4 own hand. Those who espouse the perceived benefits of FC and RPM make strikingly
5 similar claims of hidden intelligence and extraordinary communication abilities in people
6 with autism following treatment. Authors conclude clients, proponents, and practitioners
7 of RPM should demand scientific validation of RPM to ensure the safety of people with
8 disabilities that are involved with RPM. Saloviita et al. (2014) studied the authorship of
9 messages produced through facilitated communication (FC) for all users of FC in two
10 comprehensive schools in a small city in Finland. The participants were 11 children with
11 intellectual disabilities, including autism, all having used FC from 1-3 years. The test
12 conditions involved open and blind information-passing tasks in which the participants
13 were directed to write down the contents of written or pictorial stimuli. The results failed
14 to validate FC as a method of communication for any participant or facilitator. An analysis
15 of the messages produced under the FC condition revealed a large degree of facilitator
16 influence on the content of the messages produced. Additionally, FC impaired the
17 performance of the two participants who had previously demonstrated some independent
18 writing skills. Schlosser et al. (2014) reported a synthesis of the peer-reviewed literature
19 on the question of authorship in FC. The International Society for Augmentative and
20 Alternative Communication (ISAAC) formed an Ad Hoc Committee on FC and charged
21 Schlosser et al. (2014) to synthesize the evidence base related to this question to develop a
22 position statement. The authors considered synopses of systematic reviews, and systematic
23 reviews, which were supplemented with individual studies not included in any prior
24 reviews. Additionally, documents submitted by the membership were screened for
25 inclusion. The evidence was classified into articles that provided (a) quantitative
26 experimental data related to the authorship of messages, (b) quantitative descriptive data
27 on the output generated through FC without testing of authorship, (c) qualitative descriptive
28 data on the output generated via FC without testing of authorship, and (d) anecdotal reports
29 in which writers shared their perspectives on FC. Only documents with quantitative
30 experimental data were analyzed for authorship. Results indicated unequivocal evidence
31 for facilitator control: messages generated through FC are authored by the facilitators rather
32 than the individuals with disabilities. Hence, FC is a technique that has no validity. Based
33 on these results, there is insufficient evidence found in the medical literature regarding the
34 effectiveness of this therapy.

35
36 Associations have a long history stating their lack of support for FC. In 1994, the American
37 Psychological Association (APA) declared that there was no scientific evidence proving
38 that FC worked—and that it constituted “immediate threats to the individual civil and
39 human rights” of the person being facilitated. One of the primary concerns, both scientific
40 and ethical, was the issue of authorship: whether the thoughts being expressed truly arise
41 from the facilitated, and not the facilitator. The American Speech-Language-Hearing
42 Association and the American Academy of Pediatrics joined in and by the late ‘90s,

1 facilitated-communication proponents were largely dismissed as faith-healers or even
 2 predators. The May Institute’s National Autism Center, considered to be among the very
 3 best resources regarding evidence-based treatment of autism, found in both 2009 and again
 4 in 2015 in its National Standards Project that there is “little or no evidence in the scientific
 5 literature.” The International Society for Augmentative and Alternative Communication,
 6 in its own review of the science around FC, concluded in 2014 that all indications are that
 7 authorship stems from the facilitator, and not the facilitated. The AACAP published a
 8 policy statement regarding facilitated communication that states, “Studies have repeatedly
 9 demonstrated that FC is not a scientifically valid technique for individuals with autism or
 10 mental retardation. Information obtained via FC should not be used to confirm or deny
 11 allegations of abuse or to make diagnostic or treatment decisions.” The AAP has published
 12 a statement regarding two treatments proposed for autism: AIT and facilitated
 13 communication. According to the AAP, there is good scientific data showing FC to be
 14 ineffective; therefore, its use is not an accepted treatment currently. Currently available
 15 information does not support the claims of proponents that these treatments are efficacious.
 16 Its use does not appear warranted at this time, except within research protocols (AAP,
 17 1998/2006/2010). AHRQ also published a comparative effectiveness review on
 18 interventions for adolescents and young adults with ASD. Among the allied health
 19 therapies, studies assessing facilitated communication noted little communication
 20 improvement associated with facilitation and some evidence of facilitator influence on
 21 participants’ responses.

22
 23 The Scottish Intercollegiate Guidelines Network (SIGN): The updated SIGN national
 24 clinical guideline on assessment, diagnosis and interventions for autism spectrum disorders
 25 states that facilitated communication should not be used as a means to communicate with
 26 adults, children and young people with ASD (SIGN, 2016). In 2016, NICE updated the
 27 clinical guideline, diagnosis, and management of adults on the autism spectrum. The
 28 guideline recommendations for psychosocial interventions for the core symptoms of autism
 29 state to not provide facilitated communication for adults with autism. There is insufficient
 30 evidence found in the medical literature regarding the effectiveness of this therapy. An
 31 UpToDate review on "Evaluation and treatment of speech and language disorders in
 32 children" (Carter and Musher, 2018) states that “Investigational therapies – Facilitated
 33 communication, auditory integration training (AIT), sensory integration (SI) therapy, and
 34 Fast ForWord are examples of controversial practices that have not been validated in large,
 35 controlled trials.”

36
 37 Hemsley et al. (2018) conducted a systematic review of the literature on FC published
 38 between 2014 and 2018 to inform the 2018 update of the 1995 American Speech-Language
 39 Hearing Association Position Statement on FC. In total, 18 studies met the inclusion
 40 criteria. There were no new empirical studies and no new descriptive quantitative studies
 41 addressing the authorship of messages delivered using FC. Three new qualitative studies
 42 qualified for inclusion; these did not first establish authorship. Of the 15 new commentary

1 papers on FC located, 14 were critical and 1 was non-critical. There are no new studies on
 2 authorship and there remains no evidence that FC is a valid form of communication for
 3 individuals with severe communication disabilities. There continue to be no studies
 4 available demonstrating that individuals with communication disabilities are the authors of
 5 the messages generated using FC. Furthermore, there is substantial peer-reviewed literature
 6 that is critical of FC and warns against its use.

7
 8 Heyworth et al. (2022) presents an analysis of the research arguing for-and against-the use
 9 of FC, combined with the lived experience knowledge of autistic adults who utilize FC, to
 10 rehabilitate its current standing as discredited and unevidenced in a perspective article.
 11 Debate surrounding the validity of the method of supported typing known as FC has been
 12 continuous since its inception in the 1990s. Views are polarized on whether FC can be
 13 considered an authenticated method for use by people with complex communication needs
 14 (CCN) or significant challenges in speech, language, and communication. By considering
 15 extant qualitative and quantitative studies, as well as personal accounts of the use of this
 16 Augmentative and Alternative Communication (AAC) method, the authors argue that the
 17 current dismissal of FC is rooted in ableist and outdated approaches. Authors conclude that
 18 FC research should be reconsidered and reconducted using current best practice autism
 19 research approaches, including coproduction and a presumption of autistic communication
 20 competence, to assess its validity as a potential AAC method for autistic individuals.

21
 22 American Speech-Language-Hearing Association (ASHA, 2023) updated their position
 23 statement detailing their official recommendations regarding the use of FC by its members.
 24 ASHA completed a systematic literature review based on research appropriately designed
 25 to determine the effectiveness of FC. They concluded the following:

26
 27 “The substantial and serious risks of FC outweigh any anecdotal reports of its benefit. The
 28 scientific evidence against FC, evidence of harms of FC, and potential for future harms to
 29 people who use FC and their families cannot be ignored in clinical decision making. SLPs
 30 who use FC—despite being informed of and knowing these harms and risks—could face
 31 additional risks in terms of their own liability in the event of harms arising to people with
 32 disabilities or their families related to the use of FC.

33 SLPs have a responsibility to inform and warn clients, family members, caregivers,
 34 teachers, administrators, and other professionals who are using or are considering using FC
 35 that:

- 36 a. decades of scientific research on FC have established with confidence that FC is
- 37 not a valid form of communication;
- 38 b. messages produced using FC do not reflect the communication of the person with
- 39 a disability;
- 40 c. FC does not provide access to communication;

- 1 d. the use of FC is associated with several harms to individuals with disabilities as
 2 well as their family members or teachers; and
 3 e. ASHA's position on FC is that it should not be used.”

4 **PRACTITIONER SCOPE AND TRAINING**

5 Practitioners should practice only in the areas in which they are competent based on their
 6 education, training, and experience. Levels of education, experience, and proficiency may
 7 vary among individual practitioners. It is ethically and legally incumbent on a practitioner
 8 to determine where they have the knowledge and skills necessary to perform such services
 9 and whether the services are within their scope of practice.

10
 11 It is best practice for the practitioner to appropriately render services to a member only if
 12 they are trained, equally skilled, and adequately competent to deliver a service compared
 13 to others trained to perform the same procedure. If the service would be most competently
 14 delivered by another health care practitioner who has more skill and training, it would be
 15 best practice to refer the member to the more expert practitioner.

16
 17 Best practice can be defined as a clinical, scientific, or professional technique, method, or
 18 process that is typically evidence-based and consensus driven and is recognized by a
 19 majority of professionals in a particular field as more effective at delivering a particular
 20 outcome than any other practice (Joint Commission International Accreditation Standards
 21 for Hospitals, 2020).

22
 23 Depending on the practitioner’s scope of practice, training, and experience, a member’s
 24 condition and/or symptoms during examination or the course of treatment may indicate the
 25 need for referral to another practitioner or even emergency care. In such cases it is prudent
 26 for the practitioner to refer the member for appropriate co-management (e.g., to their
 27 primary care physician) or if immediate emergency care is warranted, to contact 911 as
 28 appropriate. See the *Managing Medical Emergencies (CPG 159 – S)* policy for
 29 information.

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