Pediatric intensive feeding programs

Clinical Policy ID: CCP.1322

Recent review date: 2/2025

Next review date: 6/2026

Policy contains: Feeding disorder; pediatric intensive feeding program.

AmeriHealth Caritas Next has developed clinical policies to assist with making coverage determinations. AmeriHealth Caritas Next's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of medically necessary, and the specific facts of the particular situation are considered, on a case by case basis, by AmeriHealth Caritas Next when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. AmeriHealth Caritas Next's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. AmeriHealth Caritas Next's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, AmeriHealth Caritas Next will update its clinical policies as necessary. AmeriHealth Caritas Next's clinical policies are not guarantees of payment.

Coverage policy

Pediatric intensive feeding programs (outpatient and inpatient) are clinically proven and, therefore, may be medically necessary when all of the following criteria are met (American Speech-Language-Hearing Association, 2024):

- Member has a diagnosed feeding disorder defined as a medical, nutritional, feeding skill, or psychosocial impairment that interferes with age-appropriate oral intake and the ability to meet nutritional and hydration requirements (Goday, 2019).
- The feeding program is a multidisciplinary team led by a physician.
- An individualized treatment plan has been submitted that includes child-specific interventions and goals, an estimated length of treatment, and active participation/involvement of a parent or guardian.
- The member is medically stable.
- The member is capable of participating in the program.

- Any contributing underlying condition has been or is being addressed without resolution of the feeding problem.

An inpatient pediatric intensive feeding program is clinically proven and, therefore, may be medically necessary when all of the above criteria are met and an outpatient pediatric intensive feeding program has failed or is contraindicated (American Speech-Language-Hearing Association, 2022).

Continuation of outpatient or inpatient pediatric intensive feeding program services beyond the original determined length of treatment (as specified in the treatment plan) may be medically necessary when either condition has been met:

- New clinical findings or a change in the member's condition interferes with feeding.
- The member has demonstrated continued improvement but has not met the established treatment goals in the treatment plan.

Limitations

Pediatric intensive feeding programs are investigational/not clinically proven and, therefore, not medically necessary:

- For treating childhood obesity.
- For mild to moderate feeding difficulties in members whose normal growth and developmental milestones are being met.
- To prevent recurrence of the feeding disorder.
- To improve or maintain the member's general physical condition.
- When the treatment goals established in the treatment plan have been met.

Alternative covered services

Routine patient evaluation and management by a network healthcare provider.

Background

Goday (2019) proposed a unified definition for pediatric feeding disorder, based on a World Health Organization framework of International Classification of Functioning, Disability, and Health, as "impaired oral intake that is not age-appropriate, and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction." Impairment in any one of the four domains can lead to dysfunction in any of the others. In this case, impaired oral intake refers to the inability to consume sufficient food and liquids to meet nutritional and hydration requirements.

Feeding and swallowing concerns are often medically complicated. Frequently, therapy is provided by a multidisciplinary team including, but not limited to, speech, occupational, and physical therapists, dieticians, pediatricians, and pediatric psychologists (Toomey, 2022). One model classifies child eating behaviors into categories of limited appetite, selective intake, and fear of feeding. Each category includes a range from normal (misperceived) to severe (behavioral and organic) (Kerzner, 2015).

Another behavioral framework for pediatric feeding includes behavioral assessment, treatment planning, questionnaire, family clinical interview, mealtime observations, behavioral treatment, environmental interventions, and increasing desirable/decreasing undesirable feeding behavior (Silverman, 2015).

Some pediatric feeding problems are linked to particular disorders. For example, children with autism tend to have elevated rates of feeding problems; some techniques that apply to all children can improve feeding in this

population (Volkert, 2010). A meta-analysis and comprehensive review on feeding problems among children with autism spectrum disorders showed the rate of feeding problems is highly elevated (odds ratio 5.11), and intakes of calcium and protein are significantly lower than those of healthy children (Sharp, 2013).

Intensive, multidisciplinary intervention for pediatric feeding disorders has become an important treatment for infants and children exhibiting this disorder. A typical pediatric intensive feeding program may draw from the disciplines of psychology, nutrition, medicine, speech-language pathology and occupational therapy; and assert goals as elementary as weaning from tube feeding to achieving complex behavioral modification. An intensive program is defined by its daily, scheduled and clearly defined therapeutic intervention as opposed to routine "as needed" adjunctive therapy applied intermittently or sporadically as part of routine patient evaluation and management by a healthcare provider. These programs may be offered in inpatient or outpatient settings. The outpatient setting is generally preferred, reserving the inpatient setting for more severe conditions requiring around-the-clock medical supervision (American Speech-Language-Hearing Association, 2022).

Findings

Clinical Guidelines

Cincinnati Children's Hospital Medical Center (2013) has issued guidelines for pediatric intensive feeding programs, recommending the integration of both oral motor and behavioral methods to improve consumption among children who have severe feeding difficulties (Laud, 2009; Sharp, 2009a, 2009b, 2017). These guidelines detail the importance of differential attention (Williams, 2010), positive reinforcement (Cooke, 2011; Remington, 2012), escape extinction or escape prevention (Najdowski, 2010), stimulus fading (Meier, 2012; Sharp, 2009a), simultaneous presentation (Silbaugh, 2016), differential reinforcement of alternative behavior (Najdowski, 2010; Sharp, 2009a; Williams, 2010), and a flipped spoon feeding technique for individuals with oral motor limitations (Silbaugh, 2018). They also advise oral motor training for spoon-feeding, biting, and chewing in children with cerebral palsy and moderate feeding impairments (Snider, 2011). In addition, experts have recommended repeated exposure—10 to 15 times—of an unfamiliar or disliked food to increase acceptance in infants and children from four months to seven years of age (Cooke, 2011; Remington, 2012).

The American Speech-Language-Hearing Association (2024) emphasized the integral role of speech-language pathologists as the primary providers of dysphagia services and as essential members of collaborative teams managing complex pediatric feeding concerns. Individualized treatment plans should align with the International Classification of Functioning, Disability, and Health framework and be delivered in settings ranging from hospital to outpatient to home or school. In instances where individuals have moderate to severe feeding challenges yet remain medically stable, inpatient services may be appropriate if these individuals require or are at risk for feeding tubes, exhibit restricted food choices, or do not respond to outpatient methods.

Systematic Reviews

Numerous investigations of treatments for children with feeding disorders suffer from limited sample sizes and ambiguous definitions of problematic behaviors and outcomes. However, some larger bodies of work clarify the efficacy of intensive and multidisciplinary approaches. One systematic review included 11 studies of 593 participants with chronic food refusal, treated in day programs or inpatient hospital settings (Sharp, 2017). The most prevalent interventions were behavioral therapy and tube weaning, and results showed that 71% of these participants were successfully weaned from feeding tubes. Follow-up indicated 80% remained tube-free, accompanied by improved oral intake, more positive mealtime interactions, and decreased caregiver stress.

Other reviews concentrate on specific behaviors and populations. A synthesis of studies of food packing highlighted the importance of identifying whether packing is driven by a physical motor challenge (e.g., swallowing issues) or by performance-related barriers (Silbaugh, 2018). Another review of 22 studies assessed parent-report tools for children who have neurological impairments and require extensive feeding support, finding that the Behavioural Paediatric Feeding Assessment Scale ranked highest in validity and reliability (Jaafar, 2019). A broad systematic review of 106 randomized controlled trials, involving 16,448 participants, evaluated methods to prevent disordered eating, supporting the broader use of proven interventions such as cognitive behavioral therapy for targeted groups (Watson, 2016). Further, a review of 41 articles addressed picky eating and food neophobia—behaviors detrimental to child development and predictive of later eating habits. The prevalence of picky eating ranged from 6% to 59%, while food neophobia ranged from 40% to 60%, and the authors recommended standardized definitions to improve identification (Brown, 2016). Another systematic review of 48 case studies, totaling 96 participants with various medical or developmental conditions, revealed marked advances in feeding behaviors following behavioral strategies (Sharp, 2010).

Research on feeding problems in children diagnosed with autism spectrum disorders identifies both a high occurrence of feeding challenges and the general success of behavioral approaches in boosting acceptance and swallowing of target foods, although methodological inconsistencies complicate judgments regarding the durability of these outcomes (Silbaugh, 2016). An additional review of 21 observational studies and one randomized trial showed that short breastfeeding duration and certain early weaning methods correlate with elevated risks of food refusal, pickiness, and neophobia in children older than one year (Babik, 2021). Several investigations also document elevated risk for feeding-related disorders when individuals experience chronic medical conditions requiring diet management, such as diabetes, cystic fibrosis, celiac disease, gastrointestinal disorders, and inflammatory bowel diseases (Conviser, 2018). In a cohort of 248 infants, 151 born at term and 97 born prematurely at fewer than 30 weeks, 49 of 227 with notable neurobehavioral issues exhibited oromotor feeding impairments, which were associated with smaller biparietal diameter at birth (Sanchez, 2017).

Meta-Analyses

Some evidence syntheses have proceeded beyond systematic review to meta-analysis, illuminating further intervention effects. One meta-analysis analyzed 23 small-scale studies (fewer than five participants each) intended to enhance feeding behaviors in children with autism spectrum disorders (Marshall, 2015). The findings showed medium-to-large improvements in volume consumed but negligible changes in variety. Another meta-analysis of 14 articles investigated feeding interventions for young persons in poverty, indicating modest general effects that grew when measured long term (Pastor, 2020).

In 2025, a comprehensive systematic review and meta-analysis included eight articles with a total of 575 participants from three countries, and seven of those articles contributed data to meta-analyses (Madonna, 2024). There was high-certainty evidence that caregiver training boosted child feeding behaviors and moderate-certainty evidence that maladaptive mealtime strategies decreased, though questions remained about the optimal frequency and duration of such programs. Caregiver stress and dietary consumption outcomes varied but trended positively in certain investigations. A second meta-analysis examined 38 studies with a total of 98 participants and found the strongest outcomes for mealtime problem behavior reduction and favorable feeding behaviors resulted from a combination of extinction-based and non-extinction-based techniques (Scott, 2024). Exclusively non-extinction interventions were faster on average but less robust. Many of the included studies did not fully address follow-up, generalization to other settings, or measures centered on caregivers, highlighting areas that require additional research to determine which interventions offer the most sustained benefits.

In 2025, the findings section of this policy was condensed and rearranged thematically. No policy changes were made.

References

On January 12, 2025, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were "Feeding and Eating Disorders of Childhood" (MeSH), "Intensive feeding," "Failure to thrive," "feeding aversion," "swallowing dysfunction," "malnutrition," "feeding programs," "premature infant feeding." We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

American Speech-Language-Hearing Association. Pediatric feeding and swallowing. https://www.asha.org/practice-portal/clinical-topics/pediatric-feeding-and-swallowing/#collapse_6. Published 2024.

Babik K, Patro-Golab B, Zalewski BM, Woitnyiak K, Ostaszewski P, Horvath A. Infant feeding practices and later parent-reported feeding difficulties: A systematic review. *Nutr Rev*. 2021;nuaa135. Doi: 10.1093/nutrit/nuaa135.

Brown CL, Vander Schaaf EB, Cohen GM, Irby MB, Skelton JA. Association of picky eating and food neophobia with weight: A systematic review. *Child Obes*. 2016;12(4):247-262. Doi: 10.1089/chi.2015.0189.

Cincinnati Children's Hospital Medical Center. Best evidence statement. Behavioral and oral motor interventions for feeding problems in children. National Guideline Clearinghouse website. https://jesse.tg/ngc-archive/summary/9991. Published July 15, 2013.

Conviser JH, Fisher SD, McColley SA. Are children with chronic illnesses requiring dietary therapy at risk for disordered eating or eating disorders? A systematic review. *Int J Eat Disord*. 2018;51(3):187-213. Doi: 10.1002/eat.22831.

Cooke LJ, Chambers LC, Anez EV, et al. Eating for pleasure or profit: The effect of incentives on children's enjoyment of vegetables. *Psychol Sci*. 2011;22(2):190-196. Doi: 10.1177/0956797610394662.

Jaafar NH, Othman A, Majid NA, Harith S, Zabidi-Hussin Z. Parent-report instruments for assessing feeding difficulties in children with neurological impairments: A systematic review. *Dev Med Child Neurol*. 2019;61(2):135-144. Doi: 10.1111/dmcn.13986.

Kerzner B, Milano K, MacLean WC, Jr., Berall G, Stuart S, Chatoor I. A practical approach to classifying and managing feeding difficulties. *Pediatrics.* 2015;135(2):344-353. Doi: 10.1542/peds.2014-1630.

Madonna M, Jeffers E, Harding KE. Caregiver training improves child feeding behaviors in children with pediatric feeding disorder and may reduce caregiver stress: A systematic review and meta-analysis. *Int J Speech Lang Pathol*. 2024; Epub ahead of print. Doi:10.1080/17549507.2024.2381459.

Marshall J, Ware R, Ziviani J, Hill RJ, Dodrill P. Efficacy of interventions to improve feeding difficulties in children with autism spectrum disorders: A systematic review and meta-analysis. *Child Care Health Dev*. 2015;41(2):278-302. Doi: 10.1111/cch.12157.

Meier PP, Engstrom JL, Janes JE, Jegier BJ, Loera F. Breast pump suction patterns that mimic the human

infant during breastfeeding: Greater milk output in less time spent pumping for breast pump-dependent mothers with premature infants. *J Perinatol*. 2012;32(2):103-110. Doi: 10.1038/jp.2011.64.

Najdowski AC, Wallace MD, Reagon K, Penrod B, Higbee TS, Tarbox J. Utilizing a home-based parent training approach in the treatment of food selectivity. *Behav Interv*. 2010;25(2):89-107. Doi: 10.1002.bin.298.

Pastor R, Tur JA. Effectiveness of interventions to promote healthy eating habits in children and adolescents at risk of poverty: Systematic review and meta-analysis. *Nutrients*. 2020;12(6):1891. Doi: 10.3390/nu12061891.

Remington A, Anez E, Croker H, Wardle J, Cooke L. Increasing food acceptance in the home setting: A randomized controlled trial of parent-administered taste exposure with incentives. *Am J Clin Nutr*. 2012;95(1):72-77. Doi: 10.3945/ajcn.111.024596.

Sanchez K, Morgan AT, Slattery JM, et al. Neuropredictors of oromotor feeding impairment in 12month-old children. *Early Hum Devel*. Aug 2017;111:49-55. Doi: 10.1016/j.earlhumdev.2017.05.012. [Erratum in *Early Hum Devel.* 2019 Jan;128:122.]

Scott V, Saini V, Totino M. On the efficacy and efficiency of treating pediatric feeding disorder. *J Appl Behav Anal*. 2024;57(4):859-878. Doi:10.1002/jaba.2912.

Sharp WG, Berry RC, McCracken C, et al. Feeding problems and nutrient intake in children with autism spectrum disorders: A meta-analysis and comprehensive review of the literature. *J Autism Dev Disord*. 2013;43(9):2159-2173. Doi: 10.1007/s10803-013-1771-5.

Sharp WG, Jaquess DL, Morton JF, Herzinger CV. Pediatric feeding disorders: A quantitative synthesis of treatment outcomes. *Clin Child Fam Psychol Rev*. 2010;13(4):348-365. Doi: 10.1007/s10567-010-0079-7.

Sharp WG, Jaquess DL, Morton JF, Miles AG. A retrospective chart review of dietary diversity and feeding behavior of children with autism spectrum disorder before and after admission to a day-treatment program. *Focus Autism Dev Disabil*. 2009a;26(1):37-48. Doi: 10.1177/1088357609349245.

Sharp WG, Jaquess DL. Bite size and texture assessments to prescribe treatment for severe food selectivity in autism. *Behav Interv*. 2009b;24(3):157-170. Doi: 10.1002/bin.282.

Sharp WG, Volkert VM, Scahill L, McCracken CE, McElhanon B. A systematic review and meta-analysis of intensive multidisciplinary intervention for pediatric feeding disorders: How standard is the standard of care? *J Pediatr*. 2017;181:116-124.e4. Doi: 10.1016/j.jpeds.2016.10.002.

Silbaugh BC, Penrod B, Whelan CM. A systematic synthesis of behavioral interventions for food selectivity of children with autism spectrum disorders. *Rev J Autism Dev Disord.* 2016; 3(4):345-347. Doi: 10.1007/s40489-0160087-8.

Silbaugh BC, Swinnea S, Penrod B. Synthesis of applied behavior analytic interventions for packing in pediatric feeding disorders. *Behav Modif.* 2018;42(2):249-272. Doi: 10.1177/0145445517724541.

Silverman AH. Behavioral management of feeding disorders of childhood. *Ann Nutr Metab.* 2015;66 Suppl 5:33-42. Doi: 10.1159/000381375.

Snider L, Majnemer A, Darsaklis V. Feeding interventions for children with cerebral palsy: A review of the evidence. *Phys Occup Ther Pediatr*. 2011;31(1):58-77. Doi: 10.3109/01942638.2010.523397.

Toomey, K. Why SOS approach to feeding? SOS approach to feeding. https://sosapproachtofeeding.com/why-sos-approach-feeding/. Published 2022.

Volkert VM, Vaz PC. Recent studies on feeding problems in children with autism. *J Appl Behav Anal.* 2010;43(1):155-159. Doi: 10.1901/jaba.2010.43-155.

Watson HJ, Joyce T, French E, et al. Prevention of eating disorders: A systematic review of randomized controlled trials. *Int J Eat Disord*. 2016;49(9):833-862. Doi: 10.1002/eat.22577.

Williams KE, Field DG, Seiverling L. Food refusal in children: A review of the literature. *Res Dev Disabil*. 2010;31(3):625-633. Doi: 10.1016/j.ridd.2020.01.001.

Policy updates

7/2017: initial review date and clinical policy effective date: 8/2017

7/2018: Policy references updated.

9/2019: Policy references updated. Policy ID changed to CCP.1322.

9/2020: Policy references updated.

9/2021: Policy references updated.

9/2022: Policy references updated.

1/2023: Policy references updated. Coverage modified.

1/2024: Policy references updated.

2/2025: Policy references updated.