Pediatric intensive feeding programs

Clinical Policy ID: CCP.1322

Recent review date: 2/2024

Next review date: 6/2025

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 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, 2022):

- 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

The Cincinnati Children's Hospital Medical Center (2013) has promulgated guidelines for pediatric intensive feeding. They recommend that:

- A model intensive feeding program combine oral motor and behavioral interventions to increase intake in children with severe feeding problems (Laud, 2009; Sharp, 2009a, 2009b, 2017).
- The following behavioral interventions be used to increase intake for children with feeding problems:
    - Differential attention (Williams, 2010).
    - Positive reinforcement (Cooke, 2011; Remington, 2012).
    - Escape extinction/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).
    - Use of a flipped spoon as a presentation method, particularly for children with oro-motor difficulties (Silbaugh, 2018).
- Oral motor treatment for spoon-feeding, biting and chewing be used to increase intake for children with cerebral palsy who have moderate feeding impairments (Snider, 2011).

Much of the literature on interventions for children’s feeding disorders is limited primarily due to methodological weakness caused by small sample sizes and inconsistently defined behaviors and outcome measures.

A systematic review (Sharp, 2017) examined 11 studies of the treatment of children (n = 593 patients) with chronic food refusal receiving intervention at day treatment or inpatient hospital programs. Inclusion criteria required the presentation of quantitative data on food consumption, feeding behavior, and/or growth status before and after the intervention. Behavioral intervention and tube weaning represented the most common treatment approaches. The overall effect size for percentage of patients successfully weaned from tube feeding was 71%. Treatment gains endured following discharge, with 80% of patients weaned from tube feeding at last follow-up. Treatment also was associated with increased oral intake, improved mealtime behaviors, and reduced parenting stress. The authors concluded that intensive, multidisciplinary treatment holds benefits for children with severe feeding difficulties.

Findings from a synthesis of interventions addressing food packing suggest that approaches should be chosen based on whether the packing is due to a motor response, such as difficulty swallowing, or due to performance, e.g., not due to a physical deficit (Silbaugh, 2018).

In a review of 22 studies assessing the psychometric properties and clinical applications parent-report instruments for children with neurological impairments who require intensive feeding, the Behavioural Paediatric Feeding Assessment Scale was considered the most valid and reliable instrument (Jaafar, 2019).

A systematic review of 106 randomized controlled trials (n = 16,448) on prevention methods for eating disorder prevention produced evidence that empirically supported approaches should be disseminated on a wider basis, and that cognitive behavioral training should be offered for indicated populations (Watson, 2016).

A systematic review of 41 studies assessed childhood picky eating and food neophobia, which are harmful to child development and are predictors of eating patterns in adulthood. Picky eating was defined inconsistently, and its prevalence varied from 6% to 59%; prevalence of food neophobia varied from 40% to 60%. More consistent definitions are needed to help identify children who can benefit from interventions (Brown, 2016).

A systematic review of 48 case studies (n = 96) included children with medical and developmental concerns who were treated with behavioral interventions. Significant improvements were identified in feeding behavior after interventions (Sharp, 2010).

There is a high prevalence of feeding disorders among children with autism spectrum disorders. A systematic synthesis of interventions addressing food selectivity in this population found that while behavioral interventions are often effective at improving behaviors such as increasing acceptance and swallowing of target foods, evidence for adequacy of behavioral improvement is lacking, with many of the reviewed studies being hampered by methodological issues (Silbaugh, 2016).

A systematic review/meta-analysis consisted of 23 papers of low-level evidence (each had five or fewer subjects) of efforts to improve eating practices in children with autism spectrum disorders. Authors found a medium-large effect size in increasing volume, but a negligible effect in variety of foods consumed (Marshall, 2015).

A systematic review/meta-analysis of 14 articles on the ability of behavioral interventions to improve eating habits of children and adolescents at risk of poverty revealed small effects, and larger effects where the invention was followed long term (Pastor, 2020).

Experts recommend that a previously unfamiliar or non-preferred food be presented 10 to 15 times to increase intake for infants and children (ages four months to seven years) with feeding difficulties (Cooke, 2011; Remington, 2012).

Several studies have attempted to identify factors associated with greater risk of pediatric food disorders.

Children with chronic illness requiring dietary treatments were more likely to have disordered eating and eating-specific disorders. These disorders include diabetes, cystic fibrosis, celiac disease, gastrointestinal disorders, and inflammatory bowel diseases (Conviser, 2018).

A prospective cohort study on 248 infants born at term (n = 151) and prematurely < 30 weeks (n = 97) sought to determine feeding impairment prevalence in children with neurodevelopmental issues. They hypothesized whether neurobehavior and brain magnetic resonance imaging at delivery would predict oromotor feeding at term and preterm children. The results demonstrated 49 of 227 neurobehaviorally affected children had oromotor feeding impairment, and those with a smaller biparietal diameter had a predicted feeding impairment (Sanchez, 2017).

A systematic review of 21 observational studies and one randomized trial showed that early feeding practices were associated with a higher risk of picky or fussy eating, food refusal, and food neophobia in children over one year. Factors include shorter duration of breast feeding and baby-led weaning, compared with spoon-feeding (Babik, 2021).

In 2023, we added guidance from the American Speech-Language-Hearing Association (2022) that emphasizes the role of speech-language pathologists as the preferred providers of dysphagia services and integral members of a multidisciplinary team in addressing complex feeding problems in children. Treatment plans should be individualized and developed within the International Classification of Functioning, Disability, and Health framework.

The setting for these services varies across the continuum of care from inpatient to outpatient to the community (e.g., home or school). In most cases, pediatric feeding disorders can be addressed in the outpatient setting. The inpatient setting may be appropriate for children with moderate to severe feeding difficulties who are medically and nutritionally stable. These children often require feeding tubes, are at risk for feeding tube placement, or present with severe food selectivity or not eating an age appropriate diet. They may be refractory to outpatient intensive services. Policy coverage was modified to align with this guidance.

In 2024, we identified no newly relevant published literature to add to the policy. No policy changes are needed.

References

On January 16, 2024, 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 2022.

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.

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.]

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.