



# The Value of the Speech-Language Pathologist (SLP) in Pediatric Feeding and Swallowing Disorders (FSDs)



SLP Involvement in the Treatment of Pediatric FSDs Improves Overall Health and Function.



## Improves Swallowing and Feeding Function

Following SLP treatment, children with FSD demonstrate improved swallow function.

- Improving swallowing functionality by an average of **17.2%**, with swallowing function improvements reported in **100%\*** of children <sup>1</sup>
- Improving feeding functionality by an average of **14.9%**, with a reported reduction in mealtime supervision needs for **50.7%** of children <sup>1</sup>
- Remediating aspiration in **89%** of children with pharyngeal dysphagia <sup>2</sup>



## Improves Caregiver and/or Staff Knowledge and Wellbeing

11.6% of parents of children with FSD demonstrate less stress following SLP involvement. <sup>3</sup>

- Increasing the accuracy of caregiver prompts by **72.6%** <sup>4</sup>
- Increasing staff feeding and dysphagia knowledge by **19.3%** and **66.6%**, respectively <sup>5</sup>
- Increasing the use of safe feeding strategies by **34.1%–95.3%** <sup>5</sup>



## Improves Health-Related Outcomes

With SLP involvement, children with FSD have improved health-related outcomes.

- Reducing total length of stay by **5.0–105.6** days <sup>6–10</sup>
- Reducing ICU length of stay by **37.9** days <sup>6</sup>
- Demonstrating **10.0%–18.5%** greater weight gain than controls <sup>10,11</sup>
- Preventing frenectomy in **69.9%** of infants referred for the procedure <sup>12</sup>
- Resulting in **8%** fewer children experiencing re-intubation <sup>8</sup>
- Reducing G-tube placements by **52.3%** <sup>13</sup>
- Remediating G-tube dependency in **22.0%–90.0%** of children, with an average cost savings of **\$40,000–\$365,000** per child <sup>6,8,14–27</sup>



## Improves Intake by Mouth

With SLP-related care, 29% more infants with FSD achieve breastfeeding, and 79% of children with FSD improve variety of food intake. <sup>28–29</sup>

- Initiating oral feedings **3.0–8.2** days sooner <sup>8,10</sup>
- Achieving independent oral feeding **2–13** days sooner <sup>8–11,30–33</sup>
- Accepting **0.5–15.8** times more volume and **0.56–25.53** times more nutrition by mouth <sup>3,4,15,16,18,20,21,29,34–37</sup>
- Eating, on average, **6–31** more new food items <sup>20,26,38–39</sup>
- Eliminating the need for altered viscosity or texture in **78.0%** and **52.2%** of children, respectively <sup>1,40</sup>
- Reducing the use of oral supplements by **39%–62%** <sup>18</sup>
- Reducing G-tube intake by **30.7%–77.5%** <sup>4,14,16,26</sup>



## Improves Behaviors

48%–86% of children with FSDs reduce refusal behaviors with SLP involvement. <sup>29,39,41</sup>

- Demonstrating **26.5%–92.5%** fewer inappropriate mealtime behaviors <sup>4,14,21,35</sup>
- Exhibiting **74.9%–77.7%** fewer negative vocalizations <sup>3,29</sup>

## References

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- <sup>1</sup> American Speech-Language-Hearing Association (2022). National Outcomes Measurement System (NOMS): SLP healthcare registry. [www.asha.org/NOMS](http://www.asha.org/NOMS)
- <sup>2</sup> Adil, E., Al Shemari, H., Kacprowicz, A., Perez, J., Larson, K., Hernandez, K., Kawai, K., Cowenhoven, C., Urion, D., & Rahbar, R. (2015). Evaluation and management of chronic aspiration in children with normal upper airway anatomy. *JAMA Otolaryngology-Head & Neck Surgery*, 141(11), 1006-1011. <https://doi.org/10.1001/jamaoto.2015.2266>
- <sup>3</sup> Greer, A. J., Gulotta, C. S., Masler, E. A., & Laud, R. B. (2008). Caregiver stress and outcomes of children with pediatric feeding disorders treated in an intensive interdisciplinary program. *Journal of Pediatric Psychology*, 33(6), 612-620. <https://doi.org/10.1093/jpepsy/jsm116>
- <sup>4</sup> Clawson, E. P., Kuchinski, K. S., & Bach, R. (2007). Use of behavioral interventions and parent education to address feeding difficulties in young children with spastic diplegic cerebral palsy. *NeuroRehabilitation*, 22(5), 397-406. <https://doi.org/10.3233/NRE-2007-22506>
- <sup>5</sup> Colodny, N., Miller, L., & Faralli, M. (2015). The development of a feeding, swallowing and oral care program using the PRECEDE-PROCEED model in an orphanage-hospital in Guatemala. *International Journal of Speech-Language Pathology*, 17(2), 127-137. <https://doi.org/10.3109/17549507.2014.927924>
- <sup>6</sup> Baker, C. D., Martin, S., Thrasher, J., Moore, H. M., Baker, J., Abman, S. H., & Gien, J. (2016). A standardized discharge process decreases length of stay for ventilator-dependent children. *Pediatrics*, 137(4). <https://doi.org/10.1542/peds.2015-0637>
- <sup>7</sup> Chrupcala, K. A., Edwards, T. M., & Spatz, D. L. (2015). A continuous quality improvement project to implement infant-driven feeding as a standard of practice in the newborn/infant intensive care unit. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 44(5), 654-664. <https://doi.org/10.1111/mpp.12927>
- <sup>8</sup> da Silva, P. S. L., Lobrigate, N. L., & Fonseca, M. C. M. (2018). Postextubation dysphagia in children: The role of speech-language pathologists. *Pediatric Critical Care Medicine*, 19(10), e538-e546. <https://doi.org/10.1097/pcc.0000000000001688>
- <sup>9</sup> Greene, Z., O'Donnell, C. P., & Walshe, M. (2016). Oral stimulation for promoting oral feeding in preterm infants. *Cochrane Database of Systematic Reviews*, 9(9), CD009720. <https://doi.org/10.1002/14651858.CD009720.pub2>
- <sup>10</sup> Rocha, A. D., Moreira, M. E., Pimenta, H. P., Ramos, J. R., & Lucena, S. L. (2007). A randomized study of the efficacy of sensory-motor-oral stimulation and non-nutritive sucking in very low birthweight infant. *Early Human Development*, 83(6), 385-388. <https://doi.org/10.1016/j.earlhumdev.2006.08.003>
- <sup>11</sup> Asadollahpour, F., Yadegari, F., Soleimani, F., & Khalesi, N. (2015). The effects of non-nutritive sucking and pre-feeding oral stimulation on time to achieve independent oral feeding for preterm infants. *Iranian Journal of Pediatrics*, 25(3), e809. [https://doi.org/10.5812/ijp.25\(3\)2015.809](https://doi.org/10.5812/ijp.25(3)2015.809)
- <sup>12</sup> Diercks, G. R., Hersh, C. J., Baars, R., Sally, S., Caloway, C., & Hartnick, C. J. (2020). Factors associated with frenotomy after a multidisciplinary assessment of infants with breastfeeding difficulties. *International Journal of Pediatric Otorhinolaryngology*, 138, 110212. <https://doi.org/10.1016/j.ijporl.2020.110212>
- <sup>13</sup> McSweeney, M. E., Meleedy-Rey, P., Kerr, J., Chan Yuen, J., Fournier, G., Norris, K., Larson, K., & Rosen, R. (2020). A quality improvement initiative to reduce gastrostomy tube placement in aspirating patients. *Pediatrics*, 145(2), e20190325. <https://doi.org/10.1542/peds.2019-0325>
- <sup>14</sup> Bandstra, N. F., Huston, P. L., Zvonek, K., Heinz, C., & Piccione, E. (2020). Outcomes for feeding tube-dependent children with oral aversion in an intensive interdisciplinary treatment program. *Journal of Speech, Language, and Hearing Research*, 63(8), 2497-2507. [https://doi.org/10.1044/2020\\_jslhr-19-00038](https://doi.org/10.1044/2020_jslhr-19-00038)
- <sup>15</sup> Brown, J., Kim, C., Lim, A., Brown, S., Desai, H., Volker, L., & Katz, M. (2014). Successful gastrostomy tube weaning program using an intensive multidisciplinary team approach. *Journal of Pediatric Gastroenterology and Nutrition*, 58(6), 743-749. <https://doi.org/10.1097/mpg.0000000000000336>
- <sup>16</sup> Cornwell, S. (2008). *Pediatric feeding disorders: Efficacy of multidisciplinary inpatient treatment of gastrostomy tube dependent children*. [Master's thesis, University of North Texas]. UNT Theses and Dissertations.
- <sup>17</sup> Jadcherla, S. R., Hasenstab, K. A., Osborn, E. K., Levy, D. S., Ipek, H., Helmick, R., Sultana, Z., Logue, N., Yildiz, V. O., Blosser, H., Shah, S. H., & Wei, L. (2021). Mechanisms and management considerations of parent-chosen feeding approaches to infants with swallowing difficulties: An observational study. *Scientific Reports*, 11(1), 19934. <https://doi.org/10.1038/s41598-021-99070-w>
- <sup>18</sup> Kim, C., Brown, S., Brown, J., & Ornelas, E. (2021). Long-term outcomes of children with pediatric feeding disorders treated in an inpatient multidisciplinary program. *Journal of Pediatric Gastroenterology and Nutrition*, 72(3), 388-391. <https://doi.org/10.1097/mpg.0000000000002977>
- <sup>19</sup> Lively, E. J., McAllister, S., & Doelgen, S. H. (2019). Variables impacting the taken to wean children from enteral tube feeding to oral intake. *Journal of Pediatric Gastroenterology and Nutrition*, 68(6), 880-886. <https://doi.org/10.1097/mpg.0000000000002330>
- <sup>20</sup> Patel, M. R., Patel, V. Y., Andersen, A. S., & Miles, A. (2022). Evaluating outcome measure data for an intensive interdisciplinary home-based pediatric feeding disorders program. *Nutrients*, 14(21). <https://doi.org/10.3390/nu14214602>
- <sup>21</sup> Silverman, A. H., Kirby, M., Clifford, L. M., Fischer, E., Berlin, K. S., Rudolph, C. D., & Noel, R. J. (2013). Nutritional and psychosocial outcomes of gastrostomy tube-dependent children completing an intensive inpatient behavioral treatment program. *Journal of Pediatric Gastroenterology and Nutrition*, 57(5), 668-672. <https://doi.org/10.1097/MPG.0b013e3182a027a3>
- <sup>22</sup> Tarbell, M. C., & Allaire, J. H. (2002). Children with feeding tube dependency: Treating the whole child. *Infants & Young Children*, 15(1). <https://doi.org/10.1097/00001163-200207000-00006>
- <sup>23</sup> Trabi, T., Dunitz-Scheer, M., Kratky, E., Beckenbach, H., & Scheer, P. J. (2010). Inpatient tube weaning in children with long-term feeding tube dependency: A retrospective analysis. *Infant Mental Health Journal*, 31(6), 664-681. <https://doi.org/10.1002/imhj.20277>

## References

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- <sup>24</sup> Wilken, M., Cremer, V., & Echtermeyer, S. (2015). Home-based feeding tube weaning: Outline of a new treatment modality for children with long-term feeding tube dependency. *ICAN: Infant, Child, & Adolescent Nutrition*, 7(5), 270-277. <https://doi.org/10.1177/1941406415591207>
- <sup>25</sup> Williams, K. E., Riegel, K., Gibbons, B., & Field, D. G. (2007). Intensive behavioral treatment for severe feeding problems: A cost effective alternative to tube feeding? *Journal of Developmental and Physical Disabilities*, 19(3), 227-235. <https://doi.org/10.1007/s10882-007-9051-y>
- <sup>26</sup> Williams, C., VanDahm, K., Stevens, L. M., Khan, S., Urich, J., Iurilli, J., Linos, E., & Williams, D. I. (2017). Improved outcomes with an outpatient multidisciplinary intensive feeding therapy program compared with weekly feeding therapy to reduce enteral tube feeding dependence in medically complex young children. *Current Gastroenterology Reports*, 19(7), 33. <https://doi.org/10.1007/s11894-017-0569-6>
- <sup>27</sup> Dempster, R., Burdo-Hartman, W., Halpin, E., & Williams, C. (2016). Estimated cost-effectiveness of intensive interdisciplinary behavioral treatment for increasing oral intake in children with feeding difficulties. *Journal of Pediatric Psychology*, 41(8), 857-866. <https://doi.org/10.1093/jpepsy/jsv112>
- <sup>28</sup> Pimenta, H. P., Moreira, M. E., Rocha, A. D., Gomes, S. C., Jr., Pinto, L. W., & Lucena, S. L. (2008). Effects of non-nutritive sucking and oral stimulation on breastfeeding rates for preterm, low birth weight infants: A randomized clinical trial. *Jornal de Pediatria*, 84(5), 423-427.
- <sup>29</sup> Laud, R. B., Girolami, P. A., Boscoe, J. H., & Gulotta, C. S. (2009). Treatment outcomes for severe feeding problems in children with autism spectrum disorder. *Behavior Modification*, 33(5), 520-536. <https://doi.org/10.1177/0145445509346729>
- <sup>30</sup> da Rosa Pereira, K., Levy, D. S., Procianoy, R. S., & Silveira, R. C. (2020). Impact of a pre-feeding oral stimulation program on first feed attempt in preterm infants: Double-blind controlled clinical trial. *PLoS One*, 15(9), e0237915. <https://doi.org/10.1371/journal.pone.0237915>
- <sup>31</sup> Harding, C., Law, J., & Pring, T. (2006). The use of non-nutritive sucking to promote functional sucking skills in premature infants: An exploratory trial. *Infant*, 2(6), 238-243.
- <sup>32</sup> Moreira, C., Cavalcante-Silva, R. P., Miyaki, M., & Fujinaga, C. I. (2014). Effects of nonnutritive sucking stimulation with gloved finger on feeding transition in very low birth weight premature infants. *Revista CEFAC*, 16, 1187-1193. <https://doi.org/10.1590/1982-0216201424212>
- <sup>33</sup> Younesian, S., Yadegari, F., & Soleimani, F. (2015). Impact of oral sensory motor stimulation on feeding performance, length of hospital stay, and weight gain of preterm infants in NICU. *Iranian Red Crescent Medical Journal*, 17(7), e13515. [https://doi.org/10.5812/ircmj.17\(5\)2015.13515](https://doi.org/10.5812/ircmj.17(5)2015.13515)
- <sup>34</sup> Poore, M., Zimmerman, E., Barlow, S. M., Wang, J., & Gu, F. (2008). Patterned orocutaneous therapy improves sucking and oral feeding in preterm infants. *Acta Paediatrica*, 97(7), 920-927. <https://doi.org/10.1111/j.1651-2227.2008.00825.x>
- <sup>35</sup> Sharp, W. G., Stubbs, K. H., Adams, H., Wells, B. M., Lesack, R. S., Criado, K. K., Simon, E. L., McCracken, C. E., West, L. L., & Scahill, L. D. (2016). Intensive, manual-based intervention for pediatric feeding disorders: Results from a randomized pilot trial. *Journal of Pediatric Gastroenterology and Nutrition*, 62(4), 658-663. <https://doi.org/10.1097/mpg.0000000000001043>
- <sup>36</sup> Barlow, S. M., Finan, D. S., Lee, J., & Chu, S. (2008). Synthetic orocutaneous stimulation entrains preterm infants with feeding difficulties to suck. *Journal of Perinatology*, 28(8), 541-548. <https://doi.org/10.1038/jp.2008.57>
- <sup>37</sup> Schwarz, S. M., Corredor, J., Fisher-Medina, J., Cohen, J., & Rabinowitz, S. (2001). Diagnosis and treatment of feeding disorders in children with developmental disabilities. *Pediatrics*, 108(3), 671-676. <https://doi.org/10.1542/peds.108.3.671>
- <sup>38</sup> Boyd, K. L. (2007). *The effectiveness of the sequential oral sensory approach group feeding program* (Publication No. 3298523) [Doctoral dissertation, Colorado School of Professional Psychology]. ProQuest Dissertations Publishing.
- <sup>39</sup> Volkert, V. M., Burrell, L., Berry, R. C., Waddle, C., White, L., Bottini, S., Murphy, M., & Sharp, W. G. (2021). Intensive multidisciplinary feeding intervention for patients with avoidant/restrictive food intake disorder associated with severe food selectivity: An electronic health record review. *International Journal of Eating Disorders*, 54(11), 1978-1988. <https://doi.org/10.1002/eat.23602>
- <sup>40</sup> Wolter, N. E., Hernandez, K., Irace, A. L., Davidson, K., Perez, J. A., Larson, K., & Rahbar, R. (2018). A systematic process for weaning children with aspiration from thickened fluids. *JAMA Otolaryngology–Head & Neck Surgery*, 144(1), 51-56. <https://doi.org/10.1001/jamaoto.2017.1917>
- <sup>41</sup> Tamura, F., Kikutani, T., Machida, R., Takahashi, N., Nishiwaki, K., & Yaegaki, K. (2011). Feeding therapy for children with food refusal. *International Journal of Orofacial Myology*, 37, 57-68. <https://doi.org/10.52010/ijom.2011.37.1.5>