



The Value of Prophylactic Speech-Language Pathology (SLP) Services in the Treatment of Head and Neck Cancer



Head and neck cancer treatments can have long-lasting impacts on swallowing. Prehabilitative SLP services can lessen side effects and improve functional outcomes.

SLP interdisciplinary care prior to cancer treatment leads to . . .



Decreased costs and fewer adverse events

- \$18,754 reduction in individual healthcare costs.¹
- 30% less likely to have unplanned re-admissions.²
- 76% less likely to have re-admissions related to stomal or tracheoesophageal puncture complications.²
- 61% less likely to experience postoperative complications.¹
- 40% reduction in overall mortality risk.³



Increased knowledge, preparedness, and treatment adherence

- 80%–91% of individuals undergoing total laryngectomy improved knowledge and preparedness for surgery.²
- Patients were approximately 13 times more likely to adhere to SLP treatment recommendations.⁴

Proactive SLP treatment and assessment leads to . . .



Decreased feeding tube dependency

- 32%–96% less likely to require a feeding tube at completion of treatment.⁶⁻⁹
- 70%–81% less likely to have a feeding tube at 3-6 months following cancer treatment.^{10, 11}
- Feeding tube removal 12.1-15.6 weeks sooner.^{12, 13}



Improved swallow function and oral intake

- 4.2 times more likely to improve swallowing efficiency.⁸
- 36% more likely to achieve a functional swallow.⁹
- 2.9–4.4 times more likely to eat a solid oral diet.^{8, 10, 14}
- 3.6 times more likely to maintain improvements in oral diet.¹⁰



The earlier, the better

When speech-language pathologists intervene prior to the initiation of cancer treatment, patients are able to resume oral diets and eliminate feeding tubes **11.4 days** sooner than those seen after the start of cancer treatment.⁵

Additional benefits of prehabilitative SLP treatment . . .



25% less likely to miss radiation sessions.¹⁵



Improved Swallowing-Related Quality of Life^{16, 17}



Improved Saliva Production, Smell, and Taste⁸



Maintained Weight¹⁵

References

- ¹Schmid, M., Giger, R., Nisa, L., Mueller, S. A., Schubert, M., & Schubert, A. D. (2022). Association of multiprofessional preoperative assessment and information for patients with head and neck cancer with postoperative outcomes. *JAMA Otolaryngology-Head & Neck Surgery*, 148(3), 259-267. <https://doi.org/10.1001/jamaoto.2021.4048>
- ²Graboyes, E. M., Kallogjeri, D., Zerega, J., Kukuljan, S., Neal, L., Rosenquist, K. M., & Nussenbaum, B. (2017). Association of a perioperative education program with unplanned readmission following total laryngectomy. *JAMA Otolaryngology-Head & Neck Surgery*, 144(6), 483-488. <https://doi.org/10.1001/jamaoto.2018.0278>
- ³Malik, N. H., Maganti, M., McQuestion, M., Tjong, M. C., Keilty, D., Monteiro, E., Huang, S. H., Jang, R. W., Gomes, A., Pun, J., & Ringash, J. (2021). Pre-treatment psychoeducational intervention and outcomes in head and neck cancer patients undergoing radiotherapy. *Supportive Care in Cancer*, 29(3), 1643-1652. <https://doi.org/10.1007/s00520-020-05627-2>
- ⁴Starmer, H., Sanguineti, G., Marur, S., & Gourin, C. G. (2011). Multidisciplinary head and neck cancer clinic and adherence with speech pathology. *The Laryngoscope*, 121(10), 2131-2135. <https://doi.org/10.1002/lary.21746>
- ⁵Cavalot, A. L., Ricci, E., Schindler, A., Roggero, N., Albera, R., Utari, C., & Cortesina, G. (2009). The importance of preoperative swallowing therapy in subtotal laryngectomies. *Otolaryngology-Head and Neck Surgery*, 140(6), 822-825. <https://doi.org/10.1016/j.otohns.2009.01.038>
- ⁶Ajmani, G. S., Nocon, C. C., Brockstein, B. E., Campbell, N. P., Kelly, A. B., Allison, J., & Bhayani, M. K. (2018). Association of a proactive swallowing rehabilitation program with feeding tube placement in patients treated for pharyngeal cancer. *JAMA Otolaryngology-Head & Neck Surgery*, 144(6), 483-488. <https://doi.org/10.1001/jamaoto.2018.0278>
- ⁷Bhayani, M. K., Hutcheson, K. A., Barringer, D. A., Lisec, A., Alvarez, C. P., Roberts, D. B., Lai, S. Y., & Lewin, J. S. (2013). Gastrostomy tube placement in patients with oropharyngeal carcinoma treated with radiotherapy or chemoradiotherapy: Factors affecting placement and dependence. *Head & Neck*, 35(11), 1634-1640. <https://doi.org/10.1002/hed.23200>
- ⁸Carnaby-Mann, G., Crary, M. A., Schmalfuss, I., & Amdur, R. (2012). "Pharyngocise": Randomized controlled trial of preventative exercises to maintain muscle structure and swallowing function during head-and-neck chemoradiotherapy. *International Journal of Radiation Oncology-Biology-Physics*, 83(1), 210-219. <https://doi.org/10.1016/j.ijrobp.2011.06.1954>
- ⁹Messing, B. P., Ward, E. C., Lazarus, C. L., Kim, M., Zhou, X., Silinonte, J., Gold, D., Harrer, K., Ulmer, K., Merritt, S., Neuner, G., Levine, M., Blanco, R., Saunders, J., & Califano, J. (2017). Prophylactic swallow therapy for patients with head and neck cancer undergoing chemoradiotherapy: A randomized trial. *Dysphagia*, 32(4), 487-500. <https://doi.org/10.1007/s00455-017-9790-6>
- ¹⁰Duarte, V. M., Chhetri, D. K., Liu, Y. F., Erman, A. A., & Wang, M. B. (2013). Swallow preservation exercises during chemoradiation therapy maintains swallow function. *Otolaryngology-Head and Neck Surgery*, 149(6), 878-884. <https://doi.org/10.1177/0194599813502310>
- ¹¹Barbon, C. E. A., Peterson, C. B., Moreno, A. C., Lai, S. Y., Reddy, J. P., Sahli, A., Martino, R., Johnson, F. M., Fuller, C. D., & Hutcheson, K. A. (2022). Adhering to eat and exercise status during radiotherapy for oropharyngeal cancer for prevention and mitigation of radiotherapy-associated dysphagia. *JAMA Otolaryngology-Head & Neck Surgery*, 148(10), 956-964. <https://doi.org/10.1001/jamaoto.2022.2313>
- ¹²Virani, A., Kunduk, M., Fink, D. S., & McWhorter, A. J. (2015). Effects of 2 different swallowing exercise regimens during organ-preservation therapies for head and neck cancers on swallowing function. *Head & Neck*, 37(2), 162-170. <https://doi.org/10.1002/hed.23570>
- ¹³Bhayani, M. K., Hutcheson, K. A., Barringer, D. A., Roberts, D. B., Lewin, J. S., & Lai, S. Y. (2013). Gastrostomy tube placement in patients with hypopharyngeal cancer treated with radiotherapy or chemoradiotherapy: Factors affecting placement and dependence. *Head & Neck*, 35(11), 1641-1646. <https://doi.org/10.1002/hed.23199>
- ¹⁴Hutcheson, K. A., Bhayani, M. K., Beadle, B. M., Gold, K. A., Shinn, E. H., Lai, S. Y., & Lewin, J. (2013). Eat and exercise during radiotherapy or chemoradiotherapy for pharyngeal cancers: Use it or lose it. *JAMA Otolaryngology-Head & Neck Surgery*, 139(11), 1127-1134. <https://doi.org/10.1001/jamaoto.2013.4715>
- ¹⁵Perlow, H. K., Ramey, S. J., Farnia, B., Silver, B., Kwon, D., Chinae, F. M., Sotnick, S. C., Klein, L. B., Elsayyad, N., Samuels, M. A., Freedman, L., Yechieli, R., & Samuels, S. E. (2018). Nutrition and swallowing therapy in head and neck cancer: Utilization of care and preventative efficacy. *Nutrition and Cancer*, 70(8), 1290-1298. <https://doi.org/10.1080/01635581.2018.155722>
- ¹⁶Carmignani, I., Locatello, L. G., Desideri, I., Bonomo, P., Olmetto, E., Livi, L., Le Saec, O., Coscarelli, S., & Mannelli, G. (2018). Analysis of dysphagia in advanced-stage head-and-neck cancer patients: Impact on quality of life and development of a preventive swallowing treatment. *European Archives of Oto-Rhino-Laryngology and Head & Neck*, 275(8), 2159-2167. <https://doi.org/10.1007/s00405-018-5054-9>
- ¹⁷Panda, N., Pujari, L., & Mishra, T. (2017). Impact of swallowing exercise on dysphagia in head and neck carcinoma patients receiving radiation therapy. *Journal of Cancer Research and Therapeutics*, 13, S443-S443.