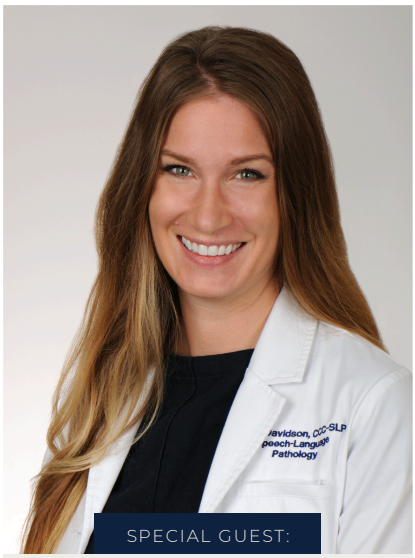
SWALLOW YOUR PRIDE Podcast

SEEING THE PRESSURE: MANOMETRY, BIOFEEDBACK & BUILDING A PROGRAM FROM SCRATCH

EPISODE 412



Kate Davidson
MS, CCC-SLP

Kate Davidson is a Speech-language Pathologist and Research Associate at the Medical University of South Carolina, and Assistant Director of the Swallowing Cross-Systems Collaborative at Northwestern University. Her clinical practice focuses on airway, voice, and swallowing disorders. Her program of research centers on advancing physiologic, standardized approaches to the assessment and treatment of swallowing disorders. Her work examines the biomechanics of dysphagia using high-resolution pharyngeal manometry with impedance and videofluoroscopy and incorporates biofeedback-driven rehabilitation using manometric and wearable sensor technologies. Mrs. Davidson's goal is to improve diagnostic precision and inform targeted, mechanism-based interventions that enhance outcomes for individuals living with dysphagia.

A. Foundational articles and international standardization

1. Omari et al. (2020) — International Working Group, first consensus
Omari, T. I., Ciucci, M., Gozdzikowska, K., Hernández, E., Hutcheson, K., Jones, C., et al. (2020). High-resolution pharyngeal manometry and impedance: Protocols and metrics—Recommendations of a High-Resolution Pharyngeal Manometry International Working Group. Dysphagia, 35, 281–295. https://doi.org/10.1007/s00455-019-10023-y
Relevance: Formation of the international standardization initiative, recommended acquisition protocols, and consensus core outcome metrics.

2. Omari et al. (2026) — Leuven Consensus
Omari, T. I., Maclean, J. C. F., Cock, C., McCulloch, T. M., Nativ-Zeltzer, N., O'Rourke, A. K.,... Davidson, K., et al. (2026). Defining pharyngeal and upper esophageal sphincter disorders on high-resolution manometry-impedance: The Leuven Consensus. Neurogastroenterology & Motility, 38(4), e70042. https://doi.org/10.1111/nmo.70042
Relevance: Standardized swallow challenge protocol and diagnostic criteria for pharyngeal contractile dysfunction and UES dysfunction.

3. Davidson et al. (2020) — HRM overview for SLPs
Davidson, K., O'Rourke, A. K., Fortunato, J. E., & Jadcherla, S. (2020). The emerging importance of high-resolution manometry in the evaluation and treatment of deglutition in infants, children, and adults: New opportunities for speech-language pathologists. American Journal of Speech-Language Pathology, 29(2S), 945–955. https://doi.org/10.1044/2019_AJSLP-19-00067
Relevance: Accessible overview of manometry technology, measurement, and clinical applications across the lifespan.

C. Normative reference values and interpretation

7. Walters et al. (2024) — Systematic review of normative values
Walters, R. K., Gudipudi, R., Gordis, T., Davidson, K., Nguyen, S. A., & O'Rourke, A. K. (2024). A systematic review of pharyngeal high-resolution manometry normative data. American Journal of Speech-Language Pathology, 33(2), 1059–1068. https://doi.org/10.1044/2023_AJSLP-23-00221
Relevance: Reviews 30 studies and identifies variability in acquisition protocols, catheter configurations, equipment, and analysis software that limits pooling of normative reference values.

8. Davidson et a. (under review) — Nomative HRPM-I reference
Davidson, K., Krekelberg, M., Gegowski, M., O'Rourke, A. Age-stratified normative reference values for high-resolution pharyngeal manometry with impedance across swallowing conditions. Manuscript under review, Dysphagia.
Relevance: This study established age-stratified, condition-specific normative reference values for eight International HRPM Working Group consensus-derived metrics using the Laborie Solar GI system and integrated analysis software.

D. Clinical implementation and therapeutic applications

9. Knigge et al. (2014) — Clinical implementation for SLPs
Knigge, M. A., Thibeault, S., & McCulloch, T. M. (2014). Implementation of high-resolution manometry in the clinical practice of speech language pathology. Dysphagia, 29(1), 2–16.
https://doi.org/10.1007/s00455-013-9494-5
Relevance: One of the most directly applicable papers for discussing how SLPs can incorporate HRPM into clinical assessment.

10. Davidson & O'Rourke (2019) — HRPM in dysphagia treatment
Davidson, K., & O'Rourke, A. K. (2019). The utility of high-resolution pharyngeal manometry in dysphagia treatment. Perspectives of the ASHA Special Interest Groups, 4(3), 507–516.
https://doi.org/10.1044/2019_PERS-SIG13-2018-0027.R1
Relevance: An invited article addressing the application of HRPM in dysphagia treatment. Particularly relevant to discussing therapeutic biofeedback, physiologically targeted intervention, and how manometric measurements can support clinical management.

11. Knigge et al. (2019) — Safety and tolerability
Knigge, M. A., Marvin, S., & Thibeault, S. L. (2019). Safety and tolerability of pharyngeal high-resolution manometry. American Journal of Speech-Language Pathology, 28(1), 43–52.
https://doi.org/10.1044/2018_AJSLP-18-0039
Relevance: Prospective evaluation of procedure tolerability in 133 adults. Useful for discussing catheter placement and patient experience.

12. Sibley et al. (2023) — Recent developments and future directions
Sibley, H., Miller, K., Davidson, K., & O'Rourke, A. K. (2023). High-resolution pharyngeal manometry: Recent developments and future directions. Current Otorhinolaryngology Reports, 11(3), 374–380.
https://doi.org/10.1007/s40136-023-00461-6
Relevance: Review covering diagnostic applications, standardization, and therapeutic biofeedback.