JMU and RMH Collaborate to Launch Specialized Voice and Swallowing Service at RMH

By Neil Mowbray

RMH and James Madison University have teamed up to offer a specialized service at RMH to diagnose and treat patients with voice and swallowing disorders due to injury, illness or disease process.

RMH Voice and Swallowing Services represents a major advance in healthcare services in the community as well as the region, says Kay Harrison, RMH vice president, Business Development.

Before this new service began, many people with voice and swallowing issues had to travel out of state for diagnosis and treatment. "RMH is unique in Virginia in offering this array of treatments and services," Harrison notes. "Now people in our community, around the state and even beyond who need this specialized type of care can find it at RMH."

The service is located on the first floor of the RMH Outpatient Center. The team saw its first patients in December, and in a few short months has seen patients from Virginia, West Virginia and North Carolina.

RMH Voice and Swallowing Services is an outgrowth of the JMU-RMH Collaborative. The Collaborative, in its sixth year, strives to foster collaboration among RMH staff and JMU staff,
faculty and students that will benefit one or both institutions as well as the community.

The Collaborative has fostered dozens of successful projects, says Harrison, a charter member of the Collaborative Steering Team. “It’s exciting to see an idea evolve from concept to reality due to the energy and enthusiasm of our two staffs,” she says. “And the benefit to our organizations, our community and our patients is beyond measure.”

A team of medical and academic professionals provides care.

The JMU speech pathologists with the Service are faculty and staff members who have many years of experience in providing testing and diagnostic services, Harrison explains, while RMH offers a convenient, comfortable clinical setting for care.

Voice and Swallowing Services offers state-of-the-art testing and treatment for patients with voice, speech, swallowing and vocal fold movement disorders secondary to a variety of conditions. Those conditions include, but are not limited to, stroke, Parkinson’s disease, head injury, head and neck cancer, paradoxical vocal fold movement disorders affecting breathing, and other neurological problems, explains Christy Ludlow, PhD, a JMU professor of speech pathology and co-director of the service at RMH. Dr. Ludlow joined the JMU Department of Communication Sciences and Disorders in 2009.

Dr. Ludlow is a pioneer in the development of modern technology for the assessment of voice and swallowing disorders. Before joining JMU, she headed an internationally recognized laboratory at the National Institutes of Health for many years. That lab developed many of the new methods for treating voice and swallowing disorders (dysphagia) that are in use today or will become available in the near future.

“Currently, only about a dozen of these specialized voice and swallowing services exist in the United States, and this is the first one in the state of Virginia,” she notes. “In the last three years, before this service was up and running, I referred a lot of patients to Johns Hopkins University in Baltimore, or to George Washington in Washington, D.C. We hope this new service will become a center for referral of many people in the region.”

The Voice and Swallowing Services team includes co-director and JMU professor Cynthia O’Donoghue, PhD, who also serves as head of the JMU Department of Communication Sciences and Disorders. Dr. O’Donoghue teaches graduate courses and conducts research in adult neurogenic communication disorders and dysphagia. She presents nationally and internationally in her areas of expertise. Notable contributions include serving as legislative representative from the Commonwealth of Virginia to the American Speech-Language-Hearing Association (ASHA); Board of Trustees President for Crossroads to Brain Injury Recovery, Inc.; and chair of the Nominations and Elections Committee, Virginia Brain Injury Council.

Dr. O’Donoghue authored the “Dysphagia Best Practice Guidelines” for the Virginia Department of Education and served on the ASHA Task Force that developed “Guidelines for Speech-Language Pathologists Providing Feeding and Swallowing Services in Schools.” She is currently grant-funded through Commonwealth Neurotrauma Initiative Trust Fund.

The research program of the new Service is under the direction of Dr. Ludlow and is developing new treatments for helping patients with voice and swallowing problems through research grants from the National Institutes of Health. Currently, Erin Kamarunas, PhD, a research associate at JMU, is conducting research with patients with swallowing problems, and Carrie Jones, M. Ed, is conducting research on voice problems in persons with Parkinson’s disease.

Harrisonburg otolaryngologist (ear, nose and throat specialist) C. Wayne Gates, MD, is medical director of the Service. Dr. Gates graduated from Louisiana State University School of Medicine. He completed his internship at the U.S. Public Health Service Hospital and his surgical residency at Tulane University, followed by an otolaryngology residency at LSU in New Orleans. He joined the RMH Medical Staff in 1985 and is board certified in Otolaryngology/Head and Neck Surgery. Over the years he has served RMH on many committees, including the RMH Board of Directors. Dr. Gates has also served the state as president of the Virginia Society of Otolaryngology. He is in private practice at Meadowcrest ENT & Facial Cosmetic Center in Harrisonburg.

“This is a rare opportunity to provide the most progressive and advanced techniques to patients with voice and swallowing disorders,” says Dr. Gates. “The staff from JMU are exceptional, and I am honored to be part of this JMU-RMH collaboration.”

The reason these specialized services are so rare is that they require a combination of otolaryngologists and speech pathologists who are interested in voice and swallowing, along with state-of-the-art instrumentation, Dr. Ludlow explains.

“As otolaryngology has been encompassing both voice and swallowing disorders in recent years, and as speech pathology has become more adept in not only assessing, but also treating voice and swallowing disorders, collaboration between the two fields has made these specialized services possible,” she says. “This service is really providing a nice collaboration not only between RMH and JMU, but also between otolaryngology and speech pathology. We’re working together in seeing patients rather than seeing them independently, and that partnership is a real benefit for patients. They go see one team, rather than going place to place.”

Research is an important component of Voice and Swallowing Services.

When she moved to Virginia, Dr. Ludlow brought with her all of the specialized equipment she used at NIH. Her research laboratory at JMU is filled with the tools of her trade, as are the three clinical rooms at RMH where she and her colleagues see patients. The instruments are state-of-the-art and provide diagnostic capabilities that are not otherwise available in this area, Dr. Ludlow notes.

She and the Voice and Swallowing Services team conduct ongoing research at JMU and RMH. Dr. Kamarunas is conducting NIH-funded research on a medical device to help people who have a swallowing disorder following stroke. People wear the device, called a Passy Muir Swallowing Self-Tester, or SST, on their neck to provide sensory stimulation to the tissues and nerves that can help them swallow.

“We’re evaluating the device to see how it helps patients swallow, how patients like it, how they may possibly want it modified, and also eventually to see if they could use it at home to retain themselves, rather than coming in regularly for therapy,” Dr. Kamarunas says. “We’re very much interested in going out into the community to work with people who have swallowing problems as a result of stroke.”
This combined clinical and research focus creates an ideal environment for training future clinicians and researchers. Dr. Ludlow, who also heads the PhD program in speech communication sciences and disorders at JMU, says she and Dr. O'Toole have plans to invite their doctoral students to assist in diagnosing and treating Voice and Swallowing Services patients.

One of the voice disorders Dr. Ludlow investigated at the NIH was spasmodic dysphonia, a condition that typically starts in middle-aged women and is characterized by periods of vocal paresis, hoarseness and tightness in the throat. Treatment for spasmodic dysphonia is botulinum toxin (BOTOX®) injections into the vocal folds, a service that Dr. Ludlow provides, using electromyography, a method of testing the electrical signals of muscles and nerves to determine their health.

"These vocal fold injections are not available in many places, so this will be a big help to those patients who require it," Dr. Ludlow says.

Once diagnosed, many voice and swallowing disorders are highly treatable.

Voice disorders can occur for many reasons, Dr. Ludlow says. These include viral injuries to the nerves controlling the larynx, or voice box, or abnormal growths like nodules or polyps that develop on the vocal folds, the parts of the larynx that vibrate to produce sound.

"Nodules can develop when patients don't use their voice correctly, as when they shout too much," Dr. Ludlow explains. "Therapy can often help reduce these growths by relieving the tension in the vocal folds so that the nodules are reduced, without surgery."

Cancer of the larynx may also account for certain voice problems, may also account for certain voice problems, but that's one of the advantages of having Dr. Gates as our medical director," Dr. Ludlow continues. "We always want the otolaryngologist to look at the larynx first to make sure there isn't a cancer or some other serious medical condition."

The sources of swallowing disorders are equally varied and include neurological disorders like Parkinson's disease and stroke, as well as more common conditions like GERD, or gastroesophageal reflux disease.

GERD is a frequent cause of both voice and swallowing disorders, notes Terezia Drula, MS, a JMU specialist in swallowing disorders who sees patients in the Service. As acid flows (refluxes) from the stomach into the esophagus, it can cause typical symptoms of heartburn and chest discomfort. But the acid also can damage the larynx, affecting the voice, or cause sensory changes that make swallowing difficult.

Even simple aging can contribute to swallowing difficulties. It's estimated that at least 60 percent of older adults have swallowing problems.

"As we get older, muscles tend to get weaker," Dr. Ludlow says, "and the swallowing system may not work as quickly or smoothly as it used to. We evaluate what's safe for people and what's not safe, and then we have them do exercises that retain them to swallow.

Dr. Ludlow emphasizes that therapy for voice and swallowing disorders can be very effective in the majority of cases—but not every case.

"Take swallowing, for example. There's a lot we can do today to treat those problems," she says. "In the past, we had to rely on simple measures like changing a person's diet. But now we retain people on how to swallow, which is very important. We're actually rehabilitating the swallowing system rather than just training people in ways to get around it."

Patients to be seen by the service will include patients referred by their physicians as well as patients referred for research purposes through JMU.

"For our research we are interested in seeing people who need additional help for voice and swallowing disorders after they receive speech or swallowing therapy," says Dr. Ludlow.

Physicians may refer their patients to Voice and Swallowing Services at RMH by calling the RMH Central Scheduling department at 540-689-6000. Most insurance providers do cover these services, but patients will need to check and confirm with their individual insurance providers.

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