

## Collaborative Evaluation Identifies Issue Impacting Course of Care for Airway Patient

### Clinical History and Presentation

In June 2007, the parents of a 5½ year-old boy contacted the Otolaryngology Division of Cincinnati Children's Hospital Medical Center to discuss a possible airway reconstruction for their child. The initial intake discussion with the parents, conducted by a nurse practitioner, revealed the child had a history of patent ductus arteriosus (PDA) and a failed reconstruction at another medical facility two years prior. Born at 25 weeks gestation and intubated with diagnoses of subglottic stenosis, tracheomalacia and bronchopulmonary dysplasia (BPD), the boy self-extubated several times as a newborn, resulting in the need for a tracheostomy and eventual airway reconstruction. After the failed reconstruction, he had been reintubated, and the tracheostomy tube was reinserted two weeks after surgery.

The complexity of his condition made him a candidate for treatment in the Aerodigestive and Sleep Center at Cincinnati Children's. After reviewing his case at the center's weekly roundtable, it was determined he was in need of subspecialty services including otolaryngology, gastroenterology and pulmonary medicine, and he was approved for treatment through the center.

### Our Approach

In August 2007, the first step in the patient's treatment was an evaluation conducted by physicians from all three disciplines, together in the operating room, necessitating only one anesthetic for the child. Each physician performed their evaluation to check for any issues that could affect the healing process. Robin T. Cotton, MD, FACS, FRCS(C), director, Otolaryngology/Head and Neck Surgery and director, Aerodigestive and Sleep Center, performed a microlaryngoscopy and bronchoscopy. A flexible bronchoscopy was performed by R. Paul Boesch, DO, MS, pulmonologist. Philip Putnam, MD, gastroenterologist, performed an upper-endoscopy, impedance probe and biopsies. This initial evaluation determined the child possessed adequate lung capacity to tolerate the airway reconstruction needed in order to achieve decannulation.

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Immediately after the evaluation, the child's parents and all three doctors met together to discuss recommended next steps; nurse practitioners also were present to discuss other issues such as post-operative care and future treatment planning.

Results of the biopsies taken during the evaluation revealed that the boy suffered from eosinophilic esophagitis (EE), a previously undiagnosed medical condition for the child. Because of this diagnosis and the potential inflammation that would affect post-operative healing, the child was put under Dr. Putnam's care until the EE was under control. The child was immediately put on an appropriate diet to control the triggers of his EE, as well as prescribed steroids to accelerate his recovery.

## Coordinated Evaluations Available\*

Endoscopy of upper aerodigestive tract

Impedance probe

Video swallow study or fiberoptic endoscopic evaluation of swallow

Chest X-ray or high-resolution chest CT anesthesia consultation

Voice evaluation

Pediatric surgery consult if necessary, based on evaluation results

Interdisciplinary Feeding Clinic consult if feeding issues present

Pediatric genetic consult

*\*Evaluations are individualized to match the needs of each patient.*

## Results and Follow-Up

In December 2007, the child was re-evaluated. Upon determining that the EE was under control he was cleared for reconstructive surgery, which took place in March 2008. The patient experienced no complications other than normal granulation tissue. His checkups showed his surgery was successful, his airway issues resolved, and he was decannulated.

## Discussion and Lessons Learned

This case confirms that bringing together subspecialists to initially screen and then evaluate a patient can bring to light diagnoses that may otherwise go undetected and potentially negatively affect the patient's outcome.

“Without the identification of the child's previously undiagnosed condition of EE, there is a high likelihood that our reconstruction would not have been successful,” said Dr. Cotton. “This diagnosis, brought about through our shared initial evaluation, was the key to this child's successful reconstruction and recovery.”

Such collaboration also brings a better continuity of care than has previously been found with these complex cases. This method allows the physicians to consult with one another in real time and see the patient's condition as it relates to their respective disciplines, as well as the impact each has on the other.

Another crucial improvement gained by using this approach is that the patient undergoes only one anesthetic, but still receives all the necessary evaluations. The treatment process is accelerated by the fact that only one appointment is needed versus needing to schedule multiple appointments with all necessary specialists, which could potentially result in a delay in treatment.

This collaborative approach also makes a difference in the patient's healing, as each physician is seeing the patient at the same point in the recovery process.

## Learn More About the Aerodigestive and Sleep Center

Visit us Online: [www.cincinnatichildrens.org/aerodigestive](http://www.cincinnatichildrens.org/aerodigestive)

Make a Referral: 513-636-2828

Cincinnati Children's is one of only 10 pediatric hospitals in the United States to be included on the Honor Roll in *U.S. News & World Report's* 2009 edition of *America's Best Children's Hospitals*.