

Larynx Transplant Surgical Team

Peter C. Belafsky, M.D., Ph.D., is principal investigator of the UC Davis laryngeal transplant project and assisted in the procedure. As associate professor of otolaryngology and director of the Voice and Swallowing Center at UC Davis Health System, he has pioneered the use of minimally invasive treatments in treating laryngeal and esophageal disorders. His primary research focus is to develop an artificial swallowing mechanism. Toward this end, he has created a medical device that can manually control the upper esophageal sphincter and is developing a comprehensive swallowing propulsion system. He also is interested in bloodless surgery and is exploring the use of radiofrequency probes and non-contact lasers. He hopes to one day establish a bloodless surgery center.

D. Gregory Farwell, M.D., F.A.C.S., was the primary surgeon for the operation. An associate professor of otolaryngology at UC Davis Health System, he is a national leader in head and neck oncology, microvascular surgery and skull-based surgery. His practice centers on the comprehensive management of patients with complex head and neck diseases. He specializes in treating tumors of the head and neck, including the larynx and thyroid as well as reconstructive surgery for trauma or defects. Whenever possible, he utilizes minimally invasive and other advanced techniques to maximize aesthetic and functional results. His research focuses on many areas of tumor biology and reconstructive surgery. He currently collaborates with colleagues in the Department of Biomedical Engineering to utilize technologies to detect tumors earlier and improve outcomes through individualizing treatments.

Martin Birchall, M.D., FRCS, F Med Sci, served as scientific advisor for the laryngeal transplant and assisted with the transplant surgery, particularly retrieval and reinnervation of the organ. Dr. Birchall is professor of laryngology at England's University College London Ear Institute, consultant surgeon at the Royal National Throat, Nose and Ear Hospital in London, and a research professor of otolaryngology at UC Davis. Dr. Birchall is an international expert on laryngeal immunology and laryngeal transplantation whose research has furthered understanding of laryngeal immunity in inflammatory and malignant conditions, the repair of paralyzed laryngeal nerves and infections of the throat. He worked with Dr. Macchiarini to apply stem cells and tissue engineering to achieve the world's first stem cell-based organ transplant in 2008. Dr. Birchall is now extending this work to develop stem cell-based laryngeal regeneration, with the support of the UK's Medical Research Council.

Paolo Macchiarini, M.D., Ph.D., served as an advisor for the laryngeal transplant and assisted with the surgery. He is professor of regenerative surgery at the Karolinska Institutet and consultant on head and neck surgery in the department of otolaryngology at the Karolinska University Hospital in Stockholm, Sweden. Dr. Macchiarini's clinical interests include surgery for adult and pediatric complex tracheal diseases, lung, esophageal and mediastinal tumors, as well as intrathoracic, non-cardiac transplantation (lung, heart-lung and airways). His primary research interest involves the allotransplantation of airways, where he first described the technique of harvesting and implanting a laryngotracheal allograft in pigs and, more recently, tissue-engineered airway replacements. Dr. Macchiarini made transplant history in 2008 by using stem cells to help achieve the world's first successful in-human transplantation of a tissue-engineered organ (windpipe) without immunosuppression.

Quang C. Luu, M.D., assisted in the laryngeal transplant procedure and participated in patient care following the operation. As assistant professor of otolaryngology at UC Davis Health System, he specializes in head and neck oncology and skull-base surgery, free-flap reconstruction, improving head and neck surgery outcomes, and the comprehensive management of patients with complex head and neck diseases.

Richard V. Perez, M.D., worked alongside the laryngeal transplant team during the organ retrieval portion of the procedure. A professor of surgery and chief of transplant surgery at UC Davis Health System, Dr. Perez is a national leader in kidney and pancreas transplantation and hemodialysis vascular access. His research focuses on expanding the pool of organs available for renal transplantation and better understanding the role of inflammation to improve transplant outcomes. Under Dr. Perez's leadership, UC Davis Medical Center ranks among the top hospitals in the United States for kidney transplantation.

Angelo Mario de Mattos, M.D., M.P.H., managed the patient's immunosuppressive medications and provided advice about the clinical needs of her previous kidney and pancreas transplants. He is associate professor of nephrology at UC Davis and director of kidney and pancreas transplant medicine. He is an expert on transplant immunology and pharmacology of anti-rejection medications and focuses his research on cardiovascular disease and chronic kidney disease.

Moses Salgado, M.D., assisted in the laryngeal transplant procedure and was responsible for coordinating the patient's care following the surgery. He currently is a chief resident in the UC Davis Department of Otolaryngology Head and Neck Surgery, and served as study coordinator for the transplant. He has focused interests in laryngology, voice and swallowing disorders. Dr. Salgado is also principal investigator of a clinical research project evaluating a new type of tracheostomy tube that may reduce ventilator-associated pneumonia.

Brian Gallay, M.D., Ph.D., managed the patient's immunosuppressive medications and provided advice about the clinical needs of her previous kidney and pancreas transplants. He is an associate professor of clinical internal medicine and directs the renal transplant outreach program at UC Davis Medical Center. Dr. Gallay is an expert on transplant immunology and pharmacology and has published studies on aldosteronism, glomerulonephritis and hepatitis C.

Matthew Grow, M.D., was the lead anesthesiologist for the laryngotracheal transplant. He is an assistant professor and operating room service director in the UC Davis Department of Anesthesiology and Pain Medicine. Additionally, Dr. Grow is part of the transplantation team at UC Davis Medical Center.

Raj Ramsamooj, M.D., is a professor of medical pathology and laboratory medicine. His expertise in surgical and transplant pathology and composite tissue transplantation was a key element in the success of the laryngeal transplant. With organ rejection being a major concern during the first days following surgery, Dr. Ramsamooj monitored the patient's response to the new organ to ensure the best possible outcome.

Ann Sievers, R.N., closely coordinated the patient's care for the transplant surgery. She is a clinical nurse specialist in the department of otolaryngology and a recognized author and lecturer on head and neck cancer, and diseases of the ears, nose and throat. Sievers has held many positions within the Society of Otorhinolaryngology and Head-Neck Nurses, Inc., and also is one of the founders of the ENT Nursing Foundation. In her 30 years as a nurse, Sievers has received several awards, including the Outstanding Service Award from the Society of Otorhinolaryngology Head and Neck Nursing and the Daisy Award.