

Research shapes Mayo Clinic's first larynx transplant

Six surgeons, 20 support staff and years of expertise combined in an extraordinary 21-hour operation. They transplanted a donor larynx in a 59-year-old patient with cancer whose damaged larynx hampered his ability to talk, swallow and breathe. This complex surgery is an example of Mayo Clinic's team science approach, to advance research innovation to patient care.

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	<p>Fifteen years of research prepared Mayo Clinic to transplant its first larynx, commonly known as a voice box. Here, the transplant team is practicing microsurgery techniques developed through research, connecting the donor organ to nearly invisible blood vessels. The study of how to prevent organ rejection took more research, so the team also tested medicines called immunosuppressants.</p>
<p>David Lott, M.D. Head and Neck Surgery Mayo Clinic</p>	<p>"Our aim is to restore the function of the larynx from a variety of different means. The larynx is important because it regulates our ability to breathe, regulates our ability to swallow, and protects our airway when we swallow, so food doesn't go down into our lungs."</p>

	<p>The procedure is actually a composite neck transplant.</p> <p>Along with the larynx, the team transplanted nearby organs and tissue, including the thyroid gland, pea-size parathyroid glands, pharynx- also known as the throat-, upper esophagus, upper trachea and skin.</p> <p>It's a surgery with special challenges that is done through the strict human protection guidelines of a clinical trial.</p>
	<p>"And so, if you look at the immune environment, there are very different immune needs and immunosuppressive needs."</p>
	<p>The research team will follow the patient in his post-transplant care for the rest of his life.</p>
	<p>"What we're looking to see is, what sort of quality of life has the patient restored with this transplant? How well is the larynx functioning?"</p>
	<p>Dr. Lott's team is working every day to understand the role of regenerative medicine and its effects on complex transplantation.</p>
	<p>"So what regenerative medicine has to offer is create an environment in the immune system that teaches the body to recognize the new organ as part of its own body."</p>
	<p>Mayo Clinic plans to perfect this research-informed surgery in larynx transplants over the next five years.</p>
	<p>For the Mayo Clinic News Network, I'm Susan Buckles.</p>