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Rhinoplasty May Affect Voice Quality

According to research published earlier this year in *Plastic Reconstructive Surgery*, some patients notice voice quality changes after rhinoplasty. Researchers from Mashhad University of Medical Sciences in Iran recorded a group of rhinoplasty patients' voices pre- and post-surgery and had them complete a questionnaire. According to Kamran Khazaeni, M.D., and colleagues, altered tones and hyponasality, a speech characteristic affecting consonant sounds, are perceptible to patients and experts but generally don't cause problems with overall speech function. "Depending on how severe the nasal obstruction can be, after rhinoplasty opens the airway, the voice may sound different or less nasal," says Sam S. Rizk, M.D., director of Manhattan Facial Plastic Surgery. "In most cases, however, a rhinoplasty does not significantly change a person's voice." He adds, the more internal work that needs to be done to the nose, the greater the chance that a patient's voice may change, especially if the surgery addresses a range of sinus concerns affecting the airway.—*J.B.*

IMAGING TECHNOLOGY SHEDS LIGHT ON INJECTIONS

New imaging technology developed by engineers at the University of Washington may allow scientists to analyze what occurs within the microvascular system during dermal filler injections and help them to better manage complications. The fine-resolution technology produces 3-D images of the body's vascular network, visualizing blood vessels as small as five microns in diameter, by shining a light onto the tissue without touching it or adding any fluorescent dyes. Using optical micro-angiography, researchers found and analyzed complications that arose when fillers were inadvertently injected into the bloodstream rather than the soft tissues of the face. The gel builds up in a vessel, blocking blood flow and oxygen exchange. After tests injecting fillers in the ears of mice, researchers confirmed injections into blood vessels are most likely the cause of tissue death. With this insight, physicians can try to reverse the effect of vascular blockage with hyaluronidase. Further testing on a variety of available cosmetic fillers is ongoing. Other potential applications of the technology include analyzing how wounds heal, tracking strokes and traumatic brain injuries, and imaging human eyes.—*J.B.*

VITAMIN A BENEFITS EXTEND BELOW SKIN'S SURFACE

An international team of researchers has found that all-trans retinoid acid (ATRA), from vitamin A, may help keep the immune system under control for those with autoimmune disorders or who have received transplants, according to a new study published in the *Journal of Leukocyte Biology*. Scientists conducted a head-to-head comparison of

the role of ATRA on two subpopulations of regulatory T cells, looking for changes. Results suggest that ATRA enhances one subpopulation of regulatory T cells, which are a component that suppresses the immune responses of other cells to prevent excessive reactions. "The great thing about this discovery is that we

already have a strong foundation of clinical use for this form of vitamin A and know that it is well-tolerated by people," says E. John Wherry, Ph.D., deputy editor of the *Journal of Leukocyte Biology*. "It is a great example of the ability to exploit currently used drugs and our growing molecular and cellular understanding of the immune system."—*J.B.*