

New treatment for severe asthma

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Ariel Noriega remembers her first debilitating asthma attack. She was in elementary school playing basketball. Since then, both asthma and sports have been central in her life. A new treatment now available at UC Davis Health System, however, may allow the 20-year-old college water polo player to concentrate more on sports.

Recommended for those with severe [asthma](#) that does not always respond to medication, the treatment — known as bronchial thermoplasty — removes portions of smooth muscle tissue in the lungs that constrict during an [asthma attack](#).

"Newer medications are very effective for most people with [severe asthma](#), but they don't work for everyone," said Nicholas Kenyon, a UC Davis associate professor of pulmonary and critical care medicine and one of Noriega's physicians. "We're lucky to have this option in our treatment arsenal, especially in Sacramento, which is one of the asthma hubs in California."

Asthma — a chronic disease that inflames and narrows lung airways — currently affects 23 million people nationwide, including 7 million children. It is a leading cause of school and work absences and trips to emergency rooms, and is directly or indirectly linked with as many as 11,000 deaths each year. Allergens, tobacco smoke, ozone, particle pollution and exercise are among the known triggers of attacks.

Noriega's asthma has been relieved somewhat by drugs that target both constriction and inflammation, but side effects like weight gain and

diabetes have been detrimental, and bad attacks still send her to emergency rooms several times a year. It was after one of those ER trips that she decided to find a different approach.

UC Davis was the first California medical facility to offer bronchial thermoplasty after the technology was approved by the Food and Drug Administration in April 2010. Developed by Sunnyvale-based Asthmatx, the treatment involves three outpatient sessions in the hospital, during which a small, flexible bronchoscope with four thin wires and a tiny camera on the end is inserted into the lungs. Using images projected onto a monitor, the bronchoscope is directed to asthma-sensitive areas, where the wires expand and heat is applied to treat the tissue. Each session lasts less than an hour. Patients typically go home the same day or can be admitted for a brief observation period, depending on how well the procedure is tolerated.

"Because the lung lining is forever changed, the hope is that this can be a long-term fix for severe exacerbations," said Kenyon, who co-directs a UC Davis clinic dedicated to treating difficult-to-control asthma.

Noriega, UC Davis' first bronchial thermoplasty patient, completed her final treatment in October. How well it worked will be known in the coming months and based on the frequency of her use of "rescue" medication and emergency interventions.

"Hopefully, it will be less of everything," said Noriega, who was raised in El Dorado Hills and now attends California State University, East Bay. "I have just two more years of NCAA eligibility, and I want to be able to do my absolute best."

Provided by UC Davis

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