CHICAGO, Illinois, Dec. 5, 2016 — Overall, the rate of preventable amputations has decreased in the U.S., but in California there is one sub-group for which the opposite may be true.

An epidemiology study of 219,547 California patients with lower extremity ulcers found that potentially preventable amputations increased significantly between 2005 and 2013, with the greatest increase occurring in patients with both diabetes and peripheral arterial disease (PAD). Patients with repeated hospitalizations had the highest risk of amputation.

The study is reported in the December, 2016 issue of the Journal of Vascular Surgery and is available free online through Dec. 30. See the full text at -
The study reviewed patients who were considered to be at high risk of preventable amputations, specifically patients with diabetes, PAD or both, who developed a foot ulcer. The study focused on patients that receive care through the emergency room or required hospitalization instead of being treated at a foot clinic or doctor’s office. For those with diabetes, a small sore easily can escalate into a dangerous wound that requires amputation, and having PAD substantially amplifies that risk.

“We focused on this high risk group, because population-based studies underestimate the problem for these patients,” explained lead author Dr. Misty Humphries, a vascular surgeon and researcher at the University of California Davis. “These patients are far more likely to face amputation now than they were in 2005.”

The study also found that among the high risk patients:

• Diabetes patients with PAD faced an increased risk that went from 10 percent to 28 percent, which is both statistically and clinically significant
• Having multiple prior emergency room visits or hospital admissions was a significant predictor of amputation
• All high risk patients survived longer without an amputation if they were treated by a multidisciplinary team of specialists, that includes a vascular surgeon, a podiatrist and assistants trained in foot care

The study points to the uneven nature of health care delivery for these patients. In urban areas and among the well insured, patients tend to get regular care for their diabetes and its side effects. Patients in rural areas, who are African American or Hispanic, or on Medi-Cal, had higher rates of amputations. While it is not completely clear why the number of amputations is up in this risk group, Dr. Humphries says there are some clues.

“The number of patients who were being seen in the emergency room during this time increased,” she said. “Many primary physicians are not comfortable with managing these patients. They may not know a specialist to refer patients to. Some physicians and nursing facilities find it is easier to send patients to the ER.” She and her fellow researchers are attempting to disseminate the SVS scoring system for wound, ischemia and foot infections and promote its use with primary care physicians and their staff.

“We also want to teach a simplified ankle-brachial index test,” she said. “It’s not complicated but it can appear time-consuming and daunting. The simplified version can be done in five minutes. We’re now testing how to integrate that test into a busy primary care office so that providers can make appropriate referrals.”

## The Journal of Vascular Surgery is the official research publication of the Society for Vascular Surgery, a 5,600-member, not-for-profit professional medical society, composed primarily of specialty-trained vascular surgeons, which seeks to advance excellence and innovation in vascular health through education, advocacy, research and public awareness.

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