

# Vascular Literature Highlights

## AHA Policy Statement Proposes 20% Reduction in Nontraumatic Lower Extremity Amputation by 2030

In response to concerning trends in amputations, Mark A. Creager et al introduced an important goal: reduce nontraumatic lower extremity amputations by 20% by 2030 via actionable policies to lower the incidence of critical limb ischemia and enhanced delivery of optimal care. The project was published as an American Heart Association (AHA) Policy Statement online ahead of print in *Circulation*.

Despite a decline of nontraumatic lower extremity amputations in the 1990s and 2000s, investigators noted that data from the National Inpatient Sample showed that for patients with diabetes mellitus (DM), amputation rates increased by 50% from 2009 to 2015, after a 43% decline between 2000 and 2009. For those without DM, nontraumatic lower extremity amputations plateaued between 2012 and 2015. In 2015, there were approximately 150,000 nontraumatic lower extremity amputations in the United States.

In the policy statement, the authors set out to formulate a plan to address these trends, outlining medical approaches to prevent amputation and proposing policy changes, with a focus on peripheral artery disease (PAD). Nontraumatic lower extremity amputations have impacted patients' quality of life, mortality risk, and mental health. Nontraumatic amputations also impact the health care system and overall costs, not only in terms of amputation cost but also hospital readmissions and long-term health care use.

Disparities must also be considered in any discussion of amputation. Race, socioeconomic status, and geographic location can be associated with a higher risk of amputation, and the authors present several studies showing that when overall quality improves, disparities can diminish. Yet, in each study mentioned, disparity still existed; thus, efforts must be made to improve PAD care specifically in high-risk groups such as Black patients or those living in poverty.

### KEY FINDINGS

- Approximately 150,000 nontraumatic leg amputations occur every year in the United States, mostly in patients with DM.
- There are evidence-based diagnostic and therapeutic approaches for PAD that can reduce amputation risk, but new regulatory/legislative and organizational/institutional policies are needed to facilitate their implementation.

Along with PAD awareness, which is an important element to improve detection, there are several evidence-based diagnostic and therapeutic options for PAD that should be incorporated by health management organizations and hospitals as quality measures. The authors outline these approaches, as well as how and why they could lower the risk of amputation.

- Diagnosis of PAD, particularly via ankle-brachial index (ABI) evaluation
- Smoking cessation counseling and smoking prevention in adolescents and young adults
- DM management and better glucose control
- Regular comprehensive foot monitoring for patients with DM, both by health care professionals and self-checks
- Statin therapy
- Novel lipid-lowering and antithrombotic therapies intended to reduce major adverse limb events
- Multidisciplinary wound care teams
- Timely referral to vascular specialists for patients with PAD and a diabetic foot ulcer
- Evaluation for revascularization

## ENDOVASCULAR TODAY ASKS...

Cowriting Committee Chairs Mark A. Creager, MD, FAHA, with Dartmouth Hitchcock Medical Center in Lebanon, New Hampshire, and Kunihiro Matsushita, MD, PhD, FAHA, with Johns Hopkins Bloomberg School of Public Health in Baltimore, Maryland, shared some additional insight about the paper.

### **What do you think is the reason for the increase in amputation from 2009 to 2015?**

This increase was due to the rise in minor amputation (ie, below the ankle). This may reflect the effort to intervene earlier to avoid major amputation later. However, a slight increase was observed for major amputation as well, and this may relate to more fundamental issues that increase the risk of amputation, such as the increasing number of patients with DM.

### **What do you suspect will be the main challenges to achieving the goal of 20% amputation reduction by 2030?**

As we acknowledged in our statement, the public has low awareness of PAD, and it is underrecognized and undertreated by health care providers, as compared with recognition and treatment of other atherosclerotic diseases, such as coronary artery disease and cerebrovascular disease. To overcome this, AHA hosted a PAD Summit April 25-26, 2021, which convened with other stakeholder organizations, and will launch the PAD National Action Plan. We hope this will help health care providers and the community

appreciate the importance of detecting and treating PAD in a timely manner. Other challenges will be to engage policy makers, payers, and health care systems to improve access to care, diagnosis, and affordable use of appropriate therapies to reduce the risk of amputation in patients with PAD.

### **Of the evidence-based management approaches proposed, which is the most accessible first step in this process?**

Detection of PAD in high-risk patients, such as those with DM. DM accounts for up to 70% of lower extremity amputation in the United States. Fortunately, there are many therapeutic options to treat diabetes, and efforts to prevent the transition from prediabetes to DM are being made nationally. However, leg complications in DM do not receive enough attention. Specifically, national and international clinical guidelines recommend annual foot care in patients with DM, but only approximately 30% of patients receive this care. We think this is a critical missing opportunity to prevent amputations in this high-risk population.

Unfortunately, not all patients receive these approaches due to barriers such as underdiagnosis of PAD, failure to appreciate the importance of PAD, lack of health care professionals' knowledge of management, inadequate access to specialists, and cost. Therefore, to accomplish the goal of 20% nontraumatic lower extremity amputation by 2030, the AHA policy statement called for key stakeholders to work collaboratively on regulatory/legislative and organizational institutional policies.

The proposed policies for payers, research, health care professionals, health care systems, policy makers, patients and caregivers, and the public include the following:

- Ensure adoption of optimal medical management of patients with PAD
- Cover annual foot monitoring of patients with DM
- Regulate all tobacco products and make tobacco cessation therapy available without a copay
- Integrate clinical decision support to diagnose and manage PAD in electronic health records
- Reimburse ABI across all states
- Make medical care equitable, affordable, and accessible
- Provide professional education on PAD diagnosis and management
- Dedicate funding opportunities to support PAD research ■