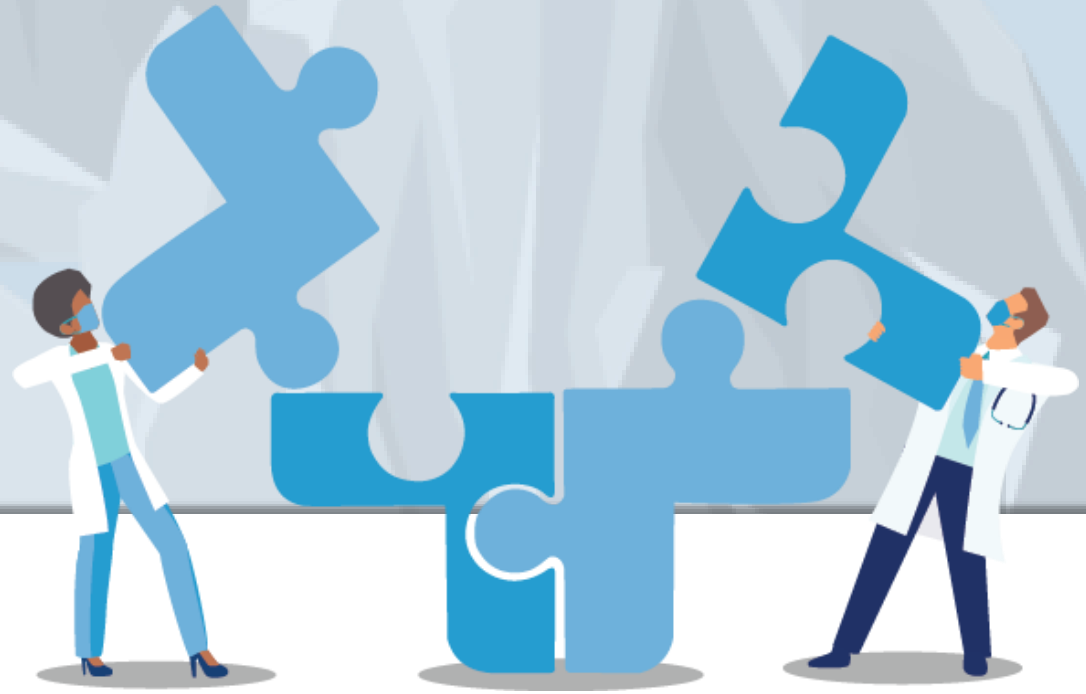
PAD National Action Plan: Summit Consensus Recommendations

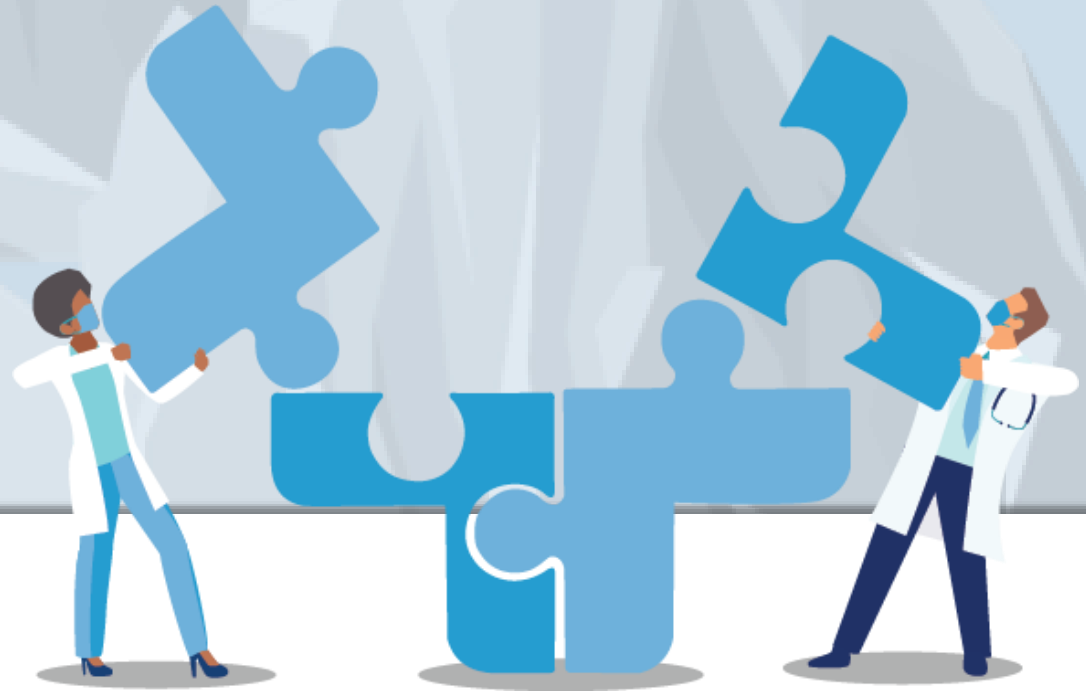
Karen L. Bauer, DNP, A.P.R.N.-F.N.P.,
CWS, FAAWC, MAPWCA



AAWC Association for the Advancement of Wound Care®
2022 Annual Conference
Technology in Wound Care

Disclosures:

Speaker/Consultant, URGO MNA

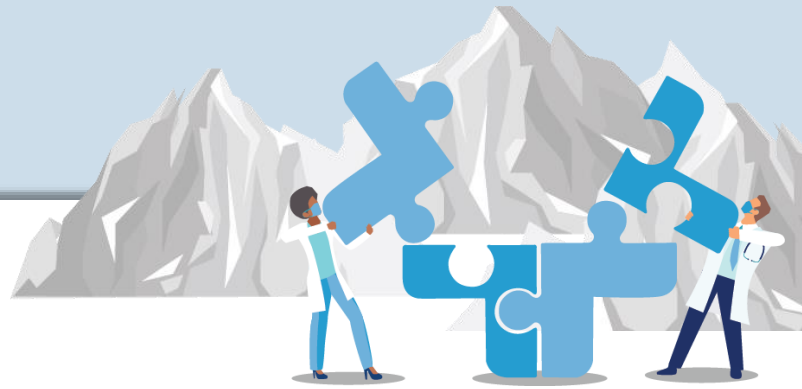


Objectives

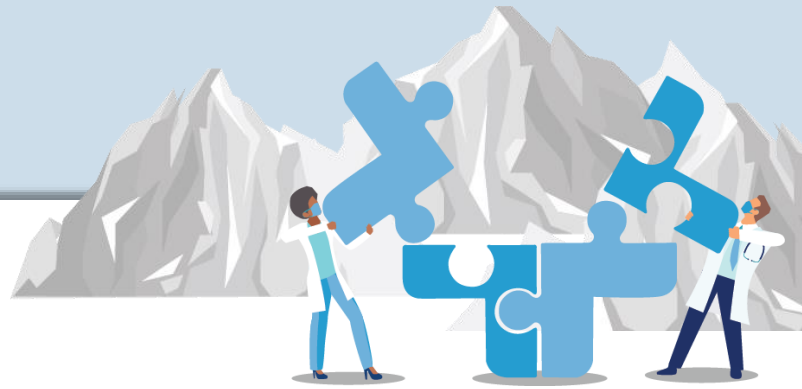
1. Describe the population at risk for PAD

2. Identify at least 3 goals of the National Action Plan that could be adopted into clinical practice.

3. Describe the research underway to improve adherence to exercise programs in patients with PAD.



Each year, approximately **150,000 leg amputations** are performed in the United States. Black and Native American people and those of low socioeconomic status are at the highest risk of amputation.



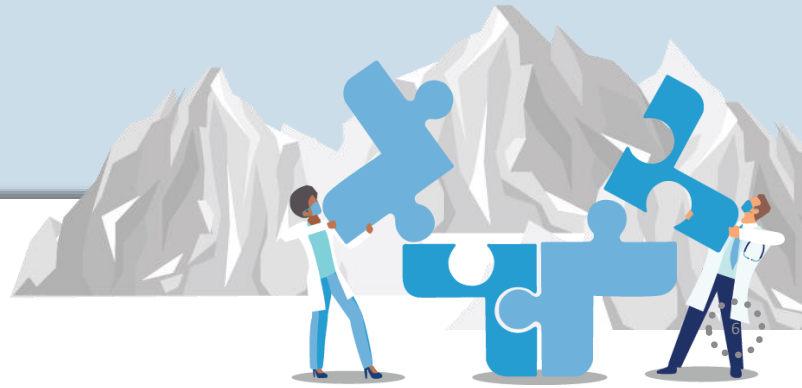
- *The public and health care professionals have a poor understanding of PAD prevention and early detection*
- *Under-treatment despite the recognition that it leads to nontraumatic lower extremity amputations, death, MI and stroke*

The PAD National Action Plan was generated to transform awareness, knowledge, assessment and management of patients with and at risk for PAD

The PAD Collaborative brings together organizations and experts committed to advancing the PAD National Action Plan

Our Ultimate Goal

Reduce serious complications and improve quality of life for people living with PAD



A systematic review of multidisciplinary teams to reduce major amputations for patients with diabetic foot ulcers

Jackson Musuuza, MBBS, MPH, PhD,[a,b] Bryn L. Sutherland, BA,[a] Suleyman Kurter, DPM,[c] Prakash Balasubramanian, MD,[b] Christie M. Bartels, MD, MS,[a] *and* Meghan B. Brennan, MD, MS,[a,b]
Madison, Wisc

From the Society for Vascular Surgery

Benefit of multidisciplinary wound care center on the volume and outcomes of a vascular surgery practice

Alyssa M. Flores, BS,[a,b] Matthew W. Mell, MD, MS,[c] Ronald L. Dalman, MD,[a] *and* Venita Chandra, MD,[a]
Stanford and Sacramento, Calif; and Hanover, NH

Peripheral Artery Disease

Angiology
2015, Vol. 66(2) 187-194

DOI: 10.1177/0003319714523113
ang.sagepub.com
SAGE

Prognostic Improvement by Multidisciplinary Therapy in Patients With Critical Limb Ischemia

Hirofumi Hioki, MD[1], Yusuke Miyashita, MD, PhD[1], Takashi Miura, MD[1], Souichirou Ebisawa, MD[1], Hirohiko Motoki, MD, PhD[1], Atsushi Izawa, MD, PhD[1], Takeshi Tomita, MD, PhD[1], Jun Koyama, MD, PhD[1], and Uichi Ikeda, MD, PhD[1]

Abstract
Although limb salvage rate has improved in critical limb ischemia (CLI), an improvement in CLI prognosis has been scarcely reported. Multidisciplinary therapy (MT) including revascularization, wound bed preparation, treatment of comorbidity, and education of patients with CLI may improve prognosis. The aim of this study was to investigate the effectiveness of MT in prognostic improvement. We retrospectively analyzed 72 patients with CLI and assessed whether MT improved prognosis. The incidence of amputation-free survival (freedom from major amputation [MA] and death) was significantly different between the MT and conventional groups at 2 years (0% vs 33%; $P = .024$). After multivariate analysis, transfusion (hazard ratio [HR] 5.778; 95% confidence interval [CI], 2.372-14.073; $P < .001$), multivessel coronary disease (HR 3.353; 95% CI, 1.309-8.590; $P = .012$), and C-reactive protein >5 mg/dL (HR 3.958; 95% CI, 1.359-11.531; $P = .012$) were independent predictors for MA or death. We concluded that MT was effective in improved mortality and limb salvage rate.

Published in final edited form as:
Vasc Med. 2021 April ; 26(2): 200–206. doi:10.1177/1358863X20987896.

Perceptions of patients with wounds due to chronic limb-threatening ischemia

Maria Ceja Rodriguez[1], John R Mark[1], Melissa Gosdin[2], Misty D Humphries[1]
[1]Department of Surgery, University of California Davis Health, Sacramento, CA, USA
[2]Center for Health Policy, University of California Davis Health, Sacramento, CA, USA

Clinical Interventions in Aging
Dovepress
open access to scientific and medical research
Open Access Full Text Article
METHODOLOGY

Multidisciplinary approach to the diagnosis and management of patients with peripheral arterial disease

This article was published in the following Dove Press journal:
Clinical Interventions in Aging
10 July 2015
Number of times this article has been viewed

Craig M Walker[1,2]
Frank T Bunch[3]
Nick G Cavros[4]
Eric J Dippel[5]

[1]Cardiovascular Institute of the South, Tulane University School of Medicine, New Orleans, LA, [2]Louisiana State University School of Medicine, New Orleans, LA, [3]Cardiology Associates, Mobile, AL, [4]Cardiovascular Institute of the South, Lafayette General Medical Center, Lafayette, LA, [5]Cardiovascular Medicine, PC Genesis Heart Institute, Davenport, IA, USA

Abstract: Peripheral arterial disease (PAD) is frequently diagnosed after permanent damage has occurred, resulting in a high rate of morbidity, amputation, and loss of life. Early and ongoing diagnosis and treatment is required for this progressive disease. Lifestyle modifications can prevent or delay disease progression and improve symptoms. Limb-sparing endovascular interventions can restore circulation based on appropriate diagnostic testing to pinpoint vascular targets, and intervention must occur as early as possible to ensure optimal clinical outcomes. An algorithm for the diagnosis and management of PAD was developed to enable a collaborative approach between the family practice and primary care physician or internist and various specialists that may include a diabetologist, endocrinologist, smoking cessation expert, hypertension and lipid specialist, endovascular interventionalist, vascular surgeon, orthopedist, neurologist, nurse practitioner, podiatrist, wound healing expert, and/or others. A multidisciplinary team working together has the greatest chance of providing optimal care for the patient with PAD and ensuring ongoing surveillance of the patient's overall health, ultimately resulting in better quality of life and increased longevity for patients with PAD.

ELSEVIER
CrossMark

Aggressive Wound Care by a Multidisciplinary Team Improves Wound Healing after Infrainguinal Bypass in Patients with Critical Limb Ischemia

Shinsuke Mii,[1,2] Kiyoshi Tanaka,[2,3] Ryoichi Kyuragi,[2,4] Hiroshi Ishimura,[2,5] Shinsuke Yasukawa,[2,6] Atsushi Guntani,[1] and Eisuke Kawakubo,[1] Kitakyushu-City and Fukuoka, Japan

AAWC | Association for the Advancement of Wound Care®
2022 Annual Conference
Technology in Wound Care

What is PAD?

PAD: Atherothrombotic disease outside of the coronary arteries

Acute Limb Ischemia (ALI): < 2 weeks severe hypoperfusion of the limb

6 P's

- Viable
- Threatened—IIa (marginal) or IIb (immediate)
- Irreversible

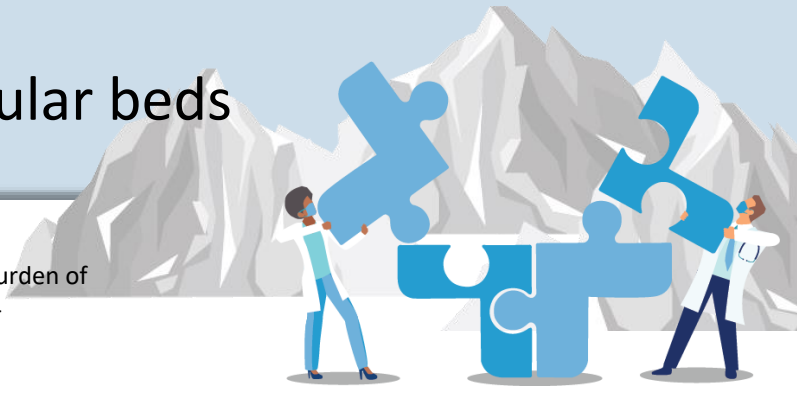
Critical Limb Ischemia (CLI): ≥2 wk ischemic rest pain, nonhealing wound/ulcers, or gangrene

- Constellation of symptoms and signs
- A very low ABI or TBI does not necessarily mean the patient has CLI

Epidemiology

- 2015: 5.6% of the global population
- By 2050 an estimated 19 million Americans will have PAD (currently 8.5 mil)
- 2000
- Preva
to w
- Age
- Men have have higher PAD prevalence in high-income countries, women have a higher PAD prevalence in low- and middle-income countries (LMICs)
- 46–68% of patients with PAD have disease in one or more vascular beds

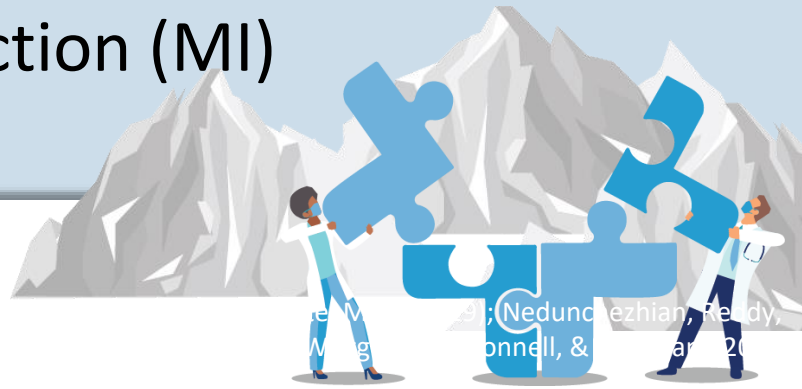
PAD has similar risk factors to CAD and CVD: epidemiologic data make it clear that PAD warrants recognition as a unique entity

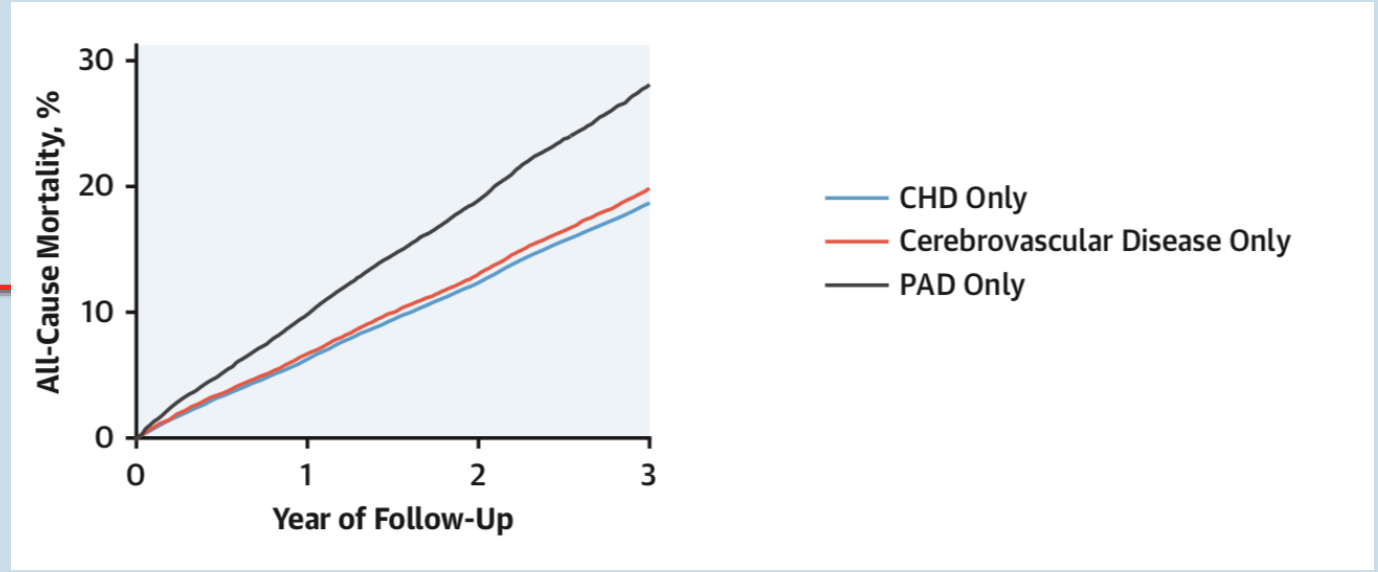


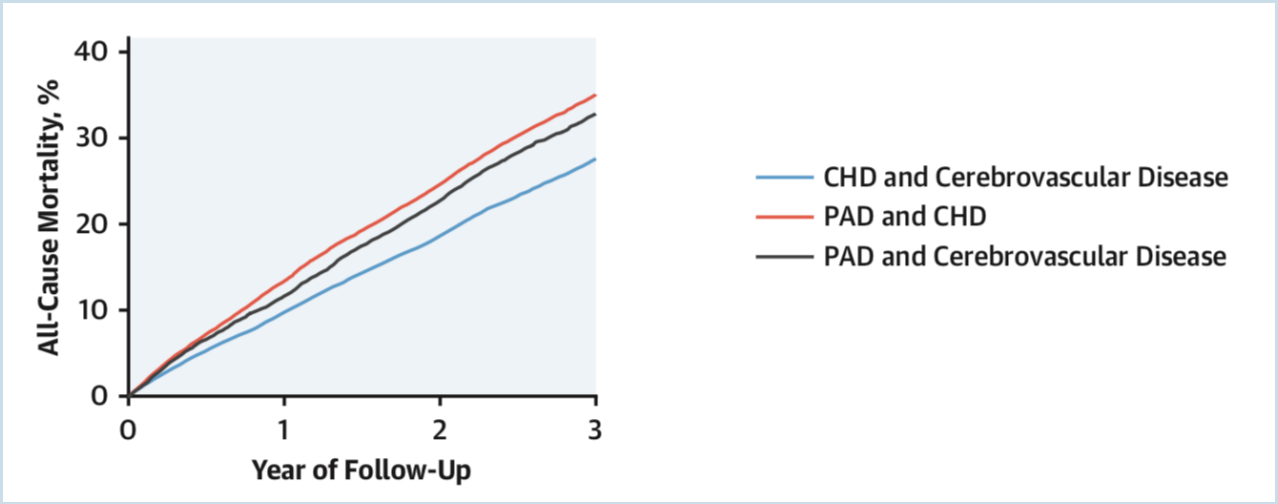
Aday, A. W., & Matsushita, K. (2021). Epidemiology of Peripheral Artery Disease and Polyvascular Disease. *Circulation research*, *128*(12), 1818–1832Bauersachs, R., Zeymer, U., Brière, J. B., Marre, C., Bowrin, K., & Huelsebeck, M. (2019). Burden of Coronary Artery Disease and Peripheral Artery Disease: A Literature Review. *Cardiovascular therapeutics*, *2019*, 8295054 https://doi.org/10.1155/2019/8295054.

Disease Burden

- High mortality and morbidity rates worldwide
- Direct costs reportedly higher than those for CAD: polyvascular disease/hospitalization rates
- Prevalence of CLTI is 1.3% among individuals aged 40 years or older (11% of overall PAD)
- Third leading cause of atherosclerotic cardiovascular disease (ASCVD) morbidity and mortality after myocardial infarction (MI) and stroke

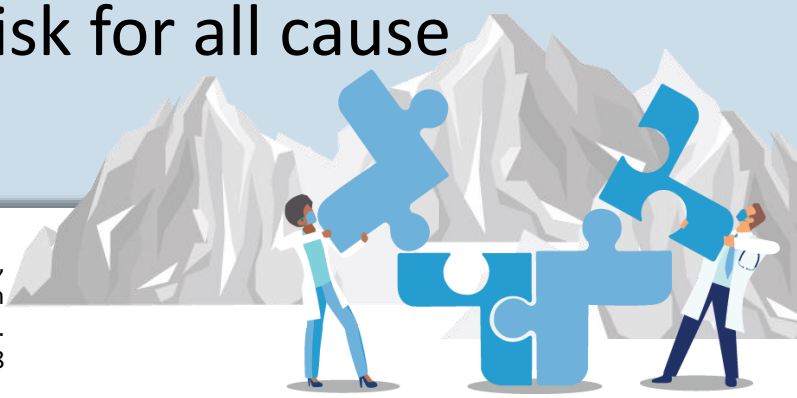






PAD Is a CHD and cerebrovascular disease risk-equivalent for ASCVD

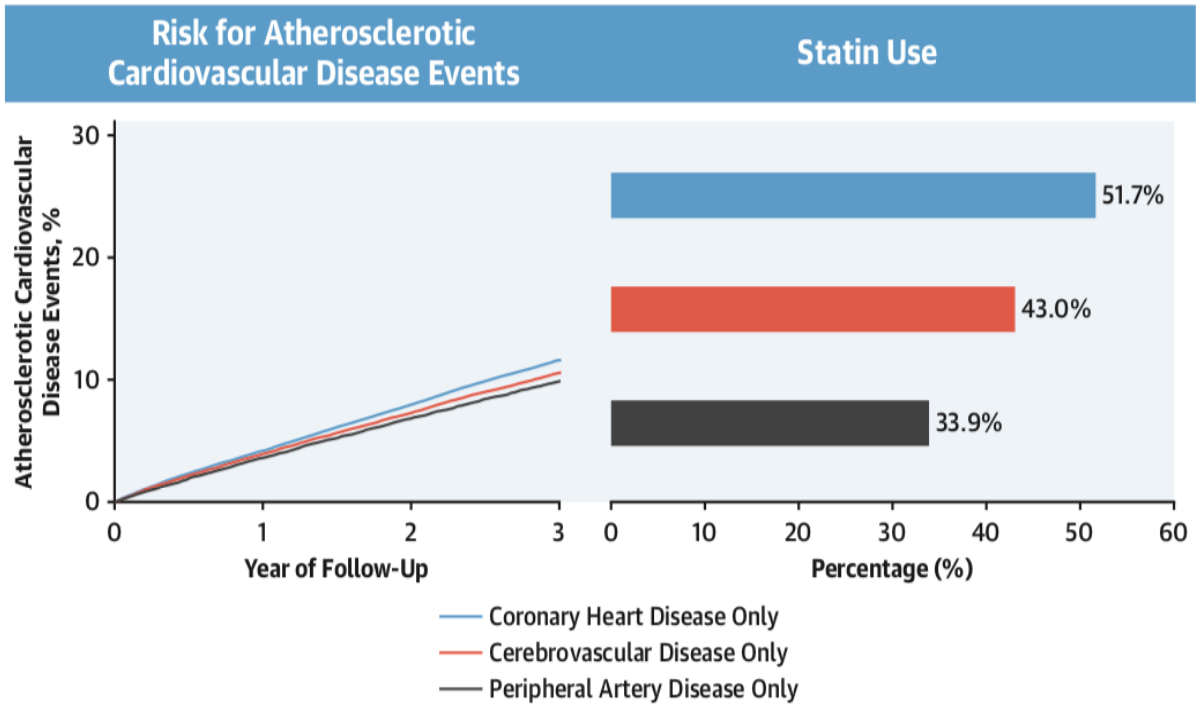
PAD high risk for all cause mortality



AAWC Association for the Advancement of Wound Care®
2022 Annual Conference
Technology in Wound Care

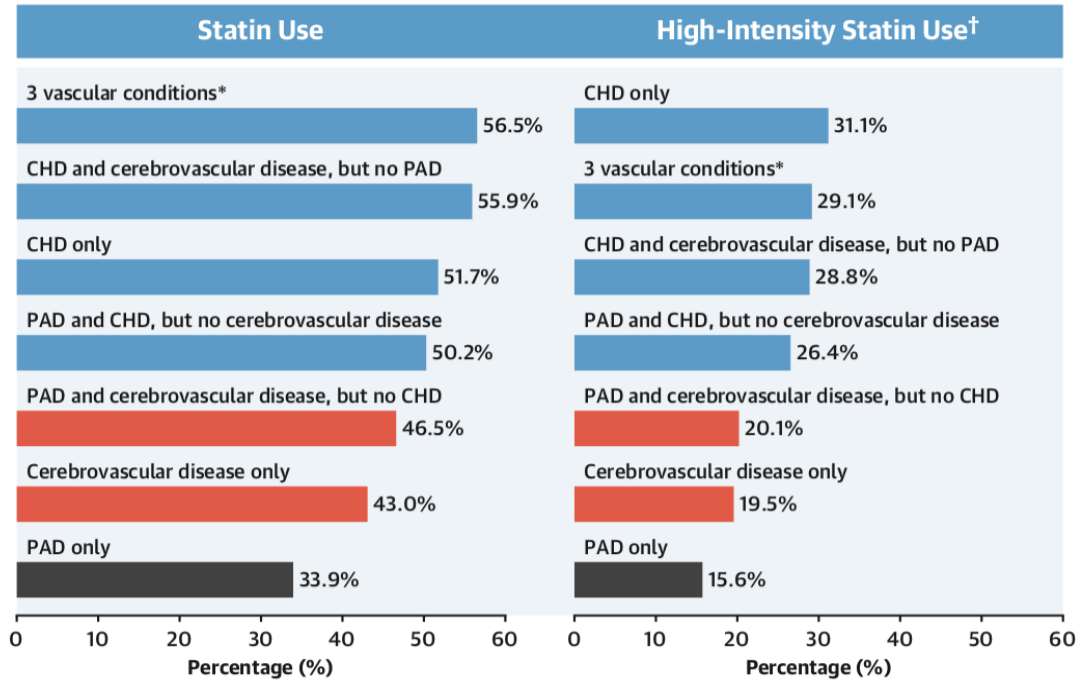
Colantonio, L. D., Hubbard, D., Monda, K. L., Mues, K. E., Huang, L., Dai, Y., Jackson, E. A., Brown, T. M., Rosenson, R. S., Woodward, M., Muntner, P., & Farkouh, M. E. (2020). Atherosclerotic Risk and Statin Use Among Patients With Peripheral Artery Disease. *Journal of the American College of Cardiology*, *76*(3), 251–264. https://doi.org/10.1016/j.jacc.2020.05.048

CENTRAL ILLUSTRATION Risk for Atherosclerotic Events and Statin Use Among Patients With Peripheral Artery Disease



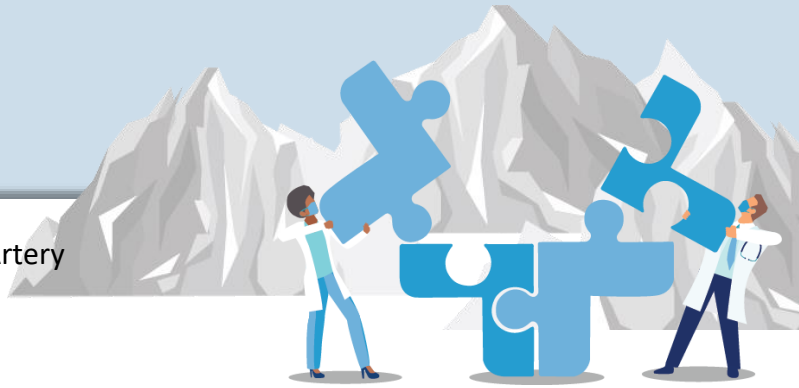
Colantonio, L.D. et al. J Am Coll Cardiol. 2020;76(3):251-64.

FIGURE 5 Percentage of Patients Taking a Statin or a High-Intensity Statin Restricted to Those Taking a Statin



The prevalence of statin use is age-standardized to full study population (see Supplemental Table 8). **Blue bars** indicate groups of patients with CHD. **Red bars** indicate groups of patients with cerebrovascular disease who do not have CHD. **Grey bars** indicate patients with PAD only. The figure shows that patients with PAD or cerebrovascular disease without CHD are less likely to be taking a statin, and a high-intensity statin among those taking a statin, versus their counterparts with CHD. *Includes patients with PAD, CHD and cerebrovascular disease. †Among patients taking a statin. High-intensity statin includes atorvastatin 40 or 80 mg or rosuvastatin 20 or 40 mg. Abbreviations as in Figure 1.

Colantonio, L. D., et al., (2020). Atherosclerotic Risk and Statin Use Among Patients With Peripheral Artery Disease. *Journal of the American College of Cardiology*, *76*(3), 251–264. https://doi.org/10.1016/j.jacc.2020.05.048



Gaps in Care

- PAD is underrecognized & underdiagnosed
- Misconception: limb diseases are not fatal
- PAD not widely recognized as a disabling condition- seen as a sign of aging

Table 2. Summary of Gaps Related to PAD in Research, Clinical Practice, and Implementation

Research/clinical gaps
Contemporary data on the prevalence of PAD in the United States and globally
Larger studies with toe-brachial index (diagnostic accuracy and prognosis)
New and noninvasive techniques to visualize peripheral perfusion
Nonconventional risk factors and microvascular disease as potential preventive and therapeutic targets of PAD
Research to identify characteristics of effective home-based exercise interventions that are acceptable and accessible to patients with PAD
Behavioral methods to help patients with PAD adhere to home-based exercise long term
Community-based studies with severe leg outcomes
Randomized clinical trials comparing medical therapy, percutaneous revascularization, and surgical revascularization (with their latest evolutions) by indication and clinical staging
Medications or other oral therapies that significantly improve walking performance in PAD
Prediction models for developing critical limb ischemia and requiring lower extremity amputation
All PAD-related studies should include racially/ethnically diverse populations
Implementation gaps
Awareness of PAD among health care providers and patients
Screening of PAD with ankle-brachial index in high-risk populations
Broader use of toe-brachial index beyond ankle-brachial index>1.4, especially among patients with diabetes or chronic kidney disease
Adherence to evidence-based therapies in patients with PAD (medical therapies, supervised exercise therapy, and home-based exercise)
Avoiding unnecessary revascularization
All these implementation gaps should be filled across racially/ethnically diverse populations

PAD indicates peripheral artery disease.

Criqui, M. H., Matsushita, K., Aboyans, V., Hess, C. N., Hicks, C. W., Kwan, T. W., McDermott, M. M., Misra, S., Ujueta, F., & American Heart Association Council on Epidemiology and Prevention; Council on Arteriosclerosis, Thrombosis and Vascular Biology; Council on Cardiovascular Radiology and Intervention; Council on Lifestyle and Cardiometabolic Health; Council on Peripheral Vascular Disease; and Stroke Council (2021). Lower Extremity Peripheral Artery Disease: Contemporary Epidemiology, Management Gaps, and Future Directions: A Scientific Statement From the American Heart Association. *Circulation*, *144*(9), e171–e191. https://doi.org/10.1161/CIR.0000000000001005

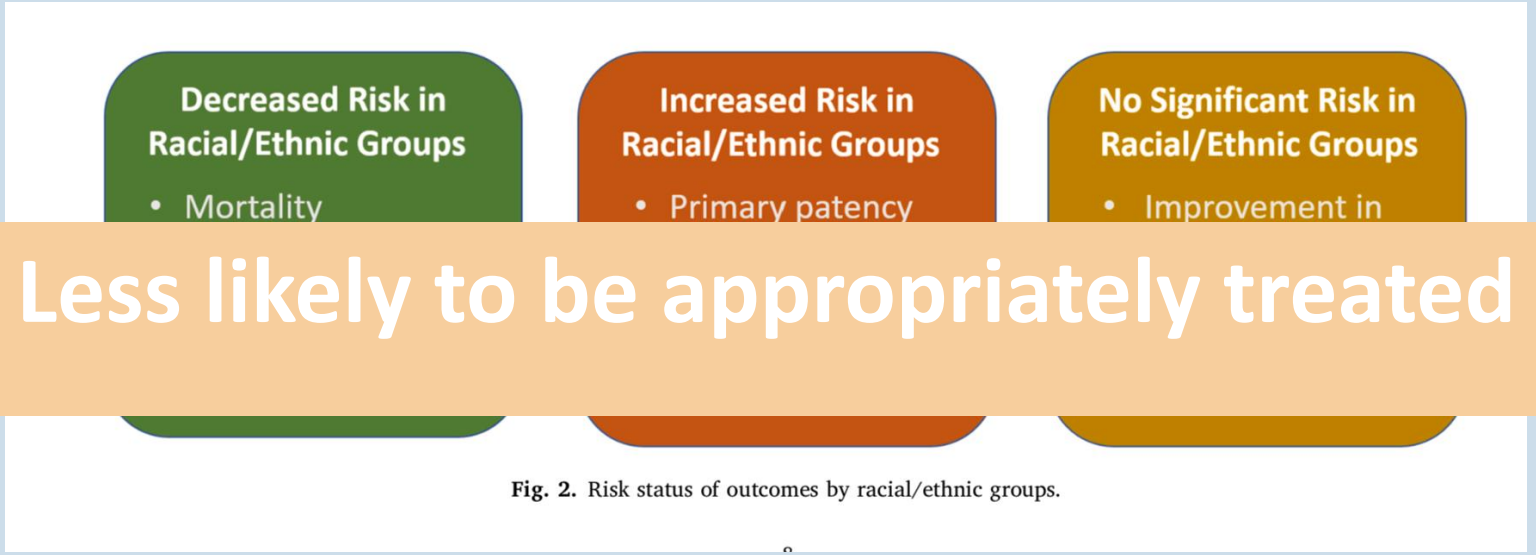
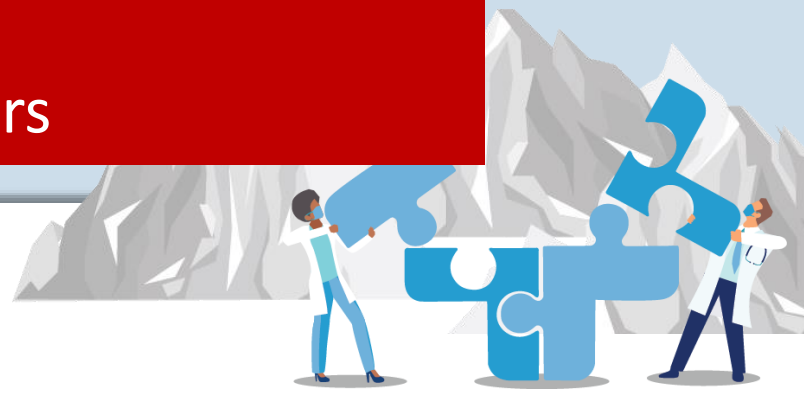


Fig. 2. Risk status of outcomes by racial/ethnic groups.

Less likely to be appropriately treated

Black Americans are more likely to have PAD than other racial and ethnic groups

- Present with more severe disease
- Have more atypical symptoms
- More likely to suffer worse outcomes
- Higher prevalence of cardiovascular risk factors



Nedunchezhian, Reddy, Weggener, O'Connell, & Ferdinand 2022

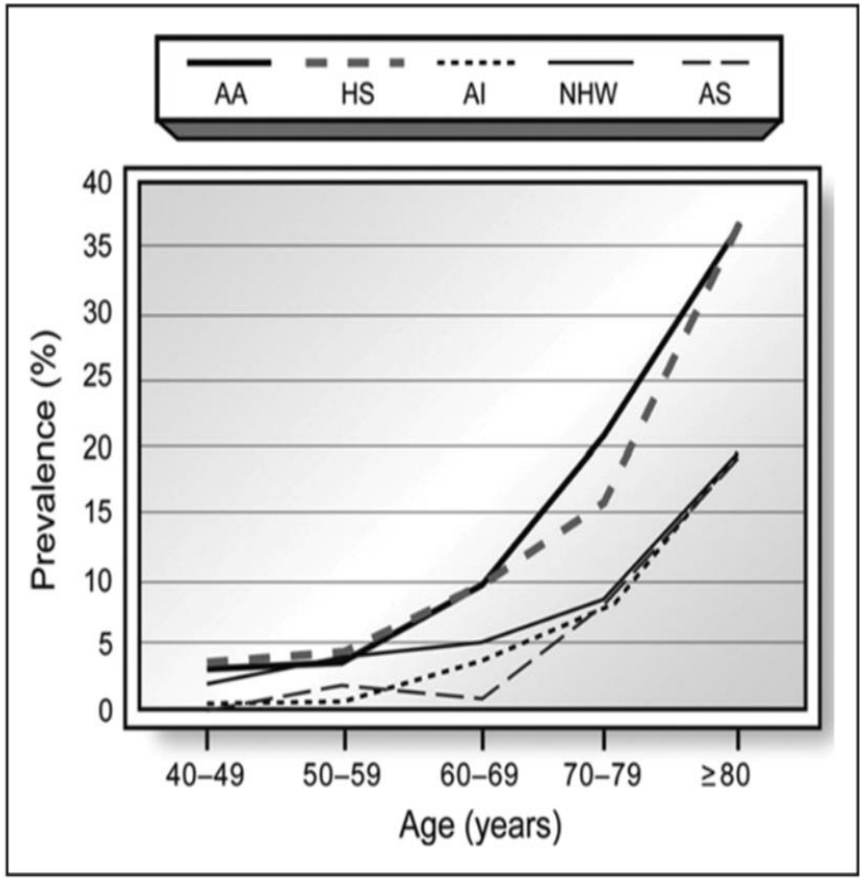


Figure 2. Ethnic-specific prevalence of peripheral artery disease in women.

AA indicates African American; AI, American Indian; AS, Asian American; HS, Hispanic; and NHW, non-Hispanic White. Reproduced from Allison et al[4] with permission. Copyright ©2007, Elsevier.

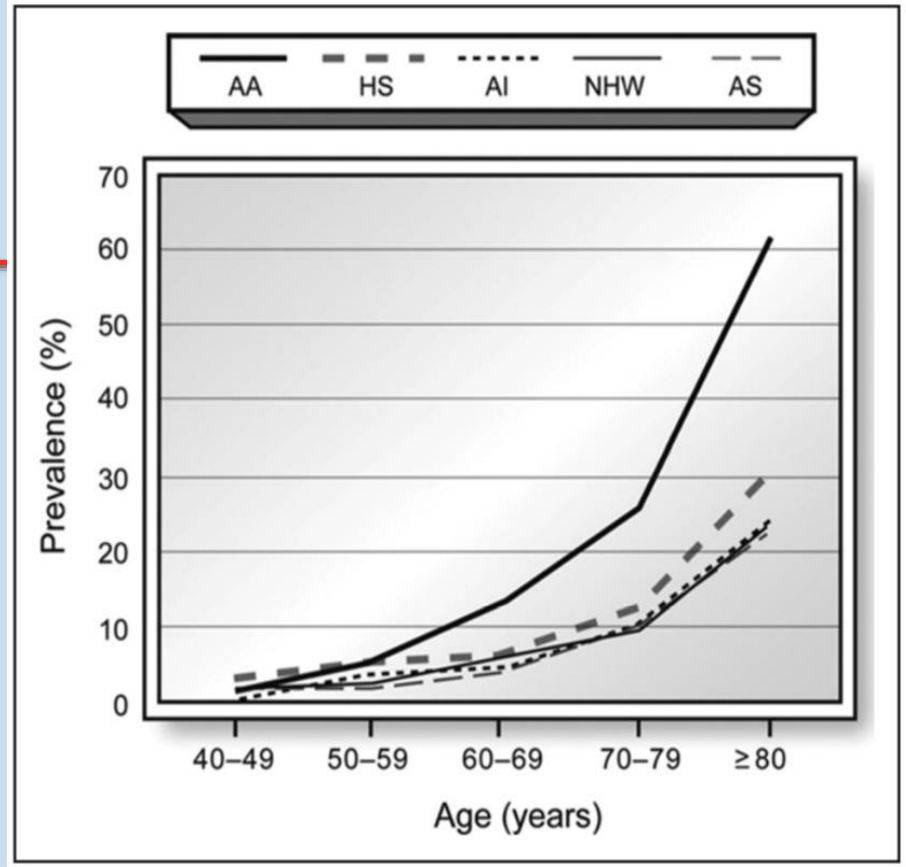
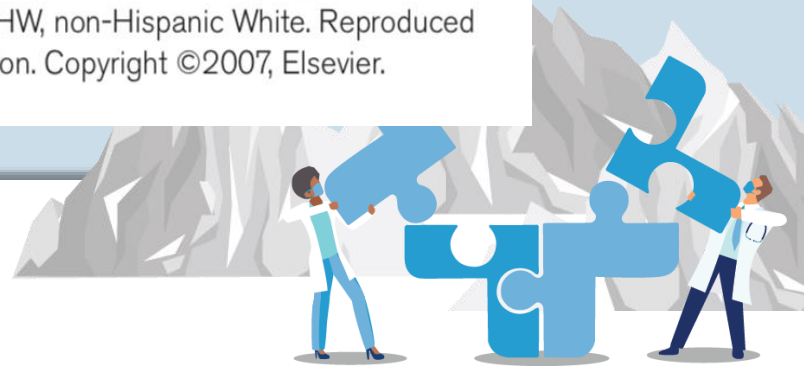


Figure 1. Ethnic-specific prevalence of peripheral artery disease in men.

AA indicates African American; AI, American Indian; AS, Asian American; HS, Hispanic; and NHW, non-Hispanic White. Reproduced from Allison et al[4] with permission. Copyright ©2007, Elsevier.

Hackler, E. L., 3rd, Hamburg, N. M., & White Solaru, K. T. (2021). Racial and Ethnic Disparities in Peripheral Artery Disease. *Circulation research*, *128*(12), 1913–1926. https://doi.org/10.1161/CIRCRESAHA.121.318243



Amputation Rates

Regions with intense vascular care = **lower amputation rates**

Wealthier regions = **lower amputation rates**

Disparities between white and black increase where resources greatest

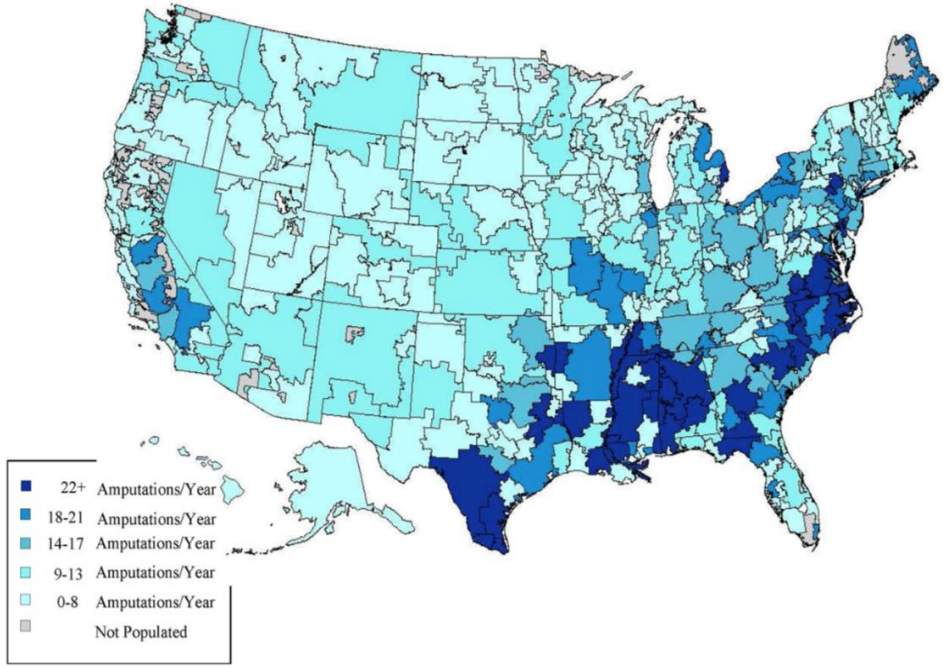
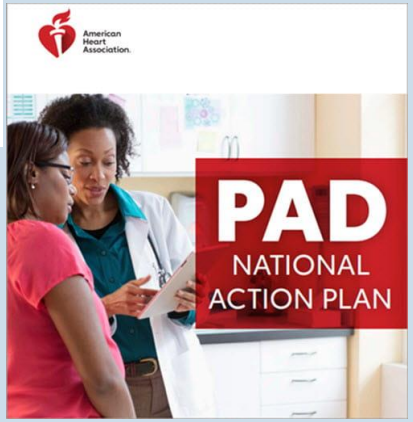


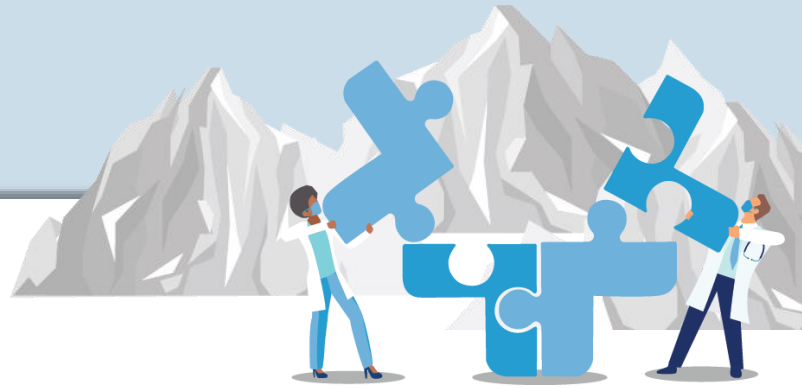
Figure 1.
Number of Amputations in Each Hospital Referral Region (per 10,000 Medicare Patients).

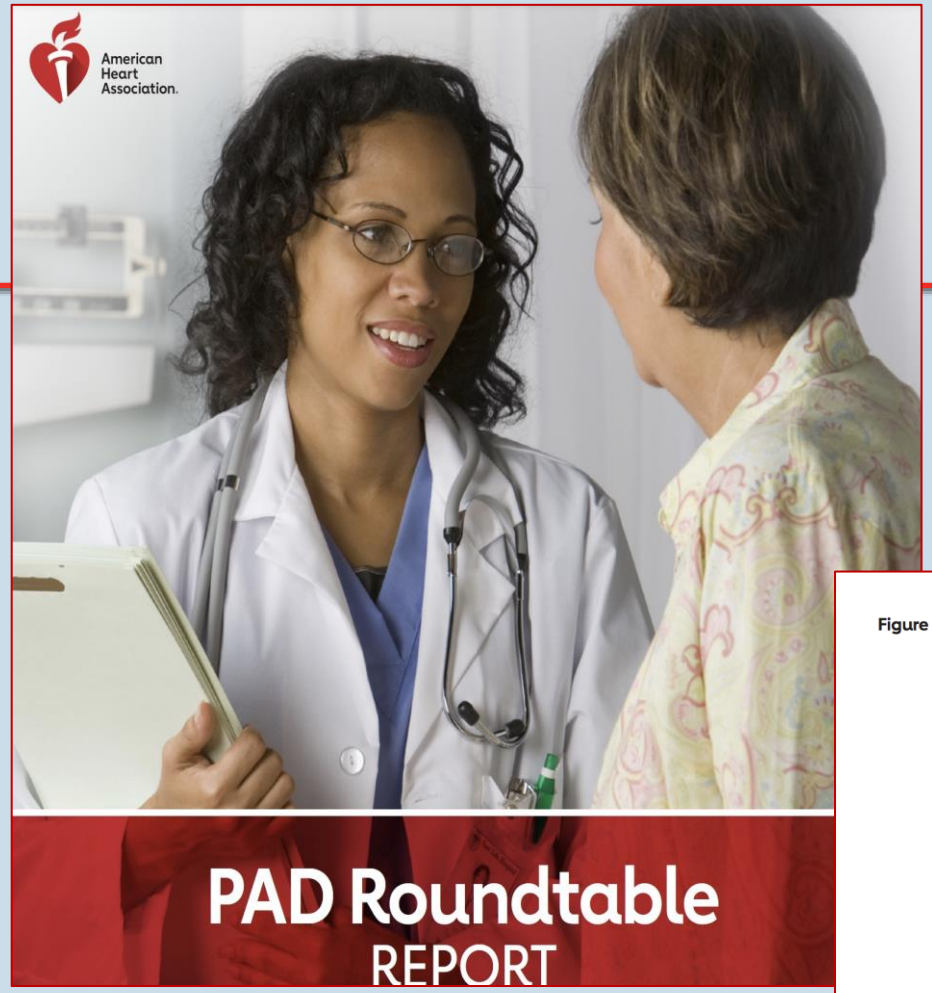
Durazzo, T. S., Frencher, S., & Gusberg, R. (2013). Influence of race on the management of lower extremity ischemia: revascularization vs amputation. *JAMA surgery*, *148*(7), 617–623.
Goodney, P et al.,(2013). Regional intensity of vascular care and lower extremity amputation rates. *Journal of vascular surgery*, *57*(6), 1471–1480. https://doi.org/10.1016/j.jvs.2012.11.068

American Heart Association Peripheral Artery Disease National Action Plan



Goal: Reduce serious complications and improve quality of life for people living with PAD.





Peripheral Artery Disease Summit 2021: Vision for PAD Awareness

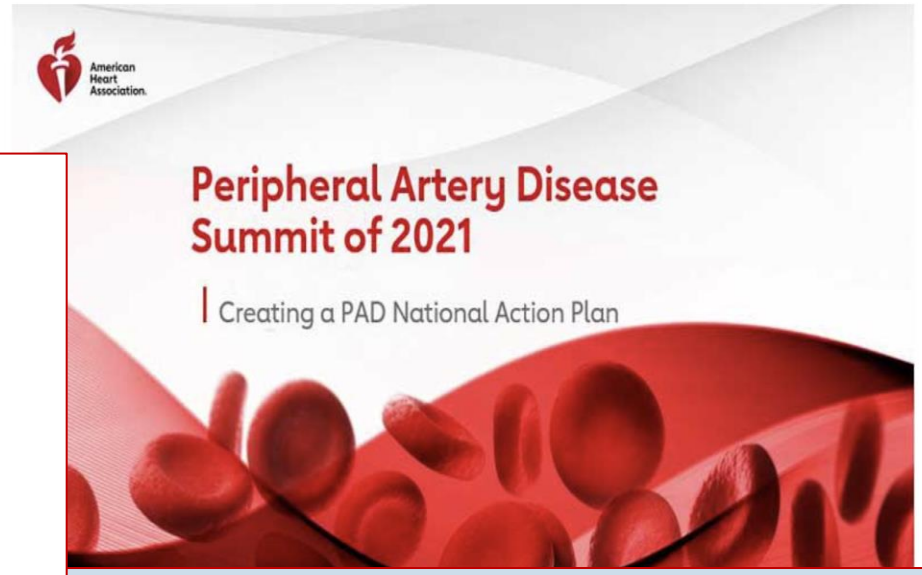
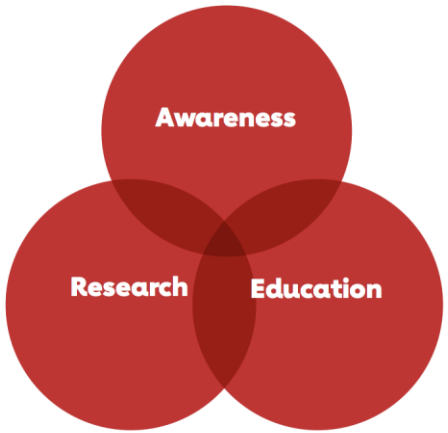
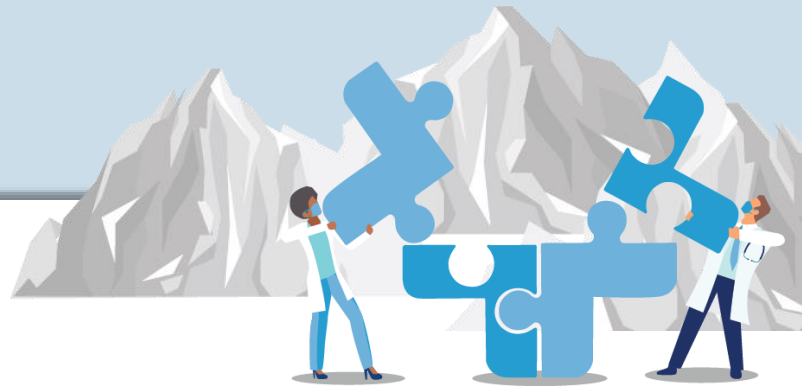


Figure 1: Key Goals of a PAD National Initiative



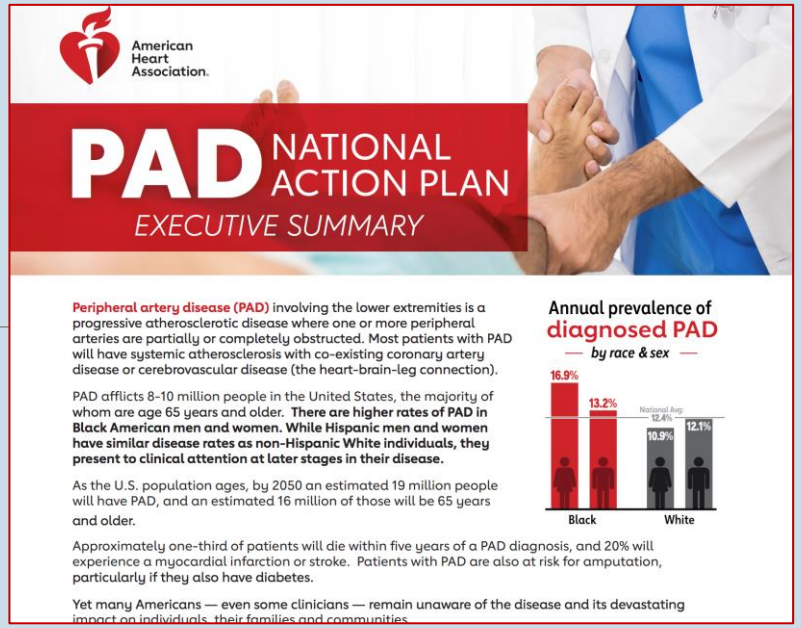


Join Us On This Journey

The PAD National Action Plan is a thoughtful guide that will enable the nation to coordinate initiatives for prevention of PAD complications, treatment of cardiovascular risk and improvement of quality of life for those living with the disease. However, its long-term success depends on the synergistic action of many groups committed to addressing PAD. To implement the PAD National Action Plan successfully, it is critical to gain the support of organizations and individuals who can invest in a sustaining collaboration. Please help us make this continuing effort a national success.

For the full PAD National Action Plan, visit
heart.org/PADActionPlan

While there, complete the form to request updates and stay informed on this important topic.



GOAL 1: PUBLIC AWARENESS

Reach people with PAD and those at risk for PAD by improving public awareness of PAD symptoms and diagnosis.

GOAL 2: PROFESSIONAL EDUCATION

Enhance professional education for multidisciplinary health care professionals who care for people with PAD.

GOAL 3: DETECTION & TREATMENT

Activate health care systems to provide enhanced programs for the detection and treatment of PAD patients, with a focus on understanding and addressing patient-centered outcomes.

GOAL 4: PUBLIC HEALTH

Reduce the rates of nontraumatic lower extremity amputations related to PAD through public outcome reporting and public health interventions.

GOAL 5: RESEARCH

Increase and sustain research to better understand prevention, diagnosis and treatment of PAD.

GOAL 6: ADVOCACY

Coordinate PAD advocacy efforts to shape national policy and improve health outcomes.

PAD prevalence in the U.S. is on track to triple in the next 30 years

unless we work to prevent it.

RIGHT NOW, WE HAVE AN OPPORTUNITY
This Action Plan will be used to guide a collaborative and enduring road map to prevent PAD, reduce its most serious complications and improve quality of life for people living with this disease.

AAWC Association for the Advancement of Wound Care®
2022 Annual Conference
Technology in Wound Care

Goal #1

Reach people with PAD and those at risk for PAD by improving public awareness of the symptoms and diagnosis of PAD

- Diverse national patient advisory group to identify messaging needs
- Prioritize the approach to reach at-risk groups
- Identify partners to amplify consumer awareness initiatives
- Secure funding to launch and sustain PAD consumer awareness initiatives

Patient Perspective

1. Limited coping mechanisms
2. Overwhelmed by the care of their wounds
3. Passive observers of their care with limited understanding of their disease processes
4. Detachment from wound management was, but patients acknowledged this is
5. Strong desire to do everything to prevent limb loss but hard to translate into real life

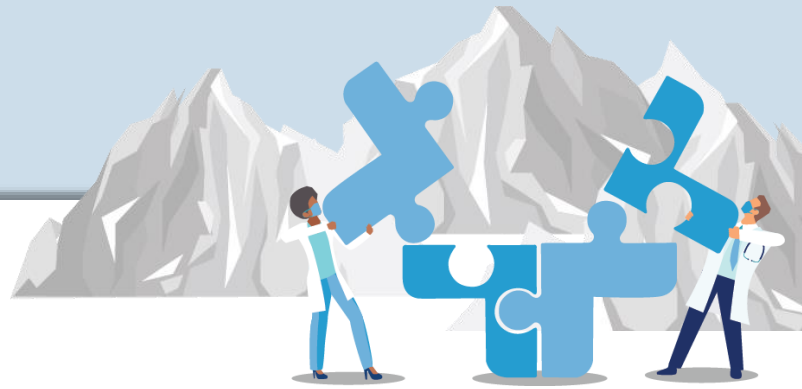
Published in final edited form as:
Vasc Med. 2021 April ; 26(2): 200–206. doi:10.1177/1358863X20987896.

Perceptions of patients with wounds due to chronic limb-threatening ischemia

Maria Ceja Rodriguez[1], **John R Mark**[1], **Melissa Gosdin**[2], **Misty D Humphries**[1]

[1]Department of Surgery, University of California Davis Health, Sacramento, CA, USA

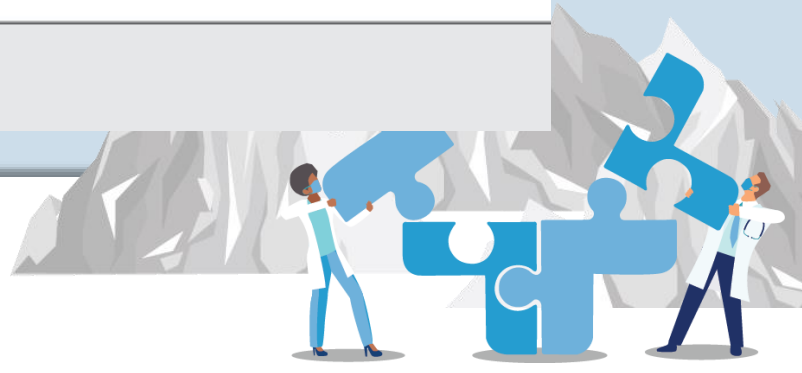
[2]Center for Health Policy, University of California Davis Health, Sacramento, CA, USA



Ceja Rodriguez, M., Mark, J. R., Gosdin, M., & Humphries, M. D. (2021). Perceptions of patients with wounds due to chronic limb-threatening ischemia. *Vascular medicine (London, England)*, *26*(2), 200–206. https://doi.org/10.1177/1358863X20987896

Table 2

Messaging About PAD
• Can't keep up? Maybe clogged leg arteries are slowing you down. Talk to your doctor to find out about peripheral artery disease.
• Take off your socks at your next checkup. It could save more than your legs: It could save your life.
• Problems walking? Your legs may be at the heart of the matter. Get checked for peripheral artery disease.
• Your legs and feet could hold clues to your heart and brain health. Learn about peripheral artery disease.
• Don't ignore your legs. They may be telling you about your risk for a heart attack or stroke. If you have leg pain, ask your doctor about peripheral artery disease.



Goal #2

Enhance professional education for multi-disciplinary providers who care for people with PAD

- Teach professionals how to empower patients with PAD
- Develop and disseminate educational curriculum and guidelines to multidisciplinary providers
- Increase awareness, detection and screening of patients at risk for PAD

Goal #3:

Activate health care systems to provide enhanced programs for the detection and treatment of PAD patients, with an improved understanding of patient-centered outcomes for PAD

- Improve PAD detection, treatment, and timely referral for revascularization
- Develop approaches for patient-centered PAD care
- Establish standards and accreditation for supervised exercise therapy (SET) programs

Supervised Exercise Therapy

2016 AHA/ACC guidelines: SET is an important piece of care for claudicants prior to revascularization

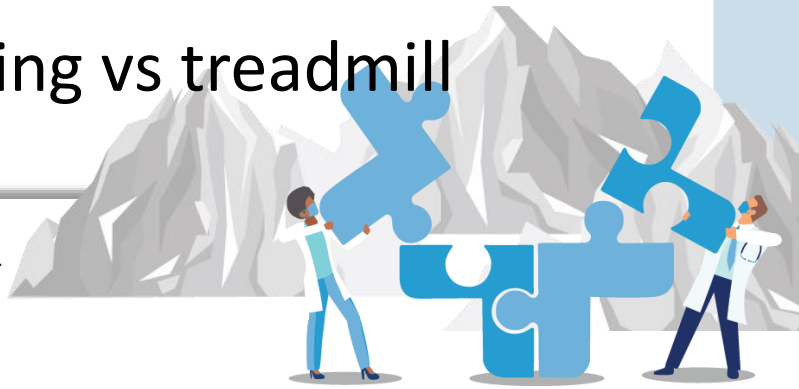
JAMA 2021: n=305, high vs. low vs. no at home SET, outcome improved 6 min walking time- low not as effective

JVS 2021: meta-analysis- SEP superior to HEP. Key to HEP is structure and monitoring

SET may improve modifiable CV risk factors (HTN, HPL)

Barriers to home-based exercise programs including lack of supervision, lack of safe environment, and lack of reimbursement

Vascular Medicine 2022: Total body recumbent stepping vs treadmill



Gerhard-Herman, M. D., et al. (2017). 2016 AHA/ACC Guideline on the Management of Patients With Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation*, *135*(12), e726–e779. https://doi.org/10.1161/CIR.0000000000000471

McDermott, M. M., et al..(2021). Effect of Low-Intensity vs High-Intensity Home-Based Walking Exercise on Walk Distance in Patients With Peripheral Artery Disease: The LITE Randomized Clinical Trial. *JAMA*, *325*(13), 1266–1276. https://doi.org/10.1001/jama.2021.2536

Pymer, S.,et al..(2021). An updated systematic review and meta-analysis of home-based exercise programs for individuals with intermittent claudication. *Journal of vascular surgery*, *74*(6), 2076–2085.e20. https://doi.org/10.1016/j.jvs.2021.03.063

Table. Recommended home exercise program (*HEP*) components

Components	Recommendation
Frequency	≥3 days a week, and ideally ≥5 days a week
Intensity	Walking to maximal claudication pain, or at least mild to moderate pain.
Time	Overall exercise time should be gradual and personalized based on baseline capacity, starting at 15 minutes per session, increasing up to 60 minutes per session. Can also be prescribed on the basis of daily step count, based on the baseline number of steps per day, with an eventual target of >7500 steps a day, with 2500 of these performed as exercise steps to strong claudication pain. However, adherence to this type of prescription may be lower. Program duration is of less importance as patients would ideally continue the program indefinitely, but a duration of 6 weeks is recommended as the absolute minimum. Patients should, however, be evaluated every 3-6 months to ensure improvement is occurring.
Type	Intermittent walking
Monitoring and other considerations	Remote and self-monitoring should take place via the use of pedometers, step activity monitors or technology which includes these components (ie, smart phones) and is considered a vital element for an effective HEP. Regardless of the method, monitoring information should be recorded (either by the patient in an exercise diary or remotely) and feedback regularly provided to the patient. If remote monitoring is possible, feedback should ideally be in real time and the monitor should only be worn during the exercise sessions Other vital HEP elements include education about PAD, self-regulation and goal setting. Patients should be encouraged to set short- and long-term goals and create action plans to complete them. This process should be repeated for each subsequent goal and underpinned by a theoretical framework.

PAD, Peripheral arterial disease.

Pymer, S.,et al..(2021). An updated systematic review and meta-analysis of home-based exercise programs for individuals with intermittent claudication. *Journal of vascular surgery*, *74*(6), 2076–2085.e20. https://doi.org/10.1016/j.jvs.2021.03.063

Goal #4:

Reduce the rates of non-traumatic lower extremity amputations related to PAD by public outcome reporting and public health interventions.

- Establish system for public reporting of amputations at the hospital level
- Develop and Implement public policy for payment and service delivery model to improve PAD care, including screening
- Urge expert organizations, government agencies, public organizations, and the media to highlight amputation

Goal #5:

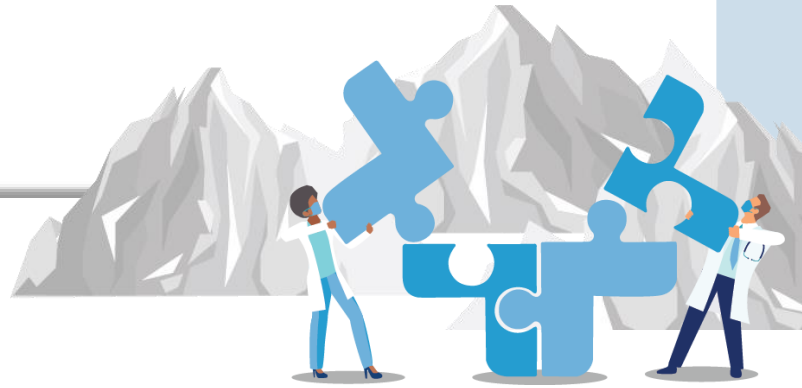
Increase and sustain research to better understand the prevention, diagnosis, and treatment of peripheral artery disease

- Grow basic and translational research in PAD
- Increase the number of scientists, both junior and senior, studying PAD.
- Advance Research in CLTI
- Leverage data science to expand PAD knowledge and generate research hypotheses

Goal #6:

Coordinate PAD advocacy efforts to influence national policy and translate into health care actions

- Develop resources to train PAD volunteers as advocates
- Create a PAD advocacy toolkit
- Identify and Align with Partner Organizations' Advocacy Campaigns to further the PAD advocacy agenda
- Mobilize PAD Advocates to Influence Lawmakers in Support of a PAD Advocacy Agenda



Collaborative Membership Snapshot

Goal Committee Chairs

- **Public Awareness (Goal 1)**
  Natalie Evans, MD; Sanjay Misra, MD
- **Professional Education (Goal 2)**
  Lee Kirksey MD, MBA; Debra Kohlman-Trigoboff, ACNP-BC, CVN
- **Detection and Treatment (Goal 3)**
  Kim Smolderen, PhD; Scott Damrauer, MD
- **Public Health (Goal 4)**
  J. Antonio Gutierrez, MD, MHS; Kunihiro Matsushita, MD, PhD
- **Research (Goal 5)**
  Peter Henke, MD; Diane Reid, MD; Mary M. McDermott, MD
- **Advocacy (Goal 6)**
  Aaron W. Aday, MD, MSc; Marc P. Bonaca, MD, MPH

Committed Organizations

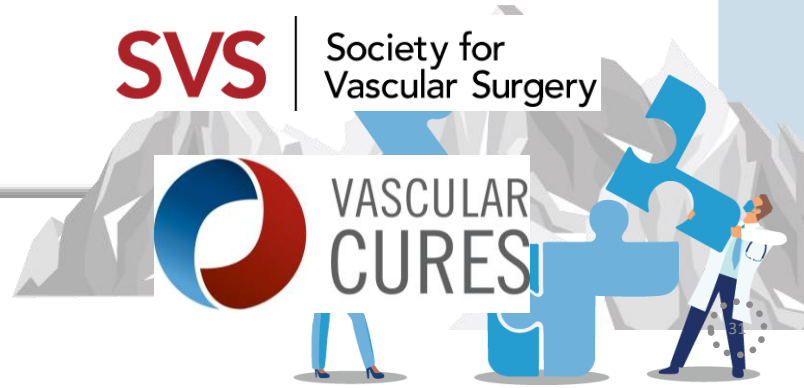
- American Assoc. of Cardiovascular & Pulmonary Rehab.
- American College of Cardiology
- American Diabetes Association
- American Podiatric Medical Association
- Association of Black Cardiologists*
- Association for the Advancement of Wound Care*
- Centers for Disease Control and Prevention
- National Heart Lung & Blood Institute, NIH
- Society for Interventional Radiology*
- Society for Cardiovascular Angiography & Interventions
- Society for Vascular Medicine*
- Society for Vascular Nursing
- Society for Vascular Surgery*
- Vascular Cures*
- VIVA
- Women Heart

**Steering Group Members*

Steering Group

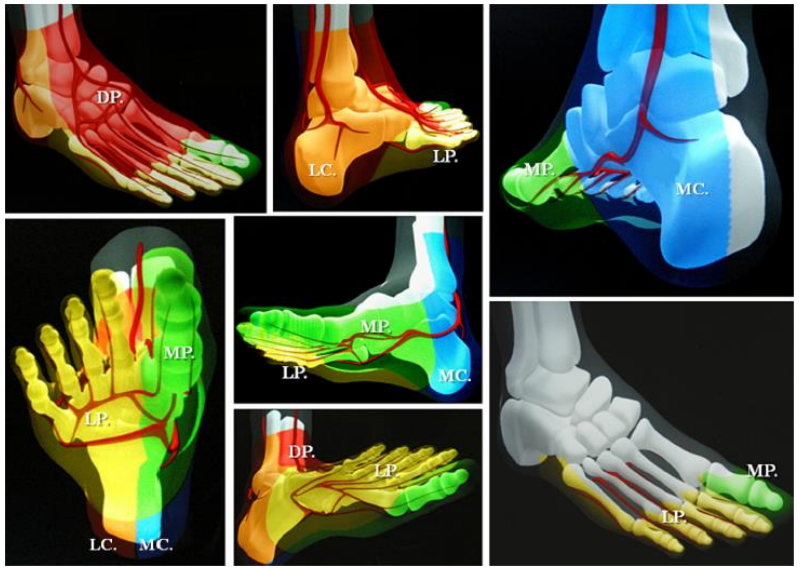
Representatives Serving

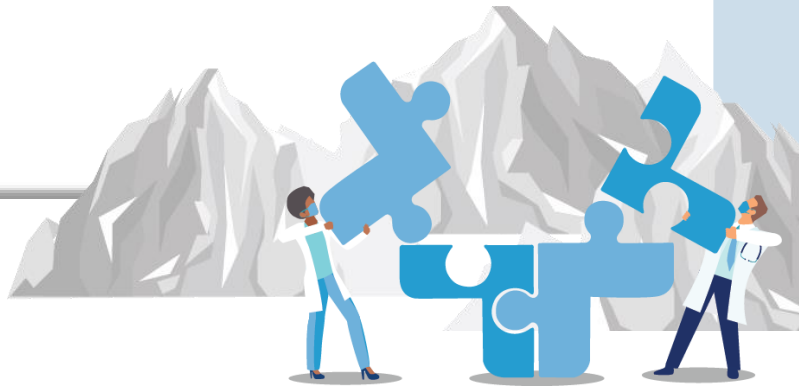
- Association of Black Cardiologists – *Foluso Fakorede, MD*
- Association for the Advancement of Wound Care - *Karen Bauer, APRN-CNP, CWS*
- *American Heart Association – Chair, Amy Pollak, MD and Immediate Past Chair, Aruna Pradhan, MD*
- Society of Interventional Radiology - *Parag J. Patel, MD, MS, FSIR and Keith M. Hume (Executive Director)*
- Society for Vascular Medicine - *Aditya Sharma, MBBS, FSVM and Matthew Helms, MA, CAE (Executive Director)*
- Society for Vascular Surgery – *Michael Conte, MD and Ken Slaw, PhD (Executive Director)*
- Vascular Cures – *Megan Patterson immediate past CEO and Isabel Bjorke CEO*



PAD Evaluation

- **Physical Examination**
  - **ABI**
  - **TBI**
  - **Segmental Pressures**
- **Transcutaneous oxygen measurement**
- **Pulse waveform or pulse wave recording**
- **Skin Perfusion Pressure**
- **Duplex imaging**
- **Angiogram, CTA, MRA**
- **Florescence angiography**
- **Thermography perfusion**



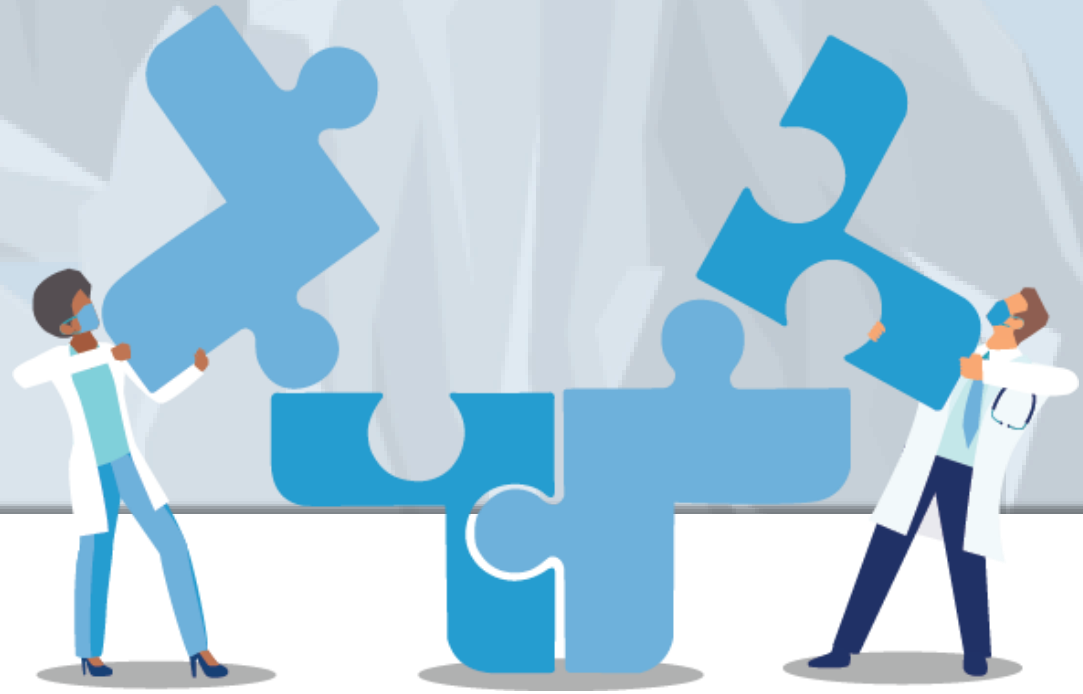


THE BEST DIAGNOSTIC STUDY

- Document the presence of arterial occlusive disease
- Document severity of disease
- Document location of arterial occlusive disease
- Determine flow and perfusion

- DOESN'T EXIST

THANK YOU



Contact:

www.heart.org/PADActionPlan

https://professional.heart.org/en/education/pad-for-professionals

Karen.bauer@utoledo.edu