



Gaps in Public Knowledge of Peripheral Arterial Disease The First National P.A.D. Public Awareness Survey

Executive Summary

Peripheral Arterial Disease and its Impact on Public Health

Peripheral arterial disease (P.A.D.) is one of the most common cardiovascular diseases and is known to affect about 9 million Americans. People have P.A.D. when the arteries in their legs become narrowed or clogged with fatty deposits, or *plaque*. The buildup of plaque causes the arteries to harden and narrow, in a process called *atherosclerosis*. When leg arteries are hardened and clogged, blood flow to the legs and feet is reduced.

P.A.D. has major impact on leg function, and the most common symptom of P.A.D. is the exertional leg muscle fatigue, cramping or pain known as “claudication”. Lack of leg blood flow, thus, is associated with disability and a poor quality of life. When P.A.D. is not promptly diagnosed and treated and leg blood flow is severely decreased, it may lead to “critical limb ischemia” and amputation. P.A.D. is also a warning sign that other arteries in the body, including those in the heart and brain, may also be blocked. Thus, it is also associated with a high risk of heart attack and stroke, as well as death.

New clinical research published in 2007 has documented that P.A.D. continues to be associated with very high rates of adverse outcomes.¹ The REACH registry evaluated cardiovascular outcomes in 68,000 individuals internationally, and in over 26,000 Americans, to define their risk. This registry demonstrated that **one in five patients with P.A.D. will have a heart attack or stroke, be hospitalized or die due to cardiovascular complications within one year**. Patients with P.A.D. had higher one-year death rates than patients who previously had a heart attack or stroke.

Other research has shown that in those with critical limb ischemia (the most severe form of P.A.D.), 30% may suffer an amputation and 20% may die within 6 months.²

How can individuals, communities, and the nation decrease rates of heart attack, stroke, hospitalization, amputation, and death if individuals with, or at risk for, P.A.D. are not aware of their risk of developing P.A.D.³? Similarly, if the public does not know the impact of P.A.D. on leg function, how can they know that leg symptoms could be a sign of a serious disease? From what sources do individuals at risk for P.A.D. now obtain their relevant health information?

Survey Methodology

The survey instrument and knowledge domains were created by an independent, interdisciplinary academic committee from the not-for-profit P.A.D. Coalition, including expertise in survey methodology. The telephone survey of 2,501 adults over the age of 50 was conducted from May to July 2006 using a random direct dialing method to reach individual U.S. households.⁴ An over sampling of 250 African-Americans and Hispanics was included to assure inclusion of adequate numbers of individuals in these high risk groups.

Results were weighted by age and gender to reflect U.S. census estimates for 2006 and thus well-represent the US population. Disease prevalence responses from the survey were compared to the 2004 National Health Interview Survey (NHIS) to assure that equivalent populations were assessed.

Key Findings

Public awareness of P.A.D. is dangerously low. Americans are not informed of one of the most prevalent and dangerous cardiovascular diseases. One in 20 Americans over the age of 50 and nearly one in five over the age of 70 has P.A.D., yet most adults are unaware about the disease:

- Three out of four adults surveyed are not familiar with P.A.D.
- Public awareness of P.A.D. (26%) is markedly lower than other cardiovascular diseases such as stroke (74%), coronary artery disease (67%) and heart failure (67%) although the risk for P.A.D. is identical or higher than these conditions.
- Relatively rare diseases that affect far fewer people, including Lou Gehrig's Disease (36%), multiple sclerosis (42%) and cystic fibrosis (29%) are much better known than P.A.D.

Most Americans do not know the causes of P.A.D. and thus cannot take steps to avoid it.

Adults at risk for P.A.D. are not informed that established risk factors for P.A.D. include advancing age, history of smoking, diabetes, hypertension, abnormal blood cholesterol, African American ethnicity, and personal history of heart disease or stroke. **“Awareness” is not knowledge:**

- Many adults who reported that they are aware of P.A.D. do not know that cigarette smoking (44%) and diabetes (50%) can lead to P.A.D.
- More than half of those familiar with P.A.D. are unaware that high blood pressure and high blood cholesterol are risk factors for P.A.D.
- More than half of the adults who reported that they are aware of P.A.D. cited obesity and lack of exercise as causes of P.A.D. Yet, obesity and lack of exercise are currently not proven risk factors for P.A.D.

Few Americans know that having P.A.D. markedly increases one's short-term risk for heart attack, stroke, amputation and death.

Patients with P.A.D. are known to have a two- to six-fold increase in heart-related death and a greater risk of amputation, disability and diminished quality of life than those without P.A.D. Yet, most Americans are uninformed about P.A.D. devastating consequences.

- Only 25% of “P.A.D. aware” adults surveyed know that P.A.D. is associated with an increased risk of heart attack; only 28% know that P.A.D. is associated with a risk of stroke; and only 14% link P.A.D. with either a risk of amputation or death.
- Knowledge of the cardiovascular and limb consequences of P.A.D. was greatest in respondents who were younger, as well as those with more than a high school education and higher income.

Adults first learn about P.A.D. through media sources.

The media plays a significant role in informing Americans about all health issues, including P.A.D.

- Nearly half of adults familiar with P.A.D. first became aware of the disease through broadcast or cable television (26%), a magazine (15%), newspaper (5%), the internet (3%) or radio (0.7%).
- Only 19% of adults reported first hearing about P.A.D. from a health care provider, including a physician (14%), nurse (2%), pharmacist (0.2%) or other health care provider (2.6%).
- Approximately 17% of survey respondents first heard about P.A.D. from a family member or friend.

Although P.A.D. is common, individuals at-risk for P.A.D. often do not undergo diagnostic testing for P.A.D.

Evidence-based clinical practice guidelines⁵ recommend P.A.D. testing in high-risk individuals who have leg symptoms and risk factors, yet many people at risk for P.A.D. do not undergo testing.

- About one in four of survey respondents reported leg pain when walking or other leg symptom. As well, many adults surveyed have common risk factors for P.A.D. such as high blood pressure (53%), high blood cholesterol (48%), diabetes (18%) and history of smoking (49%). Yet, only 2% of adults surveyed had an established P.A.D. diagnosis and only 18% reported having the ankle-brachial index test, the risk-free and inexpensive gold-standard diagnostic test for P.A.D.

Conclusions: Lower extremity peripheral arterial disease (P.A.D.) is one of the most common cardiovascular diseases with significant morbidity and is short-term mortality. Currently 9 million Americans are affected by P.A.D., and the prevalence of P.A.D. will increase as the population ages and rates of diabetes rise.

Despite P.A.D.'s prevalence and seriousness, adults in the United States are poorly informed about P.A.D. The causes and consequences of P.A.D., including heart attack, stroke, amputation and death, are not known to most Americans

Most people first learn about P.A.D. from television, and not from health care providers. Consistent with other studies, many people at risk for P.A.D. do not undergo testing for the disease.

Health professionals, the media, and government agencies share a responsibility to work together to inform the public about this common cardiovascular disease that affects nearly every American family.

Note: The Peripheral Arterial Disease Coalition (www.P.A.D.coalition.org) is an alliance of leading health organizations, professional societies, and government agencies united to raise public and health professional awareness about lower extremity P.A.D. Established in 2004, the P.A.D. Coalition is coordinated by the Vascular Disease Foundation (www.vdf.org), a national, not-for-profit section 501(c)(3) organization.

The National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health and the P.A.D. Coalition are conducting a national public awareness campaign titled ***Stay in Circulation: Take Steps to Learn About P.A.D.*** to inform Americans about the risks, symptoms and treatment of P.A.D. ***Stay in Circulation*** resources are available online at www.aboutpad.org.

Through its efforts, the P.A.D. Coalition and its member organizations aim to deliver consistent, evidence-based P.A.D. messages to the public and the health care community. Key messages include:

- Heart attack, stroke, and death can be prevented in people with P.A.D. by effective risk reduction interventions;
- Exertional leg muscle discomfort in high risk individuals should prompt an evaluation for P.A.D.;
- Most amputations are caused by P.A.D. and can be prevented; and
- The name of this common cardiovascular disease is “peripheral arterial disease” or simply “P.A.D.”

The Coalition has developed new tools to help medical practices, hospitals, health plans and health systems educate their patients and clinicians about P.A.D. Further, the Coalition is working to advance health care policies that assure access to P.A.D. diagnostic testing as well as evidence-based therapies that reduce cardiovascular risk and improve quality of life.

For more information about the P.A.D Coalition, visit www.PADcoalition.org.

References

1. Steg PG and the REACH Registry Investigators. One-year cardiovascular event rates in outpatients with atherothrombosis. *JAMA*. 2007;297(11):1197-206.
2. Dormandy JA, Rutherford RB: Management of peripheral arterial disease (P.A.D.): TASC Working Group: TransAtlantic Inter-Society Consensus (TASC). *J Vasc Surg* 31:S1–S296, 2000
3. Hirsch AT, Gloviczki P, Drooz A, Lovell M, and Creager MA on behalf of the Trustees of the Vascular Disease Foundation. The Mandate for Creation of a National P.A.D. Public Awareness Program: An Opportunity to Improve Cardiovascular Health. *J Vasc Surg* 2004;39:474-81
4. Hirsch AT, Murphy TP, Lovell MB, Twillman G, Treat-Jacobson D, Harwood E, Mohler ER, Creager MA, Hobson RW, Robertson RM, Howard WJ, Criqui MH. Gaps in Public Knowledge of Peripheral Arterial Disease: The First National P.A.D. Public Awareness Survey. *Circulation*, in press, 2007
5. Hirsch AT, Haskal ZJ, Hertzler NR, Bakal CW, Halperin JL, Hiratzka LF, Murphy WRC, Olin JW, Puschett JB, Rosenfield KA, Sacks D, Stanley JC, Taylor LM Jr, White CJ, White J, White RA. ACC/AHA Guidelines for the Management of Patients with Peripheral Arterial Disease (Lower Extremity, Renal, Mesenteric, and Abdominal Aortic): A Collaborative Report from the American Association for Vascular Surgery/Society for Vascular Surgery, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society for Vascular Medicine and Biology, and the American College of Cardiology/American Heart Association Task Force on Practice Guidelines