



## Society for Vascular Nursing Position Statement on Inclusion of Vascular Disease into Nursing Education

### **PURPOSE**

The purpose of this position statement is to articulate the importance of incorporation of in-depth education of vascular disease in schools of nursing, including the undergraduate and graduate programs. In addition to disease specific education, it should include pertinent assessment techniques, diagnostic studies, and treatment options.

### **RATIONALE and SUPPORTING INFORMATION**

Peripheral vascular disease is a major health issue in the US and is associated with a significant level of disability, increased hospital cost, morbidity and mortality.<sup>1,2,3,4</sup> Peripheral vascular diseases include arterial, venous and lymphatic disorders, specifically the disorders of:

- Carotid artery disease and ischemic stroke
- Peripheral arterial disease (PAD), both upper and lower extremities
- Renal and mesenteric arterial insufficiency
- Aneurysmal diseases (aortic and peripheral aneurysms)
- Deep vein thrombosis (DVT) and venous thromboembolism (VTE)
- Chronic venous insufficiency and venous stasis ulcers
- Lymphedema, an under-recognized disorder.

#### Arterial Disease

Peripheral artery disease is documented to affect 8-12 million Americans.<sup>1,2</sup> Risk factors in the development of PAD include age older than 65 (14.5%), diabetes (10.8%), obesity, sedentary lifestyle, and smoking (6.8% currently; 4.4% prior smokers).<sup>4</sup> Diabetes and smoking are significant risks for PAD. Individuals with PAD are also very likely to have at least one of the risk factors associated with atherosclerotic cardiovascular disease – hyperlipidemia (60%), hypertension (74%).<sup>4</sup> The prevalence of vascular disease, especially PAD, increases in persons with diabetes, obesity, aging, and those with a history of smoking.

- 13.1% of the population (1 in 8 persons) is over 65 years of age<sup>5</sup>
- 8.3% of the population has diabetes (18.8 million diagnosed; 7.0 million undiagnosed)<sup>6,7</sup>
- One-third of adults and 17% of youth are obese.<sup>8</sup>
- 45.3 million people, or 19.3% of all adults smoke (18 years or older).<sup>9</sup>
- Stroke – 795,000 strokes occur annually, 4<sup>th</sup> cause of death, and leading cause of disability.<sup>10,11</sup>
- PAD – 12-20% of persons 65 or older have PAD, affecting at least 8-12 million Americans.<sup>1,11</sup>
- PAD treatment is estimated at \$4.37 billion with 88% being inpatient care.<sup>3</sup>
- Non-traumatic amputations, secondary to severe PAD leading to critical limb ischemia and ischemic ulcers.
  - Diabetics are at greater risk of PAD and amputation is five times more likely (60%).<sup>7</sup>
  - Risk of amputation due to PAD increases with age; those 65 and older are 2-3 times more likely to have an amputation.<sup>7</sup>
- Abdominal Aortic Aneurysms (AAA) – 200,000 are diagnosed annually.<sup>11</sup>

These statistics demonstrate the magnitude of PAD in the United States.

### Venous and Lymphatic Disease

Risk factors for venous disease share some of those of PAD, and include history of DVT, older age, gender (risk for women is twice the rate of men until age 70 when men exceed women), obesity, pregnancy with risk increasing with each pregnancy, inactivity, prolonged sitting or standing, injury to legs, cigarette smoking, and family history.<sup>12</sup> Below are statistics relevant to venous and lymphatic disease and the U.S. population:

- Chronic venous insufficiency is 10 times more prevalent than PAD, 24 million have varicose veins, and 500,000 suffer from venous stasis ulcers.<sup>11</sup>
- Venous stasis ulcer treatment is estimated to cost \$1-5 billion annually.<sup>13</sup>
- Deep vein thrombosis / Venous thromboembolism occur in 1 in 20 persons over a lifetime and over 600,000 individuals are hospitalized for this condition annually; post-thrombotic syndrome develops in two-thirds of those affected with a DVT.<sup>11</sup>
- Estimated total annual cost of VTE is \$3.2 to \$15.5 billion.<sup>14</sup>
- Lymphedema of the lower extremity is an under-recognized disorder and is a significant cause of disability. The incidence is not readily available and usually documented during inpatient treatment. One group reporting the incidence between 1-47%, while another literature review estimated 6.8 million with any type of lymphedema.<sup>15,16</sup>

These figures highlight the impact of vascular disease on healthcare and the U.S. population. Nurses play key roles in the assessment, care, and education of person's with vascular disease. Advanced Practice Registered Nurses (APRN) are prominent care providers and disease managers for persons with vascular disease. Nurses are noted to play a major role in educating patients about risk factors and disease. A recent call to action by the American Heart Association recognizes that we need more information and research on PAD in women, similar to heart disease, so that lifestyle modifications can be implemented early.<sup>2</sup>

### **NATIONAL EDUCATIONAL SUPPORTING INFORMATION**

In the 2010 report, the *Future of Nursing: Leading Change, Advancing Health*, the Institute of Medicine (IOM) calls for radical transformation in how nurses are educated to meet contemporary practice needs. Some of the key recommendations address educating nurses to advance our patients' health by being the leaders of change and this change must reflect the increasing complexity of care. The IOM report notes that nursing is in a key position to be the coordinator of this care across a large population of multiple health care needs. The large population of persons with devastating peripheral vascular disease should appropriately be considered. IOM recommendations address both undergraduate, masters, and doctoral roles as essential in advancing the healthcare of our nation's population.<sup>17</sup>

The education of the generalist nurse and the APRN is directed through documents from the American Association of Colleges of Nursing (AACN). These documents, the *Essentials of Baccalaureate Education for Professional Nursing* and *Essentials of Master's Education in Nursing* also recommend a preparation of the generalist nurse and APRN to be have the knowledge and skills to appropriately and skillfully assess for health problems in order to provide protective care and assess for factors that are predictive of future health care issues and, thus, be able to intervene on their care early and positively influence the health of individuals and whole populations. Competencies are recommended that include the acquisition of knowledge related to health promotion, illness, and disease management. The APRN education must include courses on advanced physiology, pathophysiology, health assessment, and pharmacology.<sup>18,19</sup>

### **SVN's POSITION and SUMMARY STATEMENT**

*GIVEN* the large population of individuals with uncontrolled risk factors for vascular disease  
*AND*, the estimated number of undiagnosed individuals with vascular disease  
*AND*, those diagnosed with at least one of the vascular diseases  
*AND*, the association of vascular disease to significant disability without early intervention  
*AND*, the escalating cost of care for most individuals with vascular disease...

The *Society for Vascular Nursing* believes that it is essential for the generalist nurse and APRN, who both have direct roles in caring for patients, to recognize the risk factors and early signs and symptoms of vascular disease in their patients so that intervention can be initiated earlier in the disease course.

*The Society for Vascular Nursing* believes that it is essential that the education of nurses at the undergraduate, masters, and doctoral level include appropriate and adequate knowledge of all vascular diseases and the risk factors associated with vascular disease.

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