CURRICULUM VITAE

INTERNATIONAL SOCIETY FOR PROSTHETICS AND ORTHOTICS

...moving beyond physical disability

KAREN L. ANDREWS, MD

ISPO POSITION TITLE

EXECUTIVE BOARD

ISPO MEMBER SOCIETY

Country: USA

CURRENT PROFESSIONAL AFFILIATION

Associate Professor of Physical Medicine and Rehabilitation

Consultant, Physical Medicine and Rehabilitation, Director, Vascular Ulcer / Wound Healing Clinic, Division of Cardiovascular Diseases Mayo Clinic

Chair, Amputee Rehabilitation Service, Department of Physical Medicine and Rehabilitation Mayo Clinic, 200 First Street SW, Rochester, Minnesota, 55905.

Adjunct Faculty, Arizona State University, 501 East Tyler Mall, ECG Building, Suite 334C, Tempe, Arizona, 85287-9709.

BACKGROUND IN EDUCATION AND PROFESSIONAL EXPERIENCES

Smith College, Northampton, Maine, BA, 1980, Biochemistry

University of North Dakota School of Medicine, Grand Forks, North Dakota, MD, 1985, Medical Education

University of Michigan Medical Center, Ann Arbor, Michigan, Residency, 1989, Physical Medicine and Rehabilitation

Positions and Employment:

1995-Present Chair, Amputee Rehabilitation Services, Department of Physical Medicine and Rehabilitation, Mayo Clinic, Rochester, Minnesota

2000-2006 Board of Directors, United States International Society for Prosthetics & Orthotics, Dublin, Ohio

2005-2006 Secretary, United States International Society for Prosthetics & Orthotics, Dublin, Ohio

2002-2005 Chair, Wound Care Special Interest Group, American Academy of Physical Medicine and Rehabilitation, Chicago, Illinois

2004-2007 Chair, Maintenance of Certification Committee, American Academy of Physical Medicine and Rehabilitation, Chicago, Illinois

2007-2011 Chair, Practice Improvement Projects (MOC IV), American Academy of Physical Medicine and Rehabilitation, Chicago, Illinois

2012-Present Editorial Board Member, American Journal Physical Medicine and Rehabilitation

2015-Present Executive Board, International Society for Prosthetics & Orthotics, Brussels, Belgium

PROFESSIONAL & RESEARCH INTERESTS

CURRICULUM VITAE

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Clinical Interests

1. Chair of the Multidisciplinary Amputee Rehabilitation Program

2. Director of Vascular Ulcer Wound Healing Center

3. Member of the Taskforce to developed the Multidisciplinary Mayo Clinic Wound Program

4. Reviewed the Mayo Clinic experience to establish the timeline for rehabilitation following hip disarticulation, hemipelvectomy, and rotationplasty to guide patients and their families as they plan for these surgeries

5. Wound Care Certified through the National Alliance of Wound Care

6. Diabetic Wound Certified through the National Alliance of Wound Care

7. Inducted into the American Venous Forum

8. Recognized in the Vascular Ulcer Wound Healing Center using offloading with provisional footwear, prescription footwear, custom bivalved AFOs, “rigid rockers,” and other devices to optimize healing of neuropathic wounds

9. Helped establish the use of end-diastolic pneumatic compression and Impulse pumps to optimize perfusion and healing for patients with ischemic wounds

10. Helped establish the use of noncontact low frequency ultrasound for the management of chronic ulcerations

Research Interests

1. Rehabilitation of the geriatric vascular amputee patients – Looking to optimize rehabilitation of geriatric patients with peripheral arterial disease who require amputation and provide implications for future health resource allocation.

2. The efficacy of intermittent pneumatic compression to enhance healing - Evaluating the use of impulse pumps to optimize healing for those with peripheral arterial disease and no option for revascularization.

3. The efficacy of noncontact low frequency ultrasound to enhance healing in chronic wounds of various etiologies - Wound chronicity results when the ordered cellular and molecular processes that lead to healing in acute wounds are disrupted, typically by necrotic debris and associated bioburden. A variety of debridement methods are used to remove necrosis and cleanse the wound bed, including autolytic, enzymatic, sharp/surgical, and mechanical techniques. Noncontact, low-frequency ultrasound therapy is a newer modality used to promote healing in chronic wounds by cleansing and maintenance debridement to remove yellow slough, fibrin, tissue exudates, and bacteria.

4. The use of transcutaneous oxygen pressure measurements to predict healing in partial foot amputations - Evaluating the use of limb elevation and dependency when obtaining TcPO2 pressure measurements to determine the

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predictive value of these measurements in the assessment of foot amputation healing.

5. Successful prosthetic rehabilitation following hip disarticulation or hemipelvectomy level amputations - Major amputations are indicated for curative treatment of most primary tumors of the sacrum and pelvis. We identified the demographics of our patients who successfully use a prosthesis following hip disarticulation or hemi-pelvectomy. Previous literature suggests that patients with a hemipelvectomy level amputation are more efficient walking with crutches than walking using a prosthesis. With new advances in prosthetic components (microprocessor knee and Helix hip joints), patients are choosing to use their prostheses for primary mobility. We investigated the difference in functional outcome measures walking with a prosthesis compared to one-legged walking with crutches following hemipelvectomy.

6. Management of the at risk foot - The best predicator of amputation is a history of previous amputation. A history of lower extremity ulceration or amputation increases the risk for further ulceration, infection, and subsequent amputation. Early diagnosis, control of risk factors, medical management, and timely revascularization may aid in avoiding limb loss. Treatment combines patient education, orthoses, footwear, and off-loading. Patients at risk should understand the implications of loss of protective sensation, the importance of carefully monitoring their feet, proper care of the foot, and always wearing protective footwear. It is important to control risk factors, protect the limb, recognize early signs of inflammation, and optimize wound care.

7. Quality performance measures - The objectives of quality improvement are to identify opportunities for expense reduction while simultaneously ensuring access to new technology, good procedural outcomes, and patient satisfaction. The effort includes a critical evaluation of current practice to develop process improvements, reduce practice variation, and optimize resource consumption.

LAST UPDATED

6/26/17