Wound Care Specialization: The Current Status and Future Plans to Move Wound Care into the Medical Community

William J. Ennis*

Department of Wound Care/Surgery, University of Illinois, Chicago, Illinois.

William J. Ennis

Submitted for publication June 16, 2011.

*Correspondence: Department of Wound Care/Surgery, University of Illinois, 840 S. Wood St., Mail code 958, Suite 518, Chicago, IL 60612 (e-mail: w.ennis@comcast.net).

Acronym

ABMS = American Board of Medical Specialties

Background: There has been an explosion of basic science results in the field of wound care over the past 20 years. Initially, wound dressings were the only therapeutic option available to the wound practitioner. With advanced basic science knowledge, technical innovation, and the recent participation of pharmaceutical companies, the wound clinician now has an arsenal of dressings, biological tissue replacements, gene therapy, and cell-based treatment options. What has not, however, kept pace with these changes is the education and practical training for those treating nonhealing wounds. The pace of innovation in wound diagnostic tools has also lagged, creating even more pressure on the clinician to use experience, skill, and training to properly diagnose the root cause for the nonhealing wound. As wound healing is not considered a medical specialty, there is no formal training process for physicians, and subsequently, allied health practitioners are often the only ones available to provide care for these complex patients. Wound care training, however, is also not part of any formal curriculum for these healthcare providers as well, creating confusion for patients, payors, regulators, researchers, and product manufacturers.

The Problem: In all other fields of medicine there is a formal process in place for physicians to train, certify, and credential. Medicine is constantly evolving and there have been several new fields of specialty care created over the past two decades that can serve as examples for the wound care field to follow. Without academic-based, clinical residency/fellowship training in wound healing ultimately leading to formal certification, the field will be unable to achieve an appropriate status in the medical establishment. Achieving this goal will impact product innovation, payment, and the sustainability of the field.

Basic/Clinical Science Advances: The enhanced understanding of normal and dysregulated wound healing processes, which have been uncovered by basic scientists, has translated to the bedside through the creation of multiple advanced biological solutions for patients with nonhealing wounds.

Clinical Care Relevance: These advanced wound care therapeutics will require physician involvement in a way not previously seen in wound care. It will no longer be possible to practice wound care "part time" in the near future. The amount of new information and massive base of core knowledge required will mandate a full-time commitment. The increase in patients with this condition because of an aging population, increased numbers of diabetic patients, and the ever growing epidemic of obesity will mandate that all clinicians providing wound care will need to increase their skill sets through formal training. In addition, underserved patient populations are disproportionately affected and their outcomes are comparatively worse, further complicating the problem at a healthcare structural and policy level.

Conclusion: The American College of Wound Healing and Tissue Repair was founded in Illinois as a nonprofit organization whose express function is to organize university-based medical school programs around a common curriculum for physicians who want to specialize in wound healing. Currently, two wound care fellows have graduated from the University of Illinois at Chicago and other programs are under development. The ultimate process will be achieved when certification is accredited by an organization such as the American Board of Medical Specialties. This article outlines the current process in place to achieve this goal within 10 years.

BACKGROUND

WOUND CARE HAS BEEN historically driven by the nursing field. Dating back to Florence Nightingale, nurses have provided direct care for those with nonhealing wounds. As dressings advanced and moist wound healing became state of the art, it was nurses, mostly wound ostomy continence nurses, who provided leadership, research, and primary care for these patients. Physical therapists entered the field and brought a myriad of new treatment options including sitting and positioning expertise, offloading techniques, energy base modalities, gait and exercise protocols as well as skill in sharp debridement. Podiatrists gained interest in the field of wound care as the prevalence of diabetic foot ulcers became so common place. Allopathic/osteopathic physicians had little to no experience with conditions of the diabetic foot, and wound healing became a growing part of the practice for many podiatrists. With the launching of growth factor therapy, biological skin equivalents, negative pressure wound therapy, and systemic therapeutic options for wound healing patients, MD/DOs began to enter the field as well. The explosion of hospital-based outpatient wound centers further encouraged physicians to migrate to the field. As the wound care field grew, the focus was on outpatient care and the majority of new products were categorized as medical devices. Using a 510k FDA process for clearance, these devices infrequently had strong evidence supporting their efficacy, compared, for example, to the pharmaceutical industry. Manufacturers were unsure who the end user of their device would be (*i.e.*, RN, PT, DPM, MD, etc.) and this led to fractionated sales efforts and marketing campaigns. Clinics evolved throughout the country and were led by various healthcare providers, leading to patient confusion, and ultimately, insurance companies and Medicare began to question the number, frequency, and overall efficacy of many clinic-based procedures. Numerous wound care societies were created, each claiming to be the “voice” for the field. Multiple groups created “certifying examinations” that would allow the clinician who successfully completed the process to be considered a wound care expert.¹⁻³

Although all of these activities certainly increased the visibility of the field and elevated the knowledge base for many clinicians, it failed to allow the field to achieve the status in medicine that all other clinical specialties enjoy, for example, cardiology. In addition, wound care is multidisciplinary, whereas examinations in medicine are not usually administered by a single organization for all healthcare providers. In addition, American Board of Medical Specialties (ABMS) requirements for medical specialty status would not allow for such a process. In fact, almost all fields of medicine are multidisciplinary and yet their societies and testing bodies are organized through governing bodies, which provide licensure and formal education for the individual clinician. If wound care is to evolve, it will need to adopt a similar structure that all other fields of medicine have incorporated over the years. By doing so each member of the team will be able to gain education and certification through their degree-granting body, which will minimize confusion to the public and regulatory bodies. The various clinical specialty societies should agree to a common core curriculum that would be basic to all clinicians and then the individual specialty society would add core content that is specific to the scope and licensure for each clinician. In 2004, a physician-based fellowship was created in Chicago, which was 18 months in duration.⁴ The program did not have formal university certification, although the hospital was the main teaching hospital for a medical school program. The program was self-funded through unrestricted grants and the graduating physician joined the practice upon completion of the program. The program was met with much controversy and many were upset that the program was limited to physicians. In 2008, a national meeting was convened in Chicago to relaunch the program now formally through the University of Illinois at Chicago.⁵

CLINICAL PROBLEM ADDRESSED

The question of whether a field of medicine is ready to be designated a “specialty” is a common question. Vascular medicine programs have devel-

oped throughout the country. They were created to fill a clinical void in the clinical care for patients with peripheral vascular disease. The vascular surgeons claimed the territory was theirs, interventionalists felt that they had the field covered, cardiologists were already treating vascular disorders of the heart, and the peripheral vasculature tree was merely an extension of their current practice. Despite the presence of these competent specialists, no one was really “in charge” of the patient with peripheral vascular disease, with most clinicians treating end-stage manifestations. Each group formulated their own guidelines and training programs. The president of the vascular medicine society posed the question to its membership, “Is vascular medicine a viable specialty?”⁶ A working group was formed through a grant from the National Heart, Lung, and Blood Institute of the National Institutes of Health, which resulted in an executive summary and call to action.⁷ In the 10 years since the publication of “A vision for the future,” the Vascular Medicine Society is still viable, with fellowship programs and board certification, but they have not achieved status in the ABMS.⁸ At a minimum the movement has created dialog about the need for a more comprehensive vascular physician and the vascular surgeons are transforming their training and practice accordingly.⁹ Another group, the American Academy of Hospice and Palliative Medicine, transcended politics and completed ABMS certification and subsequently have gained regulatory, payment, and policy status as a formal field of medicine.^{10,11} Other fields have similarly gained status through achieving a certificate of added qualification through multiple potential entry points. For example, pain management certification can come through anesthesiology, physical medicine and rehabilitation, and neurology/psychiatry.

It should not come as a surprise that wound care is not adequately taught in medical schools in the United States. In a study by Patel and Granick, of the only 100 medical schools that adequately report details of their curriculum to the American Association of Medical Colleges, only 50 reported any course content in wound healing.¹² Of these 50, the average time spent on the topic was 9.2 h over the entire four-year curriculum. The problem exists in Germany and England as well as described by a review by Patel *et al.*¹³

CURRENT STATUS

Since 2008 a section of wound healing and tissue repair has been established at the University of

Illinois at Chicago. A comprehensive, 12-month, wound care clinical fellowship has been created and has graduated two clinicians, one with an internal medicine background and the other in family medicine. The clinical rotations are listed in Table 1. During each clinical rotation, in addition to participating on the specialty service assigned, the fellow will also participate in two continuity of care clinics. One of these clinics will be hospital-based, and the other in the subacute wound unit. The purpose for these clinics is for the fellow to appreciate the healing trajectory over time and to develop a clinical sense of treatment response times. In addition, the fellow participates in weekly journal clubs that cover wound care, wound and vascular issues, hyperbaric literature and textbook review, and specialty articles specific to the current monthly clinical rotation. Both university-based wound care faculty members practice wound care full time. The program also has a full-time advanced practice nurse. These three clinicians combine to see over 12,000 patient visits per year. Additionally, there are over 5,000 patient visits annually in the integrated physical therapy wound unit as well. The program admits 200 patients per year directly to the acute care wound service. The fellow takes primary wound call daily, and wound rounds are made on weekends. The wound care service functions like any other hospital-based program, performing consults, admitting and discharging patients, and providing continuum of care through our various sites of care.

The University of Illinois at Chicago is participating in the newly formed American College of Wound Healing and Tissue Repair, a nonprofit organization dedicated to the specialization of wound care. Multiple university-based medical school programs are joining to work on curriculum details, training duration, scope of practice, testing methods, and funding opportunities. There will be an annual meeting for the college in which the fellowship

Table 1. Wound fellowship rotations

1. General Wound Care 1
2. General Wound Care 2
3. Vascular Surgery
4. Plastic Surgery
5. Dermatology/Derm Path
6. Physical Therapy/Nutrition
7. Physical Medicine and Rehab/Orthotics and Prosthetics
8. Orthopedic Surgery/Foot and ankle
9. Pain/Palliative Care/Geriatrics
10. General and Trauma Surgery
11. Infectious Disease
12. Endocrinology/Rheumatology

directors can meet and review the process and modify the program as needed. The college will ultimately create a board dedicated to examinations and fellowship review protocols not unlike the relationship between the American College of Surgery and the American Board of Surgery. The college has invited members from physical therapy university programs, colleges of nursing, and podiatry to create a common language that will be used for wound care training within each of these clinical entities. In addition, members from Denmark and France have been invited to describe the process utilized in their countries.^{14,15} Clearly, there will be those who enjoy the status quo within the field of wound care and whom the newly proposed program will appear threatening. The fact that many different types of clinicians have and will be involved in wound care does not eliminate the need for each group to achieve formal training and certification within their professional organization. Collaboration and negotiation will be required to achieve these goals, and as Salcido stated, we must compromise or collapse.¹⁶ Obviously, there needs to be a parallel pathway for currently practicing physicians to achieve certification while still maintaining their practice. The process of a grandfather period has precedents in many newly created fields of medicine over the past 20 years.

The process of increasing certification and specialization is already ongoing in all areas of healthcare. Advanced practice nurses and clinical nurse specialists now occupy a growing area of healthcare once mainly served by primary care physicians. It is expected that the APNs and clinical specialist nurses will adopt a version of this curriculum within their colleges of nursing. Physical therapists are increasingly gaining doctoral degrees in physical therapy. These clinicians, in several states, are already able to diagnose and treat without a physician's prescription. Again, this would be a perfect place to insert a formal wound care curriculum. Podiatric physicians are enrolling in limb salvage fellowships at several

major medical university programs and the proposed process would allow for the incorporation of an agreement upon body of knowledge to be used in those training programs.

The curriculum will undergo numerous modifications and evolve over the next few years. The incorporation of a basic science curriculum and the possibility for a combined MS or PhD program is another possibility. There are a growing number of Master of Science degree programs in clinical and translational sciences that also lend themselves well to the fellowship in wound healing. There are international master's level programs in wound healing that could be an additional academic pathway for interested wound fellows.^{17,18}

In summary, the field of wound care is an evolving specialty with an ever-increasing patient base. Technological advancements and treatment options mandate that advanced training programs keep pace in order for quality patient care to be delivered. Formal academic medical university programs are the best place for these endeavors as they are for other areas of medicine. The next 10 years will be exciting, challenging, and difficult. If done correctly, we will look back to a time, like the clinicians in hospice and palliative care, when they were merely a trade group and not a specialty and be glad we took the journey. Fletcher described education provision in wound care and asked, "does it make a difference?"¹⁹ The question was rhetorical and Fletcher was asking for a call to action from the various groups providing wound care education; we took him seriously.

AUTHOR DISCLOSURE AND GHOSTWRITING

W.J.E. is a consultant for Accelecare Wound Centers, Inc. No other financial conflicts exist. The content of this article was expressly written by the author listed. No ghostwriters were used to write this article.

REFERENCES

1. Rappl LM, *et al.*: Comparing wound care certifications—clinicians sound off. *Ostomy Wound Manage* 2010; **56**: following 47.
2. Rappl LM, *et al.*: Wound care organizations, programs, and certifications: an overview. *Ostomy Wound Manage* 2007; **53**: 28.
3. Rappl L: Physical therapy association creates special interest group for wound management. *Ostomy Wound Manage* 1996; **42**: 62, 64.
4. Ennis WJ, Valdes W, and Meneses P: Wound care specialization: a proposal for a comprehensive fellowship program. *Wound Repair Regen* 2004; **12**: 120.
5. Ennis WJ: Wound care SST meeting in Chicago. Wound care SST meeting, Chicago, 2008. Available at www.woundcaresst.com
6. Olin JW: Is vascular medicine a viable specialty? *Vasc Med* 2001; **6**: 129.
7. Medicine WGV: NHLBI Vascular Medicine Training Program Working Group Executive Summary. 2004. Available at www.nhlbi.nih.gov/meetings/workshops/vascular-med.htm
8. Olin JW: Society for Vascular Medicine and Biology: a vision for the future. *Vasc Med* 2000; **5**: 205.
9. Avgerinos ED, Dalainas I, and Liapis C: The transformation of vascular surgeons to vascular

- specialists: policy or necessity? *Vasc Endovasc Surg* 2009; **43**: 233.
10. Portenoy RK, *et al.*: Formal ABMS and ACGME recognition of hospice and palliative medicine expected in 2006. *J Palliat Med* 2006; **9**: 21.
11. Lutz S, *et al.*: The influence of the newly formed hospice and palliative medicine subspecialty on radiation oncology and end-of-life care. *J Am Coll Radiol* 2008; **5**: 1102.
12. Patel NP and Granick MS: Wound education: American medical students are inadequately trained in wound care. *Ann Plast Surg* 2007; **59**: 53.
13. Patel NP, *et al.*: Comparison of wound education in medical schools in the United States, United Kingdom, and Germany. *Eplasty* 2008; **8**: e8.
14. Gottrup F: Optimizing wound treatment through health care structuring and professional education. *Wound Repair Regen* 2004; **12**: 129.
15. Gottrup F: Organization of wound healing services: the Danish experience and the importance of surgery. *Wound Repair Regen* 2003; **11**: 452.
16. Salcido R: Negotiating for wound care: resolving conflict and getting to "yes". *Adv Skin Wound Care* 2008; **21**: 250.
17. Harding K and Queen D: Education: a world of difference in the provision of wound care. *Int Wound J* 2010; **7**: 71.
18. Harding KG: Trends in wound care—the development of a specialty. *Int Wound J* 2006; **3**: 147.
19. Fletcher J: Education provision in wound care—does it make a difference? *Int Wound J* 2010; **7**: 73.