



An Interdisciplinary Wound Team in Home Health:

THE ROLE OF THE PHYSICAL THERAPIST IN WOUND CARE

The healthcare industry is changing, posing challenges to Medicare-certified home healthcare agencies (HHAs). With healthcare reform and the 2011 prospective payment system changes, including reduction in reimbursement to agencies, it is imperative to assess an organization's wound care program. HHAs must provide quality care at lower costs, using evidence-based medicine that may include nontraditional approaches to providing care.

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With the increase in patients being treated in the home for acute and chronic wounds and the rising costs of treating these wounds, it is important to have an efficient wound care team. Having an interdisciplinary wound care team consisting of nurses, therapists, and other clinicians involved in the wound management provides a successful and cost-effective benefit reaped by the clinicians, the payers, the home healthcare agencies (HHAs), and the patients (Sussman & Bates-Jensen, 2007).

Statistics

Wounds are costly and the prevalence of wounds being treated in home care is growing. According to the Centers for Medicare & Medicaid Services (CMS), wound diagnoses and wound-related diagnoses account for 196,000 patients admitted to home care and 6.2% of the home care population (CMS, Office of Information Services, 2009). In the United States, chronic wounds affect 5.7 million patients and cost healthcare systems an estimated \$20 billion annually (Branski et al., 2009).

Among the general population, pressure ulcers are estimated to occur among 7%-17% of hospitalized and long-term-care patients. This is estimated to cost a yearly average of \$1.35 billion in the United States. Venous ulcers affect 2.5 million individuals per year at an annual treatment cost of \$4 billion in the United States. Diabetes-related ulcers are estimated to cost our country \$5 billion, with each ulcer estimated to cost between \$16,000 and \$28,000 (Walker, 2008).

The Unique Role of the Physical Therapist

The shortage of nurses in the United States has been viewed as the worst shortage in several decades and is not expected to improve. According to the July/August 2009 Health Affairs, Dr. Peter Buerhaus and coauthors found that the U.S. nursing shortage is projected to grow to 260,000 registered nurses by 2025 (American Association of Colleges of Nursing, 2010). The physical therapist (PT) can play an integral part on the wound care team by bringing their unique skills to the patient with a wound, helping to ease the burden of the nursing shortage. According to the American Physical Therapy Association (APTA) Guide to Physical Therapist Practice, the PT provides "application of therapeutic procedures and modalities that are

intended to enhance wound perfusion, manage scar, promote an optimal wound environment, remove excess exudate from a wound complex, and eliminate nonviable tissue from a wound bed. Procedures and modalities may include: debridement; dressings; orthotic, protective, and supportive devices; physical agents and mechanical and electrotherapeutic modalities; and topical agents" (Bohmert et al., 2003, p. 116). In home care, as long as the PT is providing a skilled therapy in the home, wound assessment and treatment can be part of the therapy plan of care. The PT's role in wound care includes teaching patients to offload heel pressure ulcers and foot ulcers related to diabetes, during mobility training. Instructing and training on positioning and ordering pressure relief cushions and mattresses is also within the expertise and scope of the therapist. The home exercise programs taught by the PT may assist the patient with improving circulation, controlling edema, increasing strength, and improving mobility and balance, all of which are vital to wound healing.

In many states, PTs are allowed to pursue sharps debridement in the home (Federation of State Boards of Physical Therapy, 2011). The APTA's position statement on PTs and sharps debridement is: "Such procedural interventions within the scope of physical therapist practice that are performed exclusively by the physical therapist include, but are not limited to, spinal and peripheral joint mobilization/manipulation, which are components of manual therapy, and sharp selective debridement, which is a component of wound management" (APTA, 2010). It is important that clinicians practicing in each state check their state practice act before pursuing sharps debridement, as not all states permit PTs to sharps debride. If the practice act does not specifically mention sharps debridement, which is the case many states, it would be prudent to check with the State Board of Physical Therapy. Although the APTA does not support PTAs performing sharps debridement, there are some states, such as Alabama, Arizona, Kentucky, and North Carolina, that permit PTAs to sharps debride if they have been properly trained and deemed competent in wound debridement (Federation of State Boards of Physical Therapy, 2011). In cases in which the PT conducts sharps debridement in the home, no additional skilled therapy is needed to bill Medicare for the visit. This is also the case for

To start a successful wound care program, it is important to assess staffing numbers in the agency and the skills of the interdisciplinary team. However, begin by looking closely at your patients and at your agency's wound care needs. Identify the types and numbers of pressure, diabetes, surgical, stasis, and trauma wounds the agency tends to have on the patient caseload.

PTs providing modalities for wound healing in the home.

Research supports the use of both ultrasound and electrical stimulation in the healing of some wounds. Electrical stimulation for wound healing is defined as the delivery of electrical current to transfer energy to a wound (Sussman & Bates-Jensen, 2007). Electrical stimulation assists wound healing by assisting with debriding necrotic tissue, increasing blood flow, decreasing edema, decreasing bacteria in the wound, and improving scar formation (Sussman & Bates-Jensen, 2007). It can be used in all phases of wound healing and has been shown to assist with wound healing of pressure ulcers, diabetic ulcers, venous ulcers, and arterial ulcers (Kloth, 2001).

Ultrasound is the use of mechanical vibration at a frequency above the limit of human hearing. This modality has been proven to assist with wound healing through the stimulation of growth factor and fibroblast migration, accelerate wound contraction, and improve nutrient and oxygen delivery. Ultrasound can be delivered at a thermal or nonthermal level, directly to the wound bed or to the periwound to assist in wound healing (Poltawski & Watson, 2007).

Wound Care Certification

PTs are eligible for wound care certifications. The American Academy of Wound Management certifies nurses, doctors, podiatrists, and PTs as certified wound specialists (CWS; American Academy of Wound Management, 2011). In addition, the Wound Care Education Institute certifies nurses, PTs, physical therapy assistants, nurse practitioners, occupational therapists (OTs), phy-

sicians, and physician assistants as wound care certified (WCC) (Wound Care Education Institute, 2011). The certification for the certified wound, ostomy, continence nurse (CWOCN) is open to a registered nurse with a baccalaureate degree (Wound, Ostomy, Continence Nursing Certification Board, 2011). Each of these individual certifications requires different eligibilities, length of training, and cost. When developing a wound management program, it is important to assess your agency's need to have a clinician certified in wound care. The certifications may be expensive and time-consuming, but it may save HHAs time and money with improved outcomes.

Starting an Interdisciplinary Wound Care Program

To start a successful wound care program, it is important to assess staffing numbers in the agency and the skills of the interdisciplinary team (IDT). However, begin by looking closely at your patients and at your agency's wound care needs (Table 1). Identify the types and numbers of pressure, diabetes, surgical, stasis, and trauma wounds the agency tends to have on the patient caseload. Are most of these patients' wounds acute or chronic? Are there patients with multiple nonhealing wounds? What is the trend of wound care orders coming from physicians? Are there chronic, nonhealing wounds, with orders for daily dressing changes? Is there a high number of acute care hospitalizations due to deteriorating or infected wounds and/or outliers due to inappropriate wound care treatments? These variables all have a bearing on the cost related to the care of your patient (Tennvall et al., 2006).

HHAs may review policies and procedures that clearly identify the roles and expectations of each member of the team, including who will be performing wound care. If there is a wound specialist on the team, it is important to determine guidelines of the specific role of that specialist and what initiates a referral to this individual, for their wound management. Specific policies and procedures should be in place about who performs certain discipline-specific treatments.

Table 1. Starting a Wound Care Program

Assess home health agency financial resources
Identify patient population
Determine educational needs of staff
Educate and provide resources
Identify program champions
Develop processes
Pilot program before staff roll-out
Marketing
Collect data and assess outcomes
Evaluate effectiveness of program

Note. This is a series of processes that need to be performed in order.

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It is very important to know your state practice acts. For instance, if your state regulations allow PTs to perform sharps debridement, determine if all of your PTs will perform this procedure

and if your agency requires further competency in this area.

Competency Assessment

Staff should be properly educated about the fundamentals of wound care and wound management, and they should be able to demonstrate appropriate wound care treatments. This includes how to properly assess and manage wounds and understand the indications and contraindications of different wound care protocols. In addition, thorough documentation of clinical findings, such as wound measurements and descriptions, patient nutrition, patient mobility, and medical necessity for pressure relieving devices, is key to successful wound management.

Education can be provided to staff in a variety of ways including free online tutorials, e-learning systems, and in-services provided by a wound care specialist or wound supply representative. Providing a pretest and post-test or physical demonstration validates that the material was understood by clinicians. Determine different competency levels by providing clinical skills checklists, questionnaires, and surveys, and by completing joint visits with staff.

One of the most important concepts for a successful interdisciplinary wound care program is teamwork and effective communication. Conflicts may be caused by misunderstandings about the abilities of other disciplines to treat wounds, their level of education or experience with treating wounds, or battles over turf (Sussman & Bates-Jensen, 2007). The team must continuously work together through frequent communication and develop respect for the role that each individual

plays on the team. Educate the staff as to what unique advantages each discipline brings to the care of the patient with a wound.

Detection of wounds as early as possible from any discipline is vital so that measures and a plan can be put into place immediately. Wound care patients should be assessed at a minimum each week by a nurse or the PT who is educated in wound care. The nutritional status of the wound needs to be assessed by the dietitian and/or nutritionist. Laboratory results should be monitored, such as prealbumin, hematocrit and hemoglobin levels, and other blood test results that are indicators of delayed wound healing. The PT and OT can provide education on positioning and support surfaces, including mattresses and cushions for pressure reduction. PTs can provide the use of modalities such as ultrasound and electrical stimulation for wound healing. According to Vinayagasundaram et al. all disciplines with direct patient contact, including home health aides and speech-language pathologists, must be able to recognize wounds in the early stages so that successful healing can occur (Vinayagasundaram et al., 2009).

Collaboration and Care Coordination

With the previously discussed nursing shortage, and the current trends predicting an increased demand for PTs through the year 2030 (Zimbelman et al., 2010), collaboration on patients with wounds is a key to success. This collaboration can be accomplished through team meetings, e-mails, telephone calls, electronic medical records (EMRs), and the use of digital cameras by communicating and documenting status or changes to the wound site. This communication should occur at least weekly and more often as needed.

If your agency has a wound specialist, be it a nurse or a therapist, it is important that this individual is involved in the IDT meetings. IDT meetings that are focused on management of the wound care patient provided for positive outcomes during a quality-improvement initiative in 2002 and 2003 by the Visiting Nurse Service of New York Wound Care Management Learning Collaborative. This initiative was a 9-month quality-improvement study using 13 multidisciplinary teams from New York City, NY, and Nassau County, NY, branch. Outcome and Assessment Information Set (OASIS) data were compared

Quick References

American Academy of Wound Management:
<http://www.aawm.org>

American Physical Therapy Association:
<http://www.apta.org>

Centers for Medicare & Medicaid Services:
<http://www.cms.gov>

Federation of State Boards of Physical Therapy:
<https://www.fsbpt.org>

Home Health Compare:
<https://www.Medicare.gov/HomeHealthCompare>

Wound Care Education Institute:
<http://www.wcei.net>

Wound, Ostomy, Continence Nursing Board:
<http://www.wocncb.org>

within the agency for best practices associated with decreasing adverse events in patients with wounds (Marren & Hess, 2006).

Key points to discuss at IDT's include:

1. Wound status and management;
2. Underlying causes and/or contributing factors to the wound;
3. Current orders;
4. Frequency of home care visits;
5. Coordination of nursing and therapy visits for wound care;
6. Plan of care: progress/lack of progress;
7. Pain assessment and management;
8. Nutritional status;
9. Barriers to healing;
10. Status of pressure relieving equipment;
11. Discharge goals;
12. Patient/caregiver involvement;
13. Physician involvement; and
14. Consultation with wound specialist.

“Using digital technology to evaluate and develop wound management techniques led to increased home care wound patient healing rates and decreased outcome related costs” (Demarest & Acoraci, 2004, p. 63). The use of digital cameras in home care may improve wound healing through communication via photographs of the wound, thereby providing efficiency with consultations. Using digital cameras may also decrease the number of home care visits and create a means of using wound supplies in a more efficient manner. The clinician can download the wound images into a central computer file for a wound specialist to

Home Health Compare is located at <http://www.medicare.gov>, the official U.S. government site for Medicare. Process measures include timely care, care coordination, patient assessment, care planning, care plan implementation, education, and prevention. Process measure reports will determine if the HHA used best practices to ensure the best outcomes. The vision of CMS is to provide “the right care for every patient every time.”

assess and use to develop a wound healing protocol, which can provide greater efficiency in the wound specialist’s schedule and may provide better outcomes for the patients. Photography consents must be signed by the patient before taking pictures, and all team members using the digital cameras must be properly trained in their use to provide for consistency in the photographs and best picture quality.

The use of EMRs provide for greater efficiency with care coordination. All team members can view the medical record information and better prepare themselves for wound care visits. This also allows the clinicians to plan for wound supply needs before the next visit. Through the use of EMRs, the wound specialist can consult directly from the medical record, whether it is from the documented visit notes or from downloaded photographs of the wound.

OASIS-C and Wounds

In 2000, CMS instituted the OASIS assessment to provide a set of data to measure patient outcomes. Many revisions were made to the OASIS in January 2010 and the revised OASIS is referred to as OASIS-C. The changes were comprehensive and made to focus on process measures and outcomes to ensure that HHAs are providing quality care. OASIS-C outcomes, potentially avoidable events, and now process measures are collected by CMS and then are publicly reported on Home Health Compare. Home Health Compare is located at <http://www.medicare.gov>, the official U.S. government site for Medicare. Process measures include timely care, care coordination, patient assessment, care planning, care plan implementation, education, and prevention. Process measure

reports will determine if the HHA used best practices to ensure the best outcomes. The vision of CMS is to provide “the right care for every patient every time” (CMS OASIS-C Guidance, 2009).

Many changes also occurred with the OASIS-C items related to wounds. Those items were revised to reflect current national standards and more information is being collected to assist in improving care planning with wounds. The process measures with pressure ulcers will help determine if a HHA is pursuing good patient outcomes and quality care. By adopting a team approach, your HHA may decrease the risk for potentially avoidable events associated with wounds.

Quality Improvement

HHAs may want to consider having a quality-improvement team to monitor processes and outcomes through chart audits and review of Home Health Compare, which are publicly reported outcomes from CMS and accessed at <http://www.medicare.gov/HomeHealthCompare>. The OASIS outcome measure that is publicly reported related to wounds is “improvement in the status of surgical wounds” (OASIS-C question-M1342). The process measures that are reported include “pressure ulcer prevention in plan of care” (M2250f), “pressure ulcer preventions implemented in short-term episodes” (M2400e), and “pressure ulcer risk assessment conducted” (M1300). The potentially avoidable event that is reported is “increase in the number of pressure ulcers” (M1308). Collecting data will help to determine and justify an organization’s wound care needs to best care for their patients.

When making the case for a wound care program, physicians and other referral sources in your area may require introduction and educa-

tion on the interdisciplinary approach to care for your wound care patients. Having nurses and therapists working together on the wound care team, while demonstrating positive and quantifiable patient outcomes, can be a good marketing tool for your agency. Show your referral sources how the exchange of ideas from different disciplines can improve the outcomes of patients and how each discipline provides a unique skill set (Sussman & Bates-Jensen, 2007).

Case Scenario #1: Mrs. Smith

The purpose of the following case scenario is to show the financial and functional benefits of a multidisciplinary approach to a patient with a pressure ulcer. Mrs. Smith is a 76-year-old female, discharged from a skilled nursing facility to her daughter's home. She was referred to home health services for skilled nursing for wound care for an unstageable pressure ulcer on her left medial buttock. Medical history includes insulin-dependent diabetes mellitus, hypertension, atrial fibrillation, obesity, hypercholesterolemia, and dementia. At the initial home care visit, the admitting nurse measures the left buttock wound as: 2.2 cm × 5.4 cm × 0.4 cm. The wound is considered unstageable due to the bed being covered with 85% loose yellow slough and 15% granulation tissue. The nurse notes there is a foul-smelling odor from the wound and a moderate amount of purulent drainage. The new wound care order upon discharge from the skilled nursing facility is for a silver hydrofiber dressing to be used and to be changed twice a week and as needed for soiling. Upon start of care, the admitting nurse recognizes the need for a PT order for evaluation and treatment of the patient's function. In addition, the nurse obtains a doctor's order for the PT to sharps debride the patient's wound.

The PT's evaluation finds the patient at home and in a standard hospital bed with a regular mattress. The patient is bedbound secondary to the patient's daughter not knowing how to transfer her, is dependent for all bed mobility, and is dependent for all activities of daily living. The PT plan of care is for skilled therapy two times a week and to include (1) assessment and treatment of the patient's pressure ulcer, including debridement of the wound bed; (2) patient and caregiver education on positioning, bed mobility, off-loading of the pressure ulcer, and transfer training; (3) ordering of equipment to include a Hoyer lift, pressure relief mat-

tress, and wheelchair with pressure relieving cushion; (4) caregiver teaching on wound care; and (5) therapeutic exercise to increase strength and circulation. By referring the PT on the case, to work on the patient's physical mobility, ordering of equipment, patient/caregiver education, and to assist with wound care, the nurse decreases her visits from twice a week to once every other week and as needed for wound assessment, medication management, laboratory work, and patient/caregiver education. Although the PT makes the majority of home care visits, the nurse in this case remains the case manager.

The advantages of having the nurse and PT work together on this case are numerous. First, the cost related to Mrs. Smith's care may be reduced. This is accomplished by decreasing the number of nursing visits needed. For example, the PT completes visits two times a week for 7 weeks, for a total of 14 visits. The nurse may be able to decrease her visits to one time every other week while the PT is on the case assisting with the wound care. The nurse increases her visits to two times per week for 2 weeks after Mrs. Smith has maximized her skilled rehabilitation potential and PT discharges. This is a total of 8 nursing visits completed in the entire 60-day certification period, instead of 18 visits if the PT were not on the case. Taking an average of an agency's visit cost at \$140 (this is just an example) per home care visit, the total cost-savings on this episode of care is \$1,400. Another advantage to having the PT provide wound care is that this provides more flexibility in the nurse's schedule and may allow the HHA to accept more referrals. The patient also experiences improved wound healing with a decrease in healing time, secondary to the sharps debridement completed by the PT. The overall functional status of the patient is improved through the exercises provided by the therapist, which also improves the quality of life of the patient and the caregiver. Improvement in the patient's mobility also helps to decrease the patient's pain and other complications that are often associated with a nonhealing wound.

Case Scenario #2: Mr. Jones

The purpose of the following case scenario, as well as Table 2, is to show the multiple benefits of having a wound care specialist on the home care team. Mr. Jones is a 66-year-old male with an open wound to his left greater trochanter secondary to

a burn from a fluoroscope during installation of a spinal stimulator. Medical history includes several lumbar surgeries secondary to stenosis and scoliosis, chronic obstructive pulmonary disease, depression, and smoking for 40 years. The initial HHA physician order is for skilled nursing care related to wound assessment and treatment and for pain management related to the wound.

Table 2. Advantages of a Wound Specialist

Expertise and knowledge of wound healing principles
Care plan oversight and decrease visit utilization with most effective wound treatments based on expertise of wound specialist
One person coordinating communication and modifying wound treatments as needed based on expertise
Use of modalities for wound healing if wound specialist is a PT
Mentor and educator for staff to properly treat wounds, decrease healing time, and improve outcomes
Increased acceptance of discipline-specific roles within wound program, with PT educating therapists and RN educating nurses
Cost-savings for agency with in-house educator
Involvement in chart audits to monitor and ensure good outcomes
Possible marketing tool

Note. PT = physical therapist.
Adapted from Vinayagasundaram et al. (2009).

The patient presents with a nonhealing trauma wound on his left greater trochanter, measuring 3.7 cm × 1.8 cm × 2.2 cm; 0.4 cm undermining from 12 to 4 o'clock; 6.3 cm tunnel at 9 o'clock. The wound bed reveals 80% pink granulation tissue and 20% yellow slough. There is a large amount of serosanguinous drainage and no odor to the wound. The patient reports 7/10 pain in the wound area with movement. The wound orders are for calcium alginate to the wound to be changed two to three times per week and as needed. During the first 2 weeks the patient is cared for by the HHA nurse every 1 to 2 days because of drainage noted to be seeping through the dressing. The nurse calls the agency's wound care specialist, who is a PT, to consult about the patient's care. The patient has no skilled therapy needs at the present time and therefore, the PT makes a nonbillable visit with the nurse to the patient's home. The new recommendation is for negative pressure wound therapy to the left greater trochanter to be applied and changed three times a week by the nurse.

Although the PT makes a nonbillable visit to the patient's home to consult on this wound, it was advantageous to the patient, the nurse, and the home care agency. By recommending an improved wound treatment, the nurse made less visits to the patient's home, the wound healed faster, and the patient did not have the inconvenience of a nonhealing wound with frequent home care visits (Table 3).

Summary

An interdisciplinary approach to wound care is vital to counteract the increasing prevalence of wounds, rising costs, and reductions in reimbursement in home care. Research supports a significant reduction in cost with an interdisciplinary approach (Bedell et al., 2003). Cost-savings may be achieved with the PT and nurse sharing the role of wound care clinician and with the PT having the qualifications to offer other effective treatment options such as modalities and sharps

Table 3. Potential Financial Factors in a Wound Program

	Cost to Agency (\$)	Savings to Agency (\$)
Nonbillable visit by physical therapist	140	0
Estimated reduction in nursing visits over certification period (n = 8)	0	1120
Estimated reduction in supply costs to agency with use of negative pressure wound therapy vs. alginate (\$10/visit)	0	280
Total savings		1,260

debridement. In addition, this may decrease nursing visit utilization. "There are substantial qualitative research studies demonstrating positive outcomes and the value of comprehensive, multidisciplinary wound care. ... The wound care literature abounds with research describing improved quantitative outcomes resulting from comprehensive, multidisciplinary care" (Association for the Advancement of Wound Care [AAWC] 2005, p. 2). OASIS-C provides agencies with the opportunity to involve all disciplines in process measures to achieve the best outcomes for our patients. ■

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