REVIEW OF A SKIN OBSERVATION PROTOCOL IN WASHINGTON STATE'S TITLE XIX HOME AND COMMUNITY SERVICES FOR AGED, BLIND AND DISABLED PROGRAM

By

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A project paper submitted in partial fulfillment of the requirements for the degree of

MASTERS OF NURSING

WASHINGTON STATE UNIVERSITY
College of Nursing
MAY, 2009
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ACKNOWLEDGEMENTS

Thanks to Candace Goerhing, RN MN, Program Manager Unit on Aging, Washington State Aging and Disabilities Services Program for sharing the history and original challenges of creating this program.

Special thanks to my beloved husband; Randy who became chief cook, dishwasher, housekeeper, bill payer, errand runner, shoulder to cry on and more as we agreed together that I would go back to school at age forty-something. I promise, I have no aspirations to go on for a PhD.

To my fabulous co-workers who repeatedly gave me the gifts of laughter or a "kick in the butt" as the situation demanded. I am grateful to be surrounded by people like you on a daily basis.

To my CARE group who lifted me up in prayer or distraction depending on the circumstance. I am blessed.

To my precious Lord and Savior; I do not know how people who do not pray get through this process. I only know that I am overwhelmed by the strength and peace I find in your love.
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Abstract

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May 2009

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This review summarizes industry and scientific work completed on pressure ulcers, their prevention and related protocols as a basis for assessing strengths and limitations of the Washington State’s Aging and Disabilities Services Administration (ADSA) Skin Observation Protocol (SOP) which is one of the items monitored for their quality assurance program. Over the last six years there have been a number of changes to the protocol. Now that the protocol has been actively utilized during that time, a review from outside the original committee, or ADSA administrative staff, for validation of the procedures provides objective insight into the strengths and challenges of the program. The assessment was based on literature and best practices to examine potential duplication of services related to the protocol.
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JOURNAL IDENTIFICATION

The Journal of Wound, Ostomy, and Continence Nursing (JWOCN) is the official publication of the Wound, Ostomy and Continence Nurses Society (WOCN). This international journal provides continuing education for the entire scope of WOCN nursing practice. JWOCN is an authoritative resource devoted to evidence based nursing practice and management of patients with issues related to ostomies, chronic wounds (including pressure ulcers, fistulas, vascular ulcers), and urinary and fecal incontinence. Original peer-reviewed articles examine these topics in hospital, home, and long-term care settings.

JWOCN follows the American Medical Association (AMA) Manual of Style, 9th ed. Reference to that text will be made for detailed instructions on title page, text, references, figures, and tables. Stedman's Medical Dictionary (27th ed.) and Merriam Webster's Collegiate Dictionary (10th ed.) will be used as standard references.
DEDICATION

This project must be dedicated to my incredible Mother who died December 21, 2008, just months before I was able to complete this Master's program. In many ways this endeavor was as much for her as for me. I am grateful for her love and support, her encouragement and belief in my abilities and most of all for the many nights she "hit her knees" praying for me and the strength I needed to complete this journey. Mom; you graduated Summa Cum Laude too.

And, to my Daddy; "Mr.Ed"; for saying it all about his unwavering love, support and faith in me when he simply stated "Well Sis, I knew you could do it".
INTRODUCTION

On December 19, 1989 the Omnibus Budget Reconciliation Act added Title IX to the Public Health Service Act establishing the Agency for Health Care Policy and Research (AHCPR). Section 911 of that Act created the Office of the Forum for Quality and Effectiveness in Health Care (FQEHC). In addition, Section 912 directed the Forum to facilitate the development, and periodic review and updating of “clinically relevant guidelines” to be used by physicians, educators, and healthcare practitioners to assist in determining how diseases, disorders and other healthcare conditions can most effectively and appropriately be prevented, diagnosed, treated and managed clinically. The Forum identified seven topics they felt that, if addressed, would give an overview of quality healthcare. One of those topics, or indicators, was “Prediction, prevention and early treatment of pressure ulcers”.

Over the years a variety of monitoring authorities have been established, such as: the Joint Commission for Accreditation of Healthcare Organizations (JCAHO), now known simply as The Joint Commission (TJC), Centers for Medicare and Medicaid Services (CMS), Institute for Healthcare Improvement (IHI) and the National Database of Nursing Quality Indicators (NDNQI). While these organizations watch over many different quality indicators, one that remains constant with all of them is that of monitoring the incidence or prevalence of pressure ulcers (PU) in hospitals, long-term nursing facilities and in-home care.

In 2001 the United States Department of Health and Human Services determined that “one goal of Healthy People 2010 is to reduce the prevalence of pressure ulcers in nursing home patients by 50%.” In 2006, the National Quality Forum renewed this
endorsement to reduce PU, as well as other adverse events. These organizations have identified PU as an indicator of health based on the compounded risk and jeopardy they pose to those who are already in compromised health. Additionally, they represent the use of significant financial resources both for prevention and for treatment.

There are many factors that must be considered in the prevention of PUs, the first being the physical condition of the patient and their vulnerability for generating a PU. Other issues may include the level of competency of the practitioner, assessment practices, the environment or type of facility where the patient is located, what steps may be taken to encourage healing and the payor source for the prevention and treatment.

Millions of dollars a year have been spent by Medicare, Medicaid and insurance companies on procedures, extended stays and co-morbidities associated with pressure ulcers. In October 2008 the CMS enacted new regulations for the identification, tracking and assumption of responsibility for pressure ulcers in hospitals and extended care facilities. Facilities will no longer be reimbursed for interventions required to “heal” pressure ulcers that are determined to be nosocomial or preventable. In addition, other regulations for timelines and assessment criteria also were established. Pressure ulcers are no longer seen as an expected outcome for bed or chair-bound patients; rather, the prevention of pressure ulcers has become the standard.

STATEMENT OF PURPOSE

In the state of Washington the Aging and Disabilities Services Administration has established an extensive Quality Assurance (QA) program for the Division of Home and Community Services (HCS). Over the last five years that plan has been revised
extensively as the division has implemented new computerized programs for client assessment. In addition, many of the same quality indicators are used to monitor the Area Agencies on Aging (AAA), who contract with the state to provide case management and respite services for in-home clients. Identification of concerns with some of the contractors has facilitated state agency improvements and vice-versa.

The mission of the QA system is to "provide quality, well-planned, efficient and accountable home and community-based care." The goal is to establish a system that "must include both quality assurance and improvement activities."

The system should be based on compliance with protocols and regulatory activities of the CMS, Federal Funding Participation (FFP), waiver requirements and state and federal laws. Meeting these requirements is accomplished by gathering information about trends, agency and contractor strengths and weaknesses, training needs for quality improvement, best practices within specific units across the state, creating standardized procedures and identifying policies that are not adequate or clearly articulated. In addition, the system must focus on the accuracy of Comprehensive Assessment Reporting and Evaluation (CARE) Tool assessments, developing care plans and timelines for responses, determination of clients' actual need for authorized services, assurance of accurate payments and collection of client satisfaction feedback.

A significant component of the CARE Tool is the identification of those clients that may be at high risk for pressure ulcers. Specific questions within the CARE tool trigger a cascade effect of identification, observation, and interventions known as the Skin Observation Protocol (SOP).
In 2006 administrative nurses who are Program Managers and are responsible for oversight and policy revision for the Private Duty Nursing (PDN) program, the Nurse Delegation Program and the SOP, were asked to formulate a plan to address the declining outcome scores as obtained through the quality assurance program. Without polling Home and Community Services (HCS) Community Nurse Consultants (CNC), field nurses, or Registered Nurse Delegators (RND), management personnel made revisions to all three programs including the ways the programs interact with each other. They emailed the revisions to all supervisors and nurses whom they believed would be directly affected by the changes. Additionally, they provided limited trainings to these same people.

In 2008, the CMS conducted an evaluation of Washington State’s Title XIX Waiver program. Title XIX is the federal waiver focusing funding on Home and Community based programs working with and for the aged, blind and disabled in each state. In their response, according to Program Manager; Candace Goerhing, CMS essentially said, about their evaluation of the SOP; “this is a nice protocol, but so what?” They wanted explanations of what was actually being tracked by the protocol and what difference its implementation was making. At that time Washington state was unable to provide a full explanation for those questions. Since then the Program Manager for the SOP is completing a full review of the protocol to determine what changes must be made in response to the audit.

The primary goal of this review will be to examine the protocol in the context of the background for its development, program utilization, current literature about pressure ulcers, associated protocols for prevention, established practices and
comparison to similar programs in other states. This information will be synthesized and recommendations will be made for protocol revisions to ensure the most up-to-date, client centered and user friendly program possible, with a focus on cost-effective, best-practice interventions.

The issue to be addressed in this review and analysis will be to determine whether the SOP currently in use by the Washington State ADSA is actually "cutting edge" or a duplication of services.

THEORETICAL FRAMEWORK

Prevention of healing of a pressure ulcer can be described as the dynamic interaction between the patient and their environment (bed, chair, dressing). Neuman's model\(^5\,^6\) serves as the theoretical framework that guides the synthesis of evaluation information for this project.

Neuman's model is not a theory, but rather a model and conceptual framework that represents the interactions between the person/client and the nurse. The model views the person as a layered, multidimensional whole that is in constant dynamic interaction with the environment. The layers represent various levels of defense protecting the core being. The two major components in the model are stress reactions and systemic feedback loops. The client reacts to stress with lines of defense and resistance. \(^5\)Continuous feedback loops fine-tune the lines of defense and resistance so as to achieve maximal level of stability. The client is in continuous and dynamic interaction with the environment. The exchanges between the environment and the client are reciprocal (each one is influenced by the other). The goal of the system is to achieve optimal system stability and balance. Prevention is the main nursing
intervention to achieve this balance. Primary, secondary, and tertiary prevention activities are used to attain, retain, and maintain system balance.\textsuperscript{6}

The central core Neuman speaks of is the body system and the strengths, weaknesses or ability to maintain homeostasis. In this case pressure, blood supply, temperature, positioning, physical conditioning, illness, nutritional status, weight and cognitive abilities are all factors critical to maintenance of the system.

Neuman suggests there are normal lines of defense which preserve the stability of the system over time. Flexible lines of defense act as a cushion to the normal lines of defense. If the flexible line of defense is unable to provide adequate protection, lines of resistance are activated. An example of a line of resistance would be the immune system or in the case of a PU, the increased skin temperature that occurs in response to inflammation created when the tissue is injured. Stressors are any environmental forces, such as pressure, shear, friction or moisture, which could potentially affect the stability of the system. The lines of defense react to these stressors.

Neuman identifies prevention as the primary nursing intervention. Prevention focuses on keeping stressors and the stress response from having a detrimental effect on the body. Secondary interventions focus on preventing damage to the central core by strengthening the internal lines of resistance and/or removing the stressor. Finally, tertiary interventions offer support to the client and attempts to provide treatment. When applied to pressure ulcers examples of primary intervention, or prevention, would be the basic care of keeping the skin clean and dry, frequent repositioning and daily observation of all pressure areas to identify potential breakdown. Secondary interventions include keeping a patient well nourished and hydrated or providing a
physical therapy evaluation and subsequent implementation of a strengthening routine. Tertiary interventions would be the use of: barrier creams, hydrocolloid and other dressings or booties to help heal an ankle or heel ulcer.

THE PROTOCOL

As a partial response to Section 912 of the original Title IX Budget Reconciliation Act, a Skin Observation Protocol (SOP) was created for the Washington State Aging and Disabilities Services Administration (ADSA). A Program Manager for ADSA’s Aging Services Unit reported in several email and phone discussions over a period of weeks in January 2008 that the initial creation of this SOP was further based on two high profile cases where there was significant skin breakdown due to pressure. At that time there were no assessment tools or intervention sets used by Washington State employed nurses. As a result, there was no protocol in place to actively identify or prevent such negative outcomes.

The currently established ADSA SOP was originally implemented as a way to monitor pressure ulcer risk or prevalence in aged, blind and disabled clients who are receiving care paid for by Washington State Medicaid. Clients may reside in nursing facilities (NF), assisted living settings (AL) which are also known in the Washington administrative codes (WAC) as Boarding Homes (BH), and adult family homes (AFH) or in private homes with state paid caregivers. Identification of the “risk” or “prevalence” is made through use of a computerized assessment tool called Comprehensive Assessment Reporting and Evaluation (CARE) which “triggers” these indicators based on answers to diagnosis, treatment, skin observation and/or risk questions (mobility, toileting, incontinence, medications, etc.) asked during the CARE assessment.
Triggered criteria are compiled and questions regarding referral to nurses or other professional staff must be addressed prior to the Community Nurse Consultant, Social Worker (SW) or Case manager (CM) proceeding with the approval process for care hours.

The SOP was implemented at the same time as CARE, creating the ability to design algorithms capable of identifying clients by stand-alone or high risk elements. The stand alone components were taken from recommendations by the NPUAP and include having a pressure ulcer, being quadriplegic or paraplegic, being totally dependent in bed mobility, comatose or in a persistent vegetative state or having a pressure ulcer within the past year. In addition, combination elements were drawn from the Braden Risk Scale (Figure 1),

Basing the protocol on these nationally recognized tools supported the attempt to create a protocol which the state could incorporate into the process of determination of which referrals may be needed to community health care providers.

Creation of the SOP was based on a number of underlying assumptions:

1. Those indicators which place a person at highest risk will automatically trigger the SOP in the nursing referral screen,

2. There will be a reasonable effort to schedule an observation home visit with a third party present,
3. Assessing the skin will be part of the full assessment; however, because most CMs are not nurses, this will mostly be dependent upon self-reporting.

4. SWs and CMs will not continue to authorize services and payment when services cannot be adequately delivered due to caregiver issues or client choices.

5. There are a number of other, less critical assumptions the SOP was based on, but the pivotal assumption was that there would be adequate training for caregivers and the CM, as well as the provision of educational materials to clients, families, caregivers and CMs.7

For clients in a NF or initially applying for services, CNCs provide follow-up for those clients who currently have PUs or who are at risk for PUs. Some Adult Family Homes contract with Registered Nurse Delegators who provide training and oversight to non-professional caregivers. The protocol recognizes these RNDs as able to provide follow-up nursing referral services. For those in private homes, the state contracts with the AAAs to provide case management. Nurses employed by the AAA provide the in-home oversight for clients identified as having the same triggers.

Random chart reviews for each region are completed every three years. The reviewers request four files from each SWCM to use in completing the QA program questionnaire. Files completed by CNCs have not been included in this review, even though most Regional Administrators (RA) are now requiring CNCs to carry case loads.

Over the last four years, scores for the quality assurance indicators supporting the SOP have been steadily falling. The protocol has not changed, documentation requirements have not changed and there has been limited staff turnover. This has led
the QA reviewers and upper management to question what is different and what needs to be addressed to bring the indicator scores back into an acceptable range.

LITERATURE REVIEW

Relevant literature was identified using the COCHRANE, CINAHL, and PUBMed databases, Google Scholar, CMS, NPUAP and ADSA intranet web sites. Selected articles cited in the reference lists of key articles were also retrieved. No authors were contacted by email or telephone. Descriptors used were: pressure ulcers, decubitus, skin, skin breakdown, skin integrity, skin observation protocols/procedures, skin care and pressure ulcer care/treatment and nursing competency(ies). Inclusion criteria for articles reviewed were: 1) English language, 2) articles from 1989 - 2008 (this date was chosen as the original clinical practice guidelines for pressure ulcer observation were established in 1989), 3) articles that addressed pressure ulcer formation, treatment interventions and skin care policies, and 4) articles that address PUs in the aged, blind and disabled populations. Articles that specifically addressed pediatric patients were excluded. Of the hundreds of articles identified; 67 articles were retrieved and reviewed according to the inclusion and exclusion criteria and 48 articles were selected for more detailed review.

Pathophysiology

The integumentary system is the largest organ in the human body. It functions to provide "protection from the external environment and serves thermoregulatory, sensory, metabolic, and communication functions. In optimal circumstances; the skin is capable of self-repair."9 This system is made up of two skin layers; the dermis and the epidermis. There is a basement membrane that separates the two. Two major proteins...
make up the dermis: collagen, which provides structure and elastin, which provides recoil. Beneath the dermis is the subcutaneous tissue, then a layer of adipose tissue, through which runs an extensive capillary system. Finally there is fascia and muscle covering the bony structures. Understanding the placement of these bony structures is critical in understanding the severity, or staging, of pressure ulcers.

PUs have long been identified by a variety of names including: decubitus ulcer, bed sore, pressure sore, non-healing wound, wound-healing complication, pressure ischemia, Marjolin ulcers, chronic wound, or pressure sore carcinoma. As of February 2007, the newest accepted definition by the National Pressure Ulcer Advisory Panel (NPUAP) is “A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction.”

Andrychuk suggests there are four extrinsic causes of pressure ulcers, which are “pressure, shear, friction and moisture.” These causes may occur singly or in combination. Pressure ulcers form where bone causes the greatest force on the skin and tissue by squeezing them against an outside surface. This may be where bony parts of the body press against other body parts, a mattress, or a chair. In persons who are bedbound, most pressure ulcers form on the lower back below the waist (sacrum), the hip bone (trochanter), and on the heels. For people in chairs or wheelchairs, the exact spot where pressure ulcers form depends on the sitting position.

Pressure ulcers can also form on the knees, ankles, shoulder blades, back of the head, spine and the ears. Nerves normally tell the body when to move to relieve pain or pressure on the skin. Persons in bed who are either unable to move or to feel pain may
get pressure ulcers after as little as one to two hours. Those who sit in chairs and who cannot move can get pressure ulcers in even less time because the force on the skin is greater in combination with the forces of gravity. When pressure is created at the bone-tissue interface the capillaries become so thin that no blood cells can pass which results in cell anoxia and ultimately cell death.

Akridge quotes Allen, who specializes in supplying surgical table accessories designed to prevent pressure ulcers, when he says “Time is one of the biggest issues in pressure ulcer development.” 11 As a standard of care the Association of Operating Room Nurses recommends use of specialized pressure relieving devices for any surgical procedure that will last more than two hours; however, several different sources suggest that pressure ulcers may start to form in as little as 10-20 minutes. (2,9,11) The goal of positioning or use of pressure relieving devices is to redistribute weight off the tissues so that the bone is no longer pressing into any tissue for any length of time.

When friction occurs, the membrane between the dermis and the epidermis is damaged. A common result of friction is a blister. While hydration is imperative, excessive moisture can actually weaken the cell wall, which makes it more vulnerable to either pressure or friction. Shear results in deep tissue damage, usually in the sacrococcygeal area. This may occur with the combination of resistance and gravity, such as when the head of the bed is elevated; the skin and fascia may remain fixed to the bed linens while the bone and muscle are forced downward due to gravity. “An estimated 30% of pressure ulcers attributed to pressure may actually be caused by shear.”9

Risk Assessment Tools
Development of a pressure ulcer is often associated with an increased risk of health complications or death. Thomas-Hess confirms that "complications that arise from pressure sores account for 60,000 deaths in the US every year."\textsuperscript{12} Risk factors include: alteration in transfer or mobility activity, being bedfast or chair fast, chronic illness, especially with increased temperatures, and smoking or diseases that result in impaired oxygenation and increased blood glucose levels, all of which make cell membranes more fragile. Risk factors also include: age (older skin is thinner and healing is often impaired), incontinence, past history of a pressure ulcer, alterations in nutrition or hydration and medications. Steroids impact immune responses and healing, sedatives and analgesics impact sensations and mobility, and, hypotensives may affect the flow of blood contributing to PU development. They occur more often and are more severe in people of color. This may be attributed to the difficulty in assessing Stage I ulcers due to skin color.

"As many as 60% of residents admitted to nursing homes have pressure ulcers upon admission,"\textsuperscript{13} therefore, observation of all pressure areas should be completed as part of a risk assessment upon admission to a facility, and then repeated. Many hospitals and nursing facilities recommend that, while observation of pressure areas should be done on a daily basis, the first risk re-assessment should be accomplished at admission, three days after admission, then weekly thereafter.\textsuperscript{14} By putting dated reminders for risk assessments on the treatment sheet, SNFs, ALs and AFHs have significantly improved their risk assessment compliance.

There are a number of risk assessments tools available. The three most often used are the 1962 Norton Scale,\textsuperscript{15} which includes assessment of mental status,
continence, mobility, activity and nutrition, the 1973 Gosnell scale,\textsuperscript{16} which is based on the previous work of Norton, and the Braden scale (Figure 1).\textsuperscript{8} Of these, the Braden scale is the most widely used. It has six categories which are: sensory perception, moisture, activity, mobility, nutrition and friction/shear. Each can be scored from one to four. The lower the score, the higher a patient’s risk for developing a pressure ulcer.

The Braden scale has been thoroughly researched for reliability as well as validity.\textsuperscript{10,8} When completed by a registered nurse, the NPUAP\textsuperscript{10} and others, such as the Wound, Ostomy and Continence Nurses Society, consider it to be reliable in a variety of settings as well.

**Staging**

Staging is the universal tool used to evaluate or describe the severity of a pressure ulcer. In 1998 the NPUAP determined that “only pressure ulcers are staged”\textsuperscript{17} all other wounds should be classified in another manner (Figure 3). Presence of slough or eschar prevents accurate staging until removed. The NPUAP now identifies these wounds as “unstageable”\textsuperscript{16} and suggests that “Stable eschar on the heels serves as the body’s natural (biological) cover and should not be removed.”\textsuperscript{17}

A sixth definition, \textit{suspected deep tissue injury} is now supported by the NPUAP and may appear as a “purple or maroon localized area of discolored intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue.”\textsuperscript{17} This injury may be especially difficult to identify in dark skin tones. This assertion was confirmed in a 2006 study by Rosen, et al. that found black nursing facility residents had a higher rate of Stage II-IV PU emergence than did
white residents whose PUs were most frequently identified at stage I-II. The researchers’ conclusion was the “primary reason for this racial disparity lays in the lack of recognition of Stage I PUs in darker skin tones.”13 “Approximately 80% of pressure ulcers are superficial; however superficial ulcers will deepen if pressure is not relieved.”9

Pressure ulcers initially found on the nursing home resident may very well have started in a cold environment, such as the OR. With a decrease in outside temperature the blood is shunted away from the skin into the core of the body to protect the vital organs. Statistically, 25% of all nosocomial pressure sores come out of the OR. PUs that have started in the OR may show as Stage I or II in 24-48 hours; however, Stage III or IV may not appear for as long as 5 to 7 days post-op. With short-stay surgery becoming more prevalent, the responsibility for observation weighs more heavily on the caregiver at home or in a long-term facility. Further, “muscle is more sensitive to ischemia than skin; therefore, underlying muscle tissue may be necrotic by the time a lesion is visible on the surface of the skin.”17

If a staging system can be used to stage skin breakdown, it seems reasonable that reverse staging could be used to document the healing process. In a 1996 paper, the NPUAP said this assumption was wrong. The panel, along with a number of renowned wound care specialists, stated that “reverse staging is based on erroneous assumptions about the healing process,” and goes on to caution that “the use of reverse staging has a number of negative clinical, regulatory and reimbursement consequences.”18 In clarifying this stance they suggested that during healing, the original skin, subcutaneous tissue or muscle is not replaced with the same tissue.
Instead it is replaced, with granulation tissue and new epithelium. When the area is filled with this new tissue, it looks and acts differently from the original tissue as it was breaking down, making the practice of reverse staging obsolete.

An ongoing problem with not using reverse staging is that of reimbursement. This concern is most obvious and prevalent for those facilities using the Resident Assessment Instrument (RAI). As Bruck quotes Hess, a wound care specialist, "Using the MDS (Minimum Data Set) as the data gathering tool that may drive Medicare and Medicaid payment, as well as quality indicators, providers are essentially required to use reverse staging for reimbursement purposes."18

Thomas-Hess’s recommendation, which is supported by NPUAP, is that the appropriate description would be a “healing stage IV" PU or a healing stage III PU. This concept would be more in line with other medical diagnoses, such as the diagnosis of Stage II cervical cancer. It will remain stage II cervical cancer whether it is active or in remission. However, Medicare and Medicaid only pay for treatment of Stage III and IV PUs; therefore, they will not accept the suggested “healing stage" terminology as documentation for reimbursement. One school of thought regarding the reluctance of Medicare to accept this idea is that if a PU remains a stage III or IV (healing), there would be no clear timeline to stop reimbursement for care.

Prevention

“Nearly one million people develop PUs annually, while approximately 60,000 acute care patients die from related complications. Long-term care facilities face rigid federal guidelines for prevention and treatment of PUs, known as the F-tag 314."
Failure to comply with these regulations can result in heavy monetary fines or closure of the facility.\textsuperscript{21}

In an updated 1993 statement, the NPUAP declared that “prevention of pressure ulcers focuses on risk assessment, evaluation, and implementation of appropriate support surfaces, skin care and early treatment and education of both patient and caregivers.”\textsuperscript{17} The following year the AHCPR published practice guidelines for the treatment of pressure ulcers, including implementation of a PU risk assessment based on the Braden Scale (Figure 1).

Clearly, prevention is seen by regulatory agencies, facilities and practitioners as the highest priority. Cost savings potential for PU prevention is huge. While sources vary, treatment costs for a Stage II ulcer can be up to $15,000, or higher. These costs jump to around $30,000 for a Stage III PU and skyrocket to over $90,000 for a Stage IV ulcer.\textsuperscript{5} These costs are basic; they do not include costs associated with social or oversight interventions. Akridge shares a study by the National Decubitus Foundation that indicates “for every OR-acquired pressure sore, a hospital has to budget at least $350 from every surgery lasting over three hours to pay for the therapy necessary to treat a potential OR-acquired pressure sore.”\textsuperscript{11}

Gluckman reports that “a successful pressure ulcer prevention and treatment program requires the development of specialized staff, as well as an evidenced-based treatment program. A plan that included staff training as well as standardized treatment plans and documentation has been successful in dramatically decreasing the incidence and prevalence of pressure ulcers and improving the documentation.”\textsuperscript{21}
Findings in the documentation reviewed for this report clearly support the use of repositioning routines, use of pressure relieving devices and barrier creams to decrease the number and severity of pressure ulcers in all populations. There are significant gaps in the literature available related to protocols utilized for the aged, blind and disabled populations in other Title XIX programs or as that utilized in the manner ADSA does for their SOP. These gaps require additional investigation.

Medicare does not currently pay for prevention interventions; however, they have paid for treatment of actual PUs. Over the last few years Medicare has been saying that if a hospital does not want to invest in prevention practices, Medicare does not want to pay for therapy for nosocomial PU. In 2007 Medicare issued an announcement saying that they will no longer pay hospitals for "conditions that could reasonably have been prevented" effective in October 2008. Insurance companies are expected to follow suit.

This announcement should come as no surprise as Medicare has been threatening this action for at least eight years beginning when the To Err is Human report was published by the Institute of Medicine (IOM). At that time hospital leaders were called upon to take safety seriously; a concept nursing staff have long been pushing for. The IOM asked for a commitment to eliminate preventable injuries by instituting appropriate safety practices. One of the issues at the forefront was the prevention of pressure ulcers. Now Medicare is speaking in a language they hope all facilities will hear and understand, the language of money. If a pressure ulcer is prevented rather than requiring treatment all entities save money.
Leape, in a Boston Globe editorial\textsuperscript{23} suggests there are three reasons Medicare has finally implemented this practice. First, data continue to show high rates of injuries. Reports indicate improvement is not increasing fast enough. Second, evidence is increasing that many of the most serious injuries are preventable if hospitals implement proven prevention practices. Finally, the public shows increasing frustration with the failure of hospitals to make safety a priority.

**Pressure Ulcer Healing**

Regardless of the supplies or equipment used, Bruck suggests there should be four main points incorporated into any wound healing system or plan. They are:

1. education of all involved to ensure a clear understanding of assessment, interventions and the actual healing process,
2. consistent care through the use of a standardized system,
3. consistent documentation with outcomes delineated for each stage, and
4. validation of clinical competency for the caregivers.\textsuperscript{18}

Since the 1989 Consensus Development Conference, the majority of clinicians have utilized the NPUAP’s system of staging pressure ulcers to document skin breakdown severity. The use of stages encourages standardization of appropriate treatment interventions and allows equitable reimbursement.

Treatment options have become more varied and available. Dressings or contact layers, adhesive film or hydrogel, hydrocolloid, polyurethane foam, alginates, wound fillers and a dozen varieties of gauze are used to treat the wound depending upon the size and stage of a PU. Topical therapy may be utilized which Andrychuk describes as
including “at least seven steps for use: removal of necrotic tissue, identification and elimination of infection, obliteration of dead space, absorption of exudate, maintenance of a moist wound surface environment, provision of insulation and, finally, protection of the healing wound.” Among all articles reviewed it was found that for severe PUs other, more invasive therapies such as vacuum treatment, electrical stimulation, fibroblast growth factors, hyperbaric oxygen therapy or use of skin equivalents may be required.

The two tools most recently used to evaluate wound healing are: (1) high frequency ultrasound, which provides three-dimensional measurements of fluid and inflammation of dermal damage as well as granulation of wound healing, and (2) the Pressure Ulcer Scale for Healing (PUSH) tool. PUSH (Figure 2) is comprised of three variables. Those are surface area (length and width), the amount of exudate and the appearance of the tissue. With the increased use of the PUSH tool in SNFs, and the subsequent follow-up of the Residential Care Services (RCS) nurses, there has been some discussion that including this tool in the SOP would be beneficial and improve consistency across state entities.

STATE PROTOCOL SEARCH PROCESS AND FINDINGS

A nationwide search for protocols used in other states and related to pressure ulcers or skin observation, was undertaken to offer comparison to the Skin Observation Protocol (SOP) used by Washington State’s Aging and Disabilities Services Administration. Initial data for contact person information in other states was gathered via Title XIX and CMS web sites. A number of these led to 38 specific state web sites, email addresses or telephone numbers. With this information attempts were made by
email and telephone to contact the Title XIX Programs specific to the Aged, Blind and Disabled populations in each state.

Two questions were asked of each program contacted: 1) Does your state Home and Community (Title XIX) based program utilize a skin observation protocol for pressure ulcer identification? If so, would you be willing to share details? 2) Do you use specific nursing competency criteria related to your skin or pressure ulcer protocols? If so, would you be willing to share details?

Lack of responses and time constraints were limitations in obtaining information from all states and determining whether or not other states have a specific SOP they are utilizing. Of the fifty states, 38 responded back within the allotted time frames. Six state contacts appeared to respond negatively to being contacted and were unwilling to share other potential contact information. Based on the feedback that was received both initially and in follow-up telephone attempts, the conclusion was reached that a) there is not a SOP in current use or b) there was a lack of clarity about what the researcher was asking for.

Two states, Alabama and Florida, expressed interest in the possibility of having a SOP and requested feedback about the criteria used by Washington State ADSA. No other states expressed additional interest. Many made comments suggesting they would not consider putting together such a program because they already had physician, home health agency or wound care clinic referral resources in place for clients with pressure ulcers or at high risk for pressure ulcers.

As stated earlier, the second question asked of each state was if they used specific nursing competency criteria related to any skin or pressure ulcer protocols they
may utilize. This question was included because the ADSA Program Managers are investigating competencies criteria for nurses working with the SOP. The use of competencies is a reflection of the Washington State Nursing Commission’s attempt to develop nursing competency criteria as part of the annual re-licensure process.

Only North Carolina reported comprehensive nursing competency criteria. Tracking is provided by the Board of Nursing and has been in place since 2001. Over the last several years Washington’s Nursing Commission has been attempting to create a similar mechanism to assure continuing competency as mandated by the Revised Code of Washington (RCW) 18.79.010. Nationwide there is much discussion as to whether these programs truly assure the competency of nurses. Further, if these programs do not assure competency, how can competency be determined and how can continuing competency be assured? At the present time, only four other states are developing or considering the creation of their own continuing competency programs. Those states are: Oklahoma, Tennessee, New Mexico and Oregon.24

IMPLICATIONS FOR NURSING PRACTICE

Nurses working with any clients potentially vulnerable to PUs need to have a basic knowledge of current risk assessment tools. They must also become familiar with current standards of care related to skin assessment and PU prevention. As mentioned earlier, the most commonly utilized PU tool is the Braden scale. Based on the scale’s reliability many clinical settings have adopted this as their facility standard, an option that Washington should consider including in the SOP. An alternate tool which might be considered for use is the PUSH Tool (Figure 2),25 as it is being recommended by the CMS for use in nursing facilities.
Lockhart suggests that "nurses have a responsibility to assess, diagnose, plan, implement, and evaluate; therefore, if a patient develops a nosocomial pressure ulcer, or an existing one worsens, the incident may be identified as a failure to carry out the nursing process." These sentiments are reflected in the Washington Administrative Code (WAC) #246-840-700 which defines the Standards of Nursing Conduct or Practice. In part, this code states "Each individual, upon entering the practice of nursing, assumes a measure of responsibility and public trust and the corresponding obligation to adhere to the professional and ethical standards of nursing practice." To omit fully assessing one system (the integumentary) fails to meet the legal standard of nursing practice and could lead to that nurse being found culpable of neglect or harm in a legal action related to a PU.

Significant changes in the financial support and expectations by Medicare and other payor sources lead back, once again, to nursing care. The implications for nurses are more far reaching than fiscal responsibilities. They are grounded in patient care, safety and educational concerns nurses have long championed.

The findings of this review indicate that prevention and treatment of pressure ulcers are pivotal actions within the practice of nursing. They can cause great discomfort, scarring and impaired healing or treatment of other co-morbid conditions. "They interfere with activities of daily living, predispose to osteomyelitis and septicemia and are strongly associated with longer hospital stays and mortality." While a PU may not always be preventable, their incidence may be significantly reduced with comprehensive assessment and early treatment. Improvement in outcomes will only
start to be identified with concentrated attempts at prevention of PUs. Ultimately that improvement will save not only money, but most importantly, lives.

CONCLUSIONS

Strengths of the QA program for SOP are that the SOP attempts to monitor one of the quality indicators identified universally by NPUAP, NDQNI, TJC, and CMS. Also, those reviewing and writing the protocols have acknowledged the need for increased staff input and are willing to consider feedback from CNCs and RNDs. There has also been a realignment of the administrative nurses’ duties so each may better focus on one assigned program.

Challenges of the SOP include very little orientation to the program. New staff, CNCs, RNDs and AAA nurses within different geographic regions statewide implement and document the protocol differently, despite having the same guidelines available. In 2006 RNDs were told that they too would be responsible for utilization of the SOP, though they had not been previously included in the monitoring. However, they are private, independent contractors, not employees of the state, so there is little leverage to enforce their appropriate use of the protocol.

Now that the protocol has been actively utilized for over six years, and the CMS has completed two rounds of surveys which have included attention to the SOP, a systematic review from outside the original committee or ADSA administrative personnel would provide more thorough, formal, objective insight into the full range of strengths and challenges of the program. If the program is as “cutting edge” as the Program Manager has previously shared, this could offer an opportunity for the protocol to be shared with other states as a model.
Courtney, Ruppman and Cooper\textsuperscript{28} verified that as an adjunct to prevention, early comprehensive intervention with clear communication of the treatment plan is crucial. Staff must be empowered to encourage ownership of their practice. Gaps in the research include lack of studies related to the distinct population served by ADSA, and lack of studies examining the differences in care or outcomes since CMS has ceased payment for facility acquired PUs.

Is the Washington State ADSA SOP a leader in the country, ahead of their time, or “cutting edge”? Perhaps, as this author has been unable to find another state utilizing a similar policy or protocol. Does this SOP create a duplication of services? Yes, to some extent, especially when compared to other states. Other states have the patient’s assigned Social Worker or Case Manager refer directly to the physician, a home health contractor or to a wound care clinic. The Washington state SOP reviewed here adds the additional step of having a CNC go to the client’s residence to observe and document the real or potential pressure ulcer. During that visit the CNC is now required by the latest SOP revisions to observe the client’s entire physical status without using any assessment tools that may be invasive. For example this means the CNC cannot to do blood sugar monitoring, because it involves pricking the client’s finger, and cannot assess the wound site for tunneling. These tasks are a part of basic nursing assessment, but on March 10, 2009 the Program Manager for the SOP announced that ADSA has decided these interventions create too much liability and will not be included as part of the SOP assessment. By holding back on the full use of nursing judgment and assessment capabilities, the SOP may not meet nursing standards of care, thereby
delaying appropriate interventions which could ultimately lead to untoward patient suffering.

Considering the compromised health and often fragile condition of those at risk, the susceptibility to poor outcome related to the higher incidence of chronic disease processes, and the high risk of skin breakdown within this vulnerable aged, blind and disabled population, additional observation and follow-up, even if limited or duplicated, may be appropriate. Having a Registered Nurse see the client in their home may provide the additional patient education or encouragement that client needs to actually go to the doctor or wound care clinic. Further, the duplication of additional oversight or observation may ultimately be a cost savings by preventing the severity of pressure ulcers for these clients.
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### Figures

<table>
<thead>
<tr>
<th>Patient's Name</th>
<th>Evaluator's Name</th>
<th>Date of Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory perception Ability to respond meaningfully to pressure-related discomfort</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Completely limited: Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of consciousness or sedation, OR limited ability to feel pain over most of body surface.</td>
<td>2. Very limited: Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness, OR has a sensory impairment which limits the ability to feel pain or discomfort over 1/2 of body.</td>
<td>3. Slightly limited: Responds to verbal commands but cannot always communicate discomfort or need to be turned, OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.</td>
</tr>
<tr>
<td>Moisture Degree to which skin is exposed to moisture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Constantly moist: Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.</td>
<td>2. Moist: Skin is often but not always moist. Linen must be changed at least once a shift.</td>
<td>3. Occasionally moist: Skin is occasionally moist, requiring an extra linen change approximately once a day.</td>
</tr>
<tr>
<td>Activity Degree of physical activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Bedfast: Confined to bed.</td>
<td>2. Chairfast: Ability to walk severely limited or nonexistent. Cannot bear own weight and/or must be assisted into chair or wheel chair.</td>
<td>3. Walks occasionally: Walks occasionally during day but for very short distances, with or without assistance. Spends majority of each shift in bed or chair.</td>
</tr>
<tr>
<td>Mobility Ability to change and control body position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Completely immobile: Does not make even slight changes in body or extremity position without assistance.</td>
<td>2. Very limited: Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.</td>
<td>3. Slightly limited: Makes frequent though slight changes in body or extremity position independently.</td>
</tr>
<tr>
<td>Nutrition Usual food intake pattern</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Very poor: Never eats a complete meal. Rarely eats more than 1/3 of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement, OR is NPO[1] and/or maintained on clear liquids or IV[2] for more than 5 days.</td>
<td>2. Probably inadequate: Rarely eats a complete meal and generally eats only about 1/2 of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement, OR receives less than optimum amount of liquid diet or tube feeding.</td>
<td>3. Adequate: Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products) each day. Occasionally will refuse a meal, but will usually take a supplement if offered, OR is on a tube feeding or TPN[3] regimen, which probably meets most of nutritional needs.</td>
</tr>
<tr>
<td>Friction and shear</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Problem: Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures, or agitation leads to almost constant friction.</td>
<td>2. Potential problem: Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints, or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.</td>
<td>3. No apparent problem: Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair at all times.</td>
</tr>
</tbody>
</table>

Total Score: [Figure 1]
PUSH Tool 3.0

Patient Name: ___________________________ Patient ID#: ___________________________

Ulcer Location: ___________________________ Date: ___________________________

DIRECTIONS:
Observe and measure the pressure ulcer. Categorize the ulcer with respect to surface area, exudate, and type of wound tissue. Record a sub-score for each of these ulcer characteristics. Add the sub-scores to obtain the total score. A comparison of total scores measured over time provides an indication of the improvement or deterioration in pressure ulcer healing.

<table>
<thead>
<tr>
<th>Length</th>
<th>0 cm²</th>
<th>1 cm²</th>
<th>2 cm²</th>
<th>3 cm²</th>
<th>4 cm²</th>
<th>5 cm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>6 cm²</td>
<td>7 cm²</td>
<td>8 cm²</td>
<td>9 cm²</td>
<td>&gt;10 cm²</td>
<td></td>
</tr>
<tr>
<td>Exudate Amount</td>
<td>None</td>
<td>Light</td>
<td>Moderate</td>
<td>Heavy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tissue Type</td>
<td>Closed</td>
<td>Epithelial Tissue</td>
<td>Granulation Tissue</td>
<td>Slough</td>
<td>Necrotic Tissue</td>
<td></td>
</tr>
</tbody>
</table>

Length x Width: Measure the greatest length (head to toe) and the greatest width (side to side) using a centimeter ruler. Multiply these two measurements (length x width) to obtain an estimate of surface area in square centimeters (cm²). Caveat: Do not guess! Always use a centimeter ruler and always use the same method each time the ulcer is measured.

Exudate Amount: Estimate the amount of exudate (drainage) present after removal of the dressing and before applying any topical agent to the ulcer. Estimate the exudate (drainage) as none, light, moderate, or heavy.

Tissue Type: This refers to the types of tissue that are present in the wound (ulcer) bed. Score as a "4" if there is any necrotic tissue present. Score as a "3" if there is any amount of slough present and necrotic tissue is absent. Score as a "2" if the wound is clean and contains granulation tissue. A superficial wound that is reepithelializing is scored as a "1". When the wound is closed, score as a "0".

4 - Necrotic Tissue (Eschar): black, brown, or tan tissue that adheres firmly to the wound bed or ulcer edges and may be either firmer or softer than surrounding skin.
3 - Slough: yellow or white tissue that adheres to the ulcer bed in strings or thick clumps, or is mucinous.
2 - Granulation Tissue: pink or beefy red tissue with a shiny, moist, granular appearance.
<table>
<thead>
<tr>
<th>Stage I</th>
<th>Stage II</th>
<th>Stage III</th>
<th>Stage IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Stage I Image" /></td>
<td><img src="image2.png" alt="Stage II Image" /></td>
<td><img src="image3.png" alt="Stage III Image" /></td>
<td><img src="image4.png" alt="Stage IV Image" /></td>
</tr>
</tbody>
</table>

An observable pressure-related alteration of intact skin with indicators as compared to an adjacent or opposite area on the body. These indicators may include changes in one or more of the following: skin temperature, tissue consistency, and/or sensation. In lightly pigmented skin, the ulcer appears as a defined area of persistent redness. In darker skin, the ulcer may appear with persistent red, blue, or purple hues.

Partial-thickness skin loss involving epidermis, dermis, or both. The ulcer is superficial and presents clinically as an abrasion, blister, or shallow crater.

Full-thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia. The ulcer presents clinically as a deep crater with or without undermining of adjacent tissue.

Full-thickness skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone, or supporting structures (e.g., tendon, joint capsule). Undermining and sinus tracts may be associated with Stage IV ulcers.

Figure 3