

Pressure Injuries in Long-Term Care

A Toolkit for Clinical Staff



Barbara Acello, MS, RN

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About the Author

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Introduction

The nursing profession has been laying the groundwork for evidence-based practice (EBP) since 1980. This job will never be done. It is a monumental undertaking that requires a great commitment. The nursing profession was established in 1854. It was a low tech job that provided comfort and care. Providing comfort and care continues to be an important nursing responsibility in today's high-tech world. However, we are doing so in the context of what can be proven to be in the best interests of patients and residents.

Throughout time, nursing care has been given based on intuition, what is easiest, and what we have always done. We haven't scratched the surface yet, and many existing practices require validation. Fortunately, a great deal of time and effort have been devoted to researching the nursing care and prevention of skin injuries. Although we have not arrived, we have a great deal of evidence to use. EBP integrates research and clinical practice. A descriptive label that accurately reflects the practice is assigned to each procedure. Nursing research has become a specialty in its own right.

The professional organizations that make skin care recommendations have collaborated with sister groups throughout the world. Research has been ongoing and peer reviewed. (Nurses who do the peer reviews are volunteers. They are called "stakeholders" when the organizations list their names in publications.) Members have asked questions and requested clarification about new information and practices. Responding to their queries has resulted in new, more accurate labels. This brings us to where we are today.

Breaks in skin integrity are a potentially serious problem in long-term care. They are painful, they allow microbes to enter, and increase the risk of a host of complications. Some of these are serious and potentially life-threatening. They require extra nursing time, increase the risk of legal exposure, and act as a red flag when surveyors visit the facility.

Introduction

If we want excellence in practice to be the standard of care, we must embrace evidence-based practice as the norm. Continuing to use a clinical practice despite research that shows that the practice is not helpful and may even be harmful to the residents is detrimental to their care and leaves the nurse vulnerable to legal action.

Practicing nurses are expected to remain up to date and integrate the results of nursing research into their practice. This involves ongoing monitoring of professional journals, inservices, books, the internet, and other sources of current information. In a perfect world, you would have time to do this. We know your time is at a premium. Our goal for this book is to provide a turnkey package of current, evidence-based information that we believe will help you and your colleagues learn and grow.

Nursing professionals and paraprofessionals are the largest group of healthcare providers in the United States. Because of our scope of practice and access to patients and families, we have both the privilege and the responsibility of providing compassionate, evidence-based care.

Your mission and responsibility are monumental, and the essence of quality care resides in the manner in which staff considers and relates to residents as individuals. Quality of life is the result of a culture of caring. When the facility has a culture of caring, quality of care flourishes. Nurses with a vision create this culture. Everyone benefits. Long-term care nursing is a calling. Don't view it as a chore. We hope this book provides you with useful tools with which to further the process. Your work is sacred, and by providing quality care, you are making a difference. Believe in that, and believe in yourself!

Best wishes on your journey as a manager in long-term care. Thank you for choosing us to introduce you to this important subject matter.

Barbara Acello

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Good luck with your mission to provide quality pressure injury prevention and management. Geriatric care is my first love, and I sincerely admire those who work in the difficult financial and regulatory environment we call long-term care. I believe in you, support you, admire your commitment, and sincerely hope this information is useful to you. Please feel free to contact me through HCPro, Inc. or by email, if you have questions or comments.

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Disclaimer

In addition to the care provided by physicians, some facilities are fortunate to have the services of advanced practice nurses (including nurse practitioners and clinical nurse specialists) and physician assistants. These well-educated and highly qualified individuals provide excellent care to residents in long-term care facilities. Collectively, we refer to these individuals as “health care providers” or “health care practitioners.” Occasionally, the term “physician” is used for brevity only. This is not intended to minimize the important work of advanced practice nurses and physician assistants. When the reader is advised to notify the physician, facilities may also notify the advanced practice nurse or physician assistant, if available, and as permitted by state law and facility policies.

Every effort has been made to ensure that this material is timely and accurate at the time of publication, but pressure injury care involves evidence-based practices that change frequently. The author, editors, and publisher have done everything possible to ensure this book is current and in compliance with the standards of care. The author, editors, and publisher are not responsible for errors or omissions or for consequences from application of the book, and make no warranty, expressed or implied, in regard to the contents of the book. Neither the author or publisher or any other individual or party involved in the preparation of this information will be liable for any special, consequential, or exemplary damages resulting in whole or part from any individual’s use of or reliance upon this material. The practices described in this book should be applied in accordance with facility policies and procedures, state and federal laws, the nurse practice act for your state, professional standards of practice, and the individual circumstances that apply to each resident encounter and situation.

Overview of Anatomy and Physiology of the Skin

The Integumentary System

The integumentary system consists of skin, hair, nails, sweat glands, nerves, and oil glands. It is elastic, regenerates, and provides protection, thermoregulation, sensation, and elimination. These functions are essential for life.

The skin constantly interacts with the environment. Changes in its appearance relate to aging, abnormalities, or diseases. It has many functions that are critical to the body's well-being, including the following:

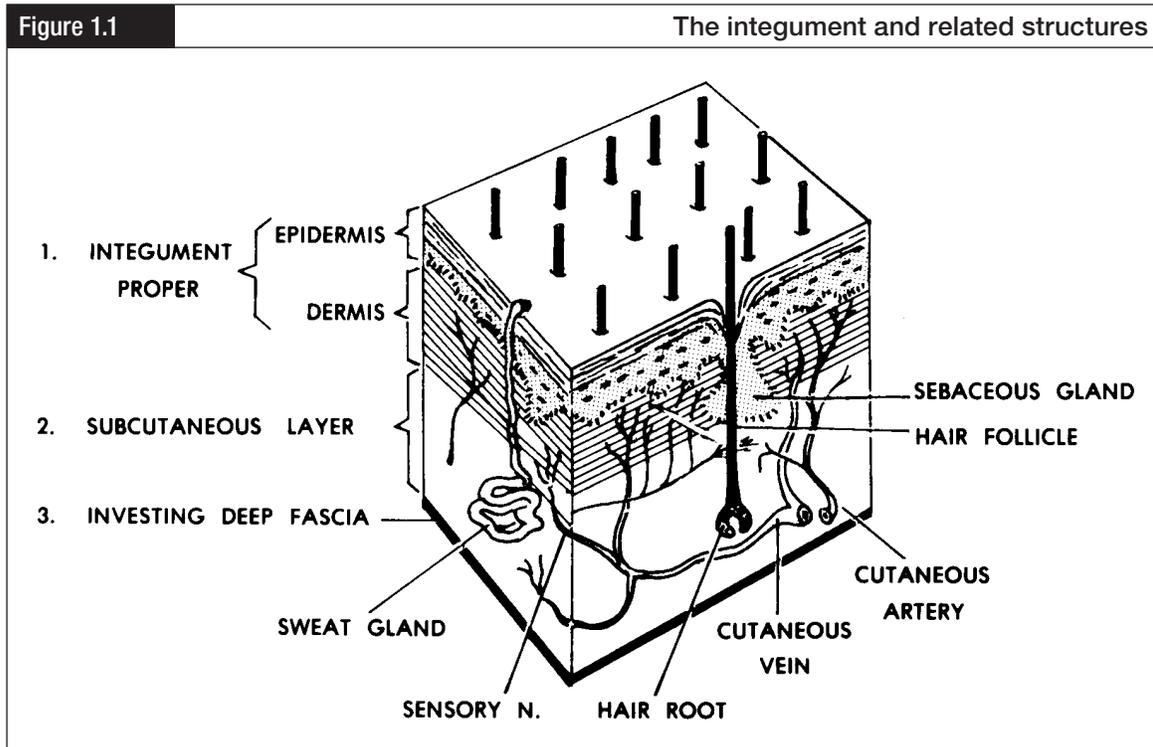
- Protection—forms a continuous membranous covering for the body
- Storage—stores fat and vitamins
- Elimination—loses water, salt, and heat through perspiration
- Sensory perception—contains nerve endings that keep us aware of environmental changes

The skin tells us much about the body's general health:

- If fever is present, the skin is hot and dry
- Cool and clammy skin accompanies certain cardiovascular problems
- Redness or flushing of the skin occurs when someone is embarrassed or after strenuous activity
- Many medical conditions cause pale skin, edema, or changes in skin color or texture
- The skin is cyanotic when oxygen content of the blood is low

Skin layers

The skin consists of three distinct but connected layers: epidermis, dermis, and subcutaneous tissue (Figure 1.1).

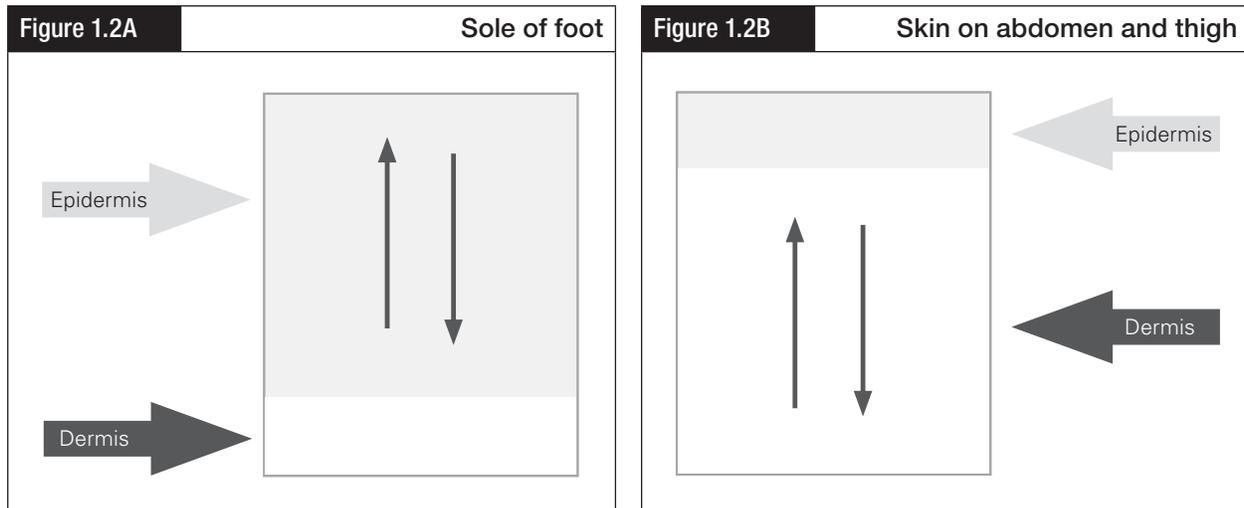


The epidermis, or top layer, is fastened to the dermis, or second layer, which consists of thick connective tissue. Persons with thin skin have a thin epidermis; those with thick skin have a fairly thick epidermis. The third layer of skin is the subcutaneous layer, which resides beneath the dermis and consists of areolar (minute spaces in tissue) and adipose (fat) tissues. This layer is firmly attached to underlying structures, and the top of it attaches to the dermis. Fibers from the dermis extend into the subcutaneous tissue, securing the layers together.

Each layer is made of different tissue and plays different roles in the body. The top of the epidermis consists of dead cells that shed continuously as new cells move upward from the dermis. This layer contains no blood vessels, so superficial injuries to the epidermis do not bleed. However, nerve endings are abundant. These receptors are in constant contact with the environment and provide information about heat, cold, pain, pressure, and temperature.

The epidermis consists of stratified squamous epithelial cells that are organized into either four or five layers, depending on location: The soles of the feet and palms of the hands have five

layers and are approximately 7 mm thick (Figure 1.2A). Other areas of the body, which have less exposure to friction, have only four layers (Figure 1.2B), and the skin is much thinner and softer in these areas. In all areas, however, the epidermis has many jobs. It prevents dehydration of underlying tissues, keeps fluid and nutrients in the skin, responds to many stimuli, and protects the body from microbial invasion, toxins, light, and mechanical injury.



The dermis (corium) keeps the epidermis in place through attachment with connective tissue and elastic fiber. It is thick on the soles of the feet and palms of the hands and thin on the eyelids, penis, and scrotum. The dermis contains numerous blood vessels, nerves, lymph vessels, hair follicles, sweat glands, and sensory receptors.

The upper fifth of the dermis is the papillary layer, which has small, finger-like projections that extend deep into the surface of the epidermis. The remainder of the dermis is the reticular layer, which consists of connective tissue interwoven with bundles of collagenous and coarse fibers. Adipose tissue, hair follicles, nerves, oil glands, and the ducts of sweat glands reside between the fibers. The collagenous and elastic fibers provide skin strength, extensibility, and elasticity. Additionally, the dermis is very vascular—in fact, it is more vascular than any other organ system, and it assists with temperature regulation and provides oxygen and nutrients to the epidermis.

The subcutaneous (adipose) layer consists of adipose tissue and loose connective tissue. This layer stores water and fat. It provides insulation against heat loss, gives the body shape and form, provides a cushion against injury, supports other tissues, and provides a pathway for nerves and blood vessels.

Facts about the integumentary system

The skin is the largest organ in the body. In an adult of average size, total skin weight is about 6–8.8 pounds, and it covers an area of about 20 square feet. Each square inch of skin consists of approximately 19 million cells, 60 hairs, 90 oil glands, 20 blood vessels, 650 sweat glands, and 19,000 sensory cells. About one-third of the blood circulating in the body is used to nourish this large organ.

In addition to taking up so much space, the skin is constantly changing: It renews itself every 27 days. As part of that process, approximately 500 million skin cells fall off a person each day, totaling about a pound and a half per year. The average person has lost about 105 pounds of skin by age 70. All in all, we shed and regrow about 1,000 new skins in a lifetime.

The skin contains other kinds of cells as well, including melanocytes, or cells that produce skin color. Everyone has about the same number of these, and the amount of melanin that each melanocyte cell produces determines the color of a person's skin. The skin also contains about 100,000 bacteria per square centimeter—in fact, 10% of human dry weight is attributed to bacteria. The skin's normal flora provide a measure of protection from harmful pathogens.

In addition to its complex make-up, the skin has the ability to stretch, referred to as extensibility, such as in obesity, in response to edema, and during pregnancy. It also has the ability to contract after stretching, referred to as elasticity. Severe stretching may cause small tears. These are initially red in color, but over time, they lose the redness and remain visible as silvery-white streaks called striae (stretch marks).

Nails, which are extensions of the skin, are also part of the integumentary system. It takes a nail approximately six months to grow from base to tip. The fingernails grow more quickly than toenails and provide a permanent record of some illnesses and exposure to certain chemicals. Hair, too, is part of the integumentary system, and like nails, it maintains a record of chemicals, toxins, and other problems. There are more than 5 million hair follicles on the body, and although the average human has about the same amount of hair as other hairy primates, human body hair is short and fine. Scalp hair grows more quickly than other body hair, and the average scalp has about 100,000 hairs. Each hair lives about two to four years. The hair on the head grows at a rate of approximately 1 cm (0.3937 inches) per month. The average person loses approximately 50–100 hairs from the head each day.

Sweat glands are also part of this system, and there are 650 sweat glands in 1 square inch of skin. On its own, sweat from the underarm and genital areas is odorless. Unpleasant body odors

result from the action of bacteria on the sweat. The human body smell is distinctive, as individual as a fingerprint, and unique to family groups.

Aging Changes

The skin undergoes many changes as it ages, and many are visible. The skin's ability to distribute pressure decreases with age. Changes in collagen synthesis negatively affect the mechanical potential of the tissue, which becomes stiffer and less able to withstand the effects of pressure. Muscle tone decreases, subcutaneous tissue is reduced, and inadequate nutrition (which is common in older persons) affects healing ability. Dehydration and inadequate fluid intake further reduce skin elasticity and increase the risk of injury. Other aging changes include the following:

- Subcutaneous fat and elastin diminishes
- The skin thins, loses elasticity, and develops wrinkles
- The skin becomes dry and fragile
- Blood vessels near the skin surface become more prominent
- Blood vessels that nourish the skin become more fragile with reduced capillary blood flow; senile purpura are common, and healing is delayed
- Blood supply to the lower extremities is reduced, increasing the risk of skin breakdown, gangrene, amputation, and related complications
- Sensitivity to pressure and temperature is reduced
- Age spots become evident
- Risk of injury increases; the skin bruises, cuts, tears, and breaks more readily
- A person may complain of feeling cold
- Risk of pressure, friction, and shearing injuries increases
- Glandular activity decreases
- Oil glands secrete less oil, causing the skin to dry and become pruritic (scratching may also cause injury)
- Perspiration decreases
- Thermoregulatory ability is impaired
- Veins dilate
- Risk of injury increases due to impaired sensation
- Melanin production is decreased; color is lost and hair turns gray
- Hormone production changes; females develop facial, chin, and upper lip hair
- Scalp, pubic, and axillary hair thins

- Finger and toenail growth slows
- Nails become brittle, develop longitudinal ridges, and split or tear

Pressure Injuries

An ulcer is an open skin lesion in which the epidermis and upper dermis have been destroyed. Ulcers have many causes, including skin trauma, chemicals, parasites, tumors, and infections. Those caused by pressure often result in rapid, extensive tissue destruction. An ulcer always results in a scar. Once damaged, the skin never regains the strength and resiliency it had previously.

Unrelieved, sustained pressure limits blood flow and deprives skin of nutrients and oxygen, results in damage to the underlying tissues, and leads to an open area, or ulcer. Humans have more pain receptors than any other type of sensory nerve receptor. Even a small red area or break in the skin can be very painful.

Most skin ulcers occur over bony prominences and are staged to classify the degree of tissue damage that is observed or identified during the nursing assessment. Ulcers that are covered with eschar or large amounts of slough are considered unstageable, but these lesions do not necessarily increase sequentially in stage.

Although friction and shear are not primary causes of these injuries, they are some of the most important contributing factors to lesion development (Cuddigan, Ayello, Sussman, & Baranoski, 2001). Integumentary ulcers are largely but not 100% preventable (National Pressure Ulcer Advisory Panel, 2010), and they are much easier to prevent than they are to treat. They take a long time to heal, and even after healing, the tissue is weakened and the area is susceptible to future breakdown. In fact, a single open area is a good predictor of future breakdown anywhere on the body.

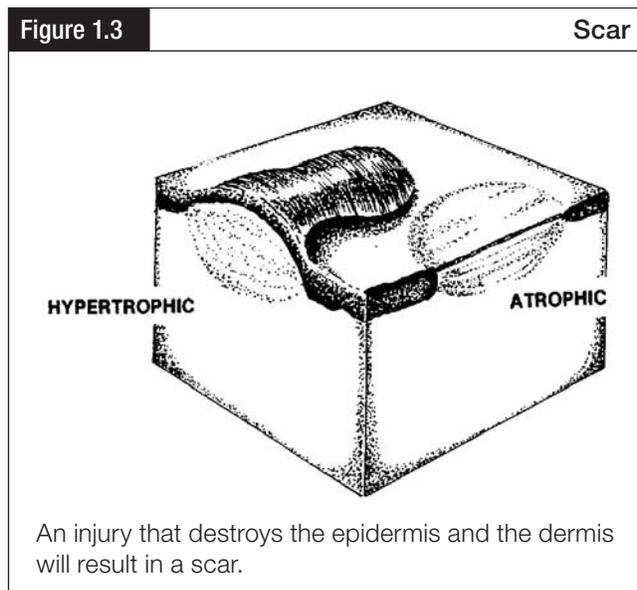
See Chapter 2 for important new information about pressure injuries.

Wound Healing

Partial-thickness wounds involve the epidermis and upper dermis and heal by regeneration. Function is not lost, and scar tissue does not form for most superficial injuries. Full-thickness wounds, in contrast, result from destruction of the epidermis, dermis, and subcutaneous tissue. Muscle and other structures may also be damaged. Such wounds heal by scar tissue formation,

which involves granulation, contraction (wound shrinkage), and epithelialization. A full-thickness ulcer can never revert to a partial-thickness wound. Healing occurs in three stages:

- The **inflammatory phase** occurs immediately after injury and lasts a brief time in partial-thickness wounds. The wound experiences an inflammatory response with heat, redness, pain, swelling, and impaired function. Vasoconstriction occurs within seconds after injury and lasts a few minutes. It is followed by vasodilation, which is caused by local stimulation of the nerve endings. The wound produces a serous exudate that forms a scab if allowed to dry. Inflammation usually lasts about three days.
- The **proliferative phase** overlaps the inflammatory phase slightly and continues until the wound heals. This phase involves regrowth of the epidermis. (Epithelialization is part of this stage but actually begins within hours of injury, during the inflammatory phase.) Small partial-thickness wounds that have been left open to air will heal in about six to seven days; moist wounds will heal in about four days. With wounds involving loss of the epidermis and dermis, both layers are repaired simultaneously. In a superficial ulcer, by the ninth day, collagen fibers emerge in the wound bed. Collagen synthesis, which requires vitamin C, amino acid, and adequate nutritional intake, continues until about 10 or 15 days after the injury and continues to produce new connective tissue. Some experts theorize that cells surrounding hair follicles contribute considerably to dermal repair, accelerating healing in hairy areas of the body. In wounds with substantial tissue loss, granulation tissue contracts to close the area. Such tissue is a healthy, beefy red color that some nurses describe as “looking like fresh hamburger.” This contracture does not occur in wounds with little tissue loss.
- The **maturation phase** begins about three weeks after injury and may continue for years in chronic wounds. In this stage, the collagen that has been deposited in the wound is remodeled and reorganized, which strengthens the wound and makes it more like adjacent tissue. New collagen is deposited, which compresses blood vessels and flattens the scar (Figure 1.3). However, the area of a serious skin injury is never as strong as it was prior to the injury, and the scar



will not sweat, grow hair, or tan in the sunlight. A newly healed ulcer lacks tensile strength, and stress on the wound must be minimized. If the resident is on a therapeutic bed, leave it in place through this stage, and continue implementing aggressive preventive measures to prevent recurrent breakdown in the area. A wound is healed when the skin surface is continuous and its strength is sufficient to support normal daily activities. The scar achieves maximum strength in about three months.

Healing by primary intention

Wounds that are cleanly incised with approximated edges can be sutured. When this method is used, the wound heals by primary intention (also called first intention). Very little granulation tissue is present, and a wound of this type usually heals rapidly, with minimal scar tissue. The stages of healing are the same as those for any other wound.

Healing by secondary intention

Wounds heal by secondary intention when they close naturally and are not sutured, such as when the wound margins are far apart and cannot be brought together. These wounds take longer to heal than those closed by primary intention. Granulation tissue helps fill the wound, and contraction and epithelialization occur, which usually results in considerable scar tissue. The tissue will always be at high risk of breakdown.

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Cuddigan, J., Ayello, E.A., Sussman, C., & Baranoski, S. (Eds.). (2001). Pressure ulcers in America: Prevalence, incidence, and implications for the future [Monograph]. 181. Reston, VA: National Pressure Ulcer Advisory Panel.

National Pressure Ulcer Advisory Panel. (2010, March 3). Not all pressure ulcers are avoidable [Press release].

- Nursing interventions.
- Resident response to care.
- Other pertinent information and observations.

If you are documenting on a flow sheet, write any problems or abnormalities in the nurses' notes, in detail. Simply describing an abnormality is inadequate. Similarly, describe what nursing action was taken, in detail. In most cases, a notation that says "will continue to monitor" is also inadequate. The nursing process and plan of care should guide all care and documentation.

What Not to Document

Little can be said about documentation that you do not already know; documentation is integrated into various chapters throughout this book. This section discusses common documentation problems to avoid.

The medical record is a true, complete, and accurate record of care given. However, many nurses document care that is "supposed to be done" instead of care that was actually given. Documenting care that is supposed to be done may undermine your credibility if a surveyor or a plaintiff attorney determines the care was not given. Avoid meaningless statements such as "turned q 2 hours," "toileted q2h," or "call light in reach" unless you personally know that this was done as documented.

CMS Study

One Centers for Medicare & Medicaid Services study (Bates-Jensen, et al., 2003) provides an example of documenting pressure injury care that is supposed to be done but was not.

This study involved 16 nursing homes and 329 residents, and at the time, pressure injuries were one of the quality indicators. Some of the facilities had a low prevalence of skin breakdown indicators, whereas others had a high prevalence reported on the MDS.

In this study, residents' movement was measured by wireless thigh monitors, which were applied to dependent bedfast and chairfast residents who could not reposition themselves. The study revealed that nurses charted that turning and repositioning were being done every two hours in 95% of high-risk residents but there was a wide discrepancy between documentation and actual care delivery. Few residents (both high- and low-risk) were routinely repositioned every two

hours, despite the fact that nurses had documented this care for most residents. Twenty-three percent of high-risk residents were actually being turned every three hours, and the longest time measured with no moves was about four hours.

All facilities scored poorly on pressure injury prevention and screening process indicators. None of the facilities complied with the screening indicator that calls for a pressure injury risk assessment on admission and weekly for four weeks.

As you can see, the findings of this study are abysmal. The researchers noted, “These data raise questions about the usefulness of this indicator for improvement, survey, or consumer education purposes. In particular, it should not be assumed that nursing homes that score well (low prevalence) on the MDS pressure injury quality indicators are providing better care than facilities that report a high prevalence. A more accurate interpretation is that all nursing homes provide relatively poor preventive care and that improvement is needed in most care process areas other than treatment once a pressure injury is present” (Springhouse, 2001).

In the study mentioned above, nurses inaccurately documented in the medical record that scheduled repositioning occurred every two hours for almost all of the study residents (97% in low-pressure injury homes, 93% in high-pressure injury homes). Such failure to provide accurate and honest documentation of resident care is potentially harmful to the residents. Other nurses, healthcare providers, consultants, and professional team members depend on your documentation to learn about the resident and his or her care. They trust that the information is accurate and use it to complete their assessments and develop care plan approaches.

Additionally, your documentation validates the care you have given. Many other professionals trust that it is an accurate and complete record of what has been done and the resident’s response to care (Richards, 2001). If you are involved in a lawsuit or questioned by an attorney, avoid using the excuse that care plans and documentation are nothing more than paper compliance. You can be certain that the opposing attorney has one or more credible, convincing expert witnesses to persuasively testify why properly maintained medical records are essential to the residents’ welfare.

Documentation in one part of the medical record must be consistent and not contradict information in other parts. For example, the resident’s weight may be documented on a weight record, in the nursing notes, in the dietary notes, and in the MDS. Make sure that the weight is identical in all of these areas. If the resident is underweight, overweight, or consistently losing or gaining weight, address that issue on the care plan as well. Inconsistencies can create serious problems. The person who is auditing the charts and finds such inconsistencies will likely dig deeper to see if they can find others.

Survey and Certification Issues

Pressure injuries and documentation are often in the list of most frequently cited deficiencies. At the time of this writing, the most recent survey list is for the year 2015 (*Survey and Certification Letter 17-06-NH*), and pressure injuries are cited at F314—Treatment/Services to Prevent/Heal Pressure Injuries:

Pressure injuries:

- Coding inconsistent with residents with and without pressure injuries.
- Pressure injuries not coded at the correct stages.
- Coded as healed when not healed.
- Incorrect number of pressure injuries coded.
- Nurses write, “Healing well.” The measurements of the injury are getting larger and deeper every week. This is a common contradiction that invites deficiencies.

Little else can be said other than accurate documentation of pressure injuries is essential.

Half Truths or Outright Falsification

Tampering and falsification are illegal and can cause the entire record to be inadmissible as evidence in court (Springhouse, 2001). At the very least, such actions call the credibility of the facility and its personnel into question. You may find that common practices you have seen in your facility fall into this category. At best, the following practices are simple errors; at worst, they are falsification:

- Documenting care that has not been given.
- Charting “assessment done” without describing the assessment findings.
- Making up, misstating, or overstating information. A common documentation problem is saying that a resident was “eased to the floor” when in fact she fell and shattered a hip. Residents who are eased to the floor are not likely to break a hip. You may be surprised to learn that this is a very common documentation problem. Nurses think they are protecting themselves and the facility, but in fact they are opening themselves up to significant legal exposure.
- Using a different treatment product, cleanser, or dressing than ordered by the physician.

- Not doing treatments, tube feedings, irrigations, etc., but charting that they were done.
- Writing a phone order for the treatment you want to use and burying it in the pile of telephone orders for the physician to sign. Remember that legally, you must advocate for the residents. If, in your professional judgment, you believe the physician orders place a resident in jeopardy, you must intervene. If the physician is nonresponsive, contact your supervisor, and go up the chain of command from there. Document the actions taken to advocate for the resident. Please do not write your own orders.
- Filling in gaps (omissions) on flow sheets; some facilities have end-of-the-month “charting parties.” This is not a legal practice.
- Charting medication administration, treatments, or other care in advance. Keep in mind that writing your initials on a medication or treatment record indicates that you have given the medication or treatment, not merely removed it from the drawer. (The same principle applies for all other flow sheet charting.) By placing your initials on the record before giving the medication or treatment, you are increasing your risk of legal exposure.
- Errors, omissions, and questionable or inaccurate entries diminish your credibility. This becomes an issue if the nursing care is questioned or negligence is alleged, affecting both the reliability of your chart and the strength of your case if you end up in court. Covering up minor errors that were not negligent damages your credibility. An accurate and concise record shows that you are conscientious. It implies that you have given quality care. In contrast, errors suggest that you are careless. If you are careless with your documentation, the reader may assume that you are careless in the care you provide as well.

Fraud and Abuse

Tampering with, altering, or falsifying the medical record in any manner is fraud. Any individual tampering with a medical record is subject to criminal, civil, and licensure action. Fraud has a longer statute of limitations than medical malpractice in some states. Additionally, the nursing licensure board is not bound to the statute of limitations when investigating and punishing nurses for fraudulent documentation. The message is clear: Do not alter or destroy the medical record.

Removing and rewriting pages of the medical record must be for a justifiable purpose and done in a specific manner. On rare occasions, liquid or another substance may be spilled on a medical record, or a page may be damaged so that it is illegible. If this happens, retain the original page. Note the reason for recopying. Make a notation that the original was damaged and on what date. Recopy the

page exactly like the original. Place both pages in the chart or note where the damaged original is located. (Place the original in a sheet protector if it has contacted blood or body fluids.) Doing so avoids concern that a page was destroyed or recopied to conceal or add information.

Medicaid and Medicare pay for the lion's share of care provided by facilities. Each resident's MDS is electronically submitted to the government, where it is evaluated for caregiving and payment. Auditors will visit the facility periodically to ensure that the care they paid for was actually given. If it was not, the facility will be expected to repay the money, in addition to paying hefty fines. This places the old adage "If it wasn't documented, it wasn't done" in a new light that nurses frequently do not consider.

State and federal laws both address falsification of documentation. Examples are:

§483.20(j) Penalty for Falsification.

(1) Under Medicare and Medicaid, an individual who willfully and knowingly—

(i) Certifies a material and false statement in a resident assessment is subject to a civil money penalty of not more than \$1,000 for each assessment; or

(ii) Causes another individual to certify a material and false statement in a resident assessment is subject to a civil money penalty or not more than \$5,000 for each assessment (Centers for Medicare & Medicaid Services, 2017).

Grounds for Discipline:

Fraud, deception, or misrepresentation, including, but not limited to:

1. Committing fraud or deceit in the practice of nursing.
2. Submitting false documentation or information, such as credentials, letters of recommendations, resumes, curriculum vitae, certificates, educational certificates or transcripts, or licenses to an employer or potential employer for the purpose of securing or maintaining employment.
3. Submitting false documentation or information to an employer for the purpose of receiving remuneration or reimbursement of costs to which the licensee is not entitled.
4. Submitting false information in the course of an investigation or as part of any application.

5. Failing to document and maintain accurate records, includes, but is not limited to:
 - a. Falsifying reports, patient documentation, agency records, or other essential health documents; and
 - b. Knowingly making incorrect entries a patient's medical record or other related documents.
6. Improper or abusive billing practices (National Council of State Boards of Nursing, 2012).

Guidelines for General Nursing Documentation

Nursing documentation should be as follows:

- Based on the requirements of your state's nurse practice act. If you have not read it lately, you may wish to do so. It is probably on your board of nursing's website.
- Objective—not critical or subjective.
- Clear, concise, and comprehensive.
- Accurate, truthful, and honest. It should not appear self-serving, especially if an incident or injury occurs.
- Relevant and appropriate.
- Reflective of observations, not unfounded conclusions.
- Reflective of resident education.
- Reflective of resident response to care and actions taken to rectify unsatisfactory responses.
- Timely and completed only during or after giving care.
- Chronological.
- Internally consistent.
- A complete record of nursing care provided, including assessments, identification of health issues, a plan of care, implementation, and evaluation.
- Legible and non-erasable.
- Unaltered.

- Permanent.
- Retrievable.
- Confidential.
- Resident-focused.
- Outcome-based.
- Completed using forms, methods, systems provided, or methods and systems consistent with these standards, facility policies, and state laws.

Clinical documentation is the element of resident care that contributes to identification and communication of residents' problems, needs, and strengths; that monitors their conditions on an ongoing basis; and that records treatment and response to treatment. It is a matter of good clinical practice and an expectation of licensed healthcare professionals (Morris, et al., 2002). Note that documentation cannot be separated from resident care. It is an element of comprehensive care and must be consistent with the care plan. Avoid documenting information that contradicts the information and approaches listed on the plan.

Changing Terminology on Medical Records

It is time to start changing terminology on medical records, forms, and documentation and in computer programs. All documentation going forward should reflect the new terminology. In other words, use “pressure injuries” instead of “pressure ulcers.” How you do this is determined by the type of medical record system you are using.

The National Pressure Ulcer Advisory Panel (NPUAP) recognizes that making changes in literature and electronic medical records is time-consuming and costly. Because the changes to the six stages of pressure injury were changes only to title and wording, the stages are still the same. *What was formerly a stage II is still a stage 2, and the treatment has not changed*—the changes within local facilities need not be made in a hurried manner. The pressure injury terminology changes can be made when routine updates of the policies, procedures, and EMR documentation are done within institutions and organizations.

AHRQ's Safety Program for Nursing Homes: On-Time Prevention

Facilities across the country are in varying stages of changing their medical records to an electronic system. The Agency for Health Care Research and Quality (AHRQ) has created tools for facilities with electronic medical record systems. Their program identifies residents with increasing risk and provides a list of these residents weekly. It also provides information with which to update the care plan. AHRQ has numerous resources for long-term care facilities. You will find links on this page: www.ahrq.gov/professionals/systems/long-term-care/resources/ontime/pruprev/index.html

The Last Word

The National Pressure Ulcer Advisory Panel (NPUAP)

Time marches on and so does change. The NPUAP first announced the changes in terminology one year ago. Since then, they have updated many resources on their websites and added a great deal of new material. Research also marches on and you can expect new evidence-based practices to be part of life.

The NPUAP website continues to be your best source of current information. You may wish to check there before looking elsewhere. This is a subject in which education is essential. The website has a nursing curriculum, current pictures, PowerPoint slides, and many miscellaneous items. Some are free, and there is a nominal charge for others.

What is apparent is that NPUAP has not finished making changes and adding new material. Check their site often: <http://www.npuap.org/>

State Operations Manual (SOM)

If your facility accepts any federal funding from Medicare or Medicaid, you are operating under both states and federal rules. The federal rules are found in the *State Operations Manual*. However, there are numerous sections in the manual. The one you want is Appendix PP. You will also need Appendix Z.

- To access these manuals, go to: <http://tinyurl.com/y98oephu>
- Click on 100-07 State Operations Manual
- Scroll to the bottom and click Appendices Table of Contents. This will give you the two page Table of Contents (TOC). Download it and save it to a location you can find.

- Open the TOC file.
- Scroll down and click on Appendix PP.
- Save the file. This is a 739 page download at the present time.
- Return to the TOC.
- Scroll down and click on Appendix Z. This is a 72 page emergency preparedness download.
- Save the downloads. You probably will need them again. However, return and check the link periodically. The manuals are updated regularly and right now changes are at laser fast speed.

Keep the table of contents and the manuals you just downloaded. You will need them again. However, return and check the link periodically. The manuals are updated regularly. At the present time, changes are occurring at laser fast speed.

Memos to providers and additional information are available from CMS' Policies & Memos website, found at <http://tinyurl.com/qypofyl>. Be assured that many more changes will follow.

Thank you for your commitment to our geriatric residents. Providing preventive skin care and knowing how to manage pressure injuries are essential skills in the care, health, wellness, and quality of life of the residents in your facility.

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10 Most Common Pathogens

The pathogens listed here account for 84% of all nosocomial infections:

1. Coagulase-negative staphylococci (15%)
2. Staphylococcus aureus (15%)
3. Enterococcus species (12%)
4. Candida species (11%)
5. Escherichia coli (10%)
6. Pseudomonas aeruginosa (8%)
7. Klebsiella pneumoniae (6%)
8. Enterobacter species (5%)
9. Acinetobacter baumannii (3%)
10. Klebsiella oxytoca (2%)

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From Sievert DM, Ricks P, et al. (2013). National Healthcare Safety Network (NHSN) Team and Participating NHSN Facilities Antimicrobial-resistant pathogens associated with healthcare-associated infections: summary of data reported to the National Healthcare Safety Network at the Centers for Disease Control and Prevention, 2009-2010. [Multicenter Study] Infect Control Hosp Epidemiol 2013; 34(1):1-14. Accessed July 20, 2013 from <http://www.battlingsuperbugs.com>

2

Adult Immunization Schedule

2016 Recommended Immunizations for Adults: By Age

INFORMATION FOR ADULT PATIENTS

If you are this age, →

talk to your healthcare professional about these vaccines →

If you are this age,	Flu <i>Influenza</i>	Td/Tdap Tetanus, diphtheria, pertussis	Shingles <i>Zoster</i>	Pneumococcal		Meningococcal		MMR Measles, mumps, rubella	HPV <i>Human papillomavirus</i> for women	HPV <i>Human papillomavirus</i> for men	Chickenpox <i>Varicella</i>	Hepatitis A	Hepatitis B	Hib <i>Haemophilus influenzae</i> type b
				PCV13	PPSV23	MenACWY or MPSV4	MenB							
19 - 21 years	Green	Green			Blue	Blue		Green			Green			Blue
22 - 26 years	Green	Green			Blue	Blue		Green			Green			Blue
27 - 49 years	Green	Green			Blue	Blue		Green			Green			Blue
50 - 59 years	Green	Green			Blue	Blue		Green			Green			Blue
60 - 64 years	Green	Green	Green		Blue	Blue		Green			Green			Blue
65+ year	Green	Green	Green	Green	Blue	Blue		Green			Green			Blue

More Information:

- Flu:** You should get flu vaccine every year.
- Td/Tdap:** You should get a Td booster every 10 years. You also need 1 dose of Tdap. Women should get a Tdap vaccine during every pregnancy to protect the baby.
- Shingles:** You should get shingles vaccine even if you have had shingles before.
- PCV13/PPSV23:** You should get 1 dose of PCV13 and at least 1 dose of PPSV23 depending on your age and health condition.
- MenB:** You should get this vaccine if you did not get it when you were a child.
- HPV:** You should get HPV vaccine if you are a woman through age 26 years or a man through age 21 years and did not already complete the series.

Recommended For You: This vaccine is recommended for you **unless** your healthcare professional tells you that you cannot safely receive it or that you do not need it.

May Be Recommended For You: This vaccine is recommended for you if you have certain risk factors due to your health, job, or lifestyle that are not listed here. Talk to your healthcare professional to see if you need this vaccine.

If you are traveling outside the United States, you may need additional vaccines.
Ask your healthcare professional about which vaccines you may need at least 6 weeks before you travel.

For more information, call 1-800-CDC-INFO (1-800-232-4636) or visit www.cdc.gov/vaccines



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS265412

Common Aerobic Microorganisms Seen in Wounds

1. *Acinetobacter calcoaceticus*
2. *Acinetobacter baumannii*
3. *Actinobacillus actinomycetemcomitans*
4. *Bacillus anthracis*
5. *Bacillus cereus*
6. *Bacillus* sp.
7. Beta-hemolytic streptococcus (group C)
8. Beta-hemolytic streptococcus (group G)
9. *Bifidobacterium bifidum*
10. *Bordetella pertussis*
11. *Brucella* sp.
12. *Campylobacter* sp.
13. *Candida krusei*
14. *Candida parapsilosis*
15. *Capnocytophaga* sp.
16. *Cardiobacterium hominis*
17. *Citrobacter freundii*
18. *Citrobacter* sp.
19. Coagulase-negative staphylococci
20. Coliforms
21. *Corynebacterium diphtheriae*
22. *Corynebacterium* sp.
23. *Corynebacterium xerosis*
24. *Eikenella corrodens*
25. *Enterobacter aerogenes*
26. *Enterobacter cloacae*
27. *Enterobacter* sp.
28. Enterobacteriaceae (glucose-fermenting Gram-negative rods)
29. *Enterococcus faecalis*
30. *Enterococcus* sp. (Formerly classified in *Streptococcus* genus. Has been reclassified as *Enterococcus* genus.)
31. *Erysipelothrix rhusiopathiae*
32. *Escherichia coli*
33. *Escherichia hermannii*
34. *Francisella tularensis*
35. *Haemophilus ducreyi*
36. *Haemophilus influenzae*
37. *Helicobacter pylori*
38. *Kingella kingae*
39. *Klebsiella oxytoca*
40. *Klebsiella pneumoniae*
41. *Lactobacillus* sp.
42. *Legionella pneumophila*
43. *Listeria monocytogenes*
44. *Micrococcus* sp.

Appendix 3 | Common Aerobic Microorganisms Seen in Wounds

45. *Moraxella catarrhalis*
46. *Morganella morgani*
47. MRSA
48. *Neisseria gonorrhoeae*
49. *Neisseria meningitidis*
50. *Nocardia* sp.
51. *Pasteurella multocida*
52. *Propionibacterium acnes*
53. *Proteus mirabilis*
54. *Proteus* sp.
55. *Proteus vulgaris*
56. *Providencia stuartii*
57. *Pseudomonas aeruginosa*
58. *Rhodococcus equi* (coccobacillus)
59. *Salmonella enteritidis*
60. *Salmonella typhi*
61. *Serratia liquefaciens*
62. *Serratia marcescens*
63. *Shigella* sp.
64. *Sphingobacterium multivorum*
65. *Staphylococcus aureus*
66. *Staphylococcus epidermidis*
67. *Staphylococcus* sp. (Coagulase-negative)
68. *Stenotrophomonas maltophilia*
69. *Streptococcus agalactiae* (group B)
70. *Streptococcus pneumoniae* (Viridans group)
71. *Streptococcus pyogenes* (group A)
72. *Streptococcus pyogenes*
73. *Streptococcus* spp. (viridans)
74. *Streptococcus* spp. (fecal)
75. *Yersinia pestis*
76. *Yersinia enterocolitica*

Common Anaerobic Microorganisms Seen in Wounds

1. *Actinomyces* sp.
2. *Bacteroides caccae*
3. *Bacteroides capillosus*
4. *Bacteroides fragilis*
5. *Bacteroides ovatus*
6. *Bacteroides* spp.
7. *Bacteroides stercoris*
8. *Bacteroides thetaiotaomicron*
9. *Bacteroides uniformis*
10. *Bacteroides ureolyticus*
11. *Clostridium baratii*
12. *Clostridium bifermentans*
13. *Clostridium botulinum*
14. *Clostridium cadaveris*
15. *Clostridium clostridioforme*
16. *Clostridium difficile*
17. *Clostridium histolyticum*
18. *Clostridium limosum*
19. *Clostridium perfringens*
20. *Clostridium ramosum*
21. *Clostridium septicum*
22. *Clostridium sporogenes*
23. *Clostridium tertium*
24. *Clostridium tetani*
25. *Eubacterium limosum*
26. *Fusobacterium necrophorum*
27. *Fusobacterium* spp.
28. Gram-negative pigmented bacillus
29. *Peptostreptococcus anaerobius*
30. *Peptostreptococcus asaccharolyticus*
31. *Peptostreptococcus indolicus*
32. *Peptostreptococcus magnus*
33. *Peptostreptococcus micros*
34. *Peptostreptococcus prevotii*
35. *Peptostreptococcus* spp.
36. *Porphyromonas asaccharolytica*
37. *Porphyromonas* spp.
38. *Prevotella bivia*
39. *Prevotella buccae*
40. *Prevotella corporis*
41. *Prevotella disiens*
42. *Prevotella intermedia*
43. *Prevotella melaninogenica*
44. *Prevotella oralis*
45. *Prevotella oris*
46. *Prevotella* spp.
47. *Propionibacterium acnes*
48. *Streptococcus intermedius*
49. *Veillonella* spp.

Antimicrobial Resistance Patterns for Healthcare-Associated Infections (HAIs) Reported to the National Healthcare Safety Network (NHSN)

Eight pathogen groups accounted for about 80% of reported pathogens:

1. *Staphylococcus aureus* (16%)
2. *Enterococcus* spp. (14%)
3. *Escherichia coli* (12%)
4. Coagulase-negative staphylococci (11%)
5. *Candida* spp. (9%)
6. *Klebsiella pneumoniae* (and *Klebsiella oxytoca*) 8%
7. *Pseudomonas aeruginosa* (8%), and *Enterobacter* spp. (5%)
8. The percentage of resistance was similar to that reported in the previous 2-year period, with a slight decrease in the percentage of *S. aureus* resistant to oxacillins (MRSA).

Nearly 20% of pathogens reported from all HAIs were the following multidrug-resistant phenotypes:

- MRSA (8.5%)
- Vancomycin-resistant *Enterococcus* (3%)
- Extended-spectrum cephalosporin-resistant:
 - *K. pneumoniae* and *K. oxytoca* (2%)
 - *E. coli* (2%) and *Enterobacter* spp. (2%)
 - Carbapenem-resistant *P. aeruginosa* (2%)
 - *K. pneumoniae/oxytoca* (<1%)
 - *E. coli* (<1%)
 - *Enterobacter* spp. (<1%)

Among facilities reporting HAIs with 1 of the above gram-negative bacteria, 20%–40% reported at least 1 with the resistant phenotype.

Conclusion. While the proportion of resistant isolates did not substantially change from that in the previous 2 years, multidrug-resistant gram-negative phenotypes were reported from a moderate proportion of facilities.

The ESKAPE bacteria are resistant to multiple medications:

- *Enterococcus*, including *E. faecium*
- *Staphylococcus aureus* (*S. aureus*)
- *Klebsiella*, including *K. pneumoniae*
- *Acinetobacter baumannii* (*A. baumannii*)
- *Pseudomonas aeruginosa* (*P. aeruginosa*)
- *Enterobacter* species, including *E. cloacae*

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Essential Oils in Wound Care

The World Health Organization (WHO) notes that most of the world's population uses traditional medicine for primary healthcare. In addition to food items such as sugar and honey, plants and oils are principal sources of natural organic compounds. **Essential oils (volatile oils)** contain many biologically active compounds. These oils are derived from different sections of plant like leaves, flowers, bark, wood, resin, seeds and roots. Each has a distinctive fragrance from the plant from which they are manufactured. After the oil has been extracted, it is reduced (similar to being cooked down) to a concentrated state. The concentrate is used to add a pleasant fragrance to soaps, perfumes, cosmetics, lotions, and a number of other products. Approximately 300 oils are used commercially, but 3000 are known. They are sold individually or can be mixed with other oils.

Some essential oils have antibacterial, antifungal, antiviral, insecticidal, and antioxidant properties. They have many other applications, and are being used in hospitals throughout the U.S. for various purposes. Aromatherapy has become very popular in health care. Since drug resistant pathogens are such a serious threat, there is great potential for use of essential oils in wound care practice. However, we need evidence-based information, and little research has been done. This is probably due to the lack of profitability in CAM products, and the fact that research is expensive. Investors will fund it only if they perceive there is a worthwhile return on the investment.

Some physicians prefer to use **absolute oils** for wound care. Absolute oils are more concentrated than essential oils. The difference lies in the method used for extracting the oil. Lower temperatures are used, causing the fragrance to be more intense. The fragrance more closely resembles the original source, and the oil is more concentrated.

Some essential oils have antibacterial, antifungal, antiviral, insecticidal, and antioxidant properties. They have many other applications, and are being used in hospitals throughout the U.S. Drug resistant pathogens are a serious threat, so there is potential for use of essential oils in the wound care. However, we have a long way to go, and little research has been done. This is probably due to the lack of profitability in CAM products, and the fact that research is expensive. Investors will fund it only if there is a potential return on the investment.

Exploring the essential oils is well beyond the scope of this book, although it's a fascinating subject. However, you may be familiar with Granulex and Xenaderm. Both were used successfully for wound care for years until they were removed from the market in 2009 due to an FDA action. (Other products containing these ingredients were also removed.) Granulex remains in

the veterinary market, and many people purchase it there. The ingredients in these products were balsam of peru, castor oil, and trypsin. Balsam of Peru increases blood flow to the wound and has an antimicrobial action. Castor oil maintains skin integrity to prevent cells from breaking down, and trypsin cleans and debrides the wound.

Castor oil and balsam peru are both essential oils. FDA had no issue with these ingredients. The problem was with the trypsin, which is extracted from the pancreas of pigs. FDA conducted studies using trypsin as a debriding agent in 1972. They determined it was ineffective and rescinded its approval for that purpose. Subsequently, concerns were voiced about the sterility of the raw material due to its source. Fear of disease transmission. The product is widely used in Europe, and the European Medicines Agency has guidelines that could be adopted by the U.S. The point is that you have probably used these two products at one time or other. Both stood the test of time. Draw your own conclusions regarding the efficacy of this combination.

Many others are used throughout the world to promote healing and eliminate infection.

Examples of essential oils with antimicrobial action are:

- Tea Tree (*Maleluca alternafolia*) [Most commonly used. Often combined with Lavender due to fragrance]
- Lavender (*Lavendula angistifolia*)
- Oregano (*Oregano vulgar*)
- Geranium (*Geranium asperum*) [reportedly eliminates MRSA]
- Lemon (*Citrus limon*)
- Cinnamon bark

For additional information on the use of essential oils in wounds, you may wish to explore these websites:

<http://essentialoilsandwounds.com>

<http://www.aromaweb.com/essentialoils>

Gram Stain Quick Reference

Gram Positive Organisms	Gram Negative Organisms
<p>Aerobic, Gram-positive cocci</p> <p><i>Staphylococcus aureus</i></p> <p><i>Staphylococcus epidermidis</i></p> <p><i>Staphylococcus sp. (Coagulase-negative)</i></p> <p><i>Streptococcus pneumoniae (Viridans group)</i></p> <p><i>Streptococcus agalactiae (group B)</i></p> <p><i>Streptococcus pyogenes (group A)</i></p> <p><i>Enterococcus sp.</i></p>	<p>Aerobic, Gram-negative cocci</p> <p><i>Neisseria gonorrhoeae</i></p> <p><i>Neisseria meningitidis</i></p> <p><i>Moraxella catarrhalis</i></p>
<p>Aerobic, Gram-positive rods</p> <p><i>Bacillus anthracis</i></p> <p><i>Bacillus cereus</i></p> <p><i>Bifidobacterium bifidum</i></p> <p><i>Lactobacillus sp.</i></p> <p><i>Listeria monocytogenes</i></p> <p><i>Nocardia sp.</i></p> <p><i>Rhodococcus equi (coccobacillus)</i></p> <p><i>Erysipelothrix rhusiopathiae</i></p> <p><i>Corynebacterium diphtheriae</i></p> <p><i>Propionibacterium acnes</i></p>	<p>Anaerobic, Gram-negative cocci</p> <p><i>Veillonella sp.</i></p>

Gram Positive Organisms	Gram Negative Organisms
<p>Anaerobic, Gram-positive rods</p> <p><i>Actinomyces sp.</i></p> <p><i>Clostridium botulinum</i></p> <p><i>Clostridium difficile</i></p> <p><i>Clostridium perfringens</i></p> <p><i>Clostridium tetani</i></p>	<p>Aerobic, Gram-negative rods</p> <p><i>Fastidious, Gram-negative rods</i></p> <p><i>Actinobacillus actinomycetemcomitans</i></p> <p><i>Acinetobacter baumannii</i></p> <p><i>Bordetella pertussis</i></p> <p><i>Brucella sp.</i></p> <p><i>Campylobacter sp.</i></p> <p><i>Capnocytophaga sp.</i></p> <p><i>Carbapenem-Resistant Enterobacteriaceae (CRE)</i></p> <p><i>Cardiobacterium hominis</i></p> <p><i>Eikenella corrodens</i></p> <p><i>Francisella tularensis</i></p> <p><i>Haemophilus ducreyi</i></p> <p><i>Haemophilus influenzae</i></p> <p><i>Helicobacter pylori</i></p> <p><i>Kingella kingae</i></p> <p><i>Legionella pneumophila</i></p> <p><i>Pasteurella multocida</i></p> <p><i>Pseudomonas aeruginosa</i></p> <p><i>Enterobacteriaceae (glucose-fermenting Gram-negative rods)</i></p> <p><i>Citrobacter sp.</i></p> <p><i>Enterobacter sp.</i></p> <p><i>Escherichia coli</i></p> <p><i>Klebsiella pneumoniae</i></p> <p><i>Proteus sp.</i></p> <p><i>Salmonella enteritidis</i></p> <p><i>Salmonella typhi</i></p> <p><i>Serratia marcescens</i></p> <p><i>Shigella sp.</i></p> <p><i>Yersinia enterocolitica</i></p> <p><i>Yersinia pestis</i></p> <p><i>Oxidase-positive, glucose-fermenting Gram-negative rods</i></p> <p><i>Aeromonas sp.</i></p> <p><i>Plesiomonas shigelloides</i></p> <p><i>Vibrio cholerae</i></p> <p><i>Vibrio parahaemolyticus</i></p> <p><i>Vibrio vulnificus</i></p>

Gram Positive Organisms	Gram Negative Organisms
<p>Anaerobic, Gram-positive cocci</p> <p><i>Peptostreptococcus sp.</i></p>	<p>Glucose-nonfermenting, Gram-negative rods</p> <p><i>Acinetobacter sp.</i></p> <p><i>Flavobacterium sp.</i></p> <p><i>Pseudomonas aeruginosa</i></p> <p><i>Burkholderia cepacia</i></p> <p><i>Burkholderia pseudomallei</i></p> <p><i>Xanthomonas maltophilia</i> or <i>Stenotrophomonas maltophilia</i></p>
	<p>Anaerobic, Gram-negative rods</p> <p><i>Bacteroides fragilis</i></p> <p><i>Bacteroides sp.</i></p> <p><i>Prevotella sp.</i></p> <p><i>Fusobacterium sp.</i></p>
	<p>Gram-negative spiral</p> <p><i>Spirillum minus</i> (minor)-</p>

Bacteria which cannot or are difficult to Gram stain

Borrelia burgdorferi

Borrelia recurrentis

Bartonella henselae

Chlamydia trachomatis

Calymmatobacterium granulomatis (Gram negative rod)

Coxiella burnetii

Ehrlichia sp.

Legionella sp.

Leptospira sp.

Mycobacterium bovis

Mycobacterium tuberculosis

Mycobacterium avium

Mycobacterium intracellulare

Mycobacterium leprae

Rickettsia rickettsii

Treponema pallidum

Overview of Wound Management

Bacterial Burden	Treatment Strategy
Contamination	<ul style="list-style-type: none"> • Cleanse wound and surrounding skin according to protocol with tap water, sterile water, super oxidized water, or normal saline • Some facilities wash with baby shampoo and water • Irrigate wound if necessary • Dressing appropriate to wound
Colonization	<ul style="list-style-type: none"> • Cleanse wound and surrounding skin according to protocol with tap water, sterile water, super oxidized water, or normal saline OR • Consider using cleansing solutions with surfactants • Irrigate wound if necessary • Remove debris, including particulate matter, necrotic tissue, etc. • Size and shape dressing appropriate to wound • Antimicrobials are probably not necessary, because the microbes are not causing clinical problems. If signs & symptoms develop, promptly reevaluate and consider a product such as nanocrystalline silver
Critical Colonization	<ul style="list-style-type: none"> • Cleanse wound with surfactant • Irrigate wound if necessary • Debride regularly to eliminate biofilm • Antimicrobial dressing - consider silver or cadexomer iodine • Consider a slow release/long acting product • Dressing appropriate to wound • Consider a systemic antibiotic
Infection	<ul style="list-style-type: none"> • Cleanse wound with surfactant • Irrigate wound if necessary • Debride regularly to eliminate biofilm • Continue antimicrobial dressings • Consider a slow release product • Consider 2 products or alternate treatments to reduce drug resistance • Dressing appropriate to wound • Systemic antibiotic

Pressure Injury Infection

1. Pressure injury infection, including both superficial and deep infections
2. Pressure injury infections must meet the following criterion:
3. Patient has at least 2 of the following signs or symptoms with no other recognized cause: redness, tenderness, or swelling of wound edges
and at least 1 of the following:
 - a. Organisms cultured from properly collected fluid or tissue (see Comments)
 - b. Organisms cultured from blood.

Comments:

- Purulent drainage alone is not sufficient evidence of an infection.
- Organisms cultured from the surface of a pressure injury are not sufficient evidence that the injury is infected. A properly collected specimen from a pressure injury involves needle aspiration of fluid or biopsy of tissue from the injury margin.

SKIN—Skin infection

Skin infections must meet at least 1 of the following criteria:

1. Patient has purulent drainage, pustules, vesicles, or boils.
2. Patient has at least 2 of the following signs or symptoms with no other recognized cause: pain or tenderness, localized swelling, redness, or heat
and at least 1 of the following:
 - a. Organisms cultured from aspirate or drainage from affected site; if organisms are normal skin flora (i.e., diphtheroids [*Corynebacterium* spp], *Bacillus* [not *B anthracis*] spp, *Propionibacterium* spp, coagulase-negative staphylococci [including *S epidermidis*], viridans group streptococci, *Aerococcus* spp, *Micrococcus* spp), they must be a pure culture

- b. Organisms cultured from blood
- c. Positive laboratory test performed on infected tissue or blood (e.g., antigen tests for herpes simplex, varicella zoster, *H influenzae*, or *N meningitidis*)
- d. Multinucleated giant cells seen on microscopic examination of affected tissue
- e. Diagnostic single antibody titer (IgM) or 4-fold increase in paired sera (IgG) for pathogen.

BONE-Osteomyelitis

Osteomyelitis must meet at least 1 of the following criteria:

1. Patient has organisms cultured from bone.
2. Patient has evidence of osteomyelitis on direct examination of the bone during an invasive procedure or histopathologic examination.
3. Patient has at least 2 of the following signs or symptoms: fever (>38°C), localized swelling*, tenderness*, heat*, or drainage at suspected site of bone infection*

and at least 1 of the following:

- a. Organisms cultured from blood
- b. Positive laboratory test on blood (e.g., antigen tests for *H influenzae* or *S pneumoniae*)
- c. Imaging test evidence of infection (e.g., abnormal findings on x-ray, CT scan, MRI, radiolabel scan [gallium, technetium, etc.]).

* With no other recognized cause

Tissue Tolerance Procedure

Supplies

This procedure does not require supplies.

Procedure

1. Identify resident.
2. Verify orders.
3. Explain procedure to resident.
4. Perform hand hygiene according to facility policy/protocol.
5. Don personal protective equipment as appropriate for procedure.
6. Inspect the resident's skin for red or open areas. Note your findings.
7. Position the resident in chair or bed (note position on side or back) for 1 hour.
8. After an hour has elapsed, reposition the resident off the area. Note and document red areas.
9. If a red area is present, ensure it remains pressure free. Return and recheck the area in 30 to 45 minutes.
10. If the redness persists after 30 to 45 minutes, *stop the test*. The area is a Stage 1 pressure injury. Notify the health care provider and obtain a treatment order. The resident requires repositioning at an interval *shorter than one hour!* Review and revise areas of the care plan related to skin care. Adjust the current approaches and add new approaches if necessary. If the care plan does not address skin risk, add this important information. Specify the frequency of skin assessment.

If there is no persistent redness, continue the test:

11. Position the resident in chair or bed (same location as used above) for a 1½ hour interval.
12. After an hour and a half has elapsed, reposition the resident to relieve pressure from the area. Note and document red areas.
13. If a red area is present, ensure it remains pressure free. Return and recheck the area in 30 to 45 minutes.
14. If the redness persists after 30 to 45 minutes, stop the test. The area is a Stage 1 pressure injury. Notify the health care provider and obtain a treatment order. The resident requires repositioning at an interval of no more than 1 hour! Review and revise areas of the care plan related to skin care. Adjust the current approaches and add new approaches if necessary. If the care plan does not address skin risk, add this important information. Specify the frequency of skin assessment.

If there is no persistent redness, continue the test:

15. Position the resident in chair or bed (same location as used above) for a 2-hour interval.
16. After 2 hours has elapsed, reposition the resident off the area exposed to pressure. Note and document red areas.
17. If a red area is present, ensure it remains pressure free. Return and recheck the area in 30 to 45 minutes.
18. If the redness persists after 30 to 45 minutes, stop the test. The area is a Stage 1 pressure injury. Notify the health care provider and obtain a treatment order. The resident requires repositioning at an interval of no more than 1½ hours! Review and revise areas of the care plan related to skin care. Adjust the current approaches and add new approaches if necessary. If the care plan does not address skin risk, add this important information. Specify the frequency of skin assessment.
19. If there is no persistent redness, the resident requires repositioning at an interval of every 2 hours.
20. Document the results of the test.

After completing the test:

21. Develop an individualized turning and repositioning schedule.
22. List individual approaches and the specific turn times on the care plan. List specific positions to avoid, if any.
23. Continue monitoring of tissue tolerance and skin integrity.
24. Perform hand hygiene according to facility policy/protocol.
25. Document procedure per facility policy/protocol.
26. Take appropriate actions for abnormal findings or observations.
27. Review and revise areas of the care plan related to skin care. Adjust the current approaches and add new approaches if necessary. If the care plan does not address skin risk, add this important information. Specify the frequency of skin assessment.

Downloads

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Pressure Injuries in Long-Term Care

A Toolkit for Clinical Staff

Barbara Acello, MS, RN

Pressure injuries and documentation are often among the most frequently cited survey deficiencies, and wound care is the subject of continuous research. Most recently, in April 2016, the National Pressure Ulcer Advisory Panel (NPUAP) approved revisions to its Pressure Injury Staging System.

Pressure Injuries in Long-Term Care: A Toolkit for Clinical Staff is full of evidence-based strategies and downloadable assessment tools and in-services to educate your staff about preventing, treating, and assessing pressure injuries. Long-term care is shifting its focus from volume to value, with an emphasis on star ratings that result in increased (or decreased) reimbursement. This resource will help staff overcome documentation problems and better assess wounds and infections, saving time in clinical practice and staff training while avoiding errors that could lead to noncompliance.

This book will help you:

- Provide evidence-based training and education to staff
- Understand the most up-to-date NPUAP pressure injury stages and staging instructions
- Establish or update your facility's guidelines through sample policies and procedures
- Increase quality care and reimbursement
- Avoid survey deficiencies at F-tag 314

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