

DSHS-School Nurse Notes | March 2021

Wound Care

To address the needs of school nurses, the Texas Department of State Health Services (DSHS)–School Health Program has developed this repository of information. With each issue of *DSHS-School Nurse Notes* (DSHS-SNN), professionals receive the latest research, evidence-based practices, and resources in school nursing related to a topic of interest. The School Health Program wishes to thank the Texas Board of Nursing for their collaboration on this publication, in particular Linda Laws, MSN, RN for her contributions. If you have any questions or comments about this issue of DSHS-SNN, please contact the DSHS School Health Program at schoolhealth@dshs.texas.gov.

Background

The school nurse encounters many types of acute wounds in the school setting. For most healthy children and adolescents, wound healing is quick, uncomplicated, and requires minimal specialized attention. Providing rapid wound irrigation and management are key essential parts of wound care to help reduce possible infections.¹

A series of physiological events begins once skin has been broken.² The complex, dynamic process of wound healing unfolds in its four basic phases, discussed below.² Almost every type of wound should be properly irrigated for good wound healing. The goal during wound irrigation is to remove foreign material, decrease bacterial contamination of the wound, and to remove cellular debris or exudate from the surface of the wound.¹

Techniques involved in wound care include the ability to be both vigorous enough to remove the debris, yet gentle enough not to cause harm to surrounding tissue.¹

The Skin Healing Process²:

Coagulation & Hemostasis: The body attempts to control bleeding and prevent any bacteria from entering the wound.

Inflammation: Anti-bacterial and anti-inflammatory receptors are released; a clot forms and the process of phagocytosis begins.

Proliferation & Repair: This marks the beginning of dermis restoration and occurs within five days of injury. New blood vessels form, the wound contracts, granular tissue develops, and re-epithelialization begins.

Wound Maturation & Remodeling: Collagen fibers work to repair the scar tissue; however, it will never achieve its original tensile strength. This final phase may continue for years.

To aid the school nurse, DSHS has provided a brief overview of the skin healing process and additional resources on a continuum, ranging from those that primarily address wound care procedures to those that focus on wound healing products. Remember to follow proper guidelines in notifying the parents and other appropriate persons in response to large abrasions, lacerations, or any wounds needing additional medical attention.

Nursing Standards and License Considerations

Texas Board of Nursing (BON)

Both the Nursing Practice Act or NPA (Texas Occupations Code, Chapter 301 et. seq.) and [Board Rules and Regulations](#) are written broadly so all nurses can apply them in various practice settings across the State. Because each nurse has a different background, knowledge, and level of competence, the Board does not have an all-purpose [list of tasks that every nurse can or cannot perform](#), and it is up to each *individual* nurse to use sound judgment when deciding whether or not to perform any particular procedure or act. The mission of the BON is to protect and promote the welfare of the people of Texas by ensuring that each person holding a license as a nurse in the State of Texas is competent to practice safely. One way the Board fulfills its mission is through the regulation of the practice of nursing.

The NPA describes a defined limit to nursing practice, as nursing practice “does not include acts of medical diagnosis or the prescription of therapeutic or corrective measures” [[NPA 301.002\(2\)&\(5\)](#)]. The practice of nursing requires the acts/procedures being performed to be within the scope of that particular nurse’s practice and that appropriate orders be in place for acts that go beyond the practice of nursing. The BON website contains information to guide nurses in determining what is within his/her scope of practice. The scope of practice for an RN can be located on the BON homepage, by finding the **Practice** heading, then clicking on [Scope – Registered Nurse Practice. Position Statement 15.28](#) (*The Registered Nurse*

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Scope of Practice), provides nurses and employers with direction and recommendations regarding safe and legal RN practice and discusses the RN scope of practice inclusive of the various steps of the nursing process (assessment, planning, implementation and evaluation). The scope of practice for an LVN can be located on the BON homepage by finding the Practice heading, then clicking on [Scope – Vocational Nurse Practice. Position Statement 15.27](#) (*The Licensed Vocational Nurse Scope of Practice*), provides both nurses and employers with information regarding the directed scope of practice of the LVN.

[Board Rule 217.11 \(1\)\(A\)](#), *Standards of Nursing Practice*, requires all nurses to “know and conform to the Texas Nursing Practice Act and the board’s rules and regulations as well as all federal, state, or local laws, rules or regulations affecting the nurse’s current area of nursing practice.” For example, there may be additional applicable regulations related to the setting. For example, the [Texas Department of State Health Services](#) and [Texas Health and Human Services](#) may have additional requirements for school setting. The school or school district may opt to have policies in place that preclude RNs from providing wound care, staging wounds, performing conservative sharp debridement, etc. The Board of Nursing does not have purview over facility operations or the policies and procedures implemented by facilities.

Additional subsections of this rule that should be considered are:

- (1)(B)- Implement measures to promote a safe environment for clients and others;
- (1)(C)- Know the rationale for and the effects of medications and treatments and correctly administer the same;
- (1)(D)- accurately and completely report and document the client’s status, including signs and symptoms; nursing care rendered; physician, dentist or podiatrist orders; administration of medications and treatments; client response(s); and contacts with other health care team members concerning significant events regarding client’s status;
- (1)(G)- obtain instruction and supervision as necessary when implementing nursing procedures or practices;
- (1)(H)- make a reasonable effort to obtain orientation/training for competency when encountering new equipment and technology or unfamiliar care situations;
- (1)(M)- institute appropriate nursing interventions that might be required to stabilize a client’s condition and/or prevent complications;

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- (1)(P)- Collaborate with the client, members of the health care team, and when appropriate, the client's significant other(s) in the interest of the client's health care;
- (1)(R)- be responsible for one's own continuing competence in nursing practice and individual professional growth; and
- (1)(T)- accept only those nursing assignments that take into consideration client safety and that are commensurate with the nurse's educational preparation, experience, knowledge, and physical and emotional ability.

Additionally, Board staff recommend reading Position Statement 15.14 ([*Duty of a Nurse in any Practice Setting*](#)) because it uses a landmark court case to demonstrate how every nurse has a duty to promote patient safety, and this duty to a patient supersedes any physician order or facility policy. You may also want to review [Position Statement 15.11, *Delegated Medical Acts*](#), and [Position Statement 15.5, *Nurses with Responsibility for Initiating Physician Standing Orders*](#).

The Board's [Scope of Practice Decision-Making Model](#) (DMM) is a step-by-step tool all nurses practicing in Texas can use to determine if any given task/procedure is within their individual scope of practice. The DMM is designed to be used in sequence, beginning at the top with question number one. In the model, nurses are asked reflective questions, and depending on how they answer, they are directed to continue through the model or stop. As nurses progress through the model, they can also reference professional nursing organizations or specialty associations to assist in determining the standard of care in the setting described and/or the nurse's individual scope of practice. At any point, if a nurse reaches a Stop Sign, he/she should consider the activity or intervention in question beyond (or outside) his/her scope of practice.

In your progression through the model, you can also reference professional nursing organizations or specialty associations to assist nurse's in determining the standard of care in the specialty area of practice. Examples of these resources include: 1) The [Wound Ostomy and Continence Nurses Society](#); 2) The [WOCN Society Position Statement: Role and Scope of Practice for Wound Care Providers](#); and The [National Alliance of Wound Care and Ostomy Scope of Practice](#) page.

The most recent version of the NPA and Board Rules may be found at www.bon.texas.gov

Board of Nursing References

1. [Nursing Practice Act](#), Nursing Peer Review & Nurse Licensure Compact: Occupations Code and Statutes Regulating the Practice of Nursing. As Amended September 2019.
2. [Rules & Regulations](#) relating to Nurse Education, Licensure and Practice. Published October 2019.
3. [Scope of Practice Decision Making Model](#)
4. [Position Statements:](#)
 - *15.14 Duty of a Nurse in any Practice Setting*
 - *15.11 Delegated Medical Acts*
 - *15.5 Nurses with Responsibility for Initiating Physician Standing Orders*

National Association of School Nurses (NASN)

- [Code of Ethics](#)

Texas School Nurses Organization (TSNO)

- School Nursing: [Scope and Standards of Practice](#)

Research

The following articles have been compiled from a review of the scientific literature. For assistance in obtaining an article, please contact the DSHS Library at library@DSHS.texas.gov and mention inclusion of the requested article in the *DSHS-School Nurse Notes*.

1. Sibbald RG, Elliott JA. **The role of Inadine in wound care: a consensus document.** *Int Wound J.* 2017; 14:316-321. Accessed March 5, 2021.

Iodine-based products are anti-bacterial. The small iodine molecular size is ideally suited to treat surface critical colonization. Inadine is a 10 percent povidone iodine dressing with the equivalent of 1 percent available iodine that is easily extracted from the viscose backing by serum or exudate. In this study, we developed a short online survey completed by 23 wound-care key opinion leaders from the nursing, medical and podiatry professions. A computerized modified Delphi technique was used to achieve 80 percent consensus on 11 statements related to the utility and everyday topical wound-care use of this product.

2. Zhu G, Wang Q, Lu S, Niu Y. **Hydrogen Peroxide: A Potential Wound Therapeutic Target?** *Medical Principles and Practice*. 2017; 26:301-308. DOI:10.1159/000475501. Accessed March 5, 2021.

Hydrogen peroxide (H₂O₂) is a topical antiseptic used in wound cleaning which kills pathogens through oxidation burst and local oxygen production. Contrary to the traditional viewpoint that H₂O₂ probably impairs tissue through its high oxidative property, a proper level of H₂O₂ is considered an important requirement for normal wound healing.

3. Dorantes LC, Canedo-Ayala M. **Skin Acute Wound Healing: A Comprehensive Review.** *International Journal of Inflammation*. 2019; 10:1-15. DOI:10.1155/2019/3706315 Accessed March 5, 2021.

The skin provides a life-protective barrier between the body and the external environment against physical damage, pathogens, fluid loss, and has immune-neuroendocrine functions that contribute to the maintenance of body homeostasis. This article discusses skin integrity and its processes in order to maintain its functions, and the general steps of the wound healing process and its three phases.

4. Erdman M, Chardavoyne P, Olympia R. **School Nurses on the Front Lines of Medicine: The Approach to a Student with Severe Traumatic Bleeding.** *NASN School Nurse*. 2019; Sept. 280-286. DOI:10.1177/1942602X19837525. Accessed March 5, 2021.

This article provided by NASN provides insight into school nurses on the front line of care. It is essential that healthcare providers, including nurses who are the first responders in schools, are aware of methods to assess and control massive bleeding. This article summarizes the most up-to-date recommendations for the management of children with traumatic bleeding.

5. Wilkinson H, Hardman M. **Wound Healing: cellular mechanisms and pathological outcomes.** *Open Biology*. 2020; 10:1-14 DOI:10.1098/rsob.200223 Accessed March 5, 2021.

Wound healing is a complex, dynamic process supported by a myriad of cellular events that must be tightly coordinated to efficiently repair damaged tissue. There is an urgent requirement for the improved biological and clinical understanding of the mechanisms that underpin wound repair. This article reviews the cellular basis of tissue repair and

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discuss how current and emerging understanding of wound pathology could inform future development of efficacious wound therapies.

Resources

Trainings

- American Red Cross (Take a Class):
 - [Participant Materials](#)
 - [American Red Cross Training Services](#)
- [National Safety Council Training Services](#)

Wound Care Resources

- The American Academy of Dermatology
 - [Proper Wound Care: How to Minimize a Scar](#)
 - [Burns, Cuts, and Other Minor Wounds](#)
 - [Injured Skin](#)
- [Wound Care 101: Nursing2021](#)
- [American Academy of Pediatrics](#)
 - [Cuts, Scrapes, Bruises](#)
 - [Burns](#)

Training Education Information for Public

- Kids Health-[Dealing with Cuts](#)
- Mayo Clinic: [Cuts & Scrapes-First Aid](#)
- First Aid Care: [Minor Cuts, Scrapes and Abrasions](#)

Continuing Education Related to Wounds and Wound Care

- [Common Pediatric Problems in Ambulatory Care](#) (Fee Required)
- [Children in Pain](#) (Fee Required)
- [Necrotizing Fasciitis: What's the Culprit?](#) (Fee Required)
- [Infection Control](#) (Fee Required)
- [Keep It Clean: Hand Hygiene and Skin Antisepsis](#)
- [Wound Care Online Continuing Education Course](#) (Fee Required)

References

1. Lewis K, Pay J. Wound Irrigation: Continuing Education Activity. *StatPearls*. 2021 Jan; <https://www.ncbi.nlm.nih.gov/books/NBK538522/> Accessed on Mar 2, 2021. Update: August 16, 2020.
2. Chau Elizabeth. Managing minor wounds. *NASN Sch Nurse*. 2012;27(5):238-239.

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For assistance in obtaining any resources, please contact the DSHS Library at library@DSHS.texas.gov and mention inclusion of the requested resource in the *DSHS-School Nurse Notes*.

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