Teaching Nurses How to Infiltrate Lacerations in the Emergency Department

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Contribution to Emergency Nursing Practice

- The current state of scientific knowledge on infiltration of lacerations by registered nurses in emergency departments is unknown because no published studies of the practice exist in relevant research databases.
- The main findings of this case observation are that the practice of RN infiltration of lacerations with local anesthesia is feasible, safe, and effective.
- Key implications for emergency nursing practice include RN infiltration of lacerations in the ED allows nurses to be more involved in wound management, promotes top-of-license practice, and promotes more efficient patient throughput.

Overview

More than 8 million lacerations are repaired annually in the United States.[1,2] Most commonly, emergency department physicians (EDPs) or advanced practice clinicians in the emergency department infiltrate, cleanse, and, suture lacerations.[1] At our facility, wound management is approached differently. The ED nurse infiltrates the wound, the ED technician cleanses the wound, and the EDP repairs the wound.

As described in *American Academy of Emergency Physicians Now*, our EDPs work through zones, seeing the most critical patients at the beginning of their shifts and the least critical at the end of their shifts, at which time the EDP becomes the "Procedure Doc."[3] The Procedure Doc is the physician nearing the end of his or her shift, involved with fewer patients, and has fewer interruptions. The EDP delegates his or her procedures, including lacerations, to the Procedure Doc. For laceration repair, the Procedure Doc repairs all lacerations that have been previously infiltrated by the ED nurse and cleansed by the ED technician. The practice contributes to promoting patient throughput by reducing wait time for physician repair and reducing the patient's length of stay. It also encourages RNs and other ED clinicians to operate at the top of their licenses by performing the highest skilled work they can do and delegating less skilled work to supportive personnel.

Goal of This Paper

This paper describes the case of a novel RN practice—infiltration of lacerations with local anesthesia—in a busy north Texas emergency department. Teaching nurses to infiltrate wounds provides a rapid route to pain relief and wound cleansing. Nurse-delivered infiltration of lacerations prevents long wait times for the primary EDP to complete the entire laceration repair process.

Setting

Our facility is a 100-bed emergency department in an urban tertiary-care center with a mainly adult patient population. The ED serves more than 100,000 patients annually. The practice of laceration infiltration by nurses has been in place at this site for more than 20 years. When the practice was first introduced, a single minor nerve injury occurred, but the nurses received education, and we have had no other adverse outcomes since. According to the Associate Medical Director of the emergency department and the President of the Emergency Physicians Group (who serves the site), no adverse outcomes have been associated with nurse infiltration of lacerations in the last 10 years. Monitoring is performed by the Associate Medical Director, who reviews all charts stemming from either a patient complaint or in which the

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patient's disposition or outcome was changed by a procedure. We have had no cases present to peer review, no identified patient complaints, and no referrals from specialists related to nurse infiltration of lacerations in the past decade. We continue to monitor for any unexpected outcomes.

The notion of ED nurses infiltrating wounds to promote patient throughput was first promoted by forward-thinking EDPs and nursing management at our site in the 1990s. The practice was supported by in-house patient flow studies. At that time, the patient's length of stay in the emergency department was decreased by using this 4-step process, which has not changed over the 20-year period: (1) the EDP performs an initial visit, which includes a wound assessment and places an order for wound infiltration and cleansing; (2) wound infiltration is delivered by the ED nurse; (3) wound cleansing is conducted by the ED technician; and (4) wound closure is completed by the ED procedure physician. This practice promotes a cohesive form of team-based patient-care delivery and prevents multiple returns by the EDP to the bedside to complete the laceration repair.

Literature Review

ED nurses do not commonly infiltrate wounds. Medline and Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases were searched using the terms *laceration, lidocaine, bupivacaine, local anesthesia, nurse,* and *infiltration*. No articles were found describing ED nurses performing wound infiltrations.

Teaching Nurses

In the state of Texas, there is no law or regulation prohibiting wound infiltration by nurses, but practitioners from other states should refer to their state's Nurse Practice Act before implementing a similar program. The main issue to address before introducing the practice of nurse infiltration of lacerations is ensuring competency. The nurse must have the training and skill to perform the procedure.

The Texas Board of Nursing's scope of practice 6-Step Decision-Making Model was used before introducing nurse-delivered infiltration at our facility more than 20 years ago.[4] The model is designed to assist nurses to make professional judgments regarding tasks or procedures to assure that clients remain safe. The 6 questions asked in the model included the following: (1) Is the act consistent with the state's Nurse Practice act? (2) Is the activity authorized by a valid order and in accordance with policies and procedures? (3) Is the act supported by nursing or allied health literatures/research? (4) Does the nurse possess the clinical competence to perform the task safely? (5) Is the performance of the act an accepted standard of care for patients in similar situations? (6) Are you prepared to accept the consequences of your actions? If any question is answered with a "no," the action should be halted until further investigation can occur. Although the answer to question 5 was "no," further investigation and discussion among physician and nurse leaders resulted in a consensus opinion that the practice was appropriate and safe.

At the project facility, the Donna Wright Model of Competency is used as a guideline for evaluating nurse competence. According to the Wright Model, competency assessment reflects the dynamic nature of the job; therefore, the most recent expectations for required skills are assessed.[5] Because our ED nurses infiltrate wounds frequently, the skill is a daily practice and does not meet the requirement for ongoing competency assessment. According to the Wright Model, only high-risk, problematic, new, or changing skills would require annual competency assessment.[5] Once acquired, the skillset is treated analogously to nurse insertion of an intravenous catheter or performing vital signs. Onboarding nurses receive education regarding infiltration of wounds by preceptors in their clinical orientation. The skill checklist used is the "Skills: Medication Administration: Local Infiltration and Topical Agents for Wound Anesthesia," a commercial product available from Elsevier Performance Manager (https://www.elsevier.com/solutions/performance-manager). In our experience, once nurses have acquired the skill, minimal education is required to maintain the skill. Also, if a nurse has a concern or question regarding the infiltration of a wound, the EDP is always available for consultation. Content of nurse education regarding infiltrating lacerations is described below.

Educational Content

WOUND MANAGEMENT GOALS

The primary goals of wound management are to relieve pain, prevent infection, increase hemostasis, minimize formation of scars, and repair the wound in a timely manner to promote patient throughput and satisfaction. Anesthetization of the wound accomplishes several goals while avoiding further pain-related trauma: (1) exploration and cleansing of the wound; (2) tissue debridement; and (3) skin closure, restoring skin perfusion at the site.[6,7]