


FILED DATE - APR 25 2014
Department of Health

STATE OF FLORIDA
BOARD OF NURSING

By: 
Deputy Agency Clerk

IN RE: THE PETITION
FOR DECLARATORY
STATEMENT OF
EARL FOWLER, RN

FINAL ORDER

THIS CAUSE came before the Board of Nursing (hereinafter Board) pursuant to §120.565, Florida Statutes, and Rule 28-105, Florida Administrative Code, at a duly-noticed meeting in Ponte Vedra, Florida on April 3, 2014, for the purpose of considering the Petition for Declaratory Statement (attached as Exhibit A) filed on behalf of EARL FOWLER, RN (hereinafter Petitioner). Having considered the petition, the arguments submitted by counsel for Petitioner, and being otherwise fully advised in the premises, the Board makes the following findings and conclusions.

FINDINGS OF FACT

1. This petition was noticed by the Board in Vol. 40, No. 9, dated January 14, 2014 of the Florida Administrative Weekly.
2. Petitioner, EARL FOWLER, RN, is a nurse licensed to practice in the State of Florida, having license number RN 9342898.
3. Petitioner is employed by Nemours Children's Hospital
4. While practicing at a children's hospital in the midwest, Petitioner became experienced with the hospital's Advanced Wound Care Program, which allows paramedics and registered nurses to offer wound care, including suturing.
5. Petitioner completed the hospital's Advanced Wound Care Training Program (hereinafter "the Program") in 1993.

6. The program included full-time training with a preceptor for 40 hours per week for nearly a year, including independent training for two weeks with physicians, emergency department nurses and surgeons.

7. Petitioner is experienced in wound care, including suturing, having worked as a wound care nurse for 11 years and provided direct wound care to approximately 9,000 patients.

8. In 2006, Petitioner was promoted to clinical coordinator for the Program, revising and refining the Program and expanding its use to three additional locations.

9. Petitioner trained 25 wound care associates, and continued to provide direct clinical care.

10. Studies since the 1970's suggest that suturing may be considered part of the practice of nursing, if adequate training is present.

11. In 1994, two journals published studies of the efficacy of nurse suturing in the pediatric emergency department at St. Paul's Children's Hospital in Minnesota.

12. The study concluded that nurses who complete standardized training in wound repair are capable of providing high-quality, definitive care for children with dermal lacerations, thus allowing physicians to use their time more effectively.

13. Peer reviewed literature supports the benefits of employing well-trained nurses to suture simple lacerations in the emergency room setting.

14. Petitioner seeks a determination of whether it is within the scope of his license, education and training to:

(a) perform simple and moderately complex laceration repair through the use of sutures, skin glue or steri strips;

- (b) remove foreign bodies;
- (c) administer local anesthesia, field and and digital block anesthesia;
- (d) offer wound care and sutures for all areas of body;
- (e) provide care to pediatric patients ages newborn to 18 years; and
- (f) serve as a preceptor to paramedics through an advanced wound care program.

CONCLUSIONS OF LAW

1. The Board has jurisdiction over this matter pursuant to Section 120.565, Florida Statutes, and Rule 28-105, Florida Administrative Code.
2. The petition filed in this cause is in substantial compliance with the provisions of Section 120.565, Florida Statutes, and Rule 28-105, Florida Administrative Code.
3. The practice of professional nursing includes the administration of medications and treatments as prescribed or authorized by a duly licensed practitioner and the supervision and teaching of other personnel in the theory and performance of any of the acts constituting the practice of professional nursing.

WHEREFORE, the Board hereby finds that under the specific facts of the petition, as set forth above, it is within the scope of Petitioner's license, education and training to:

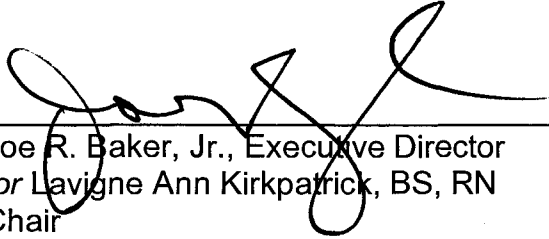
- (a) perform simple and moderately complex laceration repair through the use of sutures, skin glue or steri strips;
- (b) remove foreign bodies;
- (c) administer local anesthesia, field and and digital block anesthesia;
- (d) offer wound care and sutures for all areas of body;

(e) provide care to pediatric patients ages newborn to 18 years; and

(f) serve as a preceptor to paramedics through an advanced wound care program.

DONE AND ORDERED this 23rd day of April, 2014.

BOARD OF NURSING



Joe R. Baker, Jr., Executive Director
for Lavigne Ann Kirkpatrick, BS, RN
Chair

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Final Order has been furnished by U.S. Mail to Seann M. Frazier, Esquire, 215 S. Monroe Street, Suite 750, Tallahassee FL 32301, and by interoffice mail to Donna Oxford, Paralegal Specialist, Department of Legal Affairs, PL-01 The Capitol, Tallahassee FL 32399-1050 this 25 day of April, 2014.



Deputy Agency Clerk

1701-444878

FILED

DEPARTMENT OF HEALTH
DEPUTY CLERK

STATE OF FLORIDA
BOARD OF NURSING

CLERK: *Angel Saucedo*

DATE: MAR 24 2014

**IN RE: AMENDED PETITION FOR DECLARATORY STATEMENT
 BEFORE THE FLORIDA BOARD OF NURSING:
 EARL FOWLER, R.N.**

This is an Amended Petition for a Declaratory Statement filed pursuant to Section 120.565, Florida Statutes and Rule 28-105.002, Florida Administrative Code.

This Petition seeks the Board of Nursing's determination of whether a single registered nurse may suture patients while serving as a preceptor for a paramedic-based emergency department suture team in a pediatric hospital. The proposed paramedic-based emergency department suture program would be modeled after a long-standing, nationally recognized program for pediatric patients. In particular, this petition seeks guidance as to whether the scope of practice for one particular nurse with unique training and experience in emergency room pediatric suturing will allow that nurse, Earl Fowler, R.N., to suture patients while serving as a preceptor of paramedics. Both the suturing performed by Mr. Fowler while offering instruction, and the suturing performed by paramedics would only be conducted under the supervision of a physician. This request is unique to the Petitioner's particular set of circumstances, as described below.

The Petitioner

The Petitioner in this proceeding is Earl Fowler, R.N. Mr. Fowler is a registered nurse, licensed in the State of Florida. Mr. Fowler's License Number is RN 9342898.

The Petitioner's address and phone numbers of record are:

Earl Fowler, R.N.
4282 Meeting Place
Sanford, FL 32778

However, Mr. Fowler may be contacted at Nemours Children's Hospital, where he works full time as a registered nurse. Mr. Fowler is the hospital's Emergency Department Nurse Manager.

Nemours Children's Hospital
13535 Nemours Parkway
Orlando, Florida 32827
Telephone (407) 567-4000
Facsimile (407) 650-7745
Email: Carrie.Bissett@nemours.org

For purposes of this proceeding, Petitioner may also be contacted through his counsel:

Seann M. Frazier
Parker, Hudson, Rainer & Dobbs, LLP
215 South Monroe Street, Suite 750
Tallahassee, Florida 32301
T (850) 681-0191
F (850) 681-9493
sfrazier@phrd.com

Petitioner's Experience with a Children's Hospital Wound Care Program

The Petitioner is a registered nurse employed by Nemours Children's Hospital, 13535 Nemours Parkway, Orlando, Florida 32827.

The Petitioner possesses unique experience to train paramedics to care for lacerations in the emergency department while under the direct supervision and orders of an emergency department physician.

The Petitioner has served as a registered nurse for over twenty (20) years, including practice at a freestanding children's hospital in the Midwest. During the Petitioner's tenure at that Ohio hospital, he became experienced with the Hospital's Advanced Wound Care Program. That Advanced Wound Care Program has been offered since 1972, and is currently used to allow paramedics and registered nurses to offer wound care, including suturing, to approximately 3,500 patients per year.

The Petitioner completed that Hospital's Advanced Wound Care Training Program in 1993. The training program was rigorous. Mr. Fowler's training included full-time training with a preceptor for 40 hours per week for nearly an entire year. During the first two months of this one-year training program, approximately two-thirds of Mr. Fowler's time was spent in classroom training, with the remaining one third of his time spent in clinical training. The program included hands-on practice of suturing skills using either cadavers at an adjacent medical school or through the use of porcine (pig) cadavers.

Following the first two months of training, Mr. Fowler's training in the Advanced Wound Care included daily clinical experience with at least 8 hours of one-on-one training with a preceptor. The final three months of Mr. Fowler's training consisted of independent training program which included two-week full time course of instruction, with physicians, emergency

department nurses and surgeons, all offering instruction. All of this training was accomplished under the direct supervision of an experienced wound care specialist and the medical oversight of attending emergency department physicians.

After completing his training in 1993, Petitioner worked as a wound care nurse for eleven years, providing direct wound care to approximately 9,000 pediatric patients. Mr. Fowler is very experienced in wound care, including suturing. Mr. Fowler is also very experienced in training other health professionals, such as paramedics, to offer wound care.

In 2006, Mr. Fowler was promoted to the position of clinical coordinator for the Ohio Children's Hospital wound care program. Over the next five years, the Petitioner developed and refined the program, expanding its use to three additional locations. The Petitioner developed the Advanced Wound Care Program into a rigorous and comprehensive training curriculum consisting of a three month program of didactic education, modules/lectures, hands on lab, videos, tests, suture scenarios, and off-site visits with sub-specialty physicians.

Once the Wound Care Program was formalized and revised by Mr. Fowler, he oversaw the implementation of the Advanced Wound Care Program in a total of four emergency department locations. In total, thirty (30) wound care associates were trained to provide suture assistance in the emergency department, primarily consisting of paramedics and registered nurses. Mr. Fowler personally provided the wound care training for twenty five (25) of the thirty (30) associates. Mr. Fowler also maintained skills review and training for all thirty (30) wound care associates. Mr. Fowler maintained his own skills by providing direct clinical care weekly. Mr. Fowler was regularly consulted by trained staff to assist and perform more complicated sutures and repairs.

Mr. Fowler is extremely well trained to both offer suture care to pediatric patients and, specific to this request, Mr. Fowler has very significant experience in training paramedics in suture care. If granted permission to offer similar training here in Florida, establishment of an Advanced Wound Care Program would offer significant benefits to patients and providers.

Literature Regarding Nurse Suturing

Mr. Fowler seeks permission to suture patients while instructing paramedics how to perform sutures in a pediatric emergency room. The program is modeled after a long-established program in Ohio. Similar programs have existed since the 1970's and have experienced good results.

In 1977, The Ohio State Medical Journal published a paper submitted by Dr. James Clarke and Mr. Albert Willis regarding the use of suture technicians for emergency services in a children's hospital.¹ The paper is attached as Exhibit "A" to this Amended Petition. Technicians² were hired by the Children's Hospital of Akron in 1974 in order to suture simple lacerations. The goal of the program was to reduce time demands on emergency room physicians and reduce emergency room wait times by delegating suturing of simple lacerations to technicians. The suture technicians worked under the direct supervision of a pediatrician and reported administratively to a charge nurse. The technicians were trained to suture by physicians and residents. The technicians sutured skin lacerations on 5,764 patients over a 16 month period. Results were good. No complications were reported.

Though nurses did not provide the suture training in the Ohio program first initiated in the 1970's, the program eventually grew to include nurses. This is the same hospital in which

¹ *Suture Technicians for Emergency Services in a Children's Hospital*, James S. Clarke, M.D., Albert R. Willis, *The Ohio State Medical Journal*, June 1977.

² The technicians were former military corpsmen. They were not registered nurses.

Mr. Fowler was trained. The program instructed nurses on how to perform sutures, and employed nurses as preceptors to teach others. Other studies since the 1970's suggest that suturing may be considered part of the practice of nursing, if adequate training is present.

In December 1994, the Annals of Emergency Medicine published a study³ addressing the efficacy of nurse suturing in pediatric emergency department in St. Paul's Children's Hospital in Minnesota.⁴ A copy of the study is attached as Exhibit "B." Also in December 1994, the Journal of Emergency Nursing published report⁵ about the same nurse suturing program. A copy of that report is attached as Exhibit "C."

In the study, suturing nurses completed a comprehensive training program provided by physicians and at a national wound management workshop. The training included four phases: (1) a 6 day seminar including didactic training by a physician and a practical workshop session approximating lacerated pig skin; (2) a four day seminar by a plastic surgeon that included didactic training and practical workshops; (3) a four week trial of on-site supervision of suturing nurse trainees repairing pediatric lacerations; and (4) continuing education.⁶

The nurses performed wound closure on sixty-one children who received 343 sutures from the nurses. Pediatricians reviewed the wound repair and found it to be very good in 53% of the cases and excellent in the remaining 47%. There were no wound healing complications in any of the cases. The study concluded that nurses who complete standardized training in wound

³ *Efficacy of Nurses Suturing Pediatric Dermal Lacerations in an Emergency Department*, William A. Bonadino, MD, Maggie Carney, RN and David Gustafson, MD, Annals of Emergency Medicine, 24:6, December 1994

⁴ Notably, the nurse suturing program had already been in place at the Minnesota hospital since 1988.

⁵ *A Suture Nurse Program in a Pediatric Emergency Department*, J. Emergency Nursing, December 1994, 1994:20:517-20.

⁶ This level of training is far less than the training received by Mr. Fowler in Ohio.

repair are capable of providing high-quality, definitive care for children with dermal lacerations, thus allowing physicians to use their time more effectively.

In 1999, the peer reviewed journal "Accident and Emergency Nursing" published an article⁷ concerning the suturing of minor lacerations by clinical nurse specialists in emergency rooms. A copy of the study is attached as Exhibit "D." This study involved a program to train Australian clinical nurse specialists to suture minor lacerations in an emergency department. The training included didactic training on wound care and suturing materials, practical demonstrations using pig skin, and at least five suturing sessions supervised by senior medical staff. The study found that clinical outcomes were similar whether sutures were placed by physicians or trained nurses. Outcomes were good for sutures placed by nurses as well as doctors. However, the study found that patient satisfaction was higher when suturing was performed by clinical nurse specialists.

Thus, peer reviewed literature supports the benefits of employing well-trained nurses to suture simple lacerations in an emergency room setting. Outcomes are good and patient satisfaction is high. Such programs also free busy emergency room physicians to attend to other needs.

Petitioner's Proposal for Nemours Children's Hospital Wound Care Program

The Petitioner is now employed at Nemours Children's Hospital in Orlando, Florida. Currently, paramedics at the Hospital do not suture any lacerations. Mr. Fowler seeks the Board's guidance regarding whether the scope of practice for nursing in Florida will allow the Mr. Fowler to establish an Advanced Wound Care Program, of the type described above, such that Mr. Fowler could suture lacerations and train paramedics to suture lacerations while under

⁷ *Suturing of Minor Lacerations by Clinical Nurse Specialists in the Emergency Department*, A. Charles, S.A. Le Vasseur, C. Castle, *Accident & Emergency Nursing* (1999) 7, 34-38.

the direct supervision and orders of a licensed physician. The program would not involve the training of any other nurse, and this request is not intended to seek broad guidance as to whether all nurses in Florida may suture pediatric patients. Instead, guidance is sought as to whether Mr. Fowler, because of unique experience in another state, and his experience offering sutures to more than 9,000 pediatric patients, may be permitted to suture patients as part of a training program for paramedics.

If the Board approves this request, the Petitioner will train paramedics in advanced wound care to perform procedures based upon physician orders, permitting them to offer suturing and wound care only under direct physician supervision. Paramedics are already trained in advanced life support.⁸ Paramedic are required to complete 1,100 hours⁹ of training before becoming certified.¹⁰ Pediatric wound care training would be provided under the principles of patient/family centered care, distraction therapy and comfort positioning to mitigate patient and family anxiety.

If allowed to be implemented, the establishment of an Advanced Wound Care Program would allow Nemours Children's Hospital and Mr. Fowler to better contain costs, to render high quality service, to reduce emergency department waiting times, by appropriately delegating technical tasks to paramedics. Such a program will improve the efficiency of emergency care by freeing the emergency physician to dedicate her or his hands to other important tasks.

⁸ See §§ 401.27 and 401.23(1), Fla. Stat., requiring paramedics to be trained in advanced life support and defining "Advanced life support" as "assessment or treatment by a person qualified under this part through the use of techniques such as endotracheal intubation, the administration of drugs or intravenous fluids, telemetry, cardiac monitoring, cardiac defibrillation, and other techniques described in the EMT-Paramedic National Standard Curriculum or the National EMS Education Standards, pursuant to rules of the department."

⁹ Rule 64J-1.020, Fla. Admin. Code requires paramedic training to include 1,100 hours of training in accordance with the 1998 EMT-Paramedic National Standard Curriculum.

¹⁰ A paramedic must complete a training program equivalent to the most recent EMT-Paramedic National Standard Curriculum or the National EMS Education Standards of the Department of Transportation. See § 401.27(4)(a)2, Fla. Stat.

The scope of wound care under this proposed program would be limited to:

- (a) Simple and moderately complex laceration repair through the use of sutures, skin glue or steri strips;
- (b) Removal of foreign bodies;
- (c) Local anesthesia, field and digital block anesthesia;
- (d) Offer wound care and sutures for all areas of body; and
- (e) Care of pediatric patients ages newborn to 18 years.

Need to Resolve Questions regarding Applicability of Statutes and Rules

This declaratory statement seeks clarification of Sections 464.003(3)(a) and 464.018(1)(n), Florida Statutes. These statutes affect Petitioner in his particular set of circumstances as described below.

Section 464.003(20), Florida Statutes defines the practice of professional nursing as follows:

(20) "Practice of professional nursing" means the performance of those acts requiring substantial specialized knowledge, judgment, and nursing skill based upon applied principles of psychological, biological, physical, and social sciences which shall include, but not be limited to:

- (a) The observation, assessment, nursing diagnosis, planning, **intervention**, and evaluation of care; health teaching and counseling of the ill, injured, or infirm; and the promotion of wellness, maintenance of health, and prevention of illness of others.
- (b) **The administration of medications and treatments as prescribed or authorized by a duly licensed practitioner** authorized by the laws of this state to prescribe such medications and treatments.
- (c) **The supervision and teaching of other personnel in the theory and performance of any of the acts described in this subsection.**

A professional nurse is responsible and accountable for making decisions that are based upon the individual's educational preparation and experience in nursing.

§ 464.003(2), Fla. Stat. (2010)(emphasis added).

Mr. Fowler seeks the Board's guidance as to whether the scope of professional nursing described in Section 464.003(20), Florida Statutes would allow a nurse with the specific experience and training of Mr. Fowler to suture pediatric patients and serve as a preceptor to paramedics through an Advanced Wound Care Program described above.

Additionally, Section 464.018(1)(n), Florida Statutes (2010) makes it a disciplinary violation for a licensed nurse to fail to meet the minimum standards of acceptable and prevailing nurse practice, including engaging in acts for which the licensee is not qualified by training or experience. It is unclear whether the Petitioner would be subject to disciplinary action pursuant to Section 464.003(20), Florida Statutes if he provided sutures and training in an Advanced Wound Care Program, as described above.

Petitioner is in doubt as to the applicability of statutory provisions over which the Board of Nursing has authority. Petitioner seeks to resolve questions as to how these statutes may apply to the petitioner's particular circumstances. Issuance of a declaratory statement is appropriate in such circumstances.

Petitioner now seeks a determination that it is within the scope of practice for a registered nurse in the State of Florida trained in an Advanced Wound Care Program, like the one described above, to suture pediatric patients and to train paramedics to perform wound care, including suturing, under the direct supervision and under the orders of a Florida licensed physician in a hospital emergency department, so long as a Florida licensed physician is always available for patient assistance when a trained paramedic sutures patients.

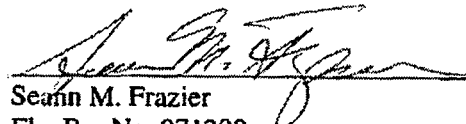
Request for Relief

Wherefore, Petitioner requests that the Board of Nursing grant this petition for Declaratory Statement and answer the following question:

Is it permissible for the Petitioner, based upon his training and experience in a specialized Advanced Wound Care Program, to suture pediatric patients and train paramedics to suture pediatric patients as part of an Advanced Wound Care Program as described above, all while under the direct supervision and orders of a licensed Florida physician, as described in this Petition for Declaratory Statement?

Respectfully submitted this 20th day of March, 2014:

Seann M. Frazier
Parker, Hudson, Rainer & Dobbs, L.L.P.
215 South Monroe Street, Suite 750
Tallahassee, Florida 32301
(850) 681-0191


Seann M. Frazier
Fla. Bar No. 971200
sfrazier@phrd.com
Counsel for Earl Fowler, R.N.

CERTIFICATE OF FILING AND SERVICE

I certify that the foregoing Second Amended Petition for Declaratory Statement has been filed with:

Althea Gaines
Agency Clerk
Florida Department of Health
Office of the General Counsel
4052 Bald Cypress Way, Bin A02
Tallahassee, Florida 32399-1703

Via Hand Delivery

and that a copy of the foregoing has been delivered to:

Joe Baker, Jr.
Executive Director
Florida Department of Health
Florida Board of Nursing
4052 Bald Cypress Way, Bin C02
Tallahassee, Florida 32399-3252

Via Hand Delivery

Lee Ann Gustafson
Counsel to the Board of Nursing
Office of the Attorney General
400 South Monroe Street, # PL-01
Tallahassee, Florida 32399-6536
leeann.gustafson@myfloridalegal.com

Via electronic and U.S. Mail

this 20th day of March, 2014

Seann M. Frazier
Parker, Hudson, Rainer & Dobbs, L.L.P.
215 South Monroe Street, Suite 750
Tallahassee, Florida 32301
(850) 681-0191



Seann M. Frazier
Fla. Bar No. 971200
sfrazier@phrd.com
Counsel for Earl Fowler, R.N.

Suture Technicians for Emergency Services in a Children's Hospital

James S. Clarke, M.D.
Albert R. Willis

Four former military corpsmen were trained locally to perform suturing of superficial lacerations in the emergency room of a children's hospital. Curriculum and guidelines are given. All patients are evaluated by a pediatric staff member or resident — and a surgeon when indicated — before clearance is granted. Informed parent consent is obtained. Nearly 6,000 lacerations have been sutured in the 14-month survey period, and the results have been uniformly good. Medical staff and parents approve. Administrative highlights are cited. High quality service is being provided at minimum cost.

TECHNICIANS FOR SUTURING uncomplicated and selected lacerations were trained and hired to work in the emergency medicine service of Children's Hospital of Akron in November 1974. A review of their work is presented. The objectives were to: (A) reduce time demands upon the house officers; (B) delegate technical tasks to nonphysicians; (C) contain costs; (D) render high quality service; and (E) reduce waiting time.

After approval of the program by the medical staff executive committee and the board of trustees, two former U.S. Navy Hospital Corpsmen were selected. They spent two weeks in full-time training by the emergency services nursing staff and physicians and the chiefs of general surgery and plastic surgery. Curriculum included refresher training in aseptic technique, the role of the suture technician, emergency services policies, relation to the triage system, restraint of children, and wound preparation. (See Table 1.) The surgeons gave formal instruction in the use of various suture materials, needles, and dressings, the use of tape with or in lieu of sutures, types of repair used for various wounds. The first suture training was in the laboratory. The final phase of training was actually suturing wounds, in the hospital emergency area with the staff surgeon or an experienced surgical resident physically present for supervision. When the responsible surgeons were convinced of the competency of the technicians, each technician was given a certificate attesting to his training.

The following guidelines were established:

A. Each patient to be sutured must be seen first by the attending or staff physician or senior resident and the

injury judged to fall under the criteria for the technician to suture.

B. Informed consent must be obtained prior to performance of suturing, ie, explanation to the responsible parent who the suture technician is, his training, the voluntary aspect of the program, and the option of having a resident physician perform the suturing. The parent must then sign the consent (Fig. 1). Telephone consent is permissible if witnessed by another member of the nursing staff of the emergency services.

C. Injuries not to be sutured by the technicians are: (1) margin of eyelids; (2) tendon or nerve injuries; and (3) complicated wounds such as those requiring drains.

D. Some injuries to be critically evaluated—often by a surgeon or surgical resident—before clearance can be granted (often judged not suitable) include:

1. Animal bites
2. Injuries involving vermilion border of lips
3. Injuries involving cartilage area of ear
4. Wrist and hand injuries, possibly involving tendons
5. Wounds near major joints
6. Wounds on soles of feet
7. Injuries to nasolabial fold
8. Wounds over 12 hours old

Between January 1 and September 30, 1975 and January 1 and July 31, 1976 (16 months), the suture technicians sutured skin lacerations for 3,764 patients. (The number of technicians was increased to four in 1975.) Figure 2 shows the monthly distribution; unfortunately, the data for the last part of 1975 are missing. Comparison of wound sites with time of year is shown in Table 2.

Follow-up is performed by the child's regular physician. The only direct follow-up is Children's Hospital of Akron Clinic patients. No reports of complications due to

Dr. Clarke, Akron, Director of Emergency Services, Children's Hospital of Akron.
Mr. Willis, Akron, Suture Technician, Children's Hospital of Akron.

Submitted November 12, 1976.

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June, 1977

EXHIBIT

A

faulty technique or inadequate professional judgment have been received or observed.

Acceptance by the parents was gratifying. Refusal occurred on the average of two per month. A more frequent problem was the inability to locate a parent for permission. Our procedure is for a physician to perform the suturing if parent permission cannot be obtained specifically for the suture technician.

Acceptance by the medical and surgical staffs has been excellent. There is wide agreement that the cosmetic results are better with the suture technicians' work than that done by most nonsurgical physicians. One of the

senior plastic surgeons brought his own child in one evening for a technician to suture a chin laceration!

No publicity has been sought to "advertise" the program. About one year after it was initiated, there was a write-up in the local newspaper and a short videotape was shown on television. Now that over 5,000 patients' wounds have been sutured by this group, word-of-mouth has been the best publicity; many people mention knowing about the program when a member of the nursing staff begins to explain and asks for permission to use it.

Training of the house staff in suturing has been expedited. Those first-year residents with no prior suture

TABLE 1. Emergency Room Orientation for Suture Technician

Instructors	Type of Instruction
Emergency Room Nurses	<ul style="list-style-type: none"> Policies or procedures related to technician's role Informed consent Role of suture technician Legality of program Restraint of children Preparation of wound and aseptic technique Explanation of triage system Suture technician's routine duties and responsibilities when not suturing
Emergency Room Physicians	<ul style="list-style-type: none"> Medications—maximum dose of xylocaine, avoidance of use of epinephrine, use of sedation Review of policy on tetanus prophylaxis (technicians may administer) Physician checks lacerations prior to and after suturing Instruction sheet for parents Physician (at least a second-year resident) to sign emergency room chart Follow-up and suture removal: <ul style="list-style-type: none"> Private Clinic patients Referral procedure (plastic, general, or orthopedic surgeon) Recording of examination data, treatment, and directions
Surgeon	<ul style="list-style-type: none"> Discussion of: <ul style="list-style-type: none"> Sizes and types of suture material and needles Use of "steri-strips" and butterfly bandages, tincture of benzoin, collodion, and Dermoplast® Bandages and dressings, topical ointments (use and misuse), stockinettes, splints, and slings Length of time sutures should be left in place Instructions to parents regarding signs of trouble Lacerations to avoid—eyelids, soles of feet, nasolabial fold, vermilion border of lip, very dirty or old wounds, dog bites, and lacerations with possible tendon and/or nerve injury (hand/wrist and foot/ankle) How to examine hand injuries Burns—Surgeon should see all but very minor burns, especially those involving face and hands, and all where third-degree injury is suspected. Practice sessions in suturing with surgeon in laboratory Supervision of suturing of lacerations in emergency room by staff surgeon or surgical resident*

*Permission forms not used for patients cared for in these supervised sessions. Surgeon is in room during entire treatment process and completes and signs all forms as if he personally sutured the laceration.

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INFORMED CONSENT

AMICAL TECHNICIAN - EMERGENCY DEPARTMENT

I, _____ OF _____

AMICALLY REQUESTED TO USE MY SERVICES AS _____

AS WELL AS SURGICAL TECHNICIAN ONE TO RECEIVE THE LICENSURE TO THE _____

OF THE UNITED STATES.

I AM UNDERSTANDING THAT YOU _____

AND UNDERSTANDING THE FOLLOWING REASONS TO PERFORM THE ABOVE MENTIONED:

1. WE ARE THE SUBSTITUTES FOR TRAINING AND SUPERVISION OF A MILITARY SURGEON.
2. WE ARE UNDERGOING AN ADDITIONAL SERIES OF TRAINING TO ACQUIRE CREDENTIALS OF THE SURGICAL STAFF OF THE HOSPITAL, AND HAS PROFESSIONALLY EMPLOYED THAT TRAINING.

IT IS UNDERSTOOD THAT THE SERVICES OF ME _____

WILL BE PROVIDED UNDER THE DIRECT SUPERVISION OF DR. _____

AND ASSUME FULL RESPONSIBILITY FOR THE ACTIONS OF THE SURGICAL STAFF.

I HEREBY REQUEST THAT A NAME BEAD AND PHOTO BE PLACED ON THE ABOVE FORM AND THAT MY SIGNATURE BE PLACED AND VOLUNTARILY MADE.

DATE: _____

TIME: _____

INITIAL: _____

FIG. 1. Consent form signed prior to performance of suturing.

experiences have the usual didactic introduction, and a staff physician accompanies them for several sutures. It is explained to them that much of their instruction will be by the technicians as nonsurgical residents are only permitted to suture the same type wounds as the technicians.

The suture technicians work under the professional supervision of the director of emergency services, who is a pediatrician. Administratively, the technicians work for the charge nurse for ambulatory pediatric services. Their pay scale is between that for licensed practical nurses (LPNs) and registered nurses (RNs). When the technicians are not busy with suturing, they work in the emergency services as general medical technicians.

Scheduling is by demand, ie, one technician is scheduled to work 8 AM to 1 PM, two from 1 PM to 11 PM, seven days per week. Peak demand is in the hours between 4 PM and 10 PM.

Conclusion

The staff feels that the objectives have been met. A high quality service is being rendered by specially trained technicians, reducing the time demands upon the attend-

(Clinical and Scientific Articles continued on page 379)

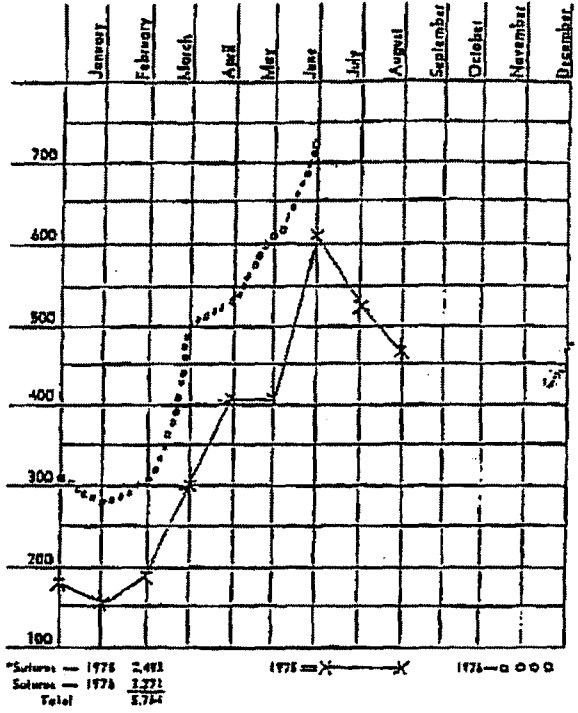


FIG. 2. Monthly record of sutures performed by technicians in 18-month period (January 1-September 30, 1975 and January 1-July 31, 1976).*

TABLE 2. Comparison of Wound Sites with Time of Year

Wound Site	July 1975 %	January-May 1976 %
Head - face - neck	48.0	68.0
Upper extremity	24.7	22.0
Lower extremity	26.3	9.0
Trunk	5.0	0.3

ing and house-staff physicians, maintaining professional responsibility that parents accept, and helping to contain costs.

This program is recommended to any emergency service or department where a significant number of uncomplicated lacerations of the skin occur and suitable candidates are trained to work full-time in the capacity of suture technicians.

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Efficacy of Nurses Suturing Pediatric Dermal Lacerations in an Emergency Department

From the Suturing Nurses Program, Pediatric Emergency Department, Children's Hospital of St Paul, Minnesota

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Maggio Carney, RN
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Study objective: To assess the efficacy of nurses suturing pediatric dermal lacerations in an emergency department.

Design: Prospective study

Setting: Pediatric ED.

Participants: Suturing nurses completed a comprehensive training program provided by physicians at our institution and a national wound management workshop; both included instruction in wound assessment, preparation, anesthesia, repair, and care after repair. A survey of physician and parent satisfaction with wound repair and for wound healing complications was performed at the time of suture removal in 61 children whose dermal laceration was repaired by suturing nurses.

Results: The laceration was located on the face in 40 patients, the scalp in 14, and an extremity in 7. A total of 343 sutures was required (18 lacerations required a layered closure). Pediatricians graded wound repair as "very good" in 32 cases (53%) and "excellent" in 29 cases (47%). Parents rated themselves as "very satisfied" with the wound repair procedure in 44 cases (98%) and with the wound repair outcome in 59 cases (97%). There were no wound-healing complications. Suturing nurses took a total of 72 hours to repair lacerations. In comparison, of 20 lacerations repaired by an ED attending physician, (55%) were graded as "excellent" and 9 (45%) as "very good" with no wound-healing complications (P=NS).

Conclusion: Nurses who complete a standardized training program in wound management and repair are capable of providing high-quality, definitive care for children with dermal lacerations, thus allowing physicians to use their time more effectively in managing general patient care in the ED.

[Bonadio WA, Carney M, Gustafson D: Efficacy of nurses suturing pediatric dermal lacerations in an emergency department. *Ann Emerg Med* December 1994;24:1144-1146.]

NURSES
Bonadio et al

INTRODUCTION

Dermal lacerations in a pediatric emergency department can impede effective care in a busy ED. A literature review for the purpose of this report describes the efficacy of suturing pediatric dermal lacerations by nurses in an emergency department.

Since 1991, the Pediatric Emergency Department at Children's Hospital of St Paul has had a dedicated nurse-led suturing program for dermal lacerations.

MATERIALS AND METHODS

The nurse suturing program is funded by the Children's Hospital of St Paul.

Figure. Nurse suturing program

- Phase 1
 - A 6-day seminar program provided by Children's Hospital of St Paul includes:
 - 1. Didactic sessions: wound assessment (wound irrigation, clean irrigation and debridement techniques, suturing techniques and suturing materials)
 - 2. Practical workshop
 - Phase 2
 - A 4-day seminar provided by Plastic Surgery, University of California San Diego, includes:
 - 1. Didactic lectures: anesthesia and suturing
 - 2. Practical workshop
 - 3. Practical workshop
 - Phase 3
 - A 4-week trial of pediatric dermal lacerations to suturing by nurses in the Pediatric Emergency Department.
- Continuing Education
A quarterly ongoing wound management program for attending physicians.



INTRODUCTION

Dermal laceration repair is a commonly performed procedure in a pediatric emergency department. This task usually is performed by physicians and can be time-consuming and impede effective management of other clinical problems in a busy ED. A computer-assisted search of the medical literature for the years 1984 to 1994 identified only one published report describing the curriculum and operation of a nurse suturing program,¹ the study did not assess efficacy of wound repair by nurses. We are unaware of any other such program in existence at another adult or pediatric emergency medicine facility.

Since 1988, we have developed and used a nurse suturing program, which trains nurses to repair pediatric dermal lacerations, at our institution. We describe our experience with and assess the efficacy of suturing nurses repair of dermal lacerations in a pediatric ED.

MATERIALS AND METHODS

The nurse suturing program has been in effect since 1988. It is funded by the Children's Hospital of St Paul, Minnesota.

Figure.

Nurse suturing training program curriculum

Phase 1

- A 6-day seminar entitled the "Emergency Services Suture Technician Training Program" provided by emergency physicians at the Children's Hospital of St Paul includes the following:
1. Didactic sessions on wound anatomy, physiology, healing mechanisms, wound assessment (neurovascular, tendon, and bone injuries), preparation (debridement, irrigation, cleansing, and foreign body removal), and anesthesia (lidocaine infiltration and topical tetracaine-adrenaline-cocaine), analgesia and sedation techniques, suture tray preparation and suture selection, suturing techniques (intracutaneous and subcutaneous), indications for antibiotics and tetanus immunization, application of dressings and splints, and home wound care and monitoring
 2. Practical workshop sessions approximating lacerated pigskin

Phase 2

- A 4-day seminar entitled the "Wound Management Workshop" given by The Plastic Surgery Division Research Foundation of the University of California at San Diego, includes the following:
1. Didactic lectures on such topics as wound assessment and care, methods of anesthesia and analgesia, and suture techniques
 2. Practical workshop sessions approximating lacerated pigskin
 3. Practical workshop session approximating lacerated cadaver skin

Phase 3

- A 4-week trial of on-site supervision of suturing nurse trainees repairing pediatric dermal lacerations by previously certified suturing nurses and ED attending physicians, with graded responsibility progressing from extremity lacerations to scalp lacerations to facial lacerations

Continuing Education

- A quarterly ongoing series of educational seminars on topics related to wound management/repair and quality assurance monitoring sponsored by ED attending physicians and plastic surgeons at our institution

whose pediatric ED evaluates approximately 30,000 children per year. Participation in the nurse suturing program is open to any registered nurse with at least 2 years of experience in pediatric emergency medicine. Qualified nurses complete the nurse suturing training program (Figure). Qualified suturing nurses provide primary assessment of dermal lacerations, and each case is reviewed with an ED attending physician before and after laceration repair. A standardized form completed by suturing nurses after laceration repair documents mechanism of injury, wound location, method of anesthesia, number and location of sutures placed, postrepair wound care and parental instructions for home wound care, and time spent on patient care. Parents received standardized instructions regarding wound care, monitoring for complications, and suture removal. Parents were instructed to have sutures removed from facial wounds after 5 days and from scalp and extremity wounds after 7 to 10 days; administration of antibiotics was at the discretion of the managing physician in each case.

For the purpose of comparison, both suturing nurses and attending-level ED physicians repaired dermal lacerations during the study period. A questionnaire was sent with parents for their child's pediatrician (who was blinded as to who repaired the laceration) to complete at the time of suture removal. It asked about the level of physician and parent satisfaction with the management provided and whether there were any wound-healing complications (dehiscence, infection, excessive scarring, and other). Respondents were asked to grade their impression of cosmetic results (excellent, very good, average, or below average), to grade parent satisfaction with the wound repair procedure (very satisfied or

Table.
Questionnaire responses

	No. With Suturing Nurse Repair (%)	No. With Physician Repair (%)	P
Pediatrician grading of cosmetic results			
Very good	32 (52)	11 (55)	NS
Excellent	29 (48)	9 (45)	
Parent grading of wound repair procedure			
Very satisfied	60 (99)	19 (95)	NS
Parent grading of wound repair outcome			
Very satisfied	59 (97)	19 (95)	NS
Wound healing complications	0	0	NS

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Bonafino, Carney & Gustafson

unsatisfied), and to grade parent satisfaction with the wound repair outcome (very satisfied or unsatisfied)

A χ^2 test was performed to compare differences in rates of pediatrician and parent satisfaction with wound repair between suturing nurses and ED attending physicians

RESULTS

One hundred six patients with a minor dermal laceration received a questionnaire. Seventy-two lacerations were repaired by suturing nurses (6 different nurses with 1 to 5 years of suturing experience), and 34 were repaired by an ED attending physician. There were 61 lacerations repaired by suturing nurses and 20 by physicians in which case the questionnaire was completed and returned. Wounds were located on the face or lip in 54 cases (40 repaired by suturing nurses and 14 by physicians), on the scalp in 18 cases (14 repaired by suturing nurses and 4 by physicians), and on extremities in 12 cases (7 repaired by suturing nurses and 5 by physicians). Methods of anesthesia included topical tetracaine-adrenaline-cocaine in 66 cases (50 repaired by suturing nurses and 16 by physicians) and lidocaine infiltration in 15 cases (11 repaired by suturing nurses and 4 by physicians). The total number of sutures placed was 343 by suturing nurses and 92 by physicians. Layered closure was performed in 25 cases (18 repaired by suturing nurses and 3 by physicians). Completed questionnaires were returned by 81 pediatricians; the results are shown in the Table. Rates of pediatrician and parental satisfaction with wound repair and outcome were not significantly different between suturing nurses and ED attending physicians

DISCUSSION

It is not uncommon for nurse practitioners and physicians assistants to perform minor outpatient procedures effectively. Yet there is a paucity of literature describing programs established to train nonphysician medical personnel to repair dermal lacerations and assess their efficacy. Appropriate delegation of medical procedures to qualified assistant medical personnel can help to decrease health care costs and augment physician efficacy in time management of other medical problems, especially in a busy ED.

The nurse suturing program at Children's Hospital of St Paul includes a comprehensive series of didactic lectures and practical laboratory sessions that cover a wide range of topics related to dermal laceration repair. In addition, suturing nurses attend quarterly educational seminars that review new developments related to dermal laceration repair and monitoring of quality assurance. In our experi-

ence, suturing nurses have consistently demonstrated proficiency in all aspects of minor dermal laceration management and repair, including wound assessment, administration of local topical and subcutaneously infiltrated anesthetics, wound debridement and sterile preparation, wound suturing techniques, and care after wound repair. They also have demonstrated capability in repairing a wide range of wounds, including lacerations of the vermilion border of the lip and the nail bed, partial amputations of digits, and deeper wounds requiring a layered closure.

Our study documents that suturing nurses very effectively managed and repaired a range of common pediatric dermal lacerations presenting to our ED. Both pediatricians and parents were uniformly satisfied with the care rendered and cosmetic results obtained, grading the degree of satisfaction as either "excellent" or "very good" in all cases of suturing nurse laceration repair; there were no wound-healing complications. The quality of suturing nurse laceration repair was essentially identical to that attained by ED attending physicians.

An audit of the 1992 vital statistics at our institution showed that 2,443 pediatric dermal lacerations were repaired by 1 of 16 practicing suturing nurses in our ED, accounting for a total of 1,832 hours of patient care. The suturing nurses' clinical effort was of obvious benefit in reducing the magnitude of patient-care time, which otherwise would have been rendered by physicians providing definitive care for these patients. In our experience, suturing nurse-designated responsibility of dermal laceration repair has consistently allowed physicians more effective time management of general patient care in the busy ED.

CONCLUSION

Nurses who complete a comprehensive program in wound management and repair are capable of providing high-quality, definitive care of pediatric dermal lacerations, thus allowing physicians to more effectively use clinical time in the management of general patient care.

REFERENCE

1. Trout A, DeChatelet J, Levy R. Suture and wound care training program for emergency medicine. *J Emerg Nurs* 1982;9:221-224.

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BRIEF RE

From the Department of Pediatrics and Emergency Medicine, University of Tennessee

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A suture nurse program in a pediatric emergency department

Maggie Carney, RN, BSN, St. Paul, Minnesota

The emergency department at St. Paul Children's Hospital, Inc (CHI), St. Paul, was typical of other emergency departments around the country. Staff physicians sutured all wounds requiring closure. In 1988, in response to increasing patient census and level of acuity, we identified the need for increased physician availability in the emergency department. The obvious options of hiring more physicians, moonlighters, or residents were dismissed in favor of a less expensive approach—teaching nurses to suture. The physicians and the nursing staff worked together to develop the Suture Nurse Program (SNP). Similar programs previously reported have involved emergency departments of general hospitals¹ and have been found to be successful.

In the beginning

As with most new programs, moving from idea to program implementation was a lengthy process. This program, which involves delegating a task traditionally performed by a physician to nursing personnel, met with its share of scrutiny. To facilitate acceptance at our institution, a set of specific criteria for the selection of suture nurse (SN) candidates and a written description of SN responsibilities (in addition to their routine responsibilities) were developed by a nurse-physician team.

In April 1988, the hospital administration accepted the SN Selection Criteria and the SN Job Description and gave approval and funding for the initiation of the SNP. Additional nursing personnel were approved for coverage during the anticipated "peak suturing hours." Five nurses chosen to pilot test the SNP participated in a four-phase training program (Figure 1). Criteria used in the selection of the candidates included at least 2 years of pediatric ED experience, a demonstrated ability to consistently perform certain technical skills used in the emergency department, a willingness to tempo-

rarily change existing schedules to provide coverage for SN staffing needs (vacations, illness) and an expressed 2-year commitment to the SNP. All candidates were individually approved by the ED nurse manager and staff physicians.

Successive groups of SNs, similarly chosen, were trained at approximately 12- to 18-month intervals. New SNs were added as the previous group completed the first three phases of training. As SNs became comfortable with common laceration repairs, specialized training was electively provided for more difficult repairs (e.g., nail bed and vermilion border repairs).

Current program

The SNP has expanded dramatically since the first SNs were trained. SNs are averaging 1800 wound repairs per year, representing virtually all wounds sutured in the emergency department. Currently, 14 nurses participate in the program, a total of 24 nurses have been trained. Seven of the 10 current nonparticipants have taken positions in other areas or have left CHI. The remaining three have retired from the SNP for personal reasons. A full-time nursing position on relief shifts and two half positions on day and night shifts were added to allow nurses to suture without negatively affecting ED patient care. The large number of participants allows the SNP to staff one SN on all shifts 7 days each week. ED physicians repair wounds on the rare occasions that SNs are unavailable.

Our nursing and ancillary staffs support the SNP by accepting an added patient load during busy suturing shifts. Frequently, the SN must suture for an entire shift. At these times, the SN is pulled from floor duty and direct patient care to concentrate exclusively on wound repairs.

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0099-1767/94 \$3.00 + 0 18/1/59268

Ms Carney is RN, suture nurse, Emergency Department, Children's Hospital, Inc., St. Paul, Minnesota.

EXHIBIT

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Phase 1

A 6-day seminar entitled "Emergency Services SN Training Program," provided by the ED physicians and previously certified SNs at CHI, St. Paul, includes the following:

1. *Didactic sessions*
 - Wound anatomy
 - Physiology
 - Healing mechanisms
 - Wound assessment
 - Neurovascular injuries
 - Tendon injuries
 - Bone injuries
 - Wound preparation
 - Irrigation
 - Cleansing
 - Foreign body removal
 - Anesthesia
 - Lidocaine
 - Lidocaine with epinephrine
 - Bupivacaine (Marcaine)
 - TAC (tetracaine, adrenaline, and cocaine)
 - Analgesia
 - Acetaminophen
 - Ibuprofen
 - Sedation
 - Imaging techniques
 - Midazolam (Versed oral, rectal, intranasal)
 - Suture selection
 - Absorbable
 - Nonabsorbable
 - Suture techniques
 - Subcutaneous
 - Cutaneous
 - Discharge teaching
 - Immunization status
 - Antibiotic indications
 - Dressing application
 - Splint application
 - Home wound care monitoring
 - Suture removal times
2. *Practical workshop sessions approximating lacerated pigskin*

Phase 2

A 4-day seminar entitled "Wound Management Workshop," presented by the Plastic Surgery Division Research Foundation of the University of California (San Diego, California) includes the following:

1. *Didactic lectures*
 - Wound assessment
 - Wound care
 - Wound anesthesia
 - Analgesia
 - Suturing techniques
2. *Practical workshop*
 - Lacerated pigskin approximation
3. *Practical workshop*
 - Lacerated cadaver skin approx.

Figure 1
SN training program curriculum. *Continued on page 519*

Phase 3

A 4-week trial of SN trainees repairing podiatric dermal lacerations supervised by previously certified SNs and ED physicians, with graded responsibility progressing from extremity and scalp lacerations to facial lacerations.

Phase 4

1. *Continuing Education*
 - Quarterly educational seminars
 - Advanced suturing techniques
 - Advanced wound care techniques
2. *Literature Reviews*
 - Changes in analgesia and anesthesia
 - Changes in wound preparation
 - Changes in repair techniques
 - Changes in discharge teaching

Figure 1
(Cont'd) SN training program curriculum

The SNs consult community experts in complicated wound examination, preparation, and closure to expand the knowledge of the group as a whole. Since the onset of the program, local plastic and hand surgeons have presented four formal lectures on various topics of interest. Concurrently, individual SNs are exploring other learning opportunities independently and bringing pertinent information back to the larger group at quarterly SN meetings. Because of these discussions, we have made periodic improvements in anesthesia, sedation, and repair techniques.

Staff physicians play a critical role in developing both the program and individual nurses' expertise. ED physicians support all SNs in determining their own comfort levels with all repairs. As time and staffing levels allow, physicians assist with difficult procedures, teach new procedures, and support and encourage the development of individual SNs. SNs repair wounds only within their realm of expertise. For example, not all SNs have expressed interest in learning nail bed repairs. Those who are not comfortable with these procedures are not required to complete that portion of the training. Wounds deferred by the designated SN are repaired by the ED physician or referred to a specialist.

Our patient population is defined as patients from birth to 18 years, so staff nurses and SNs are acutely aware of both the cognitive and psychosocial development of children. With the help of our child life specialist, we developed a teaching component that prepares children for the expected procedure, depending on their age and apprehension. SNs are routinely able to take the extra time to prepare the patient in this manner, and the result is increased cooperation during the procedure.

Is it successful?

In the first 12 months of the program, a great deal of time was spent teaching parents about the SNP and preparing them for the changes in wound repair personnel. As a result of careful explanation of SN training and experience, most parents welcome the opportunity to be involved in this unique program. Today, we still occasionally face a raised eyebrow when explaining the program to some patients' families. More commonly, however, families are familiar with the program through their own, a friend's, or a relative's experience in our emergency department. This acceptance is echoed informally by community physicians whose patients have visited the CHI emergency department for wound treatment.

Although our staff considered the program a success, we had not formally studied parent and community physician satisfaction. A retrospective survey completed in 1993 measured the satisfaction of parents whose children used the CHI emergency department between January and September 1993. The survey population, selected randomly, consisted of the parents of 90 children whose repairs took place at least 3 months before their participation in the survey. Sixteen different SNs repaired the wounds, with a total of 590 sutures placed (averaging 6.5 sutures per patient). We compiled data through telephone interviews. No specific information regarding the interviewers' participation in the SNP or ED employment was stated.

The results of this survey were encouraging. The questions and responses illustrated in Table 1 show that among the parents interviewed, satisfaction with care provided, patient preparation, pain control, and wound care instructions were consis-

Table 1
Laceration repair survey

Question	Yes		No	
	No.	%	No.	%
1. I was satisfied with the person(s) providing care for my child	88	98	2	2
2. I was satisfied with the preparation of my child for the stitches	88	88	2	2
3. I was satisfied with the pain control provided for the stitches	82	91	8	8
4. I was satisfied with the wound care instructions given at discharge	80	100	0	0
5. Overall, I am satisfied with my child's wound repair experience in Children's Hospital emergency department	88	88	2	2

Parents were given the survey with the following instructions. Recently, your child received treatment for a wound requiring stitches at Children's Hospital of St. Paul. As part of an ongoing study of quality in patient care, we are asking some patients to respond to this survey of your child's experience in our emergency department.

tantly high. The overall wound repair satisfaction rate was 98%.

A prospective study completed in 1993 compared SN wound repairs with physician wound repairs. It was conducted in a blinded manner by private physicians. This study, with publication pending in *Annals of Emergency Medicine*, also supports the success of the program. Findings revealed no significant difference observed by community physicians between wounds repaired by nurses and those repaired by ED physicians. These two pieces of research are useful to us in defining more concretely the success of our current program.

What next?

The accomplishments of the last 6 years surpassed all initial expectations for this program. We continue

to set goals for the expansion of the SNP. Two specific goals recently identified are increased communication with private physicians and provision of more program information to the community. We also hope to serve as a model and consultant for other emergency departments developing their own SNPs.

The future of the SNP depends largely on the individual participants. We look forward to a continued commitment in the advancement of wound care and repair and the continued expansion of nursing practice.

Reference

1. Trout AT, DeChatolet J, Levy RC. Suture and wound care training program for emergency nurses. *J Emerg Nurs* 1982;8:221-4.

The JOURNAL OF EMERGENCY NURSING is currently seeking articles on caring for patients from different cultural, religious, and sexual backgrounds/orientations. The tentative deadline is March 15, 1995.

Please call or write the theme issue guest editor Sue Moore, RN, MS, CCRN, GEN, 5400 Iroquois Circle, Reno, NV 89502; (702) 857-8895, or contact Karen Halm at the ENA National Office, 216 Higgins Road, Park Ridge, IL 60068; (800) 243-8362.



Suturing of minor lacerations by clinical nurse specialists in the emergency department

A. Charles, S. A. Le Vasseur, C. Castle

A programme enabling clinical nurse specialists (CNS) to suture minor lacerations in the emergency department (ED) was implemented at Monash Medical Centre (MMC), Melbourne, Australia. A descriptive comparative design was used to evaluate the programme. Patients meeting the inclusion criteria of the project were randomly assigned to group 1 (the medical group) and group 2 (the CNS group).

Analysis of the data found that patient length of stay was not significantly different between the two groups. However, those patients cared for by the CNS group appeared to be more satisfied with their care and the overall services received. Wound healing outcomes were found to be similar between the CNS sutured group and those sutured by medical staff. The implementation of this new role for CNS in the ED appeared to be successful from the point of view of patient outcomes.

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Introduction

Monash Medical Centre is a tertiary referral hospital of 747 beds, in the south-eastern suburbs of Melbourne, Australia. The emergency department (ED) sees approximately 48000 paediatric and adult patients annually. Each week 350-400 patients are categorized as category 4 or 5 by the triage nurse, following the National Triage Scale (NTS) guidelines (The Commonwealth Department of Health and Family Services and The Australasian College for Emergency Medicine, 1997) (Table 1).

The NTS is currently used in all EDs throughout Australia and ranks severity of presenting illnesses from life threatening (category 1) to minor illness (category 5). The scale also recommends allowable waiting time frames for patients following assessment by the triage nurse prior to being seen by medical staff. The NTS is only a guide and in many cases the timing for patients to be seen by medical staff is dependent upon the workload within the ED.

Patients with simple lacerations generally will receive a low priority and therefore may wait for prolonged periods.

Many nurses in the UK and USA are suturing lacerations within the ED. The current literature, although scant, suggests that patients' perception of care in ED is enhanced by the improved waiting times and decreased length of stay in the ED (Covington et al. 1992; Bonadio et al. 1994; Strange 1994; Rhee & Dermyer 1995). Bonadio et al. (1994) state that nurses were able to 'decrease health care costs and augment physician efficiency in time management of other medical problems' (p1146). Covington (1992) and Strange (1994) point out these types of advanced practice roles in ED can increase the job satisfaction of nurses.

Prior to the introduction of the new suturing program at Monash Medical Centre (MMC) a needs assessment was conducted and nurses' expectations of this new role were examined. All clinical nurse specialists (CNS) working in the unit were approached to complete the survey regarding expectations of the new role. This group



Table 1 The National Triage Scale

Category	Time frame
One (1)	Must be assessed immediately, e.g. unconscious patient
Two (2)	May wait up to 10 minutes, e.g. asthma
Three (3)	May wait up to 30 minutes, e.g. stable chest pain
Four (4)	May wait up to 1 hour, e.g. minor lacerations
Five (5)	May wait up to 2 hours, e.g. patients for review

was also targeted to implement the role, based on the assumption that the group, by virtue of their CNS status, has the clinical expertise and time management skills required to successfully implement the advanced practice role. Historically, in Victoria, the CNS role was introduced to provide an alternative career path that allowed experienced nurses to remain at the bedside and reward them for their clinical expertise rather than the traditional career path of management or education. Anecdotal evidence from the surveyed CNS group indicated that nurses were in favour of the new role. Comments made by the group included 'the role will save time, increase nursing skill and knowledge', 'this is an extended nursing role and ought to be offered to those with experience and satisfactory skill level in all areas of the department'. These comments acknowledge that the new skill was not perceived to be at the expense of general patient care.

Educational sessions were conducted with the CNS group prior to program implementation. These sessions were facilitated by one of the staff specialists in ED. The sessions included:

- work sheets on skin physiology and anatomy
- assessment of the laceration
- factors that influence wound healing
- choices of suturing materials and suturing techniques
- practical demonstrations using pig's trotters
- educational material provided by a suture supplier
- at least five suturing sessions supervised by senior medical staff.

Eleven CNSs and two nurse educators underwent the education process and participated in the suturing program on completion of their suturing education.

Method

Inclusion criteria

Eighty patients were recruited into this project. The patient inclusion criteria included:

- presenting to ED with simple lacerations
- aged 16 years and older
- no bony involvement or neurovascular damage to the area to be sutured
- no facial or perineal areas
- no pre-existing medical problems
- informed written consent obtained.

The triage nurse initially assessed all patients presenting to the ED and identified those patients who met the inclusion criteria. A senior emergency physician assessed patients who met inclusion criteria to determine severity of wound. After assessment of suitability, the triage nurse explained the project to the patient and sought written consent. Once consent was given, the triage nurse randomly assigned patients to one of the two groups (doctor or nurse). The triage nurse selected an unmarked envelope that contained instructions on which group (1 or 2) the patient would enter. Patients participating in the project were also required to return to the ED for removal of sutures and a follow up assessment of the wound. The follow up process ensured completeness of data collection and enabled patient satisfaction to be measured.

Aims of the project

The research design followed a descriptive comparative design between patients randomly assigned to either group 1 (the medical group) or group 2 (the CNS group).

The hypotheses tested in the project included:

1. patients' waiting times would differ between the two groups
2. patients' perception of waiting time would differ between the two groups
3. patient satisfaction would be similar between the two groups
4. healing outcomes would be similar in the two groups.

Results

Frequency distributions revealed the sample consisted of 61 males and 19 females. The mean age was 38.6 years with a range of 16-92 years. The patients presenting to ED had minor lacerations located predominantly to upper extremities 50% (40), the head 44% (35) and 6% (5) lower extremities.

Waiting times

As the measures in the questionnaire were either ordinal or assumed not to be normally distributed, non-parametric statistics were used to analyse the data. The level of significance accepted as a minimum was 0.05. The Mann-Whitney U test was used to test for significance between two groups of patients waiting in emergency. Table 2 demonstrates that no significant differences were found between the two groups in the time until patients were first seen, time until suturing commenced or in total time spent in the emergency department.

Patients' perception of waiting time

Mann-Whitney U tests were also used to test for significance between two groups of patients' perception of waiting time. Table 3 demonstrates that no significant difference was found between perceptions of waiting time in those patients seen by a CNS or a medical officer.

Patients' ratings of care and services received

Patients in the two groups were asked to rate the care they received for the repair of their laceration and for the overall services they received while in the ED. Table 4 indicates that significant differences were present, in perceptions of care received and in perceptions of the overall services received while in the ED, between the patients seen by the CNS group and those seen by the medical group (Mann-Whitney U two-tailed test: $P < 0.01$).

Wound healing

Cross tabulations were used to examine the association between wound healing outcomes in the patients sutured by the CNS and medical groups. The 2×2 contingency table in Table 5 shows the incidence of adequate wound approximation, after healing, which was assessed at follow up. Fisher's exact test was used to test

Table 3 Comparison of patients' perception of waiting time in ED

	Mean rank	Cases	Group
	40.05	40	Medical
	39.95	39	CNS
U	778.0	Z	2-tailed P
		1558.0	0.984
		-0.020	

Table 2 Comparison of waiting times for patients seen by the CNS group and the medical group

1. Total time until seen By CNS/Doctor	Mean rank	Cases	Group
	44.67	40	Medical
	36.33	40	CNS
U	645.5	Z	2-tailed P
		1774.5	0.137
		-1.49	
2. Total time until Suturing commenced	Mean rank	Cases	Group
	43.88	40	Medical
	37.13	40	CNS
U	665.0	Z	2-tailed P
		1755.0	0.194
		-1.30	
3. Total time spent in ED	Mean rank	Cases	Group
	44.67	40	Medical
	36.33	40	CNS
U	633.0	Z	2-tailed P
		1787.0	0.108
		-1.61	

Table 4 Comparison of patients' perception of care received for suturing of laceration and overall care in the ED

1. Patients' perception of care received for the repair of laceration		Mean rank	Cases	Group
		33.35	40	Medical
		47.65	40	CNS
U	W		Z	2-tailed P
514.0	1334.0		-3.16	0.0016**

2. Patients' perception of overall service received in ED		Mean rank	Cases	Group
		34.20	40	Medical
		46.80	40	CNS
U	W		Z	2-tailed P
548.0	1368.0		-2.67	0.008**

**P<0.01

Table 5 The relationship between the two patient groups and approximation of wound after healing

Adequate approximation of the wound	Patient groups		Total
	CNS group	Medical group	
Yes	35	37	72
No	5	3	8
Total	40	40	80

the hypothesis that no difference would be found between healing in the two patient groups. Fisher's exact test with two-tailed probability demonstrated a significance of ($P=0.71$), indicating that wound approximations in the two groups after healing was similar.

Table 6 reveals the incidence of wound complications assessed at follow up. The Fisher's exact test with two-tailed probability demonstrated a significance of ($P=1.00$). These findings suggest that the incidence of complications was similar and low in the two groups.

Discussion

An increasing number of non-urgent patients, who could be dealt with in the community by a local general medical practitioner, are presenting to EDs. A consequence of this increase in numbers presenting to EDs is that many triage patients categorized as non-urgent cases are waiting longer because the doctors on duty are usually treating more serious patients.

Waiting times

Previous projects by Strange 1994 and Wilson et al. 1994 indicate that the introduction of advanced practice nursing roles into the ED can impact on patient waiting times. These reductions in waiting time appear to influence customer satisfaction with the ED services. Wilson et al. indicated that advanced practice roles like nurse practitioners were economical, provided quality care, increased patient compliance with treatment and improved patients' flow through EDs.

In evaluating the present program it was found that waiting times were not significantly different between patients sutured by doctors and by nurses (Table 2). These findings may reflect a number of factors such as the inexperience of the nurses who had not sutured prior to the introduction of this program. The waiting times may also be a reflection of the need for a doctor to review patients seen by the triage nurse or sutured by the CNS. These factors may

Table 6 The relationship between the two patient groups and wound complication with healing

Complications with wound	Patient groups		Total
	CNS group	Medical group	
Yes	4	5	9
No	36	35	71
Total	40	40	80

have had a significant influence on the waiting times of patients entered into the program

Patient satisfaction

Bonadio et al. (1994) in their prospective study found that parents of children sutured stated that they were 'very satisfied' with the wound repair procedure in 98% and with wound healing outcome in 97% of the cases. Carney (1994) found that parents' overall satisfaction with their child's wound repair experience was 98%. Covington et al. 1992 found 96% of patients cared for by nurse practitioners found that care was excellent or very good, inclusive of waiting times.

Analysis of the present data suggests a significant difference in the patients' perception of care received and the overall services provided by the CNS group when compared to patients seen by the medical group (Table 4). These findings support the relevant overseas literature and the only Australian study conducted by Strange (1994), which indicated that most ED patients attended by a nurse practitioner were satisfied with the treatment received.

Wound healing

Bonadio et al. (1994) and Carney (1994) implemented nurse suturing programs for paediatric lacerations in ED. The two programs demonstrated similar positive healing outcomes. The findings from the present project demonstrated the healing outcomes for patients cared for by the CNS group and by the medical group were similar, and no adverse complications were found in either group

Conclusion

The ED at MMC developed and implemented a CNS suturing program, which trained nurses to repair minor lacerations. This collaborative project demonstrates some of the current changes taking place in the nursing profession whereby nursing roles, in this case in the ED are beginning to reflect advanced practice roles found in other countries. The program demonstrates that the new CNS role is capable of providing high quality care to individuals with minor lacerations who typically wait to receive medical attention. The role also allows doctors to use clinical time more effectively in the medical management of seriously ill patients.

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