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Second Edition

Emergency Nursing

Principles and Practice

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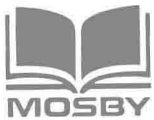

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To my Uncle Ray,
Whose tales of faraway places and
whose vivid imagination taught me
how to be a dreamer, and whose
love and caring and after-dinner
talks taught me that dreams can come
true if I really want them to.

With much love,
Susan

The opinions and assertions in this book are the views of the authors and are not to be construed as official or as reflecting the views of the Department of the Air Force or the Department of Defense.

Preface

The last 10 years have brought an air of excitement to emergency nursing: emergency nursing is finally recognized as a bona fide specialty of nursing practice. Part of this specialty is a body of knowledge that is a bit different from that of any other nursing specialty. The practicing emergency nurse is a generalized specialist, having to know something about everything, since daily practice deals with the unexpected and unplanned, with patients from all age groups, ethnic backgrounds, and walks of life, with diseases and injuries that may be acute or chronic, minor or major. One often encounters the problem of caring for many patients at once, triaging priorities, consoling grieving relatives and friends, and being a friend to one who has no friends. There is no place in a hospital more visible to the public than the emergency department. An emergency nurse has a role that is difficult to fill.

This book was written with these thoughts in mind. It attempts to whet your appetite for emergency nursing knowledge. This book is by no means a complete compendium of emergency nursing knowledge; volumes and volumes would be needed to accomplish that task. It is, however, a place in which one can find the basic concepts of care for the ill or injured emergency patient.

Susan Budassi Sheehy

Acknowledgments

Getting a book like this published can be compared to giving birth to a child: there is wonderful excitement and sheer exhaustion. The idea is conceived, it grows and develops, and then the labor begins; it is finally published, and we look to see if it has all its fingers and toes. This book is an assemblage of ideas, thoughts, and influences from many people in my life, both professional and personal. Although space is limited, I would like to acknowledge as many of those people as I can.

I work with a very special group of people at St. Joseph Hospital. They make my job easy because they love to learn, are willing to try new ideas, and give excellent patient care. Our emergency physician team is outstanding: Jim Fulcher, Mark Jergens, Tom Kaufman, Bob Deichert, and Greg Shroedl; our administration is admirable: Sister Margaret Mary Whelan, Eric Platz, and many others; our nursing staff is "the best in the West." I am proud of the care they give.

What would the world of emergency care be without the men and women of prehospital care? Their quest for new knowledge has kept me very busy—teaching, writing, reading, and studying into the wee hours of the morning.

The Emergency Nurses' Association has played a large part in my professional development. Being involved in ENA has given me the opportunity to travel extensively, to exchange ideas with emergency nurses from all over the world, and to put those ideas in writing.

My family and friends have been a great support to me during the writing of this book with their enthusiasm, encouragement, and understanding. My husband Steve has been most understanding on those evenings and weekends in which socializing would have been more fun but writing was more important. His encouragement meant a lot during those periods of writer's block. To my parents, an emotional thank you for always believing in me and always encouraging me. To my brother Steve, whose brain I pick frequently and whose intelligence and administrative skills I admire so much—thank you for our close personal and professional relationship.

I have been blessed with many friends, whose encouragement, humor, and camaraderie have withstood the test of my habit as "the hermit writer," the years, and the many miles of separation: Susan August, Karen Hoxeng, Gail Lenehan, Barbara Weldon Tone, Ane Fulcher, Tom and Bob Tootell, Jack Casey, Jesse Mares, Kriss, Ralph, and Sean Kruikshank, and Bess Arends.

To Jeff MacDonald, my special friend, a special thank you. His love for emergency medicine has survived the most adverse of adversities. I say a special prayer that he will be back on the front line soon.

Acknowledgments would not be complete without mentioning the thousands of emergency nurses who have touched my life—all over the USA from Tacoma, Washington, to Boston, Massachusetts, and hundreds of places in between, such as St. Ignatius, Montana, Thermopolis, Wyoming, Devil's Lake, Minnesota, and Durango, Colorado; and in countries such as Canada, the USSR, China, and Germany. They have given much toward the development of this book and the profession of emergency nursing.

Susan Budassi Sheehy

Contents

PART ONE

PRINCIPLES OF EMERGENCY NURSING

CHAPTER 1

Overview of emergency nursing and emergency care

EMERGENCY NURSING

Emergency nursing is the care of individuals of all ages with perceived or actual physical or emotional alterations of health that are undiagnosed or require further intervention. This care is episodic, primary, and usually acute.

Emergency nursing provides one with a unique opportunity to practice almost every subspecialty of nursing. It encompasses such specialities as medical nursing, surgical nursing, pediatic nursing, obstetric nursing, psychiatric nursing, and community health nursing. These are all practiced at the clinic as well as at the critical-care level. Because these types of nursing are practiced at so many different levels and under so many different circumstances, the knowledge and skills of the emergency nurse must far exceed those of the generalist. The emergency nurse is often the first person of the health care team to see a patient and is often responsible for life-and-death decisions. The emergency nurse is an assessor, planner, interpreter, evaluator, teacher, and more. He or she must possess the skills of triage, data collection observation, intervention, referral, and teaching. At times he or she is required to make decisions upon which a life depends. The patient population for an emergency nurse is varied, from the newborn to the very elderly. The patient may be unconscious, speak a foreign language, be emotionally disturbed, or be grieving. Amidst all this lies the "technical imperative" of being able to start an IV on a patient having a seizure, do CPR, draw arterial blood gases, record a 12-lead ECG, or perform one of many other technical duties. Emergency nurses answer questions on the telephone and from the general public. They must answer the prehospital care radio and provide directions for prehospital care personnel. Through all this the emergency nurse must remain aware of the state nurse practice acts that govern the practice of nursing. There must also be an awareness of the *Standards of Emergency Nursing Practice*[1] provided by the Emergency Department Nurses Association. In addition, the emergency nurse must be aware of the legal constraints of the practice of medicine and nursing, especially concerning emergency care.

An emergency nurse interacts with patients, families, and significant others of all ages, socioeconomic backgrounds, cultural backgrounds, and religious beliefs. One must be sensitive to all the special needs of a patient, since those needs may lead one to alter the way in which health care is provided or indicate how that patient will deal with the problem that brought him or her to the emergency department.

Management skills are also an integral part of emergency nursing, whether they be in trauma resuscitation or in the management of an entire department. Emergency visits are unplanned, unscheduled, and unpredictable. One must be able to adjust to the unexpected.

Emergency nursing is a specialty of nursing that has been developing over the last 2 decades. It has been a part of the growth of the entire specialty of emergency care. It is common to associate an emergency nurse with the emergency department of a hospital; emergency nursing, however, can be

practiced in a variety of settings: schools, clinics, ambulances, and helicopters or fixed-wing aircraft. The main characteristics of emergency nursing are that patient interaction is usually very brief, the climate may be stressful, the number of patients may be unpredictable, and the time for intervention may be relatively brief.

The Emergency Department Nurses Association has developed the *Standards of Emergency Nursing Practice*. These standards are guidelines for excellence in emergency nursing practice. They contain outcome criteria against which to measure and evaluate one's performance.

The scope of emergency nursing practice encompasses activities that are directed toward health problems at various levels of complexity. Physiologic or psychologic changes occur rapidly and may be life-threatening. This requires skill in assessment, intervention, ongoing reassessment, and supportive care to patients and significant others. Identification and intervention of life-threatening conditions, health education, and referral are among the several responsibilities of the emergency nurse.

Most curricula in undergraduate nursing education do not include emergency nursing. The education and training of the nurse in this specialty is usually accomplished on the job. Not everyone has the desire or the ability to become an emergency nurse. Graduates of nursing education programs who choose to practice in small urban or rural areas are likely to find themselves in situations that demand a considerable amount of competence and specific preparation to be able to function independently and with limited resources. They are often called on to provide initial life support care, to stabilize a patient clinically before a long journey to another hospital, and to care for and monitor individuals who are critically ill while awaiting the arrival of an "on-call" physician. A well-educated and experienced emergency nurse can help prevent the type of circumstances that lead to increased morbidity and mortality.

There has been and continues to be a systematic effort on the part of the Emergency Nurses Association (ENA) and other special interest groups to enhance the practice of emergency care through educational endeavors such as teaching institutes, scientific assemblies, seminars, the *Core Curriculum*,[2] the *Journal of Emergency Nursing*, and interdisciplinary involvement in emergency medical services. A competency-based certification examination recognizing excellence in the knowledge of emergency nursing (Certification in Emergency Nursing—CEN) is available through ENA. This certification is good for 4 years, at which time the exam must be retaken and passed for the nurse to gain another 4-year certification.

EMERGENCY NURSE PRACTITIONER

Federal and private foundation grants supporting nurse practitioner training have created and sustained nearly 150 expanded-role programs for nurses that offer certificates or advanced degrees. Certificate programs last from 16 to 68 weeks. These programs are designed to prepare the advanced nurse practitioner. There are about 10 programs that are designated "emergency nurse practitioner." Master's degree programs last from 44 to 72 weeks. These curricula provide content dealing with acute and nonacute emergency situations.

Emergency personnel, including physicians, nurses, paramedics, and emergency medical technicians (EMTs) should have a strong base in critical care theory and practice to deal effectively with the dynamic changes in field and hospital management of medically, traumatically, and psychiatrically ill patients.

A characteristic inherent in emergency medical services is the integrated nature of the emergency care team. The quality of prehospital care depends on physician and nurse direction from the base hospital, both directly and indirectly, via classroom preparation or direct radio contact. The in-hospital effort is greatly influenced by the field team's effort during initial stabilization and transfer and by ongoing communications. Physicians must depend on nurses' assessments, and nurses must anticipate the needs of patients. There is no other place in the health care system in which teamwork and mutual respect are more important. All members of the emergency care team must function as colleagues so that excellent patient care and decreased morbidity and mortality can be achieved.

HISTORY OF THE EMERGENCY MEDICAL SERVICES MOVEMENT

In the last 2 decades emergency care has come into its own, so that both emergency nursing and

emergency medicine are currently recognized as professional specialties. In the 1950s and 1960s it was common practice for funeral homes to provide ambulance services for emergency rooms of the local hospital. These ambulances were poorly equipped and even more poorly staffed. Police, firemen, and practitioners of first aid provided first aid–level prehospital care. Emergency care needs became more and more apparent. Agencies and organizations began to engineer a plan to prevent prehospital deaths caused by illness and injury by bringing medical care to the streets. First, mobile coronary care units were established to bring coronary care to the streets in the hopes of preventing death outside of the hospital caused by myocardial infarction and cardiac arrest. It soon became apparent that care should be delivered to victims who were ill and/or injured from various causes. This formed the basis for the current very popular paramedic ambulances, which are equipped for the management of trauma and major medical emergencies: obstetric, pediatric, and psychiatric. In 1966 the National Highway Safety Act authorized the Department of Transportation (DOT) to establish EMS guidelines. Under this law, funds were allocated for the purchase of ambulances, the installation of communication networks, and the development of EMT and paramedic training programs under a statewide plan. The 81-hour EMT training program soon became the minimum standard for prehospital care providers. Other training programs were designed. The sophistication of prehospital care began to grow.

In June of 1970 a National Registry of Emergency Medical Technicians was organized to unify requirements, examinations, and certification requirements of EMTs on the national level. Both EMTs and paramedics have specific requirements for continuing education in most states to ensure competency for recertification. The National Association of Emergency Medical Technicians (NAEMT) was organized to meet the special needs of the EMT.

The Emergency Medical Services Systems Act of 1973 was designed to stimulate self-help regionalization of EMS programs in integrating the following 15 elements into a system:

1. Manpower
2. Training
3. Communications
4. Transportation
5. Facilities/categorization
6. Critical care units
7. Public safety agencies
8. Consumer participation
9. Accessibility to care
10. Transfer of patients
11. Standardized patient record keeping
12. Public education and information
13. Independent review and evaluation
14. Disaster linkages
15. Mutual aid agreements

The division of emergency medical services in the United States Department of Health and Human Services (HHS) divided the country into approximately 300 EMS regions. States have been rapidly demonstrating their own interest in maintaining and improving their system through funding, personnel licensing and certification, and facilities planning.

The national emergency telephone number (911), available in many communities, is the result of a concerted effort to improve access to EMS by the consumer. Concurrent with the growth of EMS has been a steady increase in the number of physicians, nurses, and other specialists whose prime concern is the delivery of emergency care.

EMS MANPOWER

Manpower needs in the EMS system must include a cadre of "first responders" who can establish basic life support procedures. Policemen, firemen, and other citizens may fall within this group. A call for help must be relayed by a trained EMS dispatcher, who triages the call, dispatches personnel and equipment, and provides instruction for first responders about what they should do until advanced help arrives. Those advanced responders may be EMTs, paramedics, nurses, respiratory therapists, or physicians, depending on the type of call and the community-accepted protocol. For example, aboard specialized units, such as helicopters or neonatal mobile intensive care units, it is typical to find that respiratory therapists, transport nurses, and physicians accompany the victim, especially if the distance from the receiving facility to the transport facility is a great distance. In many rural areas of the United States terrain and weather conditions may present unusual problems, so other rescue workers may join the medical team to en-

sure safety and efficiency in the rescue effort and transport. The MAST program (Military Assistance to Safety and Traffic) links the Department of Defense and other federal departments (HEW and DOT) and provides helicopters, fixed-wing aircraft, and military paramedical personnel to aid civilians in onscene transport efforts. This program is limited, however, since it serves only 20 to 30 sites in the United States.

EMERGENCY MEDICINE AS A SPECIALTY

The first postgraduate program in emergency medicine began in July of 1970 at the University of Cincinnati Medical Center. Since that time many residency programs have been developed. In late 1979 emergency medicine was formally recognized as a specialty by the American Board of Medical Specialists, mostly through the efforts of the American College of Emergency Physicians (ACEP). Having emergency medicine recognized as a specialty enhances emergency medicine: it ensures that the best possible care will be given to individuals coming to the emergency department.

HOSPITAL EMERGENCY DEPARTMENT

Emergency departments provide care to millions of people each year. The emergency department has the only private physician many people ever know. Emergency departments not only serve as receiving centers for critically and seriously ill people but also serve as 24-hour clinics and as shelters for people who are frightened and have nowhere else to go. Emergency departments have grown over the last decade. Perhaps this census increase is caused by the lack of accessibility to private physicians. Persons with low incomes probably use the emergency department as a primary resource because it is convenient and because they are ensured of receiving care if it is needed regardless of their inability to pay. Also, few primary care physicians have office hours in the evenings, on weekends, or on holidays. Another factor is that health insurance plans favor paying for emergency department visits over regular office visits to a physician. It is also convenient for individuals who prefer an unscheduled approach to health care delivery—there is never an appointment required in the emergency department. The fact that emergency departments are available at all times to the public has created an expectation of an open system and treatment for all conditions.

Today's emergency departments are considerably more sophisticated in their management of medical and trauma cases than were the emergency "rooms" of 2 or 3 decades ago. Statewide programs for facility categorization have ensured that the services available in any emergency department are, for the intentions of the unit, of the highest quality and that the health care industry is making good use of the various types of unique capabilities (such as a burn unit, a trauma center, or transplant facilities). Criteria for categorization concern physical facilities, specialized equipment, medical subspecialties, types of services available, numbers and types of personnel, and the amount of training required to maintain currency in a specialized area. The number of available key personnel must also be documented according to their full-time, part-time, and on-call statuses.

The results of the evaluation are a clear indication of the capabilities of a facility, so that all involved in EMS are more effectively able to utilize the services for limited emergencies, major emergencies, trauma cases, and so forth. Many states have adopted unique schemes for grouping hospital emergency facilities, for example, by size, geographic location, number of house staff, and specialty availabilities.

Regionalization

A systems approach to EMS is crucial in providing a high quality of service with some consistency. Regionalization should help eliminate the costly duplication of critical clinical services such as centers for the high-risk neonates, patients with severe burns, patients with multiple traumas, and patients with spinal cord injuries. To utilize these facilities appropriately requires that candidates be identified with distinct criteria and that transfer to the specialized center be accomplished at the right time after stabilization of the victim. Elaborate systems of ambulance and air transport have been developed and reflect special concern for the geographic location, terrain, and weather conditions inherent in the area. Communications, including telemetry, have become increasingly important in providing field direction for the prehospital care team. Poison control networks have also proliferated in an effort to improve the immediate care of toxicologic crises. The interface of these innova-

tions in physical resources with a sophisticated group of new specialists in emergency departments has brought credibility to the delivery of emergency care.

PHYSICAL FACILITIES OF THE EMERGENCY DEPARTMENT

The modern, well-equipped emergency department combines a clinic flow system with surgical areas and an intensive care area. Ordinarily the design provides for an ambulance entrance and an ambulatory entrance. A triage nurse at the intake point makes an initial assessment about the patient's priority needs for care. This triage nurse then directs the patient to the appropriate area for treatment or to wait for treatment. Registration clerks and cashiers are also usually available in the emergency department entrance area to manage business functions of the department.

Treatment areas may be divided into major trauma/arrest rooms, minor suture rooms, gynecological examination rooms, family or psychiatric rooms, and general examination rooms. Some larger emergency departments have an observation or holding room, an isolation room, decontamination facilities, a cast room, and an x-ray room. There may also be a small laboratory in the department. There may be administrative offices and offices for pastoral care or social services. Some hospitals even have special areas for patients who are being held by the police for various reasons.

Regardless of its design or size the emergency department must be available 24 hours a day and staffed to deal with one or many victims of illness or injury needing either minimal or resuscitative care.

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