

MANUAL OF

Emergency Nursing

Ludy Selfridge-Thomas



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“Praise is well, compliment is well, but affection – that is the last and final and most precious reward any person can win.”

Mark Twain

To those closest to me both personally and professionally. You have provided me with the necessary love, support, and affection that allowed this book to be written. Know that you are forever in my heart and my thoughts – Ron, Mom, Mike, Courtney, Tom, David, Denise, and innumerable others.

Introduction

The specialty of emergency nursing is one of diversity. It requires a broad knowledge base of both nursing and medical sciences in order to rapidly formulate complex clinical judgments and institute collaborative interventions. This text provides the clinical emergency nurse with relevant information that reflects the scope of emergency nursing.

The clinical chapters provide information on Life-Threatening, System Specific, Non-System Specific, and Environmental Related Emergencies and are organized according to the nursing process. They begin with a general overview which includes assessments, common diagnostic tests, NANDA approved nursing diagnoses, interventions, and outcome evaluations. This is followed by a discussion of specific medical and traumatic conditions related to the system. Tables and Charts are used extensively throughout the chapters to provide clinical information in a format that is concise and user friendly. Because a variety of patients present to the emergency setting with vague complaints, the section Non-System Specific Emergencies was developed.

The section on Contemporary Issues was written to equip the emergency nurse with information relevant to the clinical practice setting. Included is material on legal issues, evidence preservation and collection, abuse and violence, disaster management, and interfacility patient transfer/transport.

Not only is our clientele diverse but so are the settings in which we practice. This text is intended as a resource for the emergency nurse to assist in the delivery of that broad-based and dynamic care.

Preface

The focus of emergency nursing is to provide episodic care to patients seeking treatment for both life-threatening and non-critical illnesses or injury. In delivering that care, it is imperative that the emergency nurse have access to relevant information in order to rapidly institute their decision-making skills.

Emergency nurses who strive to improve their clinical practice seek knowledge and take responsibility for obtaining that knowledge. They continually reaffirm their commitment to promote the professional values of emergency nursing so that quality patient care is the outcome.

As the author of this *Manual of Emergency Nursing*, it is my desire that my colleagues will find this text provides that necessary and current knowledge to assist with the delivery of professional nursing care in the ever-changing emergency care setting.

Judy Selfridge-Thomas

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Unit I

Introduction

1

Patient Assessment and Priority Setting

The patient assessment and priority-setting process parallels the nursing process. The initial assessment is a systematic approach that assists the nurse in identifying actual or potential immediate life-threatening conditions, institute resuscitative interventions, and then recognize and prioritize treatments for non-life-threatening conditions. The initial assessment process is divided into two sections—the **Primary and Secondary Survey**.

PRIMARY SURVEY (ABCs)

The primary survey involves performing a rapid assessment to immediately identify actual or potential problems impacting the patient's ability to sustain life. It involves determining the patient's **airway, breathing, and circulatory (ABC)** status and instituting the appropriate immediate interventions as required.

Airway

Is the airway open, patent, and effective? A partial or complete airway occlusion can occur from obstruction (e.g., tongue occlusion, inhaled/swallowed toxins or foreign objects, laryngeal swelling, oral space-occupying lesions) or facial or neck/tracheal trauma.

Assessments

Inspection. Drooling or an inability to swallow secretions may be evident. Intercostal or substernal retractions can occur with a par-

tial obstruction; an absence of chest wall movement is present if a complete obstruction exists. A partial airway obstruction caused by the presence of a foreign object can result in violent coughing. Observe the patient's skin color for paleness or cyanosis indicating a decrease in circulating oxygen. The patient may also be agitated or comatose depending on whether the obstruction is partial or complete.

Auscultation. Stridor with respiratory inspiration/expiration is indicative of a partial airway obstruction. Absence of airflow sound is indicative of a complete airway obstruction.

Interventions

If the airway is totally occluded, attempt to open it using a chin lift or jaw thrust maneuver, then reevaluate airway patency. If a foreign object is visible in the posterior pharynx, remove it using either a McGill forceps or suction. Should the chin lift or jaw thrust maneuver fail to open the airway, more aggressive interventions must be instituted. This may involve performing abdominal or chest thrusts on the patient (if an aspirated foreign object is suspected), assisting with intubation via either the nasal or oral route, or creating a surgical airway via a cricothyroidotomy.

Once the airway is open it must be maintained, which may involve inserting an oral or nasal airway adjunct. An oral airway can be inserted in an unconscious patient, whereas a nasopharyngeal airway is better tolerated in a conscious patient. Intubation may also be necessary to maintain airway patency.

Any patient who requires airway-opening maneuvers because of traumatic injury should concurrently be placed in spinal immobilization. This involves the application of a hard and rigid cervical collar, neck-supporting devices (such as rolled towels), possibly placing the patient on a long board structure, and restraining the patient from further movement using restraining straps.

If the airway is partially occluded but the patient is conscious and maintaining some respiratory activity, position the patient upright, allow the patient to continue to cough, and assist with gentle suction to remove accumulated secretions as needed.

Breathing

Is the patient breathing and is the breathing effective? Ineffective breathing or ventilation can occur from respiratory illness or disease (acute or chronic), traumatic thoracic injury, inhalation of toxic fumes or gases, or cardiac-related disease/dysfunction.

Assessments

Inspection. A sustained increased or decreased respiratory rate may be present. The patient's skin color may be pale or cyanotic indicating an inadequate amount of circulating oxygen. Intercostal, sub-sternal, or diaphragmatic retractions often occur with an increase in respiratory effort in addition to the use of accessory muscles. Infants may display head-bobbing in an effort to enhance ventilation, whereas nasal flaring and/or grunting may be prevalent in children or adults. Other observable indicators of ineffective respirations may include a deviated trachea and distended neck veins if tension pneumothorax is present. Paradoxical chest wall movements indicate the presence of flail chest, and open thoracic wounds may produce an open pneumothorax. Low pulse oximetry readings (less than 94% at sea level atmosphere) may also indicate impaired oxygenation.

Auscultation. The absence or inequality of breath sounds over the lung lobes indicates an accumulation of fluid/blood or a loss of negative pressure within the thoracic cavity. Abnormal lung sounds such as rales (crackles), rhonchi, wheezes, or friction rubs are commonly heard with diseases such as pulmonary edema, bronchitis, pneumonia, obstructive illness, or pleurisy.

Interventions

If the respiratory rate is less than 10 breaths per minute in an adult, immediate ventilation using a bag-valve-mask device must be initiated. Otherwise, the administration of supplemental oxygen using either a nasal cannula, simple face mask, or nonrebreather face mask should be considered. An arterial blood gas (ABG) may be obtained either before or during oxygen administration; however, oxygen administration should not be withheld from a patient experiencing respiratory difficulty for the sole purpose of obtaining an ABG. Positioning the patient upright assists the patient in increasing ventilation.

If the respiratory rate and effort is ineffective because of a traumatic thoracic injury, the cause must be identified as quickly as possible. Interventions may include:

Needle thoracostomy — performed at the 2–3 intercostal space, mid-clavicular line on the affected side for immediate relief of tension pneumothorax.

Chest tube — inserted on the affected side to reestablish intrathoracic pressure if an open, closed, or tension pneumothorax is present. A chest tube is also inserted to drain the blood accumulation of hemothorax.

Circulation

Does the patient have a pulse, and if so, is it effective? Absent or inadequate circulation can occur with volume loss, cardiac disease, or cardiac arrest.

Assessments

Inspection. No palpable pulse rate and no neurologic activity occurs with an absence of circulation. Ineffective circulation may be indicated by neurologic disorientation of the patient, cyanotic skin color, moist skin temperature, hypotension, or cardiac dysrhythmias. Neck veins may be flat if circulatory volume is inadequate or distended if cardiac output is decreased but circulatory volume is not lessened (as in cardiac tamponade, tension pneumothorax, or congestive heart failure).

Auscultation. S_1 and S_2 heart sounds are absent with cardiac arrest. Muffled or distant-sounding heart sounds occur with cardiac tamponade.

Interventions

If no pulse activity is present, immediate chest compressions are initiated (see Chapter 3, Cardiopulmonary Emergencies). An emergency open-chest thoracotomy may be necessary if the pulselessness is caused by traumatic injury.

If cardiac activity is present but ineffective, interventions are dependent on the identified cause. Volume replacement may be required. Further external blood loss may be controlled by applying direct pressure over the area. An external pacemaker can augment poor cardiac output caused by cardiac injury or disease. A pericardiocentesis is required if cardiac tamponade is affecting cardiac output. The use of the pneumatic antishock garment (PASG) remains controversial but may be used to assist circulation.

SECONDARY/FOCUSED SURVEY

The secondary or focused survey is a process to identify other, non-life-threatening problems the patient may be experiencing. Both subjective and objective information are obtained in this process. It involves determining neurologic function, eliciting appropriate history information, determining a general overview of the patient's state of health, and using the techniques of inspection, palpation, percussion, and auscultation to determine normal versus abnormal findings as they relate to the patient's complaint.

Neurologic Assessment

Assess the patient's level of orientation to:

Person—who they are (this level of orientation is lost last)

Place—where they are

Time—can they identify the day, month, or year?

Event—what brought them to seek emergency care?

Calculate a Glasgow Coma Scale score (GCS) based on the stimulation required to elicit an eye-opening, verbal, and motor response. Total scores range from 3 (no response to applied stimuli) to 15 (no neurologic deficit). Appendices G and I list neurologic scales—AVPU Infant Response Scale and GCS.

Assess pupil reaction to light and accommodation. Both pupils should constrict when light shines into the pupil and dilate when the light is withdrawn. Unequal size and reaction of the pupils indicates neurologic impairment.

Assess motor ability and strength of hand grips and pedal pushes. Grips and push strength should be equal bilaterally.

History Information

Identify the chief complaint in the patient's own words — determine the length of time of the complaint and whether the patient has experienced this problem before.

If pain is present, obtain further information based on the **PQRST** mnemonic:

P—Provokes: what makes the pain increase or decrease?

Q—Quality: describe the type of pain—dull, sharp, colicky, pressure?

R—Region/Radiation: where is the pain located and does it move to other areas?

S—Severity: rate the pain intensity on a scale of 1 to 10 (1 being no or minimal pain, 10 being the most severe pain).

T—Timing: does the pain occur in cycles? When did the pain begin?

If injury is the cause of the patient's problem, determine whether the mechanism involved blunt or penetrating forces.

Are any associated symptoms present such as nausea, vomiting, shortness of breath, coughing, or sweating?

Women of childbearing age may need to be questioned about previous pregnancies, age of onset or end of menstruation, and date of the last normal menstrual period (LMP).