LEARNING OBJECTIVES

On completion of this chapter, the learner will be able to:

1. Define the three phases of the perioperative period.
2. Describe a comprehensive preoperative assessment to identify surgical risk factors.
3. Identify the causes of preoperative anxiety and describe nursing measures to alleviate it.
4. Identify legal and ethical considerations related to informed consent.
5. Describe preoperative nursing measures that decrease the risk for infection and other postoperative complications.
6. Describe the immediate preoperative preparation of the patient.
7. Develop a preoperative teaching plan designed to promote the patient’s recovery from anesthesia and surgery, thus preventing postoperative complications.
Surgery, whether elective or emergent, is a stressful, complex event. Today, as a result of advances in surgical techniques and instrumentation as well as in anesthesia, many surgical procedures that were once performed in an inpatient setting now take place in an ambulatory or outpatient setting. Approximately 60% of elective surgeries are now performed in an ambulatory or outpatient setting (Russell, Williams & Bulstrode, 2000). This trend has increased the acuity and complexity of surgical patients and procedures. The number of surgical patients admitted for overnight hospital stays is expected to continue to decrease.

In the past, the patient scheduled for elective surgery would be admitted to the hospital at least 1 day before surgery for evaluation and preparation; these activities are now completed before the patient is admitted to the hospital. Today, many patients arrive at the hospital the morning of surgery and go home after recovering in the postanesthesia care unit (PACU) from the anesthesia. Often, surgical patients who require hospital stays are trauma patients, acutely ill patients, patients undergoing major surgery, patients who require emergency surgery, and patients with a concurrent medical disorder. Although each setting offers its own unique advantages for the delivery of patient care, all require a comprehensive preoperative nursing assessment and nursing intervention to prepare the patient and family before surgery.

Today’s technology has led to more complex procedures, more complicated microsurgical and laser technology, more sophisticated bypass equipment, increased use of laparoscopic surgery, and more sensitive monitoring devices. Surgery might now involve the transplantation of multiple human organs, the implantation of mechanical devices, the reattachment of body parts, and the use of robots and minimally invasive procedures in the operating room (Mack, 2002). Advances in anesthesia have kept pace with these surgical technologies. More sophisticated monitoring and new pharmacologic agents, such as short-acting anesthetics and more effective antiemetics, have improved postoperative pain management, reduced postoperative nausea and vomiting, and shortened procedure and recovery times.

Concurrent with technologic advances have been changes in the delivery of and payment for health care. Pressure to reduce hospital stays and contain costs has resulted in patients undergoing diagnostic procedures the day of surgery may be as basic as performing or updating the preoperative patient assessment and addressing questions the patient or family may have.

**Glossary**

**ambulatory surgery:** may include outpatient (or same-day) surgery that does not require an overnight hospital stay or short stay, with admission to an inpatient hospital setting for less than 24 hours.

**informed consent:** the patient’s autonomous decision about whether to undergo a surgical procedure; based on the nature of the condition, the treatment options, and the risks and benefits involved.

**intraoperative phase:** period of time from when the patient is transferred to the operating room table to when he or she is admitted to the postanesthesia care unit (PACU).

**perioperative phase:** period of time that constitutes the surgical experience; includes the preoperative, intraoperative, and postoperative phases of nursing care.

**postoperative phase:** period of time that begins with the admission of the patient to the PACU and ends after a follow-up evaluation in the clinical setting or home.

**preadmission testing (PAT):** diagnostic testing performed before admission to the hospital.

**preoperative phase:** period of time from when the decision for surgical intervention is made to when the patient is transferred to the operating room table.

**Perioperative and Perianesthesia Nursing**

The special field known as perioperative and perianesthesia nursing includes a wide variety of nursing functions associated with the patient’s surgical experience during the perioperative period. **Perioperative** and perianesthesia nursing addresses the nursing roles relevant to the three phases of the surgical experience: **preoperative,** **intraoperative,** and **postoperative.** As shown in Chart 18-1, each phase begins and ends at a particular point in the sequence of events that constitutes the surgical experience, and each includes a wide range of activities the nurse performs using the nursing process and based on the standards of practice (American Society of PeriAnesthesia Nurses, 2000; Litwack, 1999; Quinn, 1999).

**PREOPERATIVE PHASE**

The **preoperative phase** begins when the decision to proceed with surgical intervention is made and ends with the transfer of the patient onto the operating room table. The scope of nursing activities during this time can include establishing a baseline evaluation of the patient before the day of surgery by carrying out a preoperative interview (which includes not only a physical but also an emotional assessment, previous anesthetic history, and identification of known allergies or genetic problems that may affect the surgical outcome), ensuring that necessary tests have been or will be performed (preadmission testing), arranging appropriate consultative services, and providing preparatory education about recovery from anesthesia and postoperative care. On the day of surgery, patient teaching is reviewed, the patient’s identity and the surgical site are verified, informed consent is confirmed, and an intravenous infusion is started. If the patient is going home the same day, the availability of safe transport and the presence of an accompanying responsible adult is verified. Depending on when the preadmission evaluation and testing were done, the nursing activities on the day of surgery may be as basic as performing or updating the preoperative patient assessment and addressing questions the patient or family may have.

**INTRAOPERATIVE PHASE**

The **intraoperative phase** begins when the patient is transferred onto the operating room table and ends when he or she is admitted to the postanesthesia care unit (PACU). In this
phase, the scope of nursing activity can include providing for the patient’s safety, maintaining an aseptic environment, ensuring proper function of equipment, providing the surgeon with specific instruments and supplies for the surgical field, and completing appropriate documentation. In some instances, the nursing activities can encompass providing emotional support by holding the patient’s hand during general anesthesia induction, assisting in positioning the patient on the operating room table using basic principles of body alignment, or acting as scrub nurse, circulating nurse, or registered nurse first assistant (RNFA).

**Examples of Perioperative Nursing Activities**

### Preoperative Phase

**Preadmission Testing**

1. Initiates initial preoperative assessment
2. Initiates teaching appropriate to patient’s needs
3. Involves family in interview
4. Verifies completion of preoperative testing
5. Verifies understanding of surgeon-specific preoperative orders (eg, bowel preparation, preoperative shower)
6. Assesses patient’s need for postoperative transportation and care

**Admission to Surgical Center or Unit**

1. Completes preoperative assessment
2. Assesses for risks for postoperative complications
3. Reports unexpected findings or any deviations from normal
4. Verifies that operative consent has been signed
5. Coordinates patient teaching with other nursing staff
6. Reinforces previous teaching
7. Explains phases in perioperative period and expectations
8. Answers patient’s and family’s questions
9. Develops a plan of care

**In the Holding Area**

1. Assesses patient’s status; baseline pain and nutritional status
2. Reviews chart
3. Identifies patient
4. Verifies surgical site and marks site per institutional policy
5. Establishes intravenous line
6. Administers medications if prescribed
7. Takes measures to ensure patient’s comfort
8. Provides psychological support
9. Communicates patient’s emotional status to other appropriate members of the health care team

### Intraoperative Phase

**Maintenance of Safety**

1. Maintains aseptic, controlled environment
2. Effectively manages human resources, equipment, and supplies for individualized patient care
3. Transfers patient to operating room bed or table
4. Positions the patient
   - Functional alignment
   - Exposure of surgical site
5. Applies grounding device to patient
6. Ensures that the sponge, needle, and instrument counts are correct
7. Completes intraoperative documentation

**Physiologic Monitoring**

1. Calculates effects on patient of excessive fluid loss or gain
2. Distinguishes normal from abnormal cardiopulmonary data
3. Reports changes in patient’s vital signs
4. Institutes measures to promote normothermia

**Psychological Support (Before Induction and When Patient Is Conscious)**

1. Provides emotional support to patient
2. Stands near or touches patient during procedures and induction
3. Continues to assess patient’s emotional status

### Postoperative Phase

**Transfer of Patient to Postanesthesia Care Unit**

1. Communicates intraoperative information
   - Identifies patient by name
   - States type of surgery performed
   - Identifies type of anesthetic used
   - Reports patient’s response to surgical procedure and anesthesia
   - Describes intraoperative factors (eg, insertion of drains or catheters; administration of blood, analgesic agents, or other medications during surgery; occurrence of unexpected events)
   - Describes physical limitations
   - Reports patient’s preoperative level of consciousness
   - Communicates necessary equipment needs
   - Communicates presence of family and/or significant others

### Postoperative Assessment Recovery Area

1. Determines patient’s immediate response to surgical intervention
2. Monitors patient’s physiologic status
3. Assesses patient’s pain level and administers appropriate pain relief
4. Maintains patient’s safety (airway, circulation, prevention of injury)
5. Administers medications, fluid, and blood component therapy, if prescribed
6. Provides oral fluids if prescribed for ambulatory surgery patient
7. Assesses patient’s readiness for transfer to in-hospital unit or for discharge home based on institutional policy (eg, Alderete score, see Chap. 20)

**Surgical Unit**

1. Continues close monitoring of patient’s physical and psychological response to surgical intervention
2. Assesses patient’s pain level and administers appropriate pain relief measures
3. Provides teaching to patient during immediate recovery period
4. Assists patient in recovery and preparation for discharge home
5. Determines patient’s psychological status
6. Assists with discharge planning

**Home or Clinic**

1. Provides follow-up care during office or clinic visit or by telephone contact
2. Reinforces previous teaching and answers patient’s and family’s questions about surgery and follow-up care
3. Assesses patient’s response to surgery and anesthesia and their effects on body image and function
4. Determines family’s perception of surgery and its outcome

### POSTOPERATIVE PHASE

The **postoperative phase** begins with the admission of the patient to the PACU and ends with a follow-up evaluation in the clinical setting or at home. The scope of nursing care covers a wide range of activities during this period. In the immediate postoperative phase, the focus includes maintaining the patient’s airway, monitoring vital signs, assessing the effects of the anesthetic agents, assessing the patient for complications, and providing comfort and pain relief. Nursing activities then focus on promoting the patient’s recovery and initiating the teaching, follow-up
Nurses who are caring for patients undergoing surgery need to take various genetic considerations into account when assessing patients throughout the perioperative experience. For example, surgical outcomes may be altered by genetic conditions that may cause complications with anesthesia, including the following:

- Malignant hyperthermia
- Central core disease (CCD)
- Duchenne muscular dystrophy
- Hyperkalemic periodic paralysis
- King-Denborough

**NURSING ASSESSMENTS**

**PREOPERATIVE FAMILY HISTORY ASSESSMENT**
- Obtain a thorough assessment of personal and family history, inquiring about prior problems with surgery or anesthesia with specific attention to complications such as fever, rigidity, dark urine, unexpected reactions.
- Inquire about any history of musculoskeletal complaints, history of heat intolerance, fevers of unknown origin, or unusual drug reaction.
- Assess for family history of any sudden or unexplained death, especially during participation in athletic events.

**PHYSICAL ASSESSMENT**
- Assess for subclinical muscle weakness.
- Assess for other physical features suggestive of an underlying genetic condition, such as contractures, kyphoscoliosis, and pterygium with progressive weakness.

**MANAGEMENT ISSUES SPECIFIC TO GENETICS**
- Inquire whether DNA mutation or other genetic testing has been performed on an affected family member.
- If indicated, refer for further genetic counseling and evaluation so that family members can discuss inheritance, risk to other family members, availability of diagnostic/genetic testing.
- Offer appropriate genetics information and resources.
- Assess patient’s understanding of genetics information.
- Provide support to families with newly diagnosed malignant hyperthermia.
- Participate in management and coordination of care of patients with genetic conditions and individuals predisposed to develop or pass on a genetic condition.

**GENETICS RESOURCES FOR NURSES AND THEIR PATIENTS ON THE WEB**
- Genetic Alliance: http://www.geneticalliance.org—a directory of support groups for patients and families with genetic conditions
- Gene Clinics: http://www.geneclinics.org—a listing of common genetic disorders with up-to-date clinical summaries, genetic counseling and testing information
- National Organization of Rare Disorders: http://www.rarediseases.org—a directory of support groups and information for patients and families with rare genetic disorders
Surgical Classifications

Surgery may be performed for various reasons. A surgical procedure may be diagnostic (eg, biopsy or exploratory laparotomy). It may be curative (eg, excision of a tumor or an inflamed appendix) or reparative (eg, multiple wound repair). Surgery may be reconstructive or cosmetic (eg, mammoplasty or a facelift), or it may be palliative (eg, to relieve pain or correct a problem; for instance, a gastrostomy tube may be inserted to compensate for the inability to swallow food). Surgery may also be classified according to the degree of urgency involved: emergent, urgent, required, elective, and optional. These terms are defined in Table 18-1.

Preparation for Surgery

INFORMED CONSENT

Voluntary and written informed consent from the patient is necessary before nonemergent surgery can be performed. Such written consent protects the patient from unsanctioned surgery and protects the surgeon from claims of an unauthorized operation. In the best interests of all parties concerned, sound medical, ethical, and legal principles are followed. The nurse may ask the patient to sign the form and may witness the patient’s signature. It is the physician’s responsibility to provide appropriate information. Chart 18-2 lists the criteria for a valid informed consent.

Many ethical principles are integral to informed consent (see Chap. 3). Before the patient signs the consent form, the surgeon must provide a clear and simple explanation of what the surgery will entail. The surgeon must also inform the patient of the benefits, alternatives, possible risks, complications, disfigurement, disability, and removal of body parts as well as what to expect in the early and late postoperative periods. If the patient needs additional information to make his or her decision, the nurse notifies the physician about this. Also, the nurse ascertains that the consent form has been signed before administering psychotropic premedication, because the consent may not be valid if it was obtained while the patient was under the influence of medications that can affect judgment and decision-making capacity. Informed consent is necessary in the following circumstances:

- Invasive procedures, such as a surgical incision, a biopsy, a cystoscopy, or paracentesis
- Procedures requiring sedation and/or anesthesia (see Chap. 19 for a discussion of levels of sedation and anesthesia)
- A nonsurgical procedure, such as an arteriography, that carries more than slight risk to the patient
- Procedures involving radiation

The patient personally signs the consent if he or she is of legal age and is mentally capable. When the patient is a minor or unconscious or incompetent, permission must be obtained from a responsible family member (preferably next of kin) or legal guardian. An emancipated minor (married or independently earning his or her own living) may sign his or her own consent form. State regulations and agency policy must be followed.

### Table 18-1 • Categories of Surgery Based on Urgency

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>INDICATIONS FOR SURGERY</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Emergent—Patient requires immediate attention; disorder may be life-threatening</td>
<td>Without delay</td>
<td>Severe bleeding, Bladder or intestinal obstruction, Fractured skull, Gunshot or stab wounds, Extensive burns</td>
</tr>
<tr>
<td>II. Urgent—Patient requires prompt attention</td>
<td>Within 24–30 h</td>
<td>Acute gallbladder infection, Kidney or ureteral stones</td>
</tr>
<tr>
<td>III. Required—Patient needs to have surgery</td>
<td>Plan within a few weeks or months</td>
<td>Prostatic hyperplasia without bladder obstruction, Thyroid disorders, Cataracts</td>
</tr>
<tr>
<td>IV. Elective—Patient should have surgery</td>
<td>Failure to have surgery not catastrophic</td>
<td>Repair of scars, Simple hernia, Vaginal repair</td>
</tr>
<tr>
<td>V. Optional—Decision rests with patient</td>
<td>Personal preference</td>
<td>Cosmetic surgery</td>
</tr>
</tbody>
</table>
ASSESSMENT OF HEALTH FACTORS THAT AFFECT PATIENTS PREOPERATIVELY

The overall goal in the preoperative period is for the patient to have as many positive health factors as possible. Every attempt is made to stabilize those conditions that otherwise hinder a smooth recovery. When negative factors dominate, the risks of surgery and postoperative complications increase.

Before any surgical treatment is initiated, a health history is obtained, a physical examination is performed during which vital signs are noted, and a database is established for future comparisons (Meeker & Rothrock, 1999). During the physical examination, many factors are considered that have the potential to affect the patient undergoing surgery. Health care providers should be alert for signs of abuse that can occur at all ages and to men and women from all socioeconomic, ethnic, and cultural groups (Little, 2000; Marshall, Benton & Brazier, 2000). Findings need to be reported accordingly (see Chap. 5 for further discussion of signs of abuse).

Blood tests, x-rays, and other diagnostic tests are prescribed when specifically indicated by information obtained from a thorough history and physical examination (King, 2000). These preliminary contacts with the health care team provide the patient with opportunities to ask questions and to become acquainted with those who may be providing care during and after surgery.

NUTRITIONAL AND FLUID STATUS

Optimal nutrition is an essential factor in promoting healing and resisting infection and other surgical complications (Braunschweig, Gomez & Sheean, 2000). Assessment of a patient’s nutritional status provides information on obesity, undernutrition, weight loss, malnutrition, deficiencies in specific nutrients, metabolic abnormalities, the effects of medications on nutrition, and special problems of the hospitalized patient (Quinn, 1999). Nutritional needs may be determined by measurement of body mass index and waist circumference (National Institutes of Health, 2000). See Chapter 5 for further discussion of nutritional assessment.

Any nutritional deficiency, such as malnutrition, should be corrected before surgery so that enough protein is available for tissue repair (King, 2000; Russell, Williams & Bulstrode, 2000). The nutrients needed for wound healing are summarized in Table 18-2.

Dehydration, hypovolemia, and electrolyte imbalances can lead to significant problems in patients with comorbid medical conditions or in elderly patients. The severity of fluid and electrolyte imbalances is often difficult to determine. Mild volume deficits may be treated during surgery; however, additional time may be needed to correct pronounced fluid and electrolyte deficits to promote the best possible preoperative condition.

Drugs or Alcohol Use

People who abused drugs or alcohol frequently deny or attempt to hide it. In such situations, the nurse who is obtaining the patient’s health history needs to ask frank questions with patience, care, and a nonjudgmental attitude. See Chapter 5 for an assessment of alcohol and drug use.

Because acutely intoxicated persons are susceptible to injury, surgery is postponed in these patients if possible. If emergency surgery is required, local, spinal, or regional block anesthesia is used for minor surgery. Otherwise, to prevent vomiting and potential aspiration, a nasogastric tube is inserted before administering general anesthesia.

The person with a history of chronic alcoholism often suffers from malnutrition and other systemic problems that increase the surgical risk. Additionally, alcohol withdrawal delirium (delirium tremens) may be anticipated up to 72 hours after alcohol withdrawal. Delirium tremens is associated with a significant mortality rate when it occurs postoperatively.

Chart 18-3 gives more information about risk factors that may lead to complications.

Respiratory Status

The goal for potential surgical patients is optimal respiratory function. Patients are taught breathing exercises and use of an incentive spirometer if indicated. Because adequate ventilation is potentially compromised during all phases of surgical treatment, surgery is usually postponed when the patient has a respiratory infection. Patients with underlying respiratory disease (eg, asthma, chronic obstructive pulmonary disease) are assessed carefully for current threats to their pulmonary status. Patients’ use of medications that may affect recovery is also assessed (King, 2000; Smetana, 1999).

Patients who smoke are urged to stop 2 months before surgery (King, 2000), although many do not do so. These patients should be counseled to stop smoking at least 24 hours prior to surgery. Research suggests that counseling has a positive effect on the patient’s smoking behavior 24 hours preceding surgery, helping reduce the potential for adverse effects associated with smoking such as increased airway reactivity, decreased mucociliary clearance, as well as physiologic changes in the cardiovascular and immune systems (Shannon-Cain, Webster & Cain, 2002).

Cardiovascular Status

The goal in preparing any patient for surgery is to ensure a well-functioning cardiovascular system to meet the oxygen, fluid, and nutritional needs of the perioperative period. If the patient has
Because cardiovasculardisease increases the risk for complications, patients with these conditions require greater-than-usual diligence during all phases of nursing management and care (King, 2000). Depending on the severity of the symptoms, surgery may be deferred until medical treatment can be instituted to improve the patient’s condition. At times, surgical treatment can be modified to meet the cardiac tolerance of the patient. For example, in a patient with obstruction of the descending colon and coronary artery disease, a temporary simple colostomy may be performed rather than a more extensive colon resection that would require a prolonged period of anesthesia.

### Hepatic and Renal Function

The presurgical goal is optimal function of the liver and urinary systems so that medications, anesthetic agents, body wastes, and toxins are adequately processed and removed from the body. The liver is important in the biotransformation of anesthetic compounds. Therefore, any disorder of the liver has an effect on how anesthetic agents are metabolized. Because acute liver disease is associated with high surgical mortality, preoperative improvement in liver function is a goal. Careful assessment is made with the help of various liver function tests (see Chap. 39).

Because the kidneys are involved in excreting anesthetic drugs and their metabolites and because acid–base status and metabolism...
Patients who have received corticosteroids are at risk for adrenal insufficiency. Therefore, the use of corticosteroids for any purpose during the preceding year must be reported to the anesthesiologist or anesthetist and surgeon. Additionally, the patient is monitored for signs of adrenal insufficiency.

Patients with uncontrolled thyroid disorders are at risk for thyrotoxicosis (with hyperthyroid disorders) and respiratory failure (with hypothyroid disorders). Therefore, the patient is assessed for a history of these disorders.

### Immune Function

An important function of the preoperative assessment is to determine the existence of allergies, including the nature of previous allergic reactions. It is especially important to identify and document any sensitivity to medications and past adverse reactions to these agents. The patient is asked to identify any substances that precipitated previous allergic reactions, including medications, blood transfusions, contrast agents, latex, and food products, and to describe the signs and symptoms produced by these substances. A sample latex allergy screening questionnaire is shown in Figure 18-2.

Immunosuppression is common with corticosteroid therapy, renal transplantation, radiation therapy, chemotherapy, and disorders affecting the immune system, such as acquired immunodeficiency syndrome (AIDS) and leukemia. The mildest symptoms or slightest temperature elevation must be investigated. Because patients who are immunosuppressed are highly susceptible to infection, great care is taken to ensure strict asepsis.

### Previous Medication Use

A medication history is obtained from each patient because of the possible effects of medications on the patient’s perioperative and perianesthesia course and the possibility of drug interactions (Quinn, 1999). Any medication the patient is using or has used in the past is documented, including over-the-counter (OTC) preparations and herbal agents and the frequency with which they are used. Potent medications have an effect on physiologic functions; interactions of such medications with anesthetic agents can cause serious problems, such as arterial hypotension and circulatory collapse.

The potential effects of prior medication therapy are evaluated by the anesthesiologist or anesthetist, who considers the length of time the patient has used the medications, the physical condition of the patient, and the nature of the proposed surgery. Medications that cause particular concern are listed in Table 18-3.

Many patients take self-prescribed or OTC medications in addition to those listed in Table 18-3. Aspirin is a common OTC medication prescribed by physicians or taken independently by patients to prevent myocardial infarction, stroke, and other disorders (Karch, 2002). Because of the effects of aspirin or other OTC medications and possible interactions with other medications and anesthetic agents, it is important to ask a patient about their use. The information is noted in the patient’s chart and conveyed to the anesthesiologist or anesthetist and surgeon.

The use of herbal medications is widespread among patients. Approximately 15 million Americans report their use (Ang-Lee, Moss & Yuan, 2001; Karch, 2002; Lyons, 2002). Patients with chronic illnesses may be using herbal medications to supplement their prescribed medications or in place of them. Certain herbal medications, such as echinacea, ephedra, garlic (Allium sativum), ginkgo, ginseng, kava kava (Piper methysticum), St. John’s wort

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**Chart 18-3**

**Risk Factors for Surgical Complications**

- Hypovolemia
- Dehydration or electrolyte imbalance
- Nutritional deficits
- Extremes of age (very young, very old)
- Extremes of weight (emaciation, obesity)
- Infection and sepsis
- Toxic conditions
- Immunologic abnormalities
- Pulmonary disease
  - Obstructive disease
  - Restrictive disorder
  - Respiratory infection
- Renal or urinary tract disease
  - Decreased renal function
  - Urinary tract infection
  - Obstruction
- Pregnancy
  - Diminished maternal physiologic reserve
- Cardiovascular disease
  - Coronary artery disease or previous myocardial infarction
  - Cardiac failure
  - Dysrhythmias
  - Hypertension
- Prosthetic heart valve
- Thromboembolism
- Hemorrhagic disorders
- Cerebrovascular disease
- Endocrine dysfunction
  - Diabetes mellitus
  - Adrenal disorders
  - Thyroid malfunction
  - Hepatic disease
  - Cirrhosis
  - Hepatitis
- Preexisting mental or physical disability

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Endocrine Function

The patient with diabetes who is undergoing surgery is at risk for hypoglycemia and hyperglycemia. Hypoglycemia may develop during anesthesia or postoperatively from inadequate carbohydrates or from excessive administration of insulin. Hyperglycemia, which may increase the risk for surgical wound infection, may result from the stress of surgery, which may trigger increased levels of catecholamine. Other risks are acidosis and glucosuria. Although the surgical risk in the patient with controlled diabetes is no greater than in the nondiabetic patient, the goal is to maintain the blood glucose level at less than 200 mg/dL. Frequent monitoring of blood glucose levels is important before, during, and after surgery (see Chap. 41 for discussion of the patient with diabetes undergoing surgery).
**Perioperative Concepts and Nursing Management**

**Unit 4**

(Hypericum perforatum), licorice (Glycyrrhiza glabra), and valerian (Valeriana officinalis) have been identified as the most commonly used herbal medications that may cause concern during the perioperative period (Ang-Lee, Moss & Yuan, 2001; Kuhn, 1999; Lyons, 2002). Because of the potential effects of herbal medications on coagulation and potential interactions with other medications, the nurse must ask surgical patients explicitly about the use of these agents, document their use, and inform the surgical team and anesthesiologist or anesthetist (Brumly, 2000).

**Psychosocial Factors**

All patients have some type of emotional reaction before any surgical procedure, be it obvious or hidden, normal or abnormal. For example, preoperative anxiety may be an anticipatory response to an experience the patient views as a threat to his or her customary role in life, body integrity, or life itself. Psychological distress directly influences body functioning. Therefore, it is imperative to identify any anxiety the patient is experiencing.

By taking a careful health history, the nurse elicits patient concerns that can have a bearing on the course of the surgical experience (Quinn, 1999). Undoubtedly, a patient about to undergo surgery is faced with various fears, including fears of the unknown, of death, of anesthesia, pain, or cancer. Concerns about loss of work time, loss of job, increased responsibilities or burden on family members, and the threat of permanent incapacity further...
contribute to the emotional strain created by the prospect of surgery. Less obvious concerns may occur because of previous experiences with the health care system and people the patient has known with the same condition.

People express fear in different ways. For example, one patient may repeatedly ask a lot of questions, even though answers were given previously. Another person may withdraw, deliberately avoiding communication, perhaps by reading or watching television. Still others may talk about trivialities. Consequently, the nurse must be empathetic, listen well, and provide information that helps alleviate concerns.

An important outcome of the psychosocial assessment is the determination of the extent and role of the patient’s support network. The value and reliability of all available support systems are assessed. Other information, such as usual level of functioning and typical daily activities, may assist in the patient’s care and rehabilitation plans. Assessing the patient’s readiness to learn and determining the best approach to maximize comprehension will provide the basis for preoperative patient education.

**Spiritual and Cultural Beliefs**

Spiritual beliefs play an important role in how people cope with fear and anxiety. Regardless of the patient’s religious affiliation, spiritual beliefs can be as therapeutic as medication. Every attempt must be made to help the patient obtain the spiritual help that he or she requests. Faith has great sustaining power. Thus, the beliefs of each patient should be respected and supported. Some nurses avoid the subject of a clergy visit lest the suggestion alarm the patient. Asking if the patient’s spiritual advisor knows about the impending surgery is a caring, nonthreatening approach.

Showing respect for a patient’s cultural values and beliefs facilitates rapport and trust. Some areas of assessment include identifying the ethnic group to which the patient relates and the customs and beliefs the patient holds about illness and health care providers. For example, patients from some cultural groups are unaccustomed to expressing feelings openly. Nurses need to consider this pattern of communication when assessing pain. As a sign of respect, people from other cultural groups may not make direct eye contact with others. The nurse needs to know that this lack of eye contact is not avoidance or a lack of interest.

Perhaps the most valuable skill at the nurse’s disposal is listening carefully to the patient, especially when obtaining the history. Invaluable information and insights may be gained by engaging in conversation and using communication and interviewing skills. An unhurried, understanding, and caring nurse invites confidence on the part of the patient.

**Table 18-3 • Medications With the Potential to Affect the Surgical Experience**

<table>
<thead>
<tr>
<th>AGENT (GENERIC AND TRADE EXAMPLE)</th>
<th>EFFECT OF INTERACTION WITH ANESTHETICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corticosteroids</td>
<td>Cardiovascular collapse can occur if discontinued suddenly. Therefore, a bolus of corticosteroid may be administered intravenously immediately before and after surgery.</td>
</tr>
<tr>
<td>Prednisone (Deltasone)</td>
<td></td>
</tr>
<tr>
<td>Diuretics</td>
<td>During anesthesia, may cause excessive respiratory depression resulting from an associated electrolyte imbalance</td>
</tr>
<tr>
<td>Hydrochlorothiazide (HydroDIURIL)</td>
<td></td>
</tr>
<tr>
<td>Phenothiazines</td>
<td>May increase the hypotensive action of anesthetics</td>
</tr>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td></td>
</tr>
<tr>
<td>Tranquilizers</td>
<td>May cause anxiety, tension, and even seizures if withdrawn suddenly</td>
</tr>
<tr>
<td>Diazepam (Valium)</td>
<td>Interaction between anesthetics and insulin must be considered when a patient with diabetes is undergoing surgery.</td>
</tr>
<tr>
<td>Insulin</td>
<td>When combined with a curariform muscle relaxant, nerve transmission is interrupted and apnea from respiratory paralysis may result.</td>
</tr>
<tr>
<td>Antibiotics</td>
<td></td>
</tr>
<tr>
<td>Erythromycin (Ery-Tab)</td>
<td></td>
</tr>
<tr>
<td>Anticoagulants</td>
<td>Can increase the risk of bleeding during the intraoperative and postoperative periods; should be discontinued in anticipation of elective surgery. The surgeon will determine how long before the elective surgery the patient should stop taking an anticoagulant, depending on the type of planned procedure and the medical condition of the patient.</td>
</tr>
<tr>
<td>Warfarin (Coumadin)</td>
<td></td>
</tr>
<tr>
<td>Antiseizure Medications</td>
<td>An intravenous route of medication may need to be administered to keep the patient seizure-free in the intraoperative and postoperative periods.</td>
</tr>
<tr>
<td>Phenytin (Dilantin)</td>
<td></td>
</tr>
<tr>
<td>Monoamine Oxidase (MAO) Inhibitors</td>
<td>May increase the hypotensive action of anesthetics</td>
</tr>
<tr>
<td>Phelzone sulfate (Nardil)</td>
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**Special Considerations**

In the preoperative period, attention needs to be paid to patients with special considerations. These may include the patient who is undergoing ambulatory surgery, the geriatric patient, the patient who is obese, the patient with a disability, and the patient undergoing emergency surgery.
THE AMBULATORY SURGERY PATIENT

The brief time the patient and family spend in the ambulatory setting is an important factor in the preoperative period. The nurse must quickly and comprehensively assess and anticipate the patient’s needs and at the same time begin planning for discharge and follow-up home care.

The nurse needs to be sure that the patient and family understand that the patient will go first to the preoperative holding area before going to the operating room for the surgical procedure and then will spend some time in the PACU before being discharged home with the family later that day. Other preoperative teaching content should also be verified (see the section later in this chapter on instructing the ambulatory surgery patient) and reinforced as needed. The nurse should ensure that any plans for follow-up home care are in place if needed (Quinn, 1999).

ELDERLY PATIENTS

The older person undergoing surgery may have a combination of chronic illnesses and health problems in addition to the specific one for which surgery is indicated. Elderly people frequently do not report symptoms, perhaps because they fear a serious illness may be diagnosed or because they accept such symptoms as part of the aging process. Subtle clues alert the nurse to underlying problems.

Health care staff must remember that the hazards of surgery for the aged are proportional to the number and severity of coexisting health problems and the nature and duration of the operative procedure. The underlying principle that guides the preoperative assessment, surgical care, and postoperative care is that the aged patient has less physiologic reserve (the ability of an organ to return to normal after a disturbance in its equilibrium) than the younger patient. Cardiac reserves are lower; renal and hepatic functions are depressed; and gastrointestinal activity is likely to be reduced. Dehydration, constipation, and malnutrition may be evident. Sensory limitations, such as impaired vision or hearing and reduced tactile sensitivity, are often the reasons for falls and burns. Therefore, the nurse must be alert to maintaining a safe environment. Arthritis is common in older people and may affect mobility, making it difficult for the patient to turn from one side to the other or ambulate without discomfort. Protective measures include adequate padding for tender areas, moving the patient slowly, protecting bony prominences from prolonged pressure, and providing gentle massage to promote circulation.

The condition of the mouth is important to assess. Dental caries, dentures, and partial plates are particularly significant to the anesthesiologist or anesthetist because decayed teeth or dental prostheses may become dislodged during intubation and occlude the airway.

An additional area to assess in elderly patients is the preoperative level of activity. Research suggests that elderly patients who had hip replacement surgery and who reported performing greater physical activities (including heavy chores) preoperatively can walk greater distances postoperatively than elderly patients who are less physically active prior to surgery (Whitney & Parkman, 2002).

As the body ages, its ability to perspire decreases. Because decreased perspiration leads to dry, itchy skin, which becomes fragile and is easily abraded, precautions are taken when moving an elderly person. Decreased subcutaneous fat makes older people more susceptible to temperature changes. A lightweight cotton blanket is an appropriate cover when an elderly patient is moved to and from the operating room.

Most elderly people have experienced personal illnesses and possibly life-threatening illnesses of friends and family. Such experiences may result in fears about the surgery and about the future. Providing the patient with an opportunity to express these fears enables the patient to gain some peace of mind and a sense of being understood.

Preoperative pain assessment and teaching are important with elderly patients. It is important for nurses to incorporate pain management information and pain communication skills when teaching elderly persons how to obtain greater postoperative pain relief (McDonald, Freeland, Thomas & Moore, 2001).

Because the elderly patient may have greater risks during the perioperative period, the following are critical: (1) skillful preoperative assessment and treatment, (2) skillful anesthesia and surgery, and (3) meticulous and competent postoperative and postanesthesia management.

OBESE PATIENTS

Like age, obesity increases the risk and severity of complications associated with surgery (National Institutes of Health, 2000). During surgery, fatty tissues are especially susceptible to infection. Additionally, obesity increases technical and mechanical problems related to surgery. Therefore, dehiscence (wound separation) and wound infections are more common. Moreover, the obese patient may be more difficult to care for because of the added weight; the patient tends to breathe poorly when supine, which increases the risk of hypoventilation and postoperative pulmonary complications. In addition, abdominal distention, phlebitis, and cardiovascular, endocrine, hepatic, and biliary diseases occur more readily in obese patients (Dudek, 2001). It has been estimated that for each 30 pounds of excess weight, about 25 additional miles of blood vessels are needed, and this places increased demands on the heart.

PATIENTS WITH DISABILITIES

Special considerations for patients with a mental or physical disability include the need for assistive devices, modifications in preoperative teaching, additional assistance with and attention to positioning or transferring, and the effects of the disability on surgery and anesthesia (Quinn, 1999).

Assistive devices include hearing aids, eyeglasses, braces, prostheses, and other devices. Individuals who are hearing-impaired may need a translator or some alternative communication system perioperatively. If they rely on signing or speech (lip) reading, and if their eyeglasses or contact lenses are removed or if health care staff wear surgical masks, these patients will need an alternative method of communication. These needs must be identified as a factor in the preoperative evaluation and clearly communicated to personnel. Specific strategies for accommodating the patient’s needs must be identified ahead of time. Ensuring the safety of assistive devices is important; these devices are expensive and likely to be lost.

Most patients are directed to move from the stretcher to the operating room table and back again. In addition to being unable to see or hear instructions, patients with a disability may be unable to move without special devices or a great deal of assistance. The patient with a disability that affects body position (eg, cerebral
Preoperative Nursing Interventions

PREOPERATIVE TEACHING

Nurses have long recognized the value of preoperative instruction (Fitzpatrick, 1998). Each patient is taught as an individual, with consideration for any unique concerns or needs; the program of instruction should be based on the individual’s learning needs (Quinn, 1999). Multiple teaching strategies should be used (eg, verbal, written, return demonstration), depending on the patient’s needs and abilities. Preoperative teaching is initiated as soon as possible. It should start in the physician’s office and continue until the patient arrives in the operating room.

When and What to Teach

Ideally, instruction is spaced over a period of time to allow the patient to assimilate information and ask questions as they arise. Frequently, teaching sessions are combined with various preparation procedures to allow for an easy and timely flow of information. The nurse should guide the patient through the experience and allow ample time for questions. Some patients may feel too many descriptive details will increase their anxiety level, and the nurse should respect their wish for less detail.

Teaching should go beyond descriptions of the procedure and should include explanations of the sensations the patient will experience. For example, telling the patient only that preoperative medication will relax him or her before the operation is not as effective as also noting that the medication may result in light-headedness and drowsiness. Knowing what to expect will help the patient anticipate these reactions and thus attain a higher degree of relaxation than might otherwise be expected.

The ideal timing for preoperative teaching is not on the day of surgery but during the preadmission visit when diagnostic tests are performed. At this time, the nurse or resource person answers questions and provides important patient teaching. During this visit, the patient can meet and ask questions of the perioperative nurse, view audiovisuales, receive written materials, and be given the telephone number to call as questions arise closer to the date of surgery. Most institutions provide written instructions (designed to be copied and given to patients) about many types of surgery (Economou & Economou, 1999).

Deep-Breathing, Coughing, and Incentive Spirometers

One goal of preoperative nursing care is to teach the patient how to promote optimal lung expansion and consequent blood oxygenation after anesthesia. The patient assumes a sitting position to enhance lung expansion. The nurse then demonstrates how to take a deep, slow breath and how to exhale slowly. After practicing deep breathing several times, the patient is instructed to breathe deeply, exhale through the mouth, take a short breath, and cough from deep in the lungs (Chart 18-4). The nurse also demonstrates how to use an incentive spirometer, a device that provides measurement and feedback related to breathing effectiveness. In addition to enhancing respiration, these exercises may help the patient to relax.

If there will be a thoracic or abdominal incision, the nurse demonstrates how the incision line can be splinted to minimize pressure and control pain. The patient should put the palms of both hands together, interlacing the fingers snugly. Placing the hands across the incisional site acts as an effective splint when coughing. Additionally, the patient is informed that medications are available to relieve pain and should be taken regularly for pain relief so that effective deep-breathing and coughing exercises can be performed. The goal in promoting coughing is to mobilize secretions so they can be removed. Deep breathing before coughing stimulates the cough reflex. If the patient does not cough effectively, atelectasis (lung collapse), pneumonia, and other lung complications may occur.

Mobility and Active Body Movement

The goals of promoting mobility postoperatively are to improve circulation, prevent venous stasis, and promote optimal respiratory function.

The nurse explains the rationale for frequent position changes after surgery and then shows the patient how to turn from side to side and how to assume the lateral position without causing pain or disrupting intravenous lines, drainage tubes, or other equipment. Any special position the individual patient will need to maintain after surgery (eg, adduction or elevation of an extremity) is discussed, as is the importance of maintaining as much mobility as possible despite restrictions. Reviewing the process before surgery is helpful because the patient may be too uncomfortable after surgery to absorb new information.

Exercises of the extremities include extension and flexion of the knee and hip joints (similar to bicycle riding while lying on the side). The foot is rotated as though tracing the largest possible circle with the great toe (see illustrations in Chart 18-4). The elbow and shoulder are also put through range of motion. At first,
Preoperative teaching for patients undergoing surgery includes instruction in breathing and leg exercises used to prevent postoperative complications, such as pneumonia and deep vein thrombosis. These exercises may be performed in the hospital or at home.

**Diaphragmatic Breathing**

Diaphragmatic breathing refers to a flattening of the dome of the diaphragm during inspiration, with resultant enlargement of the upper abdomen as air rushes in. During expiration, the abdominal muscles contract.

1. Practice in the same position you would assume in bed after surgery: a semi-Fowler’s position, propped in bed with the back and shoulders well supported with pillows.
2. With your hands in a loose-fist position, allow the hands to rest lightly on the front of the lower ribs, with your fingertips against lower chest to feel the movement.
3. Breathe out gently and fully as the ribs sink down and inward toward midline.
4. Then take a deep breath through your nose and mouth, letting the abdomen rise as the lungs fill with air.
5. Hold this breath for a count of five.
6. Exhale and let out all the air through your nose and mouth.
7. Repeat this exercise 15 times with a short rest after each group of five.
8. Practice this twice a day preoperatively.

**Coughing**

1. Lean forward slightly from a sitting position in bed, interlace your fingers together, and place your hands across the incisional site to act as a splintlike support when coughing.
2. Breathe with the diaphragm as described under “Diaphragmatic Breathing.”
3. With your mouth slightly open, breathe in fully.
5. Then, keeping your mouth open, take in a quick deep breath and immediately give a strong cough once or twice. This helps clear secretions from your chest. It may cause some discomfort but will not harm your incision.

**Leg Exercises**

1. Lie in a semi-Fowler’s position and perform the following simple exercises to improve circulation.
2. Bend your knee and raise your foot—hold it a few seconds, then extend the leg and lower it to the bed.
3. Do this five times with one leg, then repeat with the other leg.
4. Then trace circles with the feet by bending them down, in toward each other, up, and then out.
5. Repeat these movements five times.

**Turning to the Side**

1. Turn on your side with the uppermost leg flexed most and supported on a pillow.
2. Grasp the side rail as an aid to maneuver to the side.
3. Practice diaphragmatic breathing and coughing while on your side.

**Getting Out of Bed**

1. Turn on your side.
2. Push yourself up with one hand as you swing your legs out of bed.
the patient is assisted and reminded to perform these exercises. Later, the patient is encouraged to do them independently. Muscle tone is maintained so that ambulation will be easier.

The nurse should remember to use proper body mechanics and to instruct the patient to do the same. Whenever the patient is positioned, his or her body needs to be properly aligned.

**Pain Management**

An assessment should include a determination between acute and chronic pain so that the patient may differentiate postoperative pain from a chronic condition. It is at this point that a pain scale should be introduced and its use explained to the patient. Chapter 13 contains several examples of pain scales.

Postoperatively, medications are administered to relieve pain and maintain comfort without increasing the risk for inadequate air exchange. The patient is instructed to take the medication as frequently as prescribed during the initial postoperative period for pain relief. Anticipated methods of administration of analgesic agents for inpatients include patient-controlled analgesia (PCA), epidural catheter bolus or infusion, or patient-controlled epidural analgesia (PCEA). A patient who is expected to go home would receive oral analgesic agents. These are discussed with the patient before surgery, and the patient’s interest and willingness to use those methods are assessed. The patient is instructed in use of a pain intensity rating scale to promote effective postoperative pain management.

**Cognitive Coping Strategies**

Cognitive strategies may be useful for relieving tension, overcoming anxiety, decreasing fear, and achieving relaxation. Examples of such strategies include the following:

- Imagery—The patient concentrates on a pleasant experience or restful scene.
- Distraction—The patient thinks of an enjoyable story or recites a favorite poem or song.
- Optimistic self-recitation—The patient recites optimistic thoughts (“I know all will go well”).

**Instruction for Ambulatory Surgical Patients**

Preoperative education for the same-day or ambulatory surgical patient comprises all the material presented earlier in this chapter as well as collaborative planning with the patient and family for discharge and follow-up home care. The major difference in outpatient preoperative education is the teaching environment (Quinn, 1999).

Preoperative teaching content may be presented in a group meeting, on a videotape, during night classes, at preadmission testing, or by telephone in conjunction with the preoperative interview. In addition to answering questions and describing what to expect, the nurse tells the patient when and where to report, what to bring (insurance card, list of medications and allergies), what to leave at home (jewelry, watch, medications, contact lenses), and what to wear (loose-fitting, comfortable clothes; flat shoes). The nurse in the surgeon’s office may initiate teaching before the perioperative telephone contact.

The last preoperative phone call is designed to remind the patient not to eat or drink as directed. A fasting period of 8 hours or more is recommended for a meal that includes fried or fatty foods or meat (Crenshaw, Winslow & Jacobson, 1999). The anesthesiologist or anesthetist may restrict foods and fluids for longer periods of time depending on the patient’s fluid status, age, and pulmonary status and the nature of the surgical procedure.

The purpose of withholding food before surgery is to prevent aspiration. Aspiration occurs when food or fluid is regurgitated from the stomach and enters the pulmonary system. Such inhaled material, which is a foreign substance, is irritating and causes an inflammatory reaction that interferes with adequate air exchange. Aspiration is a serious problem, and mortality is high (60% to 70%). If the patient is assessed as being at high risk for aspiration, the anesthesiologist or anesthetist prescribes more stringent food and fluid restrictions. Fluids may be administered intravenously.

**NURSING RESEARCH PROFILE 18-1**

**Preoperative Fasting Guidelines**


**Purpose**

In 1999 the American Society of Anesthesiologists (ASA) made the “NPO after Midnight” rule obsolete with revised practice guidelines that support much more liberal preoperative fasting in healthy adults. This study sought to determine if these guidelines had changed preoperative fasting practices.

**Study Sample and Design**

This was a descriptive study conducted in a 935-bed medical center in the United States. The center did not have a fasting policy. A convenience sample of 155 patients were interviewed about their preoperative fasting, comparing instructed, actual, and ASA-recommended fasting durations for liquids and solids. A semi-structured interview was used by trained staff nurses to collect the data. Subjects were all over 18 years old, admitted to the hospital from home for an elective, nonobstetric or nongastrointestinal surgery. All were in stable condition, had been without an IV infusion for more than 4 hours prior to surgery, were admitted to a noncritical care unit after surgery, and consented to participate. The patients all spoke and understood English; 87% were Caucasian, 7% were African American, and 9.6% were Hispanic, Asian, or of other ethnic origin.

**Findings**

The patients interviewed fasted from liquids and solids for an average of 12 to 14 hours, with some patients fasting for as long as 20 hours from liquids and 37 hours from solid foods. Ninety-seven percent of the 155 patients fasted from liquids for more than 6 hours. Actual fasting durations were found (using paired t-tests) to be significantly longer than both the instructed fasting durations (mean 10 hours) and the ASA recommendations. Most patients (91%) were instructed to maintain NPO status after midnight. A nurse participated in the preoperative fasting instruction with 63% of the patients. Almost half of the patients rated thirst and worry at a 5 on a 0–to-10 scale.

**Nursing Implications**

Nurses are an important part of the surgical team and are involved in preoperative fasting instruction with the majority of patients. Therefore, they share the responsibility for recommending excessively long and unnecessary fasting for patients and for patients’ lack of understanding of instructions demonstrated in this study. Clear and specific instructions must be given to patients about fasting time for liquids and solids. The rationale for the fasting should also be clearly explained. Patients should be warned that they will feel thirsty and should be taught strategies (as permitted) for coping with thirst, such as brushing teeth, rinsing the mouth, and chewing gum.
in some patients to ensure an adequate fluid volume when oral fluids are restricted.

**PREOPERATIVE PSYCHOSOCIAL INTERVENTIONS**

**Reducing Preoperative Anxiety**

Cognitive strategies useful for reducing anxiety were addressed previously in this chapter. In addition to these strategies, music therapy is an easy-to-administer, inexpensive, noninvasive intervention that can reduce anxiety in the perioperative patient. The patient should be allowed to choose his or her own music and be provided with quiet uninterrupted listening time (White, 2000).

The general preoperative teaching addressed earlier in this section will also help decrease anxiety in many patients. Knowing ahead of time about the possible need for a ventilator, drainage tubes, or other types of equipment will help decrease anxiety in the postoperative period.

**Decreasing Fear**

During the preoperative assessment the nurse should assist the patient to identify coping strategies that he or she has previously used to decrease fear. The patient benefits from knowing when family and friends will be able to visit after surgery and that a spiritual advisor will be available if desired. Research suggests that hypnosis may be a useful strategy for reducing fear and overcoming the anxiety associated with surgery (Hernandez & Tatarunis, 2000).

**Respecting Cultural, Spiritual, and Religious Beliefs**

Psychosocial interventions include identifying and showing respect for cultural, spiritual, and religious beliefs. In some cultures, for example, individuals are stoic in regard to pain, whereas others are more expressive. These responses should be recognized as normal for those patients and families and respected by perioperative personnel. When patients decline blood transfusions for religious reasons (Jehovah’s Witnesses), this information needs to be clearly identified in the preoperative period, documented, and communicated to the appropriate personnel.

**GENERAL PREOPERATIVE NURSING INTERVENTIONS**

**Managing Nutrition and Fluids**

The major purpose of withholding food and fluid before surgery is to prevent aspiration. However, studies demonstrate that in patients who do not have a compromised airway or coexisting diseases or disorders that affect gastric emptying or fluid volume (e.g., pregnancy, obesity, diabetes, gastroesophageal reflux, enteral tube feeding, ileus or bowel obstruction), lengthy restriction of fluid and food is unnecessary (Crenshaw & Winslow, 2002; Pandit, Loberg & Pandit, 2000). Until recently, fluid and food were restricted preoperatively overnight and often longer. However, recent review of this practice by the American Society of Anesthesiologists has resulted in new recommendations for persons undergoing elective surgery who are otherwise healthy (ASA Task Force on Preoperative Fasting, 1999). The recommendations depend on the age of the patient and type of food eaten. For example, adults are advised to fast for 8 hours after eating fatty food and 4 hours after ingesting milk products (Crenshaw, Winslow & Jacobson, 1999; Crenshaw & Winslow, 2002). Most patients are currently allowed clear liquids up to 2 hours before an elective procedure (Crenshaw & Winslow, 2002).

**Preparing the Bowel for Surgery**

Enemas are not commonly ordered preoperatively unless the patient is undergoing abdominal or pelvic surgery. In this case, a cleansing enema or laxative may be prescribed the evening before surgery and may be repeated the morning of surgery. The goals of this preparation are to allow satisfactory visualization of the surgical site and to prevent trauma to the intestine or contamination of the peritoneum by feces. Unless the condition of the patient presents some contraindication, the toilet or bedside commode, rather than the bedpan, is used for evacuating the enema if the patient is hospitalized during this time. Additionally, antibiotics may be prescribed to reduce intestinal flora.

**Preparing the Skin**

The goal of preoperative skin preparation is to decrease bacteria without injuring the skin. If the surgery is not performed as an emergency, the patient may be instructed to use a soap containing a detergent-germicide to cleanse the skin area for several days before surgery to reduce the number of skin organisms; this preparation may be carried out at home.

Generally, hair is not removed preoperatively unless the hair at or around the incision site is likely to interfere with the operation. If hair must be removed, electric clippers are used for safe hair removal immediately before the operation.

**IMMEDIATE PREOPERATIVE NURSING INTERVENTIONS**

The patient changes into a hospital gown that is left untied and open in the back. The patient with long hair may braid it, remove hairpins, and cover the head completely with a disposable paper cap. The mouth is inspected, and dentures or plates are removed. If left in the mouth, these items could easily fall to the back of the throat during induction of anesthesia and cause respiratory obstruction.

Jewelry is not worn to the operating room; wedding rings and jewelry of body piercings should be removed to prevent injury (Fogg, 2001). If a patient objects to removing a ring, some institutions allow the ring to be securely fastened to the finger with tape. All articles of value, including assistive devices, dentures, glasses, and prosthetic devices, are given to family members or are labeled clearly with the patient’s name and stored in a safe place according to the institution’s policy.

All patients (except those with urologic disorders) should void immediately before going to the operating room to promote continence during low abdominal surgery and to make abdominal organs more accessible. Urinary catheterization is performed in the operating room as necessary.

**Administering Preanesthetic Medication**

The use of preanesthetic medication is minimal with ambulatory or outpatient surgery. If prescribed, it is usually administered in the preoperative holding area. If a preanesthetic medication is
administered, the patient is kept in bed with the side rails raised because the medication can cause lightheadedness or drowsiness. During this time, the nurse observes the patient for any untoward reaction to the medications. The immediate surroundings are kept quiet to promote relaxation.

Often, surgery is delayed or operating room schedules are changed, and it becomes impossible to request that a medication be given at a specific time. In these situations, the preoperative medication is prescribed “on call from operating room.” The nurse can have the medication ready to give and administer it as soon as a call is received from the operating room staff. It usually takes 15 to 20 minutes to prepare the patient for the operating room. If the nurse gives the medication before attending to the other details of preoperative preparation, the patient will have at least partial benefit from the preoperative medication and will have a smoother anesthetic and operative course.

**Maintaining the Preoperative Record**

A preoperative checklist contains critical elements that need to be checked preoperatively (Meeker & Rothrock, 1999). An example is shown in Figure 18-3. The completed chart accompanies the patient to the operating room with the surgical consent form attached, along with all laboratory reports and nurses’ records. Any unusual last-minute observations that may have a bearing on anesthesia or surgery are noted at the front of the chart in a prominent place.

**Transporting the Patient to the Presurgical Area**

The patient is transferred to the holding area or presurgical suite in a bed or on a stretcher about 30 to 60 minutes before the anesthetic is to be given. The stretcher should be as comfortable as possible, with a sufficient number of blankets to prevent

| 1. Patient’s name: ______________________________ | Date: _______________ | Height: ____________ | Weight: __________ |
| Identification band present: ____________________________________________________________________ |
| 2. Informed consent signed: ___________________ | Special permits signed: ____________________________________________ |
| Surgical site: __________________________ | Date: _______________ | (Ex: Sterilization) |
| 4. History & physical examination report present: _________________________ | Date: _______________ |
| 5. Laboratory records present: __________________________________________________________________ |
| CBC: ___________________ | Hgb: ____________________ | Urinalysis: _____________________ | Hct: __________________ |
| 6. Item Present Removed |
| a. Natural teeth _________________ _________________ |
| Dentures; upper, lower, partial _________________ _________________ |
| Bridge, fixed; crown _________________ _________________ |
| b. Contact lenses _________________ _________________ |
| c. Other prostheses—type: _________________ _________________ |
| d. Jewelry: _________________ _________________ |
| Wedding band (taped/tied)' _________________ _________________ |
| Rings _________________ _________________ |
| Earrings: pierced, clip-on _________________ _________________ |
| Neck chains _________________ _________________ |
| Any other body piercings _________________ _________________ |
| e. Make-up _________________ _________________ |
| Nail polish _________________ _________________ |
| 7. Clothing |
| a. Clean patient gown _________________ _________________ |
| b. Cap _________________ _________________ |
| c. Sanitary pad, etc. _________________ _________________ |
| 8. Family instructed where to wait? __________________________________________________________________ |
| 9. Valuables secured? ____________________________________________________________________________ |
| 11. Preanesthetic medication given: __________________________________________________________________ |
| Type _____________________ Time _______________ |
| Mouth care given: ___________________ |
| 14. Special problems/precautions: (Allergies, deafness, etc.): ______________________________________________ |
| 15. Area of skin preparation: ___________________ Date: _______________ Time: _______________ |
| 16. Signature: Nurse releasing patient |

**FIGURE 18-3** Preoperative checklist.
chilling in air-conditioned rooms. A small head pillow is usually provided.

The patient is taken to the preoperative holding area, greeted by name, and positioned comfortably on the stretcher or bed. The surrounding area should be kept quiet if the preoperative medication is to have maximal effect. Unpleasant sounds or conversation should be avoided because a sedated patient who overhears them might misinterpret them.

Patient safety in the preoperative area is a priority. Using a process to verify patient identification, the surgical procedure, and the surgical site maximizes patient safety and allows for early identification and intervention if any discrepancies are identified (Brown, Riippa & Shaneberger, 2001).

NURSING ALERT It is important for someone to be with the preoperative patient at all times. Someone must be present to provide reassurance as well as to ensure safety. Facial expression, or the warm grasp of a hand can communicate reassurance nonverbally.

Attending to Family Needs

Most hospitals and ambulatory surgery centers have a waiting room where the family and significant others can wait while the patient is undergoing surgery. This room may be equipped with comfortable chairs, television, telephones, and facilities for light refreshment. Volunteers may remain with the family, offer them coffee, and keep them informed of the patient’s progress. After surgery, the surgeon may meet the family in the waiting room and discuss the outcome.

The family and significant others should never judge the seriousness of an operation by the length of time the patient is in the operating room. A patient may be in surgery much longer than the actual operating time for several reasons:

- Patients are routinely transported well in advance of the actual operating time.
- The anesthesiologist or anesthetist often makes additional preparations that may take 30 to 60 minutes.
- The surgeon may take longer than expected with the preceding case, which delays the start of the next surgical procedure.

After surgery, the patient is taken to the PACU to ensure safe emergence from anesthesia.

Family members and significant others waiting to see the patient after surgery should be informed that the patient may have certain equipment or devices (eg, intravenous lines, indwelling urinary catheter, nasogastric tube, oxygen lines, monitoring equipment, and blood transfusion lines) in place when he or she returns from surgery. When the patient returns to the room, the nurse provides explanations regarding the frequent postoperative observations that will be made. However, it is the responsibility of the surgeon, not the nurse, to relay the surgical findings and the prognosis, even when the findings are favorable.

NURSING PROCESS: CARE OF THE PATIENT IN THE PREOPERATIVE PERIOD

Preoperative assessment of the surgical patient involves evaluating the elements addressed in the previous section on the factors that affect the patient undergoing surgery. A variety of patient problems or nursing diagnoses can be anticipated or identified on the basis of the assessment data.

Assessment

During the preoperative phase of care, nursing assessment usually addresses the following parameters:

- Physical condition, including respiratory, cardiac, and other major body systems as discussed earlier in this chapter
- Results of blood tests, x-ray studies, and other diagnostic tests
- Nutritional and fluid status
- Medication use, as previously described
- Psychological preparedness for surgery (anxiety, fear, spiritual and cultural beliefs)
- Special considerations, including the ambulatory surgery patient, gerontologic considerations, obesity, the patient with a disability, or the patient undergoing emergency surgery, as discussed earlier in this chapter

Diagnosis

NURSING DIAGNOSES

Based on the assessment data, major preoperative nursing diagnoses of the surgical patient may include the following:

- Anxiety related to the surgical experience (anesthesia, pain) and the outcome of surgery
- Fear related to perceived threat of the surgical procedure and separation from support system
- Knowledge deficit of preoperative procedures and protocols and postoperative expectations

COLLABORATIVE PROBLEMS/POTENTIAL COMPlications

Failure to identify and communicate pertinent preoperative risk factors may lead to complications.

Planning and Goals

The major goals for the preoperative surgical patient may include relief of preoperative anxiety, decreased fear, increased knowledge of perioperative expectations, and absence of preoperative complications.

Nursing Interventions

REDUCING PREOPERATIVE ANXIETY

Specific nursing interventions are discussed in detail under psychosocial interventions and preoperative teaching in the previous sections.

DECREASING FEAR

Nursing management is discussed under psychosocial interventions in the previous section.

PROVIDING PATIENT EDUCATION

Specific nursing interventions pertaining to preoperative patient education are discussed in detail in earlier sections of this chapter.

MONITORING AND MANAGING POTENTIAL COMPLICATIONS

Nursing interventions to prevent preoperative complications include identification and documentation of factors that affect patients preparing to undergo surgery (discussed earlier in this chapter).
Evaluation

EXPECTED PATIENT OUTCOMES

Expected patient outcomes may include:

1. Reports relief of anxiety
   a. Discusses with anesthesiologist or anesthetist concerns related to types of anesthesia and induction
   b. Verbalizes an understanding of the preanesthetic medication and general anesthesia
   c. Discusses last-minute concerns with nurse or physician
   d. Discusses financial concerns with social worker, when appropriate
   e. Requests visit with member of clergy when appropriate
   f. Relaxes quietly after being visited by health care team members
2. Reports that fear is decreased
   a. Discusses fears with health care professionals
   b. Verbalizes an understanding of the location of family members or significant others during procedure
3. Voices understanding of surgical intervention
   a. Participates in preoperative preparation
   b. Demonstrates and describes exercises he or she is expected to perform postoperatively
   c. Reviews information about postoperative care
   d. Accepts preanesthetic medication, if prescribed
   e. Remains in bed once premedicated
   f. Relaxes during transportation to operating room or unit
   g. States rationale for use of side rails
   h. Discusses postoperative expectations
4. Shows no evidence of preoperative complications.

Critical Thinking Exercises

1. During the preoperative assessment of a man scheduled for hand surgery in an ambulatory setting, you think that the patient’s responses indicate that he does not understand the procedure and that he has not made plans for postoperative care. What further assessment and teaching is indicated? What nursing interventions are warranted?

2. A patient with a long history of the use of several herbal supplements is scheduled for major surgery. What effect would this information have on your preoperative care of this patient?

3. Two patients are admitted to the same-day surgery unit for bilateral knee replacements. One patient is a 30-year-old who ambulates with crutches and the other is a 75-year-old who lives alone. How would your assessments, preoperative teaching, and preparation differ for these two patients?

REFERENCES AND SELECTED READINGS

Books


Journals

Ambulatory Surgery

Asterisks indicate nursing research articles.


Anesthesia and Surgery


Perioperative Assessment


**RESOURCES AND WEBSITES**

American Academy of Ambulatory Care Nursing, East Holly Ave., Box 56, Pitman, NJ, 08071; (856) 256-2350; (800) AMB-NURS; [http://www.aacan.org](http://www.aacan.org).

American Society of PeriAnesthesia Nurses, 10 Melrose Ave., Suite 110, Cherry Hill, NJ 08003-3696; (877) 9696 (toll-free); fax (856) 616-9621; [http://www.aspan.org](http://www.aspan.org).