

Perspectives

Recovery Strategies from the OR to Home

In This Issue

Plastic surgery is the specialty that seeks to improve physical function and/or appearance. The word "plastic" is derived from the Greek meaning "molding" or "giving form". Plastic surgery can be divided into reconstructive surgery and cosmetic surgery. More than 9.2 million cosmetic procedures were performed on patients in 2004 and abdominoplasty was the third most common type of cosmetic surgery with a total of 101,228 procedures. In the first of a two-part series on Cosmetic Plastic Surgery, Ms. Hotta, President of the Plastic Surgery Nurses Association, provides a detailed description of the procedure from patient selection through postoperative complications. As Ms. Hotta stresses, the risk of complications can be reduced by proper patient selection, a thorough medical history, meticulous surgical technique, and well-defined postoperative instructions.

Hysterectomy is the second most common major surgery among women in the United States. Each year, more than 600,000 hysterectomies are done. About one third of women in the United States have had a hysterectomy by age 60. The most common reasons women undergo a hysterectomy include uterine fibroids, endometriosis, uterine prolapse, and cancer. Ms. Young and McKeever, with 40 years of combined clinical experience in gynecologic disorders, emphasize the importance for patient education and discharge planning to become a seamless process to facilitate optimal patient outcomes.

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The Art of Cosmetic Plastic Surgery: Abdominoplasty

By Tracey Hotta, RN, BSN, CPSN

For centuries, people have been searching for the fountain of youth in lotions, potions, and cosmetic surgery. Recent technical advances and modifications of surgical procedures have led to shorter recovery times and reduced risks of complications. However, basic nursing issues must still be addressed before patients can achieve the ultimate recovery experience.

Part 1 of this article is intended for nurses who are involved in the care of patients who undergo abdominoplasty. Part 2, which will be published in a future issue of *Perspectives*, will focus on cosmetic facial surgery.

In today's society, individuals are aware of the benefits of a healthy lifestyle. Mature adults with a youthful attitude toward life seek to look as young as they feel. Abdominoplasty and aesthetic facial surgery allow patients to safely achieve this goal.

According to the American Society of Plastic Surgeons (ASPS), abdominoplasty was the third most common type of cosmetic surgery in the United States in 2003, with a total of 101,228 procedures. This procedure is more common among the female population. The statistics show that 86% of all cosmetic procedures are on women, with 45% of the patients being between the ages of 35 to 50 years.¹

Every surgical procedure involves a certain degree of risk. A person chooses to undergo surgery by weighing the potential benefits against the surgical risks. Although most patients do not experience complications, the surgeon must discuss these risks, so the patient is well informed and knowledgeable about the

procedure. This discussion is reinforced by the nurse's preoperative assessment. It is important for both nurse and surgeon to communicate and collaborate on their instructions, so that the patient receives consistent information.

The risk of complications can be reduced by proper patient selection, a thorough medical history, meticulous surgical technique, and well-defined postoperative instructions.

Preoperative nursing assessment

Once a date for surgery is confirmed, the patient is scheduled for a preoperative nursing appointment about 2 weeks beforehand. This schedule allows enough time to receive and follow-up test results, if necessary. The patient's history is important to identify potential risks and health issues that may result in an undesirable surgical outcome.

Allergies to environment, medications, latex, tapes, sutures, or anesthetic agents must be specifically questioned and documented as to reaction and treatment. If a patient has had allergic reactions to latex, a separate form is completed to assess the degree of latex sensitivity. Allergies must be clearly visible in red ink on all pages of the patient's surgical chart and the operating-room schedule.

All medications, whether prescription, over the counter, herbal preparations, or vitamins, must be noted, along with indication, dosage, duration of use, and any adverse reactions or complications. Any medications that affect coagulation, including vitamin E, Aspirin-based products, anti-inflammatories, herbal remedies and red wine, must be discontinued



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Continuity and Accountability for Patients with Hysterectomy: Operating Room to Home

Judith M. Young, MSN, RNC, and Amy E. McKeever, MSN, CRNP

Hysterectomy is one of the most common surgical procedures in the United States. It accounts for extraordinarily high healthcare costs and loss of time in the workforce, home, and family management.¹ Whether hysterectomy is performed to treat a benign or malignant gynecologic disorder, it is increasingly important for patient education and discharge planning to become a seamless process to facilitate optimal patient outcomes. The nurse's role is critical in this process and should begin as soon as the patient decides to have this procedure. Facilitation of care through the pre-, intra-, and postoperative periods until hospital discharge will ensure continuity of care in managing of women who have a hysterectomy.²

Advances in care

The surgical experience has changed dramatically over the past 40 years. Throughout the 1960s, the duration of hospital stay for hysterectomy varied between 7 to 10 days. In 2005, the patient's length of stay ranges from 2 to 4 days. Much of this change relates to advancements in gynecologic care, new surgical techniques, and innovative instrumentation, which allows for less invasive methodology. The refinement in anesthetic agents and techniques has led to better outcomes for patients. Most important is the impact of insurance reimbursement, which has mandated hospitals and health-care providers to examine the approach to care in an effort to provide cost-effective services without hindering optimal outcomes. The retrospective review of scientific data on patient outcomes has

been used to change practice and inform the public.³

Background

The nurse's knowledge of the patient's history facilitates appropriate care during surgery and recovery. For a successful outcome, the patient's risk factors need to be identified and incorporated into the plan of care (Table 1).

The type of hysterectomy lays the foundation for postoperative care. Total abdominal hysterectomy (TAH) requires a substantial abdominal incision to remove the uterus. A laparoscopic-assisted vaginal hysterectomy (LAVH) decreases the extent of the abdominal incision by using a small incision at the umbilicus. The ultimate goal of LAVH is visualization through the abdomen and dissection, with ultimate removal of the uterus via a vaginal approach. A vaginal hysterectomy (TVH) is the optimal approach if the patient requires pelvic floor repair.⁴

The choice of hysterectomy is within the physician's scope of practice; however, it is imperative that the nurse understands these procedures to facilitate appropriate patient education and assessment for complications during the postoperative period. The LAVH often requires a longer operative time and more anesthesia. The duration of TAH depends on whether the surgeon needs to remove the uterus alone or in conjunction with the ovaries and fallopian tubes. The duration of vaginal hysterectomy is determined by the extent of repair; this surgery may have shorter operative and postoperative periods.

Another important factor for nurses to consider is the patient's operative position. The TAH requires a supine position, while the TVH demands a lithotomy position. Of course, the LAVH combines the other two procedures.²

Hysterectomy for malignant etiology is more extensive and carries greater risks and patient needs than benign procedures.

Complications

The nurse must consider the anatomical structures manipulated during the procedure, which could hinder postopera-

tive recovery and the return to a state of well being. Since the uterus lies between the bladder and rectum, along with other abdominal structures, they must be displaced during operative dissection and excision. Complications include unintentional trauma to the surrounding organs and the potential for hemorrhage. Another important factor is the manipulation of the large blood vessels in the abdominopelvic cavity and pressure from retractors and/or laparotomy sponges.

Thrombophlebitis is a potential complication, related to the length of time that the patient must be kept in stirrups for a vaginal approach. It may also occur from the manipulation of large blood vessels. The laparoscopic approach may introduce CO₂ gas to expand the operative view. If the surgeon does not relieve the gas from the abdomen at the end of the procedure, it may lead to impaired respiratory function due to upward displacement of the diaphragm.

Concerns have suggested that Monsell's solution, commonly used for hemostasis during gynecological procedures, may be a vector for nosocomial infection. The preparation and storage of this solution has been studied for quality control. Results have shown that the risk is minimal to the gynecologic patient, and the efficacy of this agent has been proven in its use for more than 100 years.⁵

Standard care during a hysterectomy includes the use of an indwelling catheter, which is placed preoperatively and generally removed on the day after surgery. Statistics have shown that 40% of nosocomial infections result from urinary tract infections; 80% are related to the use of an indwelling catheter. This complication leads to increased hospital stay and higher costs as well as unpleasant symptoms. It has been proposed that the catheter could be removed immediately after surgery, since the primary purpose is bladder deflation and prevention of unintentional trauma during surgery.⁶

Current practice is related to tradition rather than research-based evidence. A recently reported study has investigated the necessity of 24-hour placement of an indwelling catheter after hysterectomy. A randomized prospective trial was conducted to investigate outcomes of immediate catheter removal, as opposed to next-day removal. The study included 250 women, divided into 2 groups, undergoing hysterectomy without bladder repair. Results showed that early removal was not associated with a need for recatheterization, nor was there an increased rate of postoperative fever or symptomatic urinary tract infections. In fact, the women in the early removal group reported less pain than those with routine indwelling catheter removal.⁶ Regardless of the length of time for indwelling catheter, a commercially

Table 1. Risk factors for women who have hysterectomy

- Elderly age
- African-American
- Substance abuse
- Smoking/alcohol use
- Anemia (related to dysfunctional uterine bleeding)
- Chronic illness
- History of thrombophlebitis

available Foley catheter holder (Dale Medical Products) can minimize catheter movement and provide more comfort for the patient (Figure 1).

General and spinal anesthesia present numerous risk factors. If the patient presents with any respiratory compromise, there is always concern that inhalation of gases may lead to postoperative atelectasis or pneumonia. Spinal anesthesia could result in postoperative spinal headache and a delay of return to sensation and functioning of the lower extremities, potentially increasing hospital stay and cost as well as poorer outcomes.

Postoperative fever is considered one of the most frequent complications of gynecologic surgery, as it delays hospital discharge. It is not an uncommon finding in most patients who have undergone total abdominal or vaginal hysterectomy. Common practice has been to retain the patient until she is afebrile, often employing antibiotics and additional diagnostic testing. This practice leads to longer length of stay and increased costs, particularly in terms of patient expectations. In fact, investigation of the etiology of this fever did not find an infectious or pathologic cause in more than 537 patients in a retrospective review.⁷ Investigation revealed that cytokines are released during the operative insult, accounting for the febrile episodes. Fanning et al⁷ concluded that there was no rationale to delay hospital discharge, if no pathology and no need for antibiotic therapy was discovered prior to discharge.

Pain management

Women undergoing a hysterectomy anticipate pain in the postoperative period. Successful pain management is crucial for successful outcomes. A postoperative patient is expected to deep breath, cough, change body position, and begin to ambulate. All of these expectations can be delayed when pain is present and not managed appropriately from the patient's perspective. Women have reported that postoperative pain is more severe overnight than during the day.⁸ In fact, sleep disturbances related to severe acute postoperative pain can lead to a chronic pain state.

The standard management for abdominal and vaginal surgical procedures is narcotic administration, with or without additional sedatives. The postoperative patient may not be able to comply with the plan of care for deep breathing, coughing, and ambulating, if pain is inappropriately managed, thus adding to a list of potential complications that can extend the hospitalization. As part of a pain management protocol, an abdominal binder can provide support, which can encourage early ambulation and enhance pulmonary function.

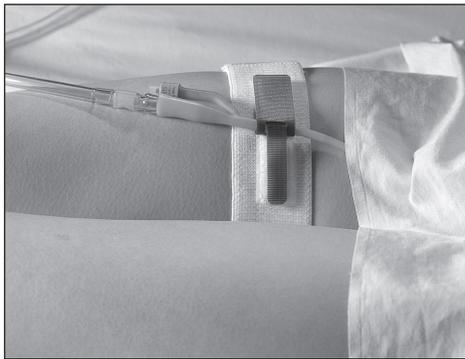


Figure 1. Dale Foley Catheter Holder™

Current initial postoperative pain management is accomplished with the patient-controlled analgesia (PCA) pump. However, epidural analgesia has been used in recent years.

Postoperative pain in the gynecologic patient has not been studied extensively. A quantitative study was conducted in four midwestern hospitals to examine the sensory and affective components associated with pain during the two immediate postoperative days.⁹ Potential participants who reported any chronic pain were excluded from the study. Eighty women completed the study, which examined the severity of pain and emotional distress. The participants received morphine or Meperidine via a PCA pump. Outcomes were affected after the PCA pump was discontinued and the participants began ambulating. The women reported moderate to severe pain and sleep disturbance that was not controlled completely by the use of a PCA pump, regardless of the narcotic agent. One explanation was that the women needed more instruction on the use of the pump. Participants reported better pain relief if they had used nonpharmacologic methods, such as relaxation and/or music therapy along with the PCA pump, since they had previously used these modalities to manage pain or stress in other situations. Implications for nursing include not only improved patient education but the use of non-opioid interventions to help alleviate unnecessary suffering for women undergoing gynecologic surgery.

Morbidity and mortality

When someone has surgery, a frequent concern is the potential for complications or death. Questions often arise when elderly women have gynecologic surgery. Elderly patients often have multiple chronic health problems, which may complicate their postoperative course and extend the length of hospital stay. In 2005, about 25% of the female population is postmenopausal, therefore, nurses can anticipate an increase in the number of surgeries in this age group.¹⁰ As life expectancy continues to increase, it is reasonable to expect women in their senior

years to present with gynecologic disorders requiring surgical repair, particularly pelvic floor disorders. Surgical outcomes are important for this population, particularly in terms of quality of life for women who have uterine prolapse and urinary or bowel incontinence.

Morbidity and mortality rates in the elderly population have been explored at a community hospital. The study investigated 50 gynecologic procedures that were performed for pelvic organ prolapse and/or urinary incontinence. The mean age of women was 76.7 years. Although complications occurred, including cardiac (10%), gastrointestinal (9.3%), and mental status alteration (7.4%), the average length of stay did not extend beyond 4 days.¹¹

Psychosocial considerations

Debate exists about the impact of hysterectomy on the woman's state of wellness and contentment. The importance of psychological stability has been raised and questions regarding the risk for depression after hysterectomy appear to be unfounded. However, one of the most important psychosocial perceptions involves postoperative sexual function. Depression and postoperative sexual function are most likely related to the presence of these problems in the preoperative period. However, if the ovaries have been removed along with the uterus, subsequent hormone deficiency may play a role in the development of depression, which may respond to hormone replacement therapy.

Reports of alteration in sexual function can occur when hysterectomy results in a surgical menopause. In that case, the severity of symptoms needs to be evaluated for appropriate treatment.¹² On the other hand, symptoms that led to the need for surgical intervention may be relieved postoperatively and the psychosocial aspect of the woman's health may actually improve.¹

Postoperative implications

The goals of the immediate postoperative period are for the patient to regain consciousness, reestablish normal physiologic functioning, and adapt psychosocially to the trauma of surgery and its consequences. The aim is to facilitate postoperative recovery, free of preventable complications. A holistic plan of care is derived from the nursing process (Table 2).

A successful operation depends on many related variables; part of this success depends on the continuity of care within the healthcare team. Discharge planning needs to begin before admission and continue throughout hospitalization to ensure that recovery continues after the patient returns home. Shortened hos-

pital stays have shifted patient care to pre- and post-hospitalization. An important consideration is the potential for readmission.¹³

Nurses involved in postoperative care also participate in discharge planning. However, research has shown that they have different perceptions about the patient's postdischarge needs and spend very little time planning for discharge.¹⁴

Communications and discharge planning

Women who are planning to undergo hysterectomy should receive information on the rationales for surgery, surgical procedures, and outcomes, including potential sequelae prior to surgery.¹ The nurse in the gynecologist's office can play a key role in preparing the patient by initiating patient education with pertinent materials that meet the woman's needs and are suitable to her educational level. This nurse can help the woman to access additional resources that will be beneficial throughout the treatment process. Referral to a support group or a women's center is often helpful to continue to meet ongoing needs. It is extremely important that the woman understands that she may have more questions and concerns, so she should record everything, not only for herself but her family or support network.

Historically, discharge planning was initiated to establish the woman's physical, psychosocial, and financial needs at the time of preadmission testing. The process provided patient education, along with the necessary diagnostic testing, and determined referral for the hospitalization period. The goal of preadmission discharge planning was to facilitate continuity of care under nursing direction.¹⁵

Discharge planning has evolved into a coordinated team effort with a multidisciplinary approach.¹⁶ The practice of nursing today has shifted from discharge planning to outcomes management under the case-management model.¹⁷

Continuity and accountability

Evolution in nursing practice has been key to the smooth progression of patients through the healthcare system.¹⁸ A masters-prepared clinical nurse specialist or women's health nurse practitioner is a master clinician. This person collaborates with the primary staff and serves as coordinator of the interdisciplinary team. This model begins in coordination with a nurse in the gynecologist's office at the time of scheduled admission.

During the inpatient phase of care, communication between the nurse, physician, and patient at daily rounds has proved effective. Since the patient is part of the process, her needs are identified and discharge becomes a smooth transition with all necessary support in place.

Table 2. Routine postoperative care for total abdominal or vaginal hysterectomy

● Vital signs: return to preoperative baseline, $\pm 20\%$ of baseline
● Homeostasis: IV fluids, dressing, pad count
● Urinary output: >200 cc within 6-8 hours postsurgery
● Respiratory function: coughing, deep breathing, coughing, incentive spirometry
● Pain management: PCA pump, epidural, analgesics, sedation, binder, anti-inflammatory, report of pain reduction to 4 on 0-10 scale
● Nausea, vomiting: antiemetics
● Ambulation: exercise, abdominal binder, TEDS and/or sequential compression stockings
● function: NG tube if applicable, protocol, stool softener, laxative
● Discharge planning: psychosocial adaptation
● Body image disturbance related to loss of reproductive organs and alteration in hormone balance grieving, sexual dysfunction
● Posthospitalization follow-up: surgeon appointment; home care, if indicated

The primary-care postoperative nurse provides follow-up within 2 weeks post-discharge.¹⁹ With outcomes management, the quality of care has improved with a more comprehensive preoperative phase, smoother hospitalization, and postoperative follow-up.

An additional benefit has been the role modeling and career advancement of primary-care nurses at the bedside. A professional nurse who practices in women's health is accountable for implementing the nursing process, regardless of practice environment, and must adhere to the Standards of Practice and Professional Performance.²⁰ The collaboration of the advanced practice nurse specialist or practitioner, primary nursing care team, physician, and other members of the interdisciplinary team have demonstrated continuity of care, accountability, and favorable outcomes, not only for nursing but, most importantly, for the patient.

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Judith M. Young MSN, RNC

Ms. Young has been in clinical practice in the area of women's health for over 30 years. For the last seven years, she has focused on nursing education, as a consultant and as a member various nursing faculties including Villanova University, Thomas Jefferson University and the University of Pennsylvania. She has published articles and presented numerous lectures on OB/GYN topics, as well as reviewed various textbooks.

Amy E. McKeever, MSN, CRNP

Ms. McKeever has been a Women's Health Practitioner for over 10 years. She is presently a doctoral candidate in nursing at Villanova University. Her clinical gynecologic experience ranges from obstetrical complications to gynecologic oncology. She has written and presented extensively on the topic of gynecologic oncology and other women health-related topics.

2 weeks before surgery, as they may interfere with anesthetic agents, blood pressure, or blood clotting.

The patient's surgical history is documented, noting previous surgeries, any complications, and a family history of problems with anesthesia, which may range from nausea and vomiting to malignant hyperthermia. For patients with a history of anesthetic-related nausea and vomiting, an antiemetic, such as Zofran, is suggested preoperatively.

During the body systems assessment, the nurse asks specific questions about the head and neck area (history of stroke, fainting spells, headaches, seizures, glaucoma, previous eye surgery, dental concerns), circulatory system (symptomatic heart murmur, heart attack, angina, SOB, palpitations, use of birth control pills, hormone replacement therapy, previous DVTs, venous disease), respiratory system (history of pneumonia, bronchitis, persistent cough, asthma, first or second hand smoke), and gastrointestinal system (hiatus hernia, constipation, gastric ulcer) and inquiries about a family history of diabetes, thyroid condition, hepatitis, anemia, hyper- or hypotension, bleeding tendency, injury to extremities, or back/neck problems. In women, it is important to rule out pregnancy.

Baseline vital signs, including height, weight, blood pressure, and pulse, are taken and documented on the preoperative assessment form.

Perioperative Considerations

Abdominoplasty is indicated for patients who present with abdominal striae, excess abdominal skin, excess fatty tissue, and/or muscle laxity. During this procedure, the patient is positioned in a supine position with the arms extended at right angles to the body. Gel arm pads on each arm board reduce the risk of ulnar nerve injury. The patient is prepped with Providine solution; the umbilicus is swabbed with a cotton-tipped swab. Local infiltration is not used, as it is preferable to control hemostasis without the aid of a vasoconstrictor and the infiltrate makes electrocauterization more difficult.²

There are several different approaches to abdominoplasty. The most common is the bikini incision, which extends across the pubis then angles upward toward each iliac crest (see Figure 1). A surgical incision is made with a size 10 blade, then dissection proceeds via electrocautery. During this procedure, the thermal destruction of tissue creates a smoke by-product. NIOSH research has confirmed that this smoke plume can contain toxic gases and vapors, live cellular material, and viruses. At high concentrations, the

smoke can cause ocular and upper respiratory irritation and create a visual problem for the surgeon. The smoke evacuator should be kept within 2 inches of the surgical site to effectively capture airborne contaminants.

Once the flap is elevated up to the height of the xiphoid and laterally to the costal margins, muscle repair is planned. The rectus diastasis is marked for plication as an elliptical shape from the xiphoid to pubis. For repair, the surgeon uses a 1 Vicryl continuous stitch from navel to pubis, then navel to xiphoid. A few interrupted stitches along the suture line reinforce the abdominal muscles.

The intercostals margins, specifically the 6th to the 12th thoracic nerves, are infiltrated with Marcaine 0.25% with epinephrine to decrease postoperative discomfort.

The midline of the abdomen and location of the umbilicus are marked. The surgeon advances the flap and uses 3-0 Monocryl for a tacking suture. Lateral flaps are adjusted and marked for excision.

Before closure, the surgeon approximates Scarpa's fascia in the fascial layer, as it is thought to provide a thigh-lift effect and prevent widening of the scar.³ Two Jackson Pratt (JP) drains are placed within the operative area and secured with a silk suture. One drain is placed high, while the other is positioned in the supra pubic area. A two-layer continuous subcutaneous closure is done with 3-0 and 4-0 Monocryl. Lastly, the premarked umbilical site is incised and a large cylindrical area of fat is removed. This step exteriorizes the umbilical stock and promotes a natural concavity around the umbilicus. A purse-string closure is done with a 4-0 Monocryl.

The dressing consists of Vaseline packing for the naval, gauze secured with a clear, waterproof bandage, an ab-

dominal pad, and a Velcro™ compression binder.

Recovery

Once in the recovery room, nurses monitor the patient's vital signs every 5 minutes for the first 15 minutes, every 15 minutes for the remaining 45 minutes, every 30 minutes for the next hour, then hourly. The JP drains are checked for patency, oxygen is administered at 6 l/min, and the Bair Hugger continues to maintain thermoregulation. The sequential compression device should remain on the patient until discharge.

Analgesics are administered as necessary, usually starting with morphine (1-2 mg IV, Q5-10 min to a max of 10 mg IV). Once patients can tolerate oral fluids, Percocet is the analgesic of choice.

While in hospital, patients remain in a sitting position with small pillows under the arms to support the chest muscles and encourage deeper breathing. This flexed position gives relief to the suture line and improves patient comfort.

Postoperative instructions

Prior to discharge, it is important to explain and demonstrate the use of JP drains and drainage bulb with a diagram. Fluid that accumulates in the abdominal area must be extracted to enhance healing. The drainage bulb must be emptied at least twice daily or whenever it contains over 25 cc. Nurses should stress the importance of applying continual pressure to collapse the bulb, since fluid is removed by suction. The patient receives a chart to complete every time that he or she empties the drain. The nurse should warn the patient about the possibility of fluid leaks around the drainage site. Although the drain is stitched into place, it may slip if the diameter is slightly smaller than the incision. If leakage occurs, the patient

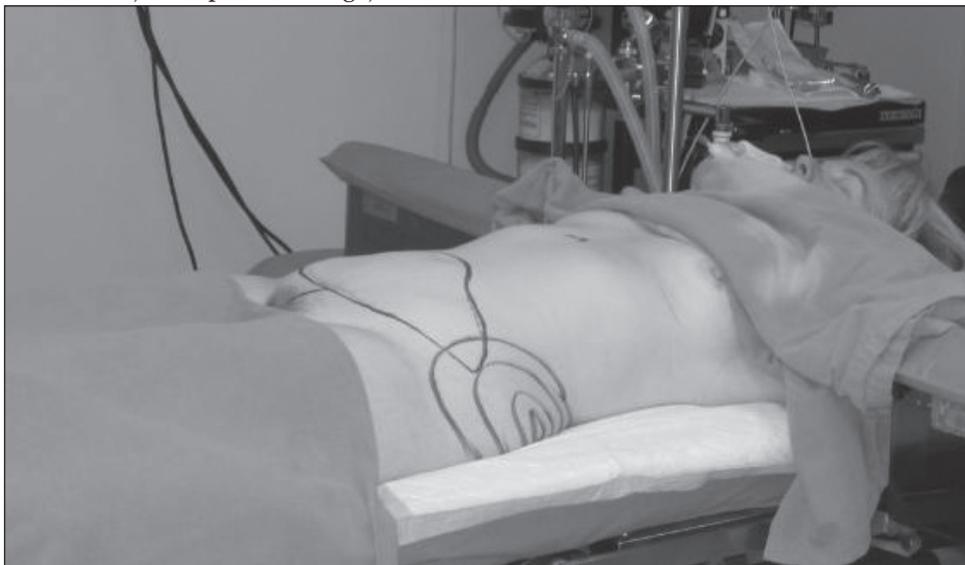


Figure 1. Bikini incision

may reinforce the dressing with a sanitary pad; excess drainage needs to be assessed by the patient's surgeon.

For two weeks after surgery, patients should avoid lifting items over 5 pounds and refrain from pushing or pulling movements. They should avoid any activity that will raise their blood pressure, such as using a treadmill or stationary bike. Many patients will want to resume exercise as soon as possible, but the nurse should stress that exercising too early may do more harm than good. A "tummy tuck" is major surgery and the body needs time to heal. Patients should be instructed to do minimal activity in the second week after surgery, even if they feel capable. If the immediate postoperative period is uneventful, the patient may resume normal activity, including exercise, in six 6 weeks.

The nurse may suggest the use of a scar management cream, as healing progresses and the scar matures. Silicone gel sheeting may be suggested for itchy scars with prolonged redness.

Postoperative complications

Hematoma

A patient with hematoma presents with a firm palpable mass, ecchymosis, and possibly higher pulse and lower blood pressure. Hematomas are usually diagnosed late, because a large quantity of blood can occupy the space under the abdominal wall before detected as abdominal enlargement. The hematoma should be drained promptly to avoid flap compromise or infection.

The risk of a hematoma may be reduced by several interventions, including a thorough preoperative screening to rule out a coagulation disorder and discontinuation of all holistic, herbal, ASA, NSAIDS, and vitamin E products at least three weeks preoperatively. Intraoperatively, meticulous cautery and the use of drains are beneficial. Postoperative instructions should stress the importance of limited activity to keep blood pressure within normal range and the avoidance of lifting over 5 pounds.

Measurements must be taken to monitor intraabdominal pressure postoperatively. Antiemetics can prevent nausea and vomiting, and the use of laxatives is suggested, particularly for patients who are prone to constipation.

Seroma

A patient with seroma presents with a visible contour irregularity and fluid wave shift. It may result from an accumulation of serosanguineous fluid within the operative area or from an injury to the lymphatic system. Seroma is often detected in the supra pubic area.

The use of one or two drainage tubes postoperatively will reduce the risk of seroma. The last drain is removed when

The use of an abdominal binder, worn continuously for 4-6 weeks, can encourage earlier ambulation, enhance pulmonary function, and alleviate incisional pain.

drainage is less than 30 cc in a 24-hour period or not later than 14 days postoperatively. Other surgical methods that decrease the risk of seroma include the use of quilting sutures, application of fibrin sealant, limited use of simultaneous liposuction during surgery, and the use of a compression garment in the immediate postoperative period.²

If a seroma develops, percutaneous aspiration may be necessary. This procedure is often done with a large bore needle and 60-cc syringe; ultrasound-assisted aspiration may be necessary in larger patients. Periodic aspiration may be required, until the problem resolves. Occasionally a seroma catheter or reinsertion of a drain may be necessary.³

Infection

A patient who presents with excessive pain not relieved by analgesia; purulent and odorous discharge; warm, red and taut skin; fever; and general malaise should be treated for infection. A culture and sensitivity swab of any discharge should be taken to determine which antibiotic would be most effective.

The exact cause of infection may be difficult to determine. Among the causes are the surgical technique, a break in sterility, postoperative wound and drain care, or physiologic factors, such as diabetes or coagulation problems.

To reduce the risk of infection, nurses should instruct patients not to shave before surgery. If necessary, hair can be clipped in the operating room prior to prepping. Shaving, particularly on the night before surgery, has been associated with higher rates of infection.⁴ The circulating nurse should do a pre-op scrub with

a chlorhexidine solution, cleansing the umbilicus with a cotton-tipped swab.

Meticulous cautery is essential during surgery, as infection may be caused by an undetected hematoma. It is also important for the circulating nurse to identify breaks in sterile technique and suggest intravenous antibiotics when appropriate.

To prevent infection, nurses must instruct patients how to care for drains and dressings. Before emptying drains, patients must wash their hands with antibacterial soap. Postoperatively, the patient may sponge bath but may not shower or wet the dressing before drainage tube removal.

Tissue necrosis

Tissue necrosis occurs when blood supply to the abdominal flap is compromised. Patients present with a dusky distal flap, ecchymosis, and sluggish capillary refill. The most common area for necrosis is midline between the umbilicus and pubis due to wound tension. Other surgical risks include a T-incision closure, extensive flap undermining, and combining liposuction with abdominoplasty.

To decrease the risk of tissue necrosis, a thorough medical history is necessary to detect the presence of vascular or pulmonary disease, steroid therapy, diabetes mellitus, and abdominal scars, as these conditions have a profound effect on tissue healing.

Smokers must sign a smoker's consent form and quit smoking for three weeks before and after abdominoplasty.

Pulmonary embolism (PE) and deep vein thrombosis (DVT)

PE and DVT are risks with any surgery, but these risks are more apparent



Figure 2. Abdominal binder (Dale Medical Products)

with abdominoplasty due to the length of surgery, intraoperative positioning, unwillingness of patients to ambulate after surgery, patient's age, degree of obesity, and use of hormone replacement therapy.

The signs and symptoms of PE are shortness of breath and pain on inspiration. The sign and symptoms of a DVT are a sharp pain in a localized area, usually the leg or pelvis, warmth, redness, and swelling. Immediate medical attention is necessary and under no circumstances should anyone massage the affected area.⁷

The use of an abdominal binder, worn continuously for 4-6 weeks, can encourage earlier ambulation, enhance pulmonary function and alleviate incisional pain³. Moreover, the binder can be used to hold dressings in place and facilitate dressing changes (see Figure 1).

A detailed medical history can assess the risk factors for PE and DVT, such as age, activity level, use of contraceptives, obesity, latent infection, history of a collagen vascular disease, venous disease or polycythemia.

Preoperative instructions must include the importance of leg exercises, deep breathing, and coughing, proper positioning to avoid pressure against the calf and popliteal space, and leg elevation while sitting.

Sequential compression devices are designed to reduce the risk of DVTs. The combined use of compression stockings and sleeves is more effective in preventing venous thrombi than the SCD system alone. They are placed on the patient during surgery and should remain in place until the patient is ambulating.

The compression stockings must provide gradient pressure, which is greatest at the foot and decreases up the leg. If the band is too tight, it will create a tourniquet effect that delays rather than enhances venous emptying. Patients must be measured as per manufacturer's instructions to ensure proper fit. Thigh-length stockings must end 2 inches below the groin, and patients who fall between two sizes should choose the size with the looser fit.

Discharge

Patients must arrange for a responsible adult to pick them up and escort them home. If they are planning to go home by taxi, another adult must assist them. During the ride, patients should use a pillow to support their abdomen.

Patients are discharged with verbal and written instructions, which have been explained preoperatively. It is important to give them emergency telephone numbers for after hours and weekends. A post-discharge telephone call on the following day checks progress and allows patients to voice any concerns.

Due to the tightness of abdominal muscles, most patients find it difficult to take a deep breath and will avoid doing so. Emphasize the importance of deep breathing and coughing exercises to prevent pneumonia and atelectasis. The use of an abdominal binder, worn continuously for two weeks, can encourage earlier ambulation, enhance pulmonary function and alleviate incisional pain³. Moreover, the binder can be used to hold dressings in place and facilitate dressing changes (Figure 2).

Conclusion

Complications can and do occur with any surgical procedure. The responsibility of a good surgical team is to take all reasonable steps to minimize complications. Education and explanation through all the phases of their care are key elements to achieve successful outcomes.

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Tracey Hotta RN, BScN, CPSN

Ms. Hotta has been clinically involved in the field of cosmetic plastic surgery for over 15 years. She is currently the president of the American Society of Plastic and Reconstructive Surgery Nurses. In addition to her clinical and professional association activities, Ms. Hotta has presented at numerous plastic surgery meetings on cosmetic plastic surgery, including abdominoplasty, facial surgeries and dermal fillers. She has also written education modules on the topic of cosmetic plastic surgery.

This continuing nursing education activity was approved by the Vermont State Nurses Association Inc. (VSNA) an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

After reading this article, the learner should be able to:

1. Identify hysterectomy as a common surgical experience for women across the lifespan.
2. Develop a biopsychosocial plan of care for the gynecologic surgical patient.
3. Communicate pertinent information for the gynecologic patient from the preoperative period through the postoperative period.
4. Discuss the pre-operative nursing assessment process for a patient undergoing plastic surgery.
5. List at least 3 the potential complications that may result from a plastic surgery.
6. Discuss the post-operative instructions necessary to ensure an uneventful recovery.

Instructions

1. Read both articles.
2. Complete the post-test on page 8. (You may make copies of the answer form).
3. Complete the participant evaluation.
4. Mail or fax the complete answer and evaluation forms to address on back page.
5. To earn 1.9 contact hours of continuing education, you must achieve a score of 70% or more. If you do not pass the test you may take it one more time.
6. Your results will be sent within four weeks after form is received.
7. The fee has been waived through an educational grant from Dale Medical Products Inc.
8. Answer forms must be postmarked by August 1, 2007.

Perspectives, a quarterly newsletter focusing on postoperative recovery strategies, is distributed free-of-charge to health professionals. *Perspectives* is published by Saxe Healthcare Communications and is funded through an educational grant from Dale Medical Products Inc. The newsletter's objective is to provide nurses and other health professionals with timely and relevant information on postoperative recovery strategies, focusing on the continuum of care from operating room to recovery room, ward, or home.

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Saxe Healthcare Communications
P.O. Box 1282, Burlington, VT 05402
Fax: (802) 872-7558
sshapiro@saxecommunications.com

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1. **When providing patient education following a hysterectomy, the nursing plan of care would include which important aspect(s) of her postoperative recovery?**
 - a. self-esteem disturbance related to guilt
 - b. body image disturbance related to surgical procedure
 - c. knowledge deficit related to altered sexual function
 - d. all of the above
2. **What is the most appropriate surgical procedure for an 85-year old woman with a history of stress incontinence?**
 - a. total abdominal hysterectomy with removal of the ovaries
 - b. surgical treatment is not an option because of patient's age
 - c. vaginal hysterectomy with pelvic floor repair
 - d. laproscopic assisted vaginal hysterectomy
3. **What pain management approach is the most successful for a patient undergoing a total abdominal hysterectomy on the first operative day?**
 - a. Ibuprofen every 4-6 hours, prn
 - b. Duragesic patch for the entire hospitalization
 - c. Meperidine 50 mg IM every 3-4 hours, prn
 - d. PCA pump with Morphine
4. **Who is the most suitable person to discuss the hysterectomy procedure, complications, hospital course and recovery?**
 - a. receptionist in the gynecologist's office
 - b. the gynecologist in the preoperative area
 - c. the nurse practitioner in the gynecologist's office
 - d. the case manager on the postoperative unit
5. **What would the nurse suggest if a woman wishes to discuss her concerns with other women about her pending hysterectomy?**
 - a. a women's health center
 - b. a psychologist specialized in women's issues
 - c. a cousin who is also an emergency room nurse
 - d. the nurse in the preadmission testing unit
6. **Who will provide the best discharge plan for a woman with no support network in the area?**
 - a. the gynecologist
 - b. the advanced practice nurse
 - c. the unit clerk on the surgical floor
 - d. the primary nurse within the interdisciplinary team
7. **What woman would have the greatest risk factor to consider in her plan to prevent life threatening complications?**
 - a. 35-year-old physical fitness instructor
 - b. 56-year-old obese smoker
 - c. 70 year-old with abnormal pap smear
 - d. 65 year-old with anemia
8. **What influences have impacted gynecologic care over the past few decades?**
 - a. anesthesia equipment
 - b. sterilization techniques
 - c. laproscopic instrumentation
 - d. hospital policies
9. **The use of limited simultaneous liposuction during an abdominoplasty procedure will:**
 - a. not be necessary if the abdominoplasty procedure is performed correctly.
 - b. only be done as a second procedure at a later date.
 - c. decrease the risk of seromas.
 - d. increase the risk of hematomas.
10. **Thigh-high compression stockings should be:**
 - a. applied tight to the groin.
 - b. rolled down if they are too long.
 - c. used in the smaller size if the patients measurements are between size's.
 - d. positioned 2 inches below the groin.
11. **The sequential compression device is an important part of the operative procedure. Which statement is true?**
 - a. Applies a pressure gradient from the thigh to the foot resulting in better peripheral circulation.
 - b. SCDs prevents the risk of DVTs and PEs when used with low dose heparin.
 - c. Works on the principle of even compression every 15 seconds.
 - d. Works on the principle of gradient compression from the ankle to the thigh.
12. **To prevent or reduce the risk of infection, the following measure should be taken:**
 - a. The umbilicus is to be cleansed with an antibacterial soap the night before surgery.
 - b. Umbilical cleansing is not necessary as the umbilical stock is not used when constructing a new umbilicus.
 - c. The patient is to do a shave prep the night before surgery and follow with a conservative application of polysporin.
 - d. The surgeon will do a shave prep intra-operatively.
13. **Which statement is correct regarding post-operative instructions following abdominoplasty?**
 - a. It is recommended to rest in bed for the first 2 days to reduce the stress on the abdominal muscles.
 - b. Having bath or shower within the first week will help to keep the incision clean and promote healing.
 - c. Avoid activities that raise your blood pressure for 1 month after the surgery.
 - d. The Jackson Pratt drain is removed when the drainage is below 60cc in a 24 hour period.
14. **Signs and symptoms of a seroma are:**
 - a. fever and malaise
 - b. ecchymosis
 - c. fluid wave shift
 - d. palpable, immobile mass in the operative area

Participant's Evaluation

What is the highest degree you have earned (circle one) ?

1. Diploma 2. Associate 3. Bachelor's
4. Master's 5. Doctorate

Indicate to what degree you met the objectives for this program: Using 1 = Strongly disagree to 6 = strongly agree rating scale, please circle the number that best reflects the extent of your agreement to each statement.

	Strongly Disagree			Strongly Agree		
1. Identify hysterectomy as a common surgical experience for women across the lifespan	1	2	3	4	5	6
2. Develop a biopsychosocial plan of care for the gynecologic surgical patient	1	2	3	4	5	6
3. Communicate pertinent information for the gynecologic patient from the preoperative period through the postoperative period	1	2	3	4	5	6
4. Discuss the preoperative nursing assessment process for a patient undergoing plastic surgery.	1	2	3	4	5	6
5. List at least 3 the potential complications that may result from a plastic surgery	1	2	3	4	5	6
6. Discuss the postoperative instructions necessary to ensure an uneventful recovery.	1	2	3	4	5	6

Name & Credentials _____
 Position/Title _____
 Address _____
 City _____ State _____ Zip _____
 Phone _____ Fax _____
 email address _____

Mark your answers with an X in the box next to the correct answer

1	A	B	C	D	9	A	B	C	D
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	A	B	C	D	10	A	B	C	D
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3	A	B	C	D	11	A	B	C	D
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5	A	B	C	D	13	A	B	C	D
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6	A	B	C	D	14	A	B	C	D
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7	A	B	C	D	15	A	B	C	D
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8	A	B	C	D	16	A	B	C	D
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How long did it take you to complete this home-study program? _____

What other areas would you like to cover through home study?

