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Perspectives

Recovery Strategies from the OR to Home

Panniculectomy: Implications for Care

continuing education for nursing

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In This Issue

Obesity is a serious medical condition that affects millions of Americans. Obesity and other eating disorders claim monetary, physiological, and psychological tolls from individuals whom they affect. Increasing numbers of patients are losing very large amounts of excess weight due to bariatric surgical techniques. However, they are often left with extra skin, fat, and bodily deformities. Abdominal panniculectomy and reconstructive abdominal surgery are performed to correct a problematic abdominal pannus and the associated co-morbidities. A significant proportion of patients who have abdominoplasty can experience perioperative and postoperative complications. To promote a positive outcome, Dr. Gallagher indicates early mobilization is critical in the recovery period.

Anomalies (irregularities) of the nose secondary to cranio/maxillo/orofacial congenital defects, trauma, disease, racial or ethnic grouping, and familial shape are usually the reasons a patient seeks surgical consults. Rhinoplasty (the reshaping of the nose) is often sought to minimize the size of the "hump" of a nose. The goal of the rhinoplasty is to improve the overall appearance of the nose by reshaping the underlying framework of the nose. Immediate post-operative procedures include splinting, ice packs and "mustache" dressings.

The U.S. and global prevalence of obesity is increasing. Consumers, clinicians, and public policy makers alike are seeking strategies to control obesity-associated co-morbidities. It is important for stakeholders to realize that surgery is a tool that can help patients to lose weight — but only a tool. Once weight loss is achieved, patients may continue to battle with quality-of-life issues, one of which is a large abdominal pannus with its own set of co-morbidities.

Panniculectomy is performed to remove a massive pannus (abdominal apron), which often contributes to a number of health concerns. Panniculectomy is thought to control some co-morbidities and to provide the patient with the opportunity to move forward with daily-living activities.

Careful postoperative planning is essential at the beginning of the recovery period. Early ambulation, appropriate use of specialized equipment, attention to the risks of wound and pulmonary complications, IV access, and pain management work together to achieve a positive outcome.

Introduction

Obesity is a serious medical condition that affects millions of Americans. Its prevalence is increasing nationally and globally.[1] Recent estimates suggest that one in two U.S. adults is overweight, as defined by a body mass index (BMI) > 25. This ratio has increased by more than 25% in the past 30 years.[2]

In 1985, the National Institutes of Health (NIH) Consensus Conference agreed that obesity-related health risks exist. Excess body weight is associated with an increased incidence of cardiovascular disease, type II diabetes mellitus, hypertension, stroke, dyslipidemia, osteoarthritis, some forms of cancers, and socioeconomic and psychosocial impairment.[3] Although the increasing prevalence of obesity has transcended racial and ethnic backgrounds,[2] obesity-related morbidity and mortality may differ among racial and ethnic groups.[4,5] Obesity is thought to be a factor in 5 of the 10 leading causes of death in America.[6]

From an economic perspective, obesity is a costly condition. Research indicates that more than $100 billion is spent annually on obesity-related issues, including $33 billion in the weight-loss industry, while $70 billion is spent on health-related interventions. Obesity and other eating disorders claim monetary, physiological, and psychological tolls from individuals whom they affect. Both health professionals and the public are seeking ways to reduce the emotional and physical consequences of what is referred to as severe obesity.

Causes of obesity

Because of mounting concern about increasing prevalence, many researchers are trying to more fully understand the metabolic, psychologic, and genetic factors that

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Postoperative Care of The Patient After Nasal Surgery

By Jennifer C. Simpson, RN, BLA and Patricia L. Fields, RN, BS

A person's face is first to be seen and last to be remembered. On the mid line is its most prominent feature: the nose. People seek nasal surgery (rhinoplasty) for nasal anomalies (irregularities) secondary to cranio/maxillo/orofacial congenital defects; trauma, often due to the nose's vulnerable positioning; and disease. Nose shape is related to a lack of protective adipose tissue, racial or ethnic grouping, or familial attributes. Many patients interpret their nasal features as "imperfect", based on societal rulings, and choose to have their nose surgically reshaped (cosmetic plastic surgery).

Several nasal anomalies interfere with the universal language of expression. When the nose is permanently "wrinkled" – the nose tip lower than the top lip – a person's overall expression is definitely changed. If the nasal spine is large and protruding, lip distortion may occur while smiling. Yet, removing the nasal spine may make the lip appear larger. Columella nasi (column-shaped webbing) at the fleshy, distal margin of the nasal septum that lack a normal angle also distorts the face. Wide, long noses with flaccid nostrils may make a face look as if it is hanging on the nose instead of the nose hanging on the face.[1]

Only two parts of the human body continue to grow throughout life. One is the earlobe; the other is the nose. Nasal anomalies tend to worsen as people age, especially hooked, long, or thick, bulbous-tipped noses. Despite this fact, nasal surgery is usually delayed until people are in their late-teen or early-adult years to verify proper nasal growth and to ensure that people play an active role in the decision for correction and realistically understand the surgical outcomes. There are exceptions. Breathing obstructions, trauma, and nasal growths can be corrected at an earlier age.

Often, it is the patient's decision to seek surgery to correct nasal problems or shape. This desire is the premise on which a plastic surgeon may suggest a rhinoplastic procedure. Usually considered as an elective, cosmetic procedure, rhinoplasty may not be covered by insurance. An occluded airway that has caused diminished airflow, snoring, etc., may require a septoplasty (reconstruction of the septum). Often the occlusion is secondary to a congenital disease or trauma-related anomaly and will likely be covered by insurance. Two simultaneous procedures are often performed to correct both problems to prevent the patient from undergoing anesthesia twice and to combine post-surgical recuperations. With either procedure, the surgeon will often perform osteotomies (small bone incisions) to restructure the nasal bones at the bridge of the nose. As in most plastic surgery procedures, a good psychological evaluation is needed, along with in-depth discussions about realistic postoperative expectations.

Nasal anatomy

A pyramid-shaped structure, the nose consists of cartilage and bones. It can be divided into upper, middle, and lower thirds. The long, upper third is comprised of two nasal bones and nasal processes of the maxilla. Two upper lateral cartilages form the frame of the middle third. Two alar cartilages form the lower third. They are divided by the columella nasi, producing the two nares, which are used for air exchange. Supporting the entire structure is the nasal septum.

Septal deviation results in occluded nares, preventing the free flow of air. Loss of the septum causes the nose to collapse onto the face. Congenital anomalies, such as bilateral or facial clefting, can leave the septum fully exposed.

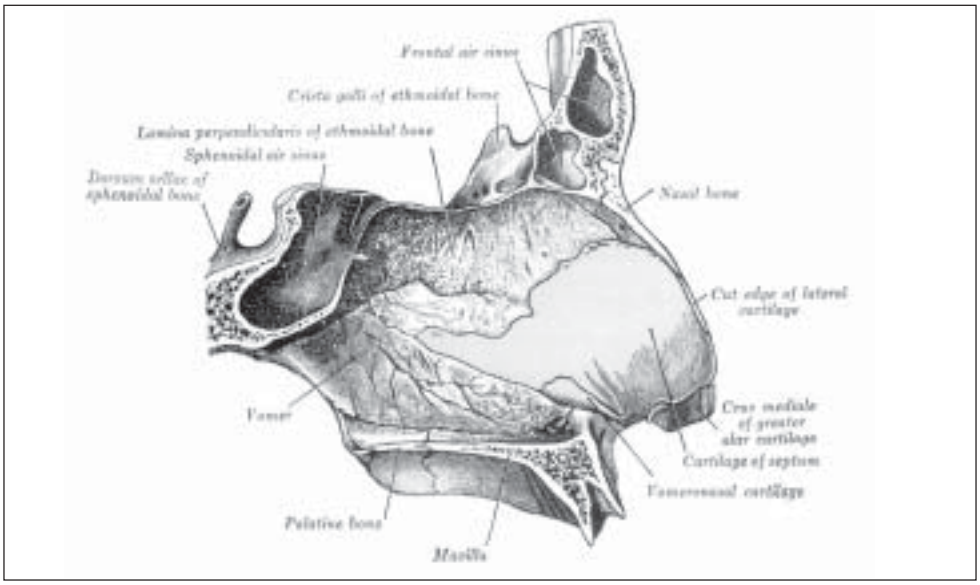
Anesthesia for plastic nasal procedures

Rhinoplasty is often done under local anesthesia or monitored anesthesia care (MAC) and is same-day surgery. Lidocaine with epinephrine (1:200,000 or 1:100,000) will be used for hemostasis and pain management. A cocaine 4% topical solution may be used for vasoconstriction, although many surgeons are now prescribing Afrin Æ or a comparable nasal spine 30 minutes before surgery, then once the patient is on the surgical table. As does cocaine, Afrin diminishes the chance of hypertension intraoperatively.

If the patient is particularly apprehensive or if it is the surgeon's preference, general anesthesia may be used. It may result in more bleeding and a greater chance of displacement post-anesthesia, but many find that it is the anesthesia of choice for patient comfort. When general anesthesia is used, cocaine (4% or 10%) is used as a topical anesthetic and a means of hemostasis, although, as stated, many are turning to Afrin or similar products for the same results. At the end of surgery, the surgeon or anesthesiologist will suction the patient's stomach to prevent vomiting due to blood in the stomach.

Surgical intervention

Rhinoplasty is often sought to minimize the size of the "hump" of a nose. To reduce



the hump and size of the nose, four stages of surgery must be performed. The hump must be removed and the nose narrowed. Then, the nose must be shortened and the tip reconstructed.[3] The goal of rhinoplasty is to improve overall appearance by reshaping the underlying framework of the nose. The overlying skin and subcutaneous tissues are then redraped over a new framework.[4]

This procedure may be done by a closed or open method. In the closed method, a small incision is made between the alar and lateral cartilages. The instruments are inserted through the incision and manipulated by feeling for the appropriate anatomical landmarks. A closed rhinoplasty results in less swelling and scarring than an open procedure. There are also fewer complications.

In open rhinoplasty, a small incision is made at the base of the columella nasi, degloving the tissue from the cartilage and bone. The benefit is to enable the surgeon to operate with a direct view. Open rhinoplasty was developed to correct the nasal tip, which is difficult to repair by the closed method. This procedure is often associated with increased swelling and internal scarring. The external nasal skin will often scar and not move naturally on the face. External and internal splinting can lessen many of these side effects.

People with thick, oily skin are not good candidates for certain types of rhinoplasty.[2] Thick skin may not shrink to fit the new nasal structure, making it is more difficult to obtain a good result.

Patients often come to a plastic surgeon complaining of a crooked nose and/or the inability to breathe through one or both nostrils. These problems are caused by a deviated septum. There are too many types of deviated septum to discuss, but most can be corrected by a septoplasty, the removal of cartilage that lies between the mucous membrane and perichondrium. In this procedure, the septum is incised and the tissue is separated. The cartilage is incised and the mucous membranes, elevated. The deviated cartilage and bone are removed. The mucous membranes are separated from the septal base. "The perpendicular plate of the ethmoidal sinus as well as the vomar may be removed."[5]

Incised cartilage is often saved and used as a graft to help to produce a straighter alignment of the external nose. To improve the shape or air space above the innermost portion of the septum, the surgeon sometimes simply mobilizes the septum and moves it to the correct position. Often, the

only thing holding the septum at this point is mucosa. Internares splints, such as the Doyle,™ or mucosal packing are used to maintain the new septal alignment, as cartilage maintains a memory.

To straighten deviated nasal bones, the bones are cut loose from the septum, the septum is shortened, and the nasal bones are fractured and reshaped (an osteotomy) to form a straight dorsum in the mid-line of the face.[6] To hold the bones in place, they are splinted externally and internally. Bruising under the eyes is common after osteotomy.

Postoperative care

The nose is packed with gauze coated with an antibiotic cream. One of several types of external splint is applied. One type is heated and custom-fit to the patient's nose. A hand-molded splint can be shaped by the surgeon and taped onto the patient's face.

Ice can be applied to the nose in the operating room to decrease swelling and diminish bruising. A drip pad is placed under the nose. To prevent further trauma to the nose, a nasal dressing holder is recommended, e.g., holders manufactured by Dale Medical Products, (Plainville, MA). The holders are an alternative to adhesive tape which may cause skin irriation, allergic reactions or excoriation of sensitive facial tissue. These holders use ear loops to secure the holder that secures "mustache" dressing comfortable to the face and allows for more facial movement.

The patient is discharged with pain medication and the following instructions:

1. Keep the head elevated, sleeping on a minimum of two pillows
2. Place ice on the face (20 minutes on and 20 minutes off) for the first 48 hours

   Teach the patient that bruising and swelling will occur for 72 hours and that their face will reach the peak of edema and discoloration during that time and to expect to look worse tomorrow and the next day. Some surgeons recommend a homeopathic remedy called Arnica to diminish bruising. Arnica cream can be applied to the lower eye areas postoperatively, but PO Arnica has been associated with toxicity, hypertension, and other side effects. It is not recommended for use by this author.
3. Use a humidifier to keep the mouth and nasal passages moist.

   Explain that the packing will cause them to breath through the mouth and that swallowing will be difficult, because the nasal passage is blocked. Advise them to enforce good oral hygiene while the packing is in.
4. Change the mustache dressing PRN and expect slight bleeding for the first 48 to 72 hours. Notify the surgeon of excessive bleeding, indicated by the streaming of blood.
5. Their sense of smell will be diminished but will return, once the packing is removed.
6. Do not bend over. Patients must wash their hair by bending backwards (as in a beauty salon).
7. Do not lift, strain, or pursue activities that could result in trauma to the nose.
8. Do not blow or rub the nose.
9. Since blood was swallowed during surgery, do not to panic if vomiting old blood or have dark stools for a day or two.

At the first postoperative visit (24 to 48 hours postoperatively or as directed by the surgeon), the packing is removed and the bones are checked for alignment. Once the packing is removed, saline nasal sprays, such as Ocean,™ may be used to moisten nasal passages. The use of humidifiers should continue for several weeks. Encourage the patient to use pain medication and to take it before coming to the surgeon's office to have the packing removed.

After the packing is removed, the patient may clean the entrances of nares with Q-tips™ dipped either in an antibiotic ointment or a mixture of H_2O and hydrogen peroxide.

Splints are left on for three to five days and gently removed by the surgeon. Dermal breakouts and clogged pores may be found under the external splint. Inform the patient to purchase a granulated skin

cleanser preoperatively to clean the nose after this splint is removed. Teach the patient to cleanse the area gently with this scrub until normal skin appearance has returned. Emphasize to the patient that, although acute swelling is gone, the nose will remain swollen for 6 weeks, gradually subsiding to normal over the next year. The nose can be gently blown about two weeks after surgery.

At the 6 week check-up, the patient is instructed to massage the skin on the bridge of the nose gently to keep the area from scarring. The surgeon will determine if the patient can participate in strenuous or potentially traumatic activities at this time. At the 6 month check-up, pictures are taken. Often patients will want to see their "before" photos, so they can compare the results to their presurgical nose.

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lead to obesity.[7] The simplest explanation of weight gain is that it occurs when caloric intake exceeds the energy required to maintain body functions and perform physical activities. Excess calories are stored as fat in adipose tissue.[8]

The traditional view that obese people gain weight because they either eat more or exercise less than people of normal weight is only part of the explanation.[9] There is remarkable variability in individual energy requirements — some people are able to eat twice as much as others with no weight gain. There is only one point of general agreement: obesity is a complex disorder with multiple etiologies; therefore, weight-loss options are complex.[8]

Weight-loss options

A number of tools are available to help an obese person to achieve permanent weight loss. Some are used more successfully than others. Just as people would not use a single tool to build a house, neither should they use a single tool to manage weight control. Size acceptance, counseling, diet, activity, medication, and surgery are the most commonly used tools. Weight-loss surgery, coupled with activity and nutritional changes, offers one path to significant, long-term weight loss.

Bariatric surgery

In March 1991, the NIH Consensus Development Conference on Gastrointestinal Surgery for Severe Obesity united surgeons, gastroenterologists, endocrinologists, psychiatrists, nutritionists, other health professionals, and the public to address treatment options for severe obesity.[10] At that conference, it was decided that, in select cases, surgery was an appropriate intervention. Since that time, bariatric surgery has become an increasingly important adjunct in caring for larger patients; therefore, surgeons who have skill in weight-loss surgery are increasingly in demand.

Although several health risks are reduced when a person is able to lose body weight, weight-loss surgery should only be considered for patients who are severely obese and who have failed other weight-loss attempts. Candidates for surgery must be motivated, well-informed, and willing to participate in long-term follow-up. NIH findings suggest that, for morbidly obese people who have failed to lose weight by traditional methods and for whom obesity poses a serious medical and psychological risk, surgery is an effective treatment.[10]

Evolution of weight-loss surgery

Between 1950 and 1980, jejunoileal bypass surgery, which bypasses a portion of the small intestine, was the most common form of weight-loss surgery. Today, this type of surgery has been replaced by other surgical techniques. This evolution has occurred primarily in response to the numerous complications and high mortality rate of earlier procedures.[11]

Today, two main categories of surgery are used to treat morbid obesity. They are gastric restriction and the combination of gastric restriction plus malabsorption. In gastric restriction, both stomach size and capacity are limited. The stomach pouch is reduced to 15 ml. Gastric restriction can be accomplished by using a vertical band of staples with a banded outlet or by circumgastric banding, in which an inflatable band connected to a subcutaneous reservoir limits stomach size. Circumgastric banding is considered less invasive and may be used in patients who are considered as poor risks for other surgeries. Circumgastric banding can now be performed laparoscopically, further reducing some risks of abdominal surgery.

The second type of surgery, which is described by the NIH, is the roux-en-y gastric bypass (RYGB). This procedure combines gastric restriction and malabsorption. The RYGB combines a small stomach pouch with a bypass of 90% of the stomach, the duodenum, and a limb of jejunum of varying length. RYGB reduces stomach capacity, so that the person eats less. It also reduces the absorption of calories that are consumed. When high-caloric foods are dumped into the limb of the small intestine, a feeling of satiety or even discomfort may result, helping to curb the appetite.[12] The reduced consumption or absorption of food leads to weight loss. In certain patients, this procedure can be done laparoscopically.

Choosing between these two procedures involves the surgeon's preference and the consideration of individual patient needs and preferences.

There are limitations to surgical intervention. Continual intake of energy-dense foods can circumvent the benefits of gastric restriction. For example, some higher-caloric foods, such as cookies, chocolate, or potato chips pass through the pouch quickly. Repeated overdistension can stretch the pouch. Sometimes, a second surgery is re-

quired. Finally, some patients may be unable to modify their eating behaviors. Each of these factors is likely to interfere with a successful long-term outcome.[13]

However, increasing numbers of patients are losing very large amounts of excess weight due to improved bariatric surgical techniques. While they enjoy the physical, social, psychological, and economic benefits of bariatric surgery, they are often left with extra skin, fat, and bodily deformities. These deformities could lead to functional, psychosocial, and medical comorbidities, which can impair quality of life and daily-living activities. To benefit fully from successful weight loss, additional surgical correction may be required.

Reconstructive surgery

Abdominoplasty is a reconstructive surgical procedure intended to correct a problematic abdominal pannus and the associated co-morbidities. A large abdominal pannus (abdominal apron) can be very troublesome after extensive weight loss. It may be associated with cutaneous inflammation, such as panniculitis, cellulitis, intertriginous dermatitis, skin abscesses, gangrene, excoriation, or folliculitis. Other related concerns include lymphedema, ambulatory difficulty, toileting trouble, and hygiene problems that can lead to unpleasant odors. Urinary stress incontinence can be aggravated by extra lower abdominal weight.[14] A large abdominal pannus often poses a barrier to sexual activity. Patients frequently complain of debilitating low back and extremity pain. Physical activity can be uncomfortable. Clothes fit improperly, and patients report body image concerns. A large abdominal pannus can interfere with respiratory function and lead to diminished abdominal wall integrity from attenuated fascia and muscles; umbilical and ventral hernias are not uncommon.[15] Abdominal panniculectomy and reconstructive abdominal surgery may be performed to alleviate these conditions. However, some third-party payers are reluctant to provide reimbursement, and most patients are unable to afford the procedure without some financial assistance.

Documentation for reimbursement

Some authors contend that post-bariatric, surgical, co-morbidity issues are similar to those following radical mastectomy, where breast reconstruction has become recognized as a humane necessity. Like individuals treated for breast cancer,

Fig.1

people experiencing profound weight loss often require corrective surgery. Such surgery should be an accepted part of the surgical package or at least available on a reasonably permissive, as-required basis.[15] Regardless, the indications for panniculectomy require documentation, which serves as a basis for appeal in the event that corrective surgery is initially denied.

Third-party payers have been known to refuse payment for abdominal panniculectomy for many reasons, one being a lack of photographic evidence, coupled with a lack of clinical evidence. Therefore, it is prudent to document all observed and reported clinical symptoms that are associated with a large abdominal pannus, along with dated photographs.

Some payers require that the pannus hang down far enough to obscure the pubic area. Others reportedly look for intertrigo or other signs of inflammation under the pannus. Photographs that best serve the patient's needs include front, side, and under-surface views.[15] When all else fails, some patients have asked attorneys who specialize in reimbursement for bariatric needs to assist them in obtaining third-party payment.[16]

Panniculectomy

Panniculectomy excises the abdominal pannus. In addition to panniculectomy, a reconstructive abdominoplasty, which involves the anterior muscle wall and fascial plication, is usually performed. A suction lipoplasty may improve the reconstructed abdominal wall contour; the patient may also undergo umbilical or ventral hernia repair.

In panniculectomy, the incision creates a scar from the xiphoid process to the pubic bone. There it meets a second, horizontal scar, just above the pubic area, to form what looks like an inverted letter "T." To create this "T," the surgeon frees up fat and skin from the anterior abdomen. At that point, a large triangularly shaped area of loose skin and excess fat is carefully removed. The remaining tissue is then attached to the anterior abdominal wall and to itself. A number of procedures can be completed at the same time, such as exploratory laporatomy, revision of the primary surgery, or repair of abdominal wall/ventral hernia.

Operative management

In addition to the usual preoperative work-up, some authors suggest endoscopic or radiographic studies of the primary weight-loss surgery, because if revisions of the initial surgery are needed, this is thought to be the best time to make them.[15]

From 13% to 47% of patients who have abdominoplasty experience perioperative complications. The literature suggests that elderly patients, those who smoke, and those who have hypertension have a greater incidence of postoperative complications.[17]

A number of conditions influence the postoperative course of patients who have surgery. Some patients have lost considerable weight prior to panniculectomy surgery, while others may still be large enough to develop weight-related postoperative complications. Early mobilization is critical in the recovery period. Many larger patients are able to turn, ambulate, and transfer soon after surgery, while others may have difficulty because of pain or sedation.[18] A physical therapist can assess the postoperative strength and endurance needs of patients.

Patients who weigh more than 300 pounds generally require some level of special accommodation. Often, the only special accommodations that patients need are a bed that is wide enough to allow them to turn independently, a walker to support their weight for the first few postoperative days, and an overhead trapeze to help them to reposition themselves. These three items are thought to help patients to maintain their strength and independence. Clinicians report that independent patients who have adequate supportive equipment are less likely to injure themselves or caregivers during the early postoperative period.[19]

At this time, patients may have a higher morbidity from surgery and anesthesia due

to atelectasis, deep vein thrombosis, and pulmonary embolism.[15] Sequential compression devices are available to accommodate larger legs. Foot "squeezers" are useful in that they better accommodate larger patients. Full-body rotation therapy may control the risk of atelectasis in postoperative patients with limited mobility. Abdominal binders can help promote post-op activity by encouraging deep breathing, turning and coughing.

Although hematoma formation rarely occurs, wound dehiscence, seroma formation, and wound infection are common problems.[14] Drains are routinely placed after surgery, and it is important to look for drain clotting or the unintentional removal of drains by patients, who are often discharged with drains still in place. To prevent accidental dislodgement of the drainage bulbs, the clinician may choose to secure the suction reservoirs with a commercially available holders with an elastic waistband and Velcro closure (fig. 1). The holder may discourage patients from pulling out or tampering with the drainage bulbs. Patients or their caregivers will need to learn how to empty and care for tubes as well as to develop an emergency plan in case clots form or the tube falls out.

Infection can be a problem, because many morbidly obese patients have other medical problems, particularly type II diabetes mellitus. It contributes to delayed wound healing. Additionally, unexcised fatty tissue can become devitalized, leading to fat necrosis and subsequent infection.

Care should be taken when assessing the low midpoint of the "T" in the abdominal incision, as this is where a wound separation is most likely to occur.[14] All wounds should be kept clean and dry, especially those in skin folds. It is important to contain any drainage, clean the area frequently with a nontoxic cleanser, and secure dry dressings to absorb excess moisture. In the event of wound separation, patients can be taught to cleanse the opened area gently with a nontoxic wound cleanser. They should avoid cytotoxic cleansers, such as betadine and Dakin's solution, unless specifically indicated for bacterial invasion. Irregular body contours present a challenge for securing dressings. Flexible cloth tapes can mold to the contours as necessary to ensure that dressings are fixed securely to the intended area.

Freiberg explains that some wound complications can be avoided or at least minimized by the use of abdominal binders and, later, girdle supports with gap-free stitching in widths up to 15' and lengths up to 94" (such as the Dale Abdominal Binder). Abdominal binders should be worn for the first 4 weeks after surgery. Binders not only provide a degree of comfort, they minimize shearing forces between the abdominal skin and wall. Binders are designed to control unnecessary edema and to reduce ecchymosis.[14] If the patient has lost considerable weight, then special oversized binders may not be necessary. However, if some binders do not fit properly, they can lead to skin breakdown or failure to comply with the care plan. The binder with a Velcro closure with limitless sizing can accommodate a wide range of body shapes (Fig. 2). As the patient loses weight, the binder can be closed at different points and/or panels can be removed. A clinical nurse specialist, as a member of the interdisciplinary team, can ensure that properly sized equipment is available.

Fig. 2

Pain is thought to interfere with mobility and must be considered as part of the recovery plan. Excess body fat can alter drug absorption, depending on the medication. For example, drugs such as diazepam and carbamazepine are highly soluble in fat and therefore absorbed mostly in adipose tissue. Dosages of these drugs must be calculated by using the patient's actual body weight. Drugs that are absorbed mainly into lean tissue, such as acetaminophen, should be calculated using the patient's ideal body weight – what the patient should weigh.[20] Trying to remember which drugs fall into which category is almost impossible. A clinical pharmacist can be an important resource to ensure that drug dosages are accurate.

Standardized 1- to 1.5-inch needles may not be able to penetrate adipose tissue in a patient with especially thick hips. In this case, either a longer needle or a drug that uses another route should be considered.

Sometimes, veins in a larger person's arm are deeply buried and starting an IV can be difficult. The use of a bendable armboard which can be custom shaped to each individual patient and secured with Velcro straps can help protect the IV site and prevent the cather from being dislodged. If it takes more than two tries, consider using a peripherally inserted, central catheter (PICC) or a midline catheter instead of a standard peripheral catheter. Both will stay in place for weeks or months, thereby eliminating the need to stick the patient repeatedly.[21]

Postoperative care is essential at the beginning of the recovery period. Early ambulation, appropriate use of specialized equipment, attention to the risks of wound and pulmonary complications, IV access, and pain management work together to achieve that end.

Summary

It is important for consumers to realize that weight-loss surgery is a tool to help them lose weight – but only a tool. Once weight loss is achieved, they may continue to battle with quality-of-life issues, one of which is a large abdominal pannus, which often contributes to a functional deficit as well as hygiene and wound-care problems. Panniculectomy is thought to control some of these co-morbidities and to provide patients with an opportunity to move forward with daily-living activities.

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After reading this educational offering, the reader should be able to:

1. Identify the numerous co-morbidities associated with excessive body weight.
2. Describe bariatric weight-loss surgery and its long-term consequences.
3. Identify the health problems associated with a large abdominal pannus.
4. Describe methods for improving the likelihood of insurance reimbursement for panniculectomy surgery.
5. Develop a plan of care for the patient having panniculectomy surgery.

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1. Obesity is associated with numerous coexisting conditions, which include:

A. dental caries, urinary incontinence, mood swings.
B. diabetes, hypertension, soft tissue infection.
C. urinary retention, manic-depressive behaviors, sexual dysfunction.
D. mood elevation, sarcoma, dental caries.
E. none of the above.

2. Weight gain is a direct result of:

A. genetics and gender.
B. intake that exceeds output.
C. biochemistry and other pathophysiologies.
D. neuroscience, genetics, and biochemistry.
E. none of the above.

3. Significant long-term weight loss is most likely achieved in the presence of:

A. diet and exercise.
B. anorectic medications, diet, and moderate activity.
C. medication, counseling, internet group support, and size acceptance.
D. weight-loss surgery, increased activity, and some nutritional changes.
E. weight-loss surgery, anorectic medications, exercise, and panniculectomy surgery.

4. Professionals can counter some of the reluctance of insurance reimbursement for panniculectomy by:

A. providing photographic documentation.
B. recording clinical evidence, such as intertrigo, panniculitis, or cellulitis.
C. enlisting the help of a bariatric weight-loss attorney.
D. none of the above.
E. A, B, & C.

5 Common postoperative complications that could prolong the patient's length of stay are:

A. atelectasis, deep vein thrombosis, pulmonary embolis.
B. atypical pressure ulcers.
C. hematoma, wound dehiscence, seroma formation.
D. all of the above.
E. A & C

6. Specialized equipment may be required when transferring/ mobilizing larger postoperative patients in order to:

A. promote patient safety.
B. reduce the risk of caregiver injury.
C. maintain patient strength and independence.
D. none of the above.
E. A, B, & C.

7. Abdominal binders are useful postoperatively:

A. to promote patient comfort.
B. to minimize shearing forces between the abdominal wall and the abdominal skin.
C. to reduce unnecessary edema and ecchymosis.
D. for the first 4 weeks.
E. all of the above.

8. Planning surgical care for the morbidly obese patient should include which of the following professionals:

A. physical therapist.
B. clinical specialist.
C. plastic/reconstructive or general surgeon.
D. pharmacist.
E. all of the above, as part of an interdisciplinary approach.

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

	A	B	C	D	E
1	☐	☐	☐	☐	☐
2	☐	☐	☐	☐	☐
3	☐	☐	☐	☐	☐
4	☐	☐	☐	☐	☐
5	☐	☐	☐	☐	☐
6	☐	☐	☐	☐	☐
7	☐	☐	☐	☐	☐
8	☐	☐	☐	☐	☐

Participant's Evaluation

1. What is the highest degree you have earned? 1. Diploma 2. Associate 3. Bachelor's 4. Master's 5. Doctorate

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
2. Indicate to what degree you met the objectives for this program:						
■ Identify the numerous co-morbidities associated with excessive body weight.	1	2	3	4	5	6
■ Describe bariatric weight-loss surgery and its long-term consequences.	1	2	3	4	5	6
■ Identify the health problems associated with a large abdominal pannus.	1	2	3	4	5	6
■ Describe methods for improving the likelihood of insurance reimbursement for panniculectomy surgery.	1	2	3	4	5	6
■ Develop a plan of care for the patient having panniculectomy surgery.	1	2	3	4	5	6

3. Have you used home study in the past? ■ Yes ■ No
4. How many home-study courses do you typically use per year? _____
5. What is your preferred format? ■ video ■ audio-cassette ■ written ■ combination
6. What other areas would you like to cover through home study? _____

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