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Pelvic Fractures:
Emergency Care to
Rehabilitation

**Postoperative
Care of the
Bariatric Patient**



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Postoperative Care of the Bariatric Patient

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The challenge of surgery in the overweight patient lies in the special care and knowledge that are required for successful preoperative, intraoperative, and postoperative management. Some authors believe that, from the onset, the obese patient is at a surgical disadvantage, because differential diagnosis is difficult, anesthesia is more troublesome, and technical procedures are more complicated.¹

Obesity is associated with numerous coexisting conditions, such as diabetes, hypertension, soft-tissue infection, some cancers, and impaired circulation, which could interfere with the patient's general health. Many surgeons are reluctant to perform surgery on obese patients because of the increased risk of surgery-related complications. Many hospitals report concerns because of inadequate equipment and personnel to accommodate the needs of obese patients. It is true that obesity could be associated with more complications; however, recent advances in surgery, particularly in obese patients, have helped reduce some of these risks.¹

Clinical care of the morbidly obese patient requires an interdisciplinary approach. The entire healthcare team must be diligent in caring for the morbidly obese, surgical patient.

Being aware of possible complications and corresponding interventions is necessary to prevent potential hazards to both patient and caregivers.

This article examines the meaning of obesity, demographics, and factors that place this patient at particular risk during surgery. Preoperative, intraoperative, and postoperative care are discussed. Home-care needs are reviewed, as the patient moves from the hospital to home-care setting.

Understanding Obesity

The word "obesity" itself holds a negative connotation. Despite this fact, obesity refers to a special condition that is recognized by the National Institutes of Health (NIH). Obesity, according to the NIH, is a diagnostic category that represents a complex and multifactorial disease.² Many obese Americans neither choose to be overweight nor choose to experience widespread prejudice and discrimination.³ They certainly should not expect such behavior when they are seeking health care. Clinicians need to ensure a safe haven from obesity-related prejudice and discrimination.⁴

Prejudice and discrimination are widespread against the obese person. This prejudice is observed at a very young age. For example, 6-year-old children have described silhouettes of obese children as lazy, stupid, and ugly. According to this study, prejudice toward the obese child occurs regardless of race or socioeconomic status.⁵ Children are not the only ones to hold a prejudice against the overweight person; healthcare clinicians often show this bias.⁶ It is even observed among obese persons themselves.⁷

Healthcare clinicians best serve their patients when they recognize obesity as a chronic condition. Historically, obesity has been perceived as a problem of self-discipline. However, recent discoveries suggest that this is far from the truth. It is true that weight gain occurs when food intake exceeds energy output, i.e., activity, but the real mystery behind a balanced body weight depends on a number of other factors. Genetics, gender, physiology, biochemistry, and neuroscience as well as cultural, environmental, and psychosocial factors influence weight and its regulation.⁸

Demographics

Over 50% of Americans are overweight, and 10% to 15% are considered obese.⁹ Americans spend close to \$33 billion annually in attempts to control or lose weight, while \$100 billion are spent on obesity-related health problems. Despite efforts at weight loss, Americans continue to gain weight. Some argue that obesity is reaching epidemic proportions. In the early 1960s, only a quarter of Americans were overweight. Today, over half of all adults and 25% of children are overweight.



Obesity has a physical, emotional, and economic impact on our patients. Obesity is a factor in five of the 10 leading causes of death.¹⁰ It is considered the second most common cause of preventable deaths in the USA.¹¹ In addition to the physiologic costs, some authors argue that obesity is associated with emotional conditions, such as depression, altered self-esteem, and social isolation.¹² On the other hand, others argue that it is society's response to the obese person that leads to these emotional conditions.¹³

These factors, among others, influence healthcare delivery across practice settings.

Preoperative Assessment and Preparation

The preoperative period for the morbidly obese patient is a time of physical and emotional preparation. The nurse, as a member of the interdisciplinary healthcare team, usually spends the most time with the patient and is an important player in the patient's preoperative assessment and preparation. Like all patients, the very overweight patient needs comprehensive preoperative instruction, including breathing and coughing exercises and appropriate leg exercises.¹⁴ Breathing and coughing exercises are especially important to review, as these exercises are useful in preventing atelectasis and congestion that can result from shallow respirations as a result of incisional pain, depressive analgesia, inactivity, and obesity itself.¹⁵ Demonstrations of deep breathing and coughing exercises should include splinting the surgical area and use of the incentive spirometer. The application of abdominal binders can also increase deep breathing. There are velcro-type binder (Dale Medical) available in extra long sizes of up to 75" in length and up to 15" in width.

Postoperatively, leg exercises are important to maintain proper circulation. These exercises prevent the stasis of blood, which could lead to deep-vein thrombosis. Teaching includes the demonstration of calf-pumping.¹⁵

Successful preoperative preparation includes the patient's family or other support personnel. An atmosphere of understanding, cooperation, and trust ensures a smoother postoperative course.

Abdominal and pelvic visceral injuries

Abdominal and pelvic organs often injured include the diaphragm, spleen, liver, intestine, bladder, and urethra.^{9,10} Injuries to the ovaries, labia majora, anus, and rectum are also reported.² These injuries generally require immediate diagnosis, control of hemorrhage, and surgical or radiological repair.^{9,10}

Intraoperative care

Although intraoperative care is a highly specialized process that is far too detailed to cover here, it is important to recognize some of the more common obesity-specific

intraoperative activities and their rationale. It is also important to recognize some safety-oriented activities in the patient's intraoperative experience.

Most surgical procedures require two nurses, e.g., a scrub nurse and circulating nurse. In caring for obese patients, some hospitals add a third nurse, especially at the beginning of surgery. The third nurse may be necessary for positioning. A task as simple as placing a catheter can be technically difficult and, as it is an unnecessary embarrassment to the patient, a nurse usually places the catheter once the patient has been properly sedated or anesthetized.¹⁴

Urinary catheters are used for several reasons. Assisting a female patient onto a bed pan postoperatively can be difficult for caregivers and uncomfortable for the patient. In addition, patients receiving an epidural catheter for pain control may require a urinary catheter because of associated urinary retention. Securing the foley catheter high on the patient's thigh with a foley catheter holder will significantly reduce the risk of tube dislodgement and thereby reduce the risk of UTI infection (Figure 1).

Another intervention of concern is the surgical scrub (preparation of the skin surface prior to surgery). The nurse must ensure that all areas are clean and painted vigorously. This can be especially difficult in the presence of deep-skin folds. A third nurse can help the circulating nurse to achieve this task.

Once the surgery is over, warm sheets and a clean gown are provided for the patient. It is best to plan ahead by having larger gowns available in the operating room, eliminating any last-minute embarrassment. Extra personnel may be required to place the patient onto a gurney or oversized bed for transfer to the hospital room, once recovery is complete. Recovery staff need to be notified that they will be receiving an obese patient to allow for any necessary preplanning. This step helps to prevent last-minute scrambling to find the tools that are essential for postoperative assessment. Standard-sized equipment, such as blood pressure cuffs, may be insufficient to accomplish simple assessment.

The patient may be discharged from the recovery room to either the intensive care unit or a general medical-surgery unit, depending on medical assessment or hospital policy.

Postoperative Care

Although the patient is usually awake and alert shortly after surgery, extra personnel may be required for the transfer to the appropriate postoperative unit. Routine monitoring of vital signs and physiologic progress that requires documentation includes blood pressure, pulse, quality and number of respirations per minute, temperature, coughing, and deep breathing.

Patients seem to breathe more easily when the bed is at 30° (semi-Fowler position), as this angle reduces the weight of abdominal adipose tissue that presses against the diaphragm.¹⁶ The patient may need encouragement to perform leg exercises and breathing and coughing exercises. Providing the patient with an abdominal binder (Dale

Medical) can encourage deep breathing and coughing as well as post-operative mobility (Figure 2)⁶. Early activity is encouraged, as it decreases the chances of immobility-related complications. In the acute setting, patients can experience complications related to immobility and physical dependence. Some patients will fail to progress postoperatively either because of surgical complications or a critical condition.

Clinicians need to be familiar with common obesity-related complications and modify care plans and clinical interventions to address or prevent them. For example, atypical pressure ulcers and respiratory problems are two immobility-related conditions that could prolong the postoperative course.¹⁷

Obese patients often present with atypical pressure ulcers. Pressure within skin folds can be sufficient to cause skin breakdown. Tubes and catheters burrow into skin folds, which can further erode the skin surface. Pressure from side rails and arm rests not designed to accommodate an obese person can cause pressure ulcers on the patient's hips. This atypical skin breakdown can be minimized by using properly sized equipment. The patient needs to be repositioned at least every two hours, as do tubes and catheters. Commercially available securing devices that can be opened and closed several times, and remain in place, will reduce the likelihood of skin necrosis. Tubes should be placed so that the patient does not rest on them. Tube/catheter holders may be helpful in this step.

Wound healing can be problematic in some obese patients. Wounds are prone to dehiscence. In addition, blood supply to fatty tissues may be insufficient to provide an adequate amount of oxygen and nutrients, which can interfere with wound healing. A delay in wound healing may occur if the patient has a diet that lacks essential vitamins and nutrients. Wound healing can also be delayed if the wound is within a skin fold, where excess moisture and bacteria can accumulate. Furthermore, excess body fat increases tension at wound edges.⁴ To reduce the occurrence of abdominal wound separation, some clinicians use a surgical binder to support the area. The binder will need to be large enough to comfortably fit the patient. For example, the Dale Abdominal Binder can accommodate waist sizes of up to 94 inches.



Morbidly obese patients tend to have pulmonary problems, particularly obesity hypoventilation syndrome (OHS) and sleep apnea. OHS is an acute respiratory condition in which the weight of fatty tissue on the rib cage and chest prevents the chest wall from expanding fully. Because patients are unable to breathe in and out fully, ventilatory insufficiency can occur.¹⁷

Sleep apnea occurs when the patient sleeps in the supine position. The weight of excess fatty tissue in the neck causes the throat to narrow, severely restricting or even cutting off breathing for seconds or even minutes at a time. Breathing can be made easier by keeping

the patient in the semi-Fowlers position, which takes some of the pressure off the diaphragm for reasons described earlier. Mobilizing the patient as early as possible also helps. Sleep apnea is often managed at night with the use of a continuous positive airway pressure (CPAP) machine.¹⁸

If long-term ventilator support becomes necessary, performing a tracheostomy can be especially challenging if the trachea is buried deep within fatty tissue. A large wound may be needed to locate the trachea. This larger wound can lead to complications, such as bleeding, infection, or damage of the surrounding tissue. Postoperative tracheostomy care, therefore, includes steps to protect the peristomal skin and manage tracheostomy and wound drainage. To compound this dilemma, standard-sized tracheostomy tubes may be inadequate for use with patients with larger necks. In addition, narrow cloth tracheostomy ties can burrow deep within the folds of neck, further damaging the skin. The thicker or wider ties, such as Dale Tracheostomy Tube Holder, have been used by clinicians to prevent this sort of damage. The Dale holder is also available with an extension to total 25" in length.

Home-care Needs

In the home-care setting, obese patients often pose serious management problems related to obesity itself as well as associated comorbidities. Planning and providing care to obese patients can be challenging. Not all obese patients will require special accommodation at home; however, patients who have limited mobility are likely to have special needs and therefore require special accommodation.

In a recent study, nurses reported five specific challenges in the home-care setting: equipment, reimbursement, access to resources, client motivation, and family/significant other support.¹⁹ The challenges cited most often involved specialized-equipment issues.

Many healthcare providers complain of the inability to turn, transfer, or lift heavier patients, which can lead to immobility-related concerns.²⁰ Family members and caregivers may be at risk for injury when caring for the obese patient in the home, as fewer personnel are available to help. Oversized wheelchairs and walkers with greater weight limitations than standard equipment are readily available for purchase or rent in major medical supply centers. Both items promote independence and dignity. Equipment that nurses find most helpful in the home are the wheelchair, walker, commode, electronically-controlled bed frame, support surface, and lift.

When planning for oversized equipment in the home, consider weight limits, width, and electrical needs. In other words, does the patient have a sliding glass door or extra wide doorway through which equipment can be delivered? Or, will the equipment collapse, so that it can be delivered through a standard-sized doorway?

Conclusions

With obesity on the rise, clinicians best serve patient care by employing strategies to reduce or prevent costly complications. Although equipment is a helpful adjunct to care, it is never a substitute. Numerous resources are available to clinicians across practice settings, and use of resources in a timely and appropriate manner are thought to improve measurable therapeutic, cost, and satisfaction outcomes.

References

1. Kral JG, Strauss RJ, Wise L. Perioperative risk management in obese patients. In: Deitel M. *Surgery for the Morbidly Obese Patient*. FD-Communications: North York, Canada, 1989.
2. Kuczmarski RJ, Fiegel KM, Campbell SM, Johnson CL. Increasing prevalence of overweight among U.S. adults. The National Health and Nutrition Examination surveys, 1960 to 1991. *JAMA*. 1994;272:205-211.
3. Gustafson NJ. *Managing Obesity and Eating Disorders*. Western Schools Press, 1997, p 2.
4. Gallagher SM. Morbid obesity: a chronic disease with an impact on wounds and related problems. *Ostomy/Wound Management* 1997;43(5):18-27.
5. Staffieri JR. A study of social stereotype of body image in children. *J Pers Soc Psychol* 1967;7:101-104.
6. Maiman LA, Wang VL, Becker MH, Finlay J, Simonson M. Attitudes toward obesity and the obese among professionals. *J Am Diet Assoc* 1992;74:331-336.
7. Thone RR. *Fat: A Fate Worse Than Death*. New York: Harrington Park Press, 1997.
8. Gustafson NJ. *Managing Obesity and Eating Disorders*. Western Schools Press, 1997, p 13-19.
9. Gallagher S. Meeting the needs of the obese patient. *AJN* 1996;96(8):1s-12s.
10. *Front-line Fat* PBS Home Video. Seattle, Washington: Public Broadcasting Service, 1998.
11. Fox HR. Discrimination: alive and well in the United States. *Obesity Surgery* 1995;5:352.
12. Charles S. Psychological evaluation of morbidly obese patients. *Gastro Clinics of North Am* 1987;16(3).
13. *Front-line Fat*. Public Broadcasting Service: Seattle WA, 1999.

14. French G, Galbraith JL, Dietel M. The nurse's role in bariatric surgery. In: Deitel M. Surgery for the Morbidly Obese Patient. FD-Communications: North York, Canada, 1989.
15. Crowell DE. Anesthetic management of morbidly obese patient undergoing abdominal surgery: epidural anesthesia and postoperative epidural anesthesia. In: Deitel M. Surgery for the Morbidly Obese Patient. FD-Communications: North York, Canada, 1989.
16. Lasater-Erhard M. The effect of patient position of arterial oxygen saturation. Crit Care Nurs 1995;15:31-36.
17. Gallagher SM. Caring for the overweight patient in the acute setting: addressing caregiver injury. Nursing98 1998;98(3):32HN1-32HN5.
18. Shinohara E, Kihara S, Yamashita S, Yamane M, Nishida M, Arai T. Visceral fat accumulation as an important risk factor for obstructive sleep apnea syndrome in obese subjects. J Intern Med 1997;241:11-18.
19. Gallagher SM. Needs of the homebound morbidly obese patient. Ostomy/Wound Management 1998;44(4):32-42.
20. Gallagher SM. Reducing caregiver injury when caring for the obese patient. Journal of Healthcare Safety, Compliance, and Infection Control 2000;15(9):18-24.



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