The Challenges of Obesity and Skin Integrity

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The challenge of caring for the overweight patient lies in the special care and knowledge that are required for a meaningful clinical outcome. Obesity is associated with numerous coexisting conditions such as diabetes, situational depression, hypertension, soft tissue infection, some cancers, and impaired circulation, which could interfere with the patient’s level of health, in general, and skin care, specifically. Some authors believe that from the onset of these conditions, the obese patient is at a disadvantage because diagnosis is difficult, and procedures are technically more complicated [1]. Many hospitals report concerns about inadequate equipment, policies, and personnel to accommodate the needs of larger patients, and skin care becomes a clinical challenge in many cases. The skin, which is the largest organ of the body, is at particular risk for injury during hospitalization, especially in the presence of obesity. Demographics, the meaning of obesity, and factors that place the patient at particular risk for skin injury are described in this article. Prevention of common and predictable skin breakdown is discussed. Early assessment and intervention of skin injury, along with the value of an interdisciplinary approach, and legal implications are reviewed.

Changing demographics

Sixty-seven percent of Americans are overweight, and 10% to 15% are considered obese [2]. Six percent to 10% are morbidly obese, with a body mass index greater than 40 [3]. Americans spend nearly $33 billion annually in attempts to control or lose weight, whereas $100 billion is spent on obesity-related health problems. Despite widespread concern on all levels, Americans continue to gain weight. Obesity is a factor in five of the ten
leading causes of death [4] and is considered the second most common cause of preventable deaths in the United States [5].

The meaning of obesity

Obesity is the term assigned by the National Institutes of Health to describe the physical condition discussed in this article. Obesity, according to the National Institutes of Health, is simply a diagnostic category that represents a complex and multifactorial disease [6]; yet, in popular culture, even this diagnostic, clinical term holds a negative tone.

Obese Americans chose neither to be overweight nor to experience widespread prejudice and discrimination [7]. Prejudice is described as a prejudgment, whereas discrimination refers to an action based on this prejudgment. Overweight Americans experience both. Attitudes toward obesity are formed at a very young age; for example, children as young as 6 describe silhouettes of obese children as lazy, stupid, and ugly. This research suggests that prejudice toward the obese child is observed regardless of race or socioeconomic status [8]. Additionally, health care clinicians are also often biased against the larger patient [9], as are obese persons themselves [10]. Health care clinicians and organizations need to ensure a safe haven from obesity-related prejudice and discrimination [11].

There is widespread misunderstanding about the causes of obesity. What is understood is that weight gain occurs when intake, meaning food, exceeds output, meaning activity. However, the real mystery behind balancing body weight depends on many other factors. Genetics, gender, physiology, biochemistry, neuroscience, as well as cultural, environmental and psychosocial factors influence weight and its regulation [12]. Patients are best served when clinicians recognize obesity as the chronic condition that it is, making every effort to eliminate a culture of prejudice and discrimination.

The concern over prejudice and discrimination is that these emotions pose barriers to care regardless of practice setting or professional discipline. The overwhelming misunderstanding of obesity is likely to interfere with preplanning efforts, access to services, and resource allocation. Although this misunderstanding is not universal, it is pervasive enough to pose obstacles, and clinicians interested in making changes will need to recognize and overcome these barriers.

Skin and wound considerations

Skin and wound complications are immobility-related conditions that extend the need for clinical intervention regardless of the practice setting [13]. Clinicians provide the best service and assessment when they are familiar with common obesity-related complications, thus modifying care plans and clinical intervention to address or prevent complications.
Pressure ulcer precautions

Pressure ulcers develop because of a number of predisposing factors, but unrelieved pressure, friction, and shear present the three contributing causes (see the article by Maklebust elsewhere in this issue). Pressure ulcers typically occur over a bony prominence. Pressure ulcer staging is dependent on the depth of damage to the underlying tissue. In addition, obese patients can be at risk for atypical or unusual pressure ulcers, which can occur as a result of pressure within skin folds, tubes or catheters, or from an ill-fitting chair or wheelchair.

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 armrests not designed to accommodate a larger person can cause pressure ulcers on the patient's hips. Consider properly sized equipment that ensures sufficient space between the patient and the sides of the equipment. Additionally, the patient needs to be repositioned at least once every 2 hours, as do tubes and catheters. Tubes should be placed so that the patient does not rest on them. If this becomes difficult, tube and catheter holders may be helpful in this step. In the event that the patient has a large abdominal panniculus, it also must be repositioned to prevent pressure injury beneath the panniculus. Patients who are alert are able to physically lift the pannus off the suprapubic area. The weak, sedated or unconscious patient could be placed in the sidelying position in which the nurse can lift the pannus away from the underlying skin surface, allowing air to flow to the regions while relieving pressure. Use of rotation therapy is often regarded as the standard of care for certain pulmonary situations; however, it can also serve to ensure sufficient repositioning for a very large patient who otherwise may pose a realistic challenge to frequent turning. Despite the value of rotation therapy in prevention and treatment of skin injury among the obese patient, it is necessary to take precautions to prevent friction and shear. Correct pressure settings, fitting the patient to the appropriately sized surface, and assessment for skin changes can provide these precautions.

Candidiasis

Candida albicans thrives in a dark, moist environment, such as within skin folds. It is a normal inhabitant of the mouth, gastrointestinal tract, and vagina. C. albicans is one of the most common species found among human beings. Factors that contribute to candidiasis include immunocompromised states, diabetes mellitus, infection, chronic steroid use, hyperhidrosis, and obesity.

For assessment purposes, candidiasis is characterized by scaling erythema and, in some cases, small pustular lesions exist. Patients often complain of itching or burning and often scratch the skin surface, further compromising
skin integrity, which can lead to a secondary bacterial invasion. Without intervention, this condition can lead to fissuring and maceration.

Candidiasis is manageable by using several approaches based on the severity of the situation. The first strategy is to eliminate excess moisture such as perspiration, incontinence, and wound drainage. If the patient complains of a moist skin surface, initially, an antifungal powder can be applied to clean, completely dry skin. For a dry, flaking surface, an antifungal cream can be helpful. To help soothe and cleanse affected skin, a soak or compress of Burrow’s solution (aluminum acetate) can be applied for 15 to 20 minutes twice per day. Another remedy suggests using a 1% solution of acetic acid (10 mL of vinegar to 1 quart of water) as a soak or compress. If the condition does not improve within 24 hours, consider reassessing the condition because many skin conditions mimic one another [2].

Incontinence dermatitis

Moisture is a risk factor in skin breakdown; therefore, incontinence can complicate skin integrity. The patient may experience incontinence for the first time when hospitalized. This may be caused by medication, a delay in locating enough caregivers to assist the patient, or simply because the patient cannot reach a commode in time to prevent an incontinent episode. Physically compromised patients may be reluctant to ask for assistance with hygiene. Maintaining clean, dry skin is our objective, and if the patient needs assistance in this effort, caregivers must remind patients that our goal is to serve their needs and we can offer help in this respect.

After each incontinent episode, clean the entire affected area with an incontinence cleanser and then rinse and dry the area. Patients report that drying the buttocks, perineal area, and between folds with an institutionally approved blow dryer on the cool setting is more comfortable than towel drying. This technique may be less traumatic to the outermost layer of skin; however, again the patient may require assistance to reach this area.

If, despite preventive efforts, skin breakdown occurs, an aggressive plan of care is indicated. A moisture barrier ointment can serve as a protective barrier to chemicals in urine or stool. Few moisture barrier ointments adhere to weeping or moist areas of superficial breakdown. A light coat of protective powder applied to the moist areas may increase adherence of the moisture barrier ointment, thus more completely protecting the skin surface from the irritating chemicals found in stool and urine.

Surgical wounds

Surgical wounds are expected to create a watertight seal within 24 hours; however, wound healing can be delayed in some obese patients because of interference with the normal wound healing process. Blood supply to fatty
tissue may be insufficient to provide an adequate amount of oxygen and nutrients. Wound healing may also be delayed if the patient has a diet that lacks essential vitamins and nutrients or if the wound is within a skin fold, where excess moisture and bacteria can accumulate. Furthermore, the excess body fat also increases the tension at the wound edges, making the wounds prone to dehiscence [14].

Increasing numbers of obese patients require abdominoplasty, especially after extensive weight loss associated with Roux-en-Y gastric bypass [15]. Abdominoplasty is a reconstructive surgical procedure intended to correct a problematic abdominal pannus and associated comorbidities. A large abdominal pannus, sometimes called an abdominal apron, is associated with cutaneous inflammation such as panniculitis, cellulitis, intertriginous dermatitis, skin abscesses, gangrene, excoriation, or folliculitis. Other concerns related to the pannus include back pain, lymphedema, ambulatory difficulty, and stress incontinence [16]. Abdominal panniculectomy and reconstructive abdominal surgery may be performed to alleviate these associated conditions. Wound care experts can be instrumental in providing documentation for reimbursement (Box 1).

Removal of the pannus will involve an incision extending 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-shaped incision, 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

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**Box 1. Documentation for panniculectomy reimbursement**

Third party payers have been known to refuse payment for abdominal panniculectomy for many reasons, one of which is the 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 [16]. Some payers require that the pannus hang down sufficiently so that it obscures the pubic area. Others reportedly look for intertrigo or other signs of inflammation under the pannus. Patient photographs, therefore, should include front, side, and under-surface views [16]. When all else fails, some patients have asked attorneys who specialize in reimbursement for bariatric needs to assist them in obtaining third party reimbursement [21].
laparotomy, revision of the primary surgery, and repair of abdominal wall and ventral hernia, each of which predisposes the patient to incisional challenges.

Early mobilization is critical in the recovery period. Many larger patients are able to turn, ambulate, and transfer soon after surgery, whereas others may have difficulty because of pain or sedation [17]. The physical therapist can assess the strength and endurance needs of the patient postoperatively. Wound dehiscence, seroma formation, and wound infection are common problems [18]. Drains are routinely placed after surgery, and it is important to observe for clotting of the drains or the unintentional removal of the drains by the patient. Infection can be a problem because many morbidly obese patients have associated medical problems, particularly type 2 diabetes mellitus, which contributes to delayed wound healing. Additionally, fatty tissue that is not excised can be devitalized, leading to fat necrosis and subsequent infection. Care should be taken when assessing the low mid point of the T in the abdominal incision because this is where a wound separation is most likely to occur [18]. All wounds should be kept clean and dry but especially those in skin folds. It will be 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 a wound separation, patients can be taught to cleanse the opened area gently with a nontoxic wound cleanser, avoiding cytotoxic cleansers unless specifically indicated. Irregular body contours can present challenges in securing dressings. Flexible cloth tapes can be molded to the contours as necessary to ensure that the dressings are fixed securely to the intended area.

Freiberg [18] explains that some wound complications can be avoided or at least minimized by the use of an abdominal binder and later a girdle support. Abdominal binders should be worn for the first 4 weeks after surgery. Binders not only provide a degree of comfort to the patient but they minimize the shearing forces between the abdominal wall and abdominal skin. Binders are designed to control unnecessary edema and reduce ecchymosis. However, if the binder does not fit properly it can lead to skin breakdown, respiratory problems, or failure to comply with the plan of care. A clinical nurse specialist, as a member of the interdisciplinary team, can ensure that properly sized equipment is available. Assess the patient for skin and respiratory concerns when a binder is in place. Refer to the manufactures’ guidelines to ensure safe use of the binder.

Legal considerations

From a legal perspective, larger Americans seldom bring attention to themselves. Many obese patients feel they are responsible for inadequate care because of their weight. However, in the past few years, size and weight acceptance advocates are asserting a legal right to equal, reasonable
accommodation, demanding the same standards of care regardless of body size, weight, or configuration. The legal system provides a means for larger Americans to test this claim, and many times the claim is aimed at the health care community. Satisfied, informed consumers are less likely to file a claim against health care institutions or clinicians; therefore the failure to communicate is often at the heart of litigation, as is inadequate documentation. Legal mandates designed to protect patients are in place and are used nationwide for all types of negligence; therefore, it is in the best interests of any organization to recognize and understand the legal aspects of negligence when providing service to this high-risk patient population.

Negligence is a legal theory that applies to many medical malpractice cases. To win a negligence suit, the plaintiff must prove that four legal elements exist. The four legal elements of a claim are 1) duty, 2) breach of duty, 3) damages, and 4) causation. To ensure that the duty element is satisfied, a relationship must exist between the nurse (defendant) and the patient and a family member (plaintiff). The nurse holds a duty to perform consistently with an established standard of care.

A breach of duty exists when there has been a negligent departure from a recognized standard of care. A breach of duty, by definition, is the failure to do what the reasonable and prudent person possessing the same or similar skills and knowledge would do in the same or similar circumstances. If the court determines that a breach of duty has occurred, then it will be determined whether damages exist and to what extent. Despite the fact that the first three elements are present, it is still necessary for the plaintiff to prove that causation exists. The plaintiff must prove a direct causal relationship between the breach of duty and the alleged damages. This is done in two ways. The first is described by the notion of foreseeability, in which the plaintiff must prove that the defendant should have foreseen that the negligence could result in the alleged damages. The second way causation is proven is by making the following statement: in reasonable probability, the damages would not have occurred but for the negligence. In some parts of the country this is also stated by: the defendant’s negligence was a substantial factor in causing the alleged damages.

Misunderstanding is sometimes at the heart of claims, for example, if the patient held an expectation that was not met by the health care institution or the nurses or an unexpected adverse outcome occurred. However, the occurrence of an adverse outcome does not prove negligence. Negligence must be proven using the four legal elements. Regardless, defending against a lawsuit can be economically and emotionally costly, and therefore avoiding lawsuits is a meaningful objective.

Communication can be interpreted in several ways. If the medical record suggests that there is lack of communication between nurses and other members of the health care team, this is considered a red flag and attorneys tend to investigate further. Clinicians on all levels must communicate, not only with each other but with the patient and family, when indicated. In the
face of intervention that holds special risks, such as advanced skin and wound care, it is important to discuss this with the responsible party and document the discussion to that extent. Timely, accurate, and legible documentation of care and communication is imperative. In the event there are questions about what should be documented or how to document a special event, it may be in the nurse’s best interest to speak to his or her risk manager. This is especially true in situations in which there are issues of inappropriate patient behavior.

Caring for larger patients is certainly more complex. Even without coexisting diagnoses or preadmission mobility issues, skin and wound care can be complicated sometimes simply because of the patient’s body weight. Patients and caregivers are asked to perform tasks that they may be ill-equipped to accomplish. This raises questions of compliance. Sometimes the inability to carry out activities because of patient-related fear or apprehension is labeled noncompliance. It is important to try to differentiate this from a patient’s refusal to participate in care; for example, a patient may refuse to ambulate for fear of falling, compared with a patient who refuses a physical therapy appointment because it coincides with a special television program. Understanding the difference is challenging in itself.

From a legal perspective, the issue of compliance is an important factor. Certainly, such issues pose documentation challenges. Again, in the case of failure to participate in care, the nurse may need to organize a team conference that would include the risk manager or hospital attorney. This is especially true if the health-defeating behavior affects the clinical outcome. Perhaps the team will discover that the seeming noncompliance is fear of the respective activity, in which case the support of a physical or occupational therapist, clinical social worker, or a psychologist would be necessary. However, if care concerns are not resolved in the team conference, the risk manager can direct the best method to document the situation. This step may protect the nurse and the institution from a lengthy legal encounter.

Clinical experts

The value of an interdisciplinary approach cannot be overlooked. Pharmacists, physical and respiratory therapists, physicians, and clinical nurse specialists are clinical experts who can be essential in planning care. Each member of the team brings a unique and important perspective. For example, consider the patient who undergoes removal of a 40-pound panniculus. This painful procedure could lead to immobility challenges and subsequent skin issues. The physical therapist may have ideas for mobilizing a patient who is otherwise immobile because of his body weight, pain, or sedation. The contribution of a pharmacist or other member of the pain management team is essential to working toward pain control because it can be especially complex in the presence of obesity (Box 2).
Box 2. Understanding the resedation phenomenon

Resedation is a postoperative threat among larger patients. Davidson and Callery [20] explain that by the evening of surgery, the overt effects of intraoperative anesthesia have dissipated. The patient may be using postoperative pain medication, but this is the time when the patient is most prone to the resedation phenomenon. Resedation occurs when the redistribution of lipophilic anesthetic or sedative agents from the fatty tissue enters the bloodstream. The challenge of resedation is that pharmacologic reversal or intubation may be urgently necessary, which poses a life-threatening situation if not managed in a timely manner.

The Wound Ostomy Continence Nurse offers a plan of care to address the local abdominal wound care, which typically occurs among obese patients undergoing panniculectomy. The entire health care team must be diligent in caring for the morbidly obese patient. Being aware of the possible complications and corresponding interventions is necessary to prevent potential hazards to patient and caregivers. Communication and timing are critical to prevent these hazards. Although it is sometimes difficult to arrange, an interdisciplinary conference, which is planned within 24 hours of admission, may prevent costly intervention from occurring later [19]. Consider including the patient’s significant other because this person may offer insight into the patient’s special needs. Documentation of meetings, individual goals, and corresponding intervention promote consistent, meaningful patient care and may protect the institution from legal action. This level of accountability also outlines more fully each clinician’s responsibilities.

Preparing for the future

Although attempts to reduce body weight are common among Americans, the prevalence of obesity continues to increase. Considering that more than two thirds of US adults are overweight, it is likely that issues of caring for the overweight patient will continue. In fact, not only has the percentage of adult American increased but the number of overweight children has doubled, and although some overweight people are able to lose some of their body weight, a majority regains that weight within 5 years.

Such increases will tremendously affect health care delivery because obesity is strongly associated with several chronic diseases, which may lead to hospitalization and the corresponding issues described earlier. Recent estimates suggest that obesity-related morbidity may account for 6.8% of
Box 3. Planning for equipment

Patients who weigh more than 300 pounds generally require some level of special accommodation. In many cases, the only special accommodation that is needed is a bed that is wide enough for the patient to turn independently, a walker to support their weight, and an overhead trapeze to help the patient reposition him or herself. These three items are believed to help the patient maintain strength and independence. Clinicians report that independent patients who have adequate supportive equipment are less likely to injure themselves or caregivers during that early postoperative period [22].

US health care costs. This increasing prevalence will affect acute care and may influence not only the frequency of admission but the intensity of care that patients will require when hospitalized. Clinicians best serve the needs of the patient when policies and protocols are in place to care for the patient. Continued use of interdisciplinary teams is essential to more fully understand the interdepartmental impact of caring for overweight patients in the acute care setting. Furthermore, manufacturers and vendors need clinical input to more fully understand the unique equipment needs of the larger patient (Box 3). Clinicians can form partnerships with industry to creatively seek solutions to the challenges described, and outcome studies can provide the data necessary to sustain these efforts.

Summary

With obesity on the rise, clinicians must use strategies to reduce or prevent costly complications. Although equipment is a helpful adjunct to care, it is never a substitute for care. Numerous resources are available to clinicians across practice settings, and the use of resources in a timely and appropriate manner is believed to improve measurable therapeutic, satisfaction, and cost outcomes. Unquestionably, clinicians and organizations are continually at risk for legal action, but there are steps that can be taken to control for meritless claims. The obese patient poses numerous care challenges, and it is in the interest of health care organizations to meet these challenges in a clinically and legally sound manner.

References