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Roundtable Discussion

Does Skin Care for the Obese Patient Require a Different Approach?

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ONE OF THE GREATEST CHALLENGES for allied health care professionals who work with obese patients is effective management of skin and wounds. While the goals are prevention of skin breakdown and promotion of wound healing, practitioners are often confronted with a complex set of health issues. Obesity frequently places an increased workload on the heart to supply oxygenated blood to all tissue. This process is dependent upon sufficient lung ventilation and diffusion of oxygen. In addition, all stages of wound healing rely on adequate supplies of nutrients. If the delivery of oxygen or nutrients to cells in the body is compromised by the circulatory, respiratory, or dietary challenges created by obesity, skin breakdown and wounds will be a risk.

In the following discussion, our roundtable panel members offer their expertise about the complexities of and solutions for skin and wound care of bariatric patients.

—Lisa Rowen, RN, DNSc
Editor-in-Chief

Lisa Rowen: Let's discuss the impact of obesity on skin, tissue, and wound integrity. How does obesity contribute to a greater risk for skin-related conditions?

J. Wesley Alexander: Being markedly overweight can cause numerous problems related to the patient's integument. Perhaps the most obvious is irritation, infection, and ulceration in skin folds. The lack of oxygen, and increased moisture in the skin accompanied by abrasions caused by continuous or intermittent movement, cause a marked increase in the susceptibility to breakdown of the cutaneous barrier. Fungal infection, especially from *Candida albicans*, is a common problem, and any loss of the skin integrity can lead to deeper infections, especially if an operative incision needs to be made in the area.

It is also not uncommon to have areas of fat necrosis and a very large pannus that outgrows the blood supply. An even more serious complication related to fat necrosis is calciphylaxis, a condition that occurs most typically in female dialysis patients who are obese and have diabetes. This complication often leads to death. Calciphylaxis is also sometimes related to hyperparathyroidism, which is not uncommon in morbidly obese patients.

Ulcerations of the lower extremities are also not infrequent. Venous stasis ulcers are a particular problem because compression garments can seldom be designed to fit the lower legs of morbidly obese patients. Ulcerations may be associated with both venous insufficiency and lymphedema which occurs with morbid obesity. In some patients I have seen, there is marked lymphedema of the abdominal pannus, occasionally with skin breakdown and ulceration. In addition to surgical therapy, aggressive diuresis is often required. Diabetic ulcerations and gangrene of the foot can also occur and are particularly life-threatening if amputation is necessary.

Pressure ulcers occur more commonly in markedly obese patients, especially if they are positioned on a hard operative table for extremely long periods. (However, these are usually easier to treat than in the emaciated patient who does not have any significant subcutaneous tissue.) Special bariatric beds with air mattresses or equivalent equipment should be provided for the morbidly obese patients.

Susan Gallagher Camden: The formation of pressure ulcers in larger, heavier patients is a serious issue related to their immobility. It is often difficult to reposition heavier patients: couple this with the threat of caregiver injury and nurses often become reluctant to adequately turn and reposition large, immobile patients.

Stage I pressure ulcers are the most sensitive to nursing care, which is why it is essential that nurses understand proper assessment for early stages of pressure ulcer development. The ulcers do not begin as a large cavity—rather, a stage I pressure ulcer is simply discoloration or another change in intact skin that is resistant to pressure, and damage occurs beneath the skin surface prior to destruction of the actual skin. This prompts nurses to seek ways not only to train other nurses on proper assessment skills but also to look for tools designed to reinforce and consistently monitor skin changes.

In addition to pressure ulcers that develop over a bony prominence, obese patients can develop atypical pressure ulcers. These atypical pressure ulcers can occur between skin folds, or from tubes or catheters that burrow into soft tissue. They can be bilateral hip ulcers that develop because the patient spends time in an ill-fitting wheelchair or recliner.

Dr. Alexander, you mentioned the patient with the large abdominal pannus and lower leg problems. Can't the weight of the pannus itself create some type of mechanical obstruction to the circulation and lymphatics? Wouldn't this contribute even further to the problems that we see, not only stasis but also the lymphatic problems among obese people?

J. Wesley Alexander: This is particularly noticeable when you do the abdominoplasty. The amount of blood flow to the pannus is a response to some of these problems. This suggests venous obstruction since the venous vessels are extremely large, sometimes as much as a centimeter across in the draining vein. So the venous obstruction, I'm sure, is certainly there. While I haven't seen any studies about lymphatic obstruction, I'm confident that this follows the same pattern.

Susan Gallagher Camden: Do you see lower leg improvement after the panniculectomy?

J. Wesley Alexander: The lower leg improvement comes with the gastric bypass. With people who have really extensive lesions, it's very difficult to get them to heal without losing a very large amount of weight. But they do a lot better once they lose the weight.

Lisa Rowen: Are there any risks we need to think about after massive weight loss?

Sherrill Conroy: There's a preset situation where you have a lot of problems and stressors that occur in the body long before you even get to surgery or morbid obesity. Some of the problems are a decrease in vitamins and protein. Proteins are necessary for the healing process; such decreases are longstanding in these people. There are also the other lifestyle factors of poor diet, fast food, fast eating, the culture of obesity, decreased exercise, and an untrained body.

In the obese patient, you already have a lot of stressors present: extra weight, movement difficulty. If we want to look at what is necessary for the body before surgery, it seems to me that you need to have muscle training. This prepares the body for a really high-stress situation, such as bariatric surgery. Is there a way we can help decrease the effect of stress on the body before you go into surgery?

Madeline Cafiero: We have to educate our colleagues that, although the patient may be obese, they may still have low protein stores due to their dietary habits at home. Once the gastric bypass surgery is done, there has to be a lot of education as far as food choices and amounts of food if we are going to have good healing.

Sherrill Conroy: I agree, especially in terms of food choices and what the portion sizes actually mean when you look at the healthy food guides. Low exercise and poor diet create a culture of obesity. You have people coming from socioeconomic groups where obesity is accepted and desirable and from cultures where it's normal to have large-size food servings and to finish everything on the plate. Someone who undergoes surgery needs to have some re-education in terms of nutrition, eating habits, and lifestyle habits.

J. Wesley Alexander: Yes, people should begin looking at exercise. We require all our patients to join a gym to do body exercises. It's sometimes very difficult for people with severe arthritis, however, and they require a modified program.

Another risk area that is important to consider in the massively obese patient is skin necrosis associated with calciphylaxis. Once the skin breaks down and ulcerations begin, it progresses unless something is done about it. The parathyroidectomy helps some of our dialysis patients, although most go on to death. I've seen a few of these cases in non-dialysis patients; it can respond to weight loss. An important factor is to make sure that their calcium metabolism is all right. About a third or more of morbidly obese patients have hyperparathyroidism associated with low calcium levels. They deposit calcium in the nutrient arteries of the skin and develop ischemic necrosis, particularly in the case of diabetics. If the diabetes is cured with massive weight loss from gastric bypass, the condition can improve in morbidly obese patients who are not on dialysis.

Catherine T. Milne: Calciphylaxis is very painful. When treating pain, do we actually enhance the obesity hyperventilation syndrome when we manage these patients?

Susan Gallagher Camden: Obese patients have acute and chronic pain, and also carry some element of emotional pain that makes assessment very difficult. We need to establish what type of pain the patient is having and how to deal with it. There are a lot of wonderful tools available for this. Currently, we are trying to determine what types of patients they are appropriate for. In terms of pain management, we need to be very, very careful with the obese patient in terms of addressing each level of pain that they may have.

That's why I always advocate for an interdisciplinary team because no one individual knows everything about the obese patient. Having a nurse expert, anesthesiologist, pharmacist, physician, and someone with special interest in pain management proves valuable when dealing with pain in the obese patient. This patient population is so complex, whether we're talking about calciphylaxis, other venous problems, or pain-related issues.

Lisa Rowen: What are the best treatment options to manage pain?

Catherine T. Milne: I think it has to be based on the patient, as Dr. Gallagher Camden already said. There's acute, chronic, emotional, and neuropathic pain. You have to do a good physical and psychosocial exam to elicit what type of pain the patient is having before coming up with a multidisciplinary treatment plan.

Madeline Cafiero: You also have to look at wound pain, whether it's incidental, occurring during a dressing change, or remaining in the background. There are going to be different modalities, depending on when the pain occurs and how long it lasts.

Nancy Sujeta: You also need to consider the choice of dressings used in wound care. Selecting dressings that can be changed once a day is preferable to using a dressing that needs to be changed several times a day. This eliminates a lot of extra pain.

Renay D. Tyler: I've also found that many of these patients present preoperatively with a level of pain due to musculoskeletal issues, and preexisting skin and wound problems. It is important to separate what was preexisting and what you are dealing with now. Especially after bariatric surgery, we often tell patients not to use their nonsteroidal anti-inflammatory medications (NSAIDs) as they are trying to wean off their narcotics. Sometimes separating these pre- and postoperative issues can be tricky.

Susan Gallagher Camden: That's the challenge to our nursing staff and occupational physical therapists: how to assess and address the issues of existing, chronic pain. When postoperative pain is superimposed on top of existing pain, how do we manage each one separately? We need to look at a pain assessment tool specifically designed for chronic pain and then begin integrating it into the preoperative experience.

Lisa Rowen: Let's talk about the best practices for the management of skin and wound integrity. Do you use specific protocols to minimize skin and wound complications? What are the best practices you advocate?

Susan Gallagher Camden: It has to do with the setting. In this group, we really represent each setting. My focus has always been acute care, so I would say that at the heart of skin complications is immobility: it is the patients who cannot turn and reposition themselves or ambulate in the early postoperative period. Most physicians want bariatric surgery patients up out of bed between two and eight hours postoperatively. With medical patients, we certainly want them moving as much as possible to prevent skin and other common, predictable complications of obesity.

It almost has to be practice-specific. In the acute care setting, anything that improves mobility is going to help reduce the incidence of skin complications among the bariatric patients.

Madeline Cafiero: In the outpatient setting, I assess the level of their independence—where they are with bathing and grooming. A lot of these patients are not able to get at their abdominal pannus and the folds. I involve occupational therapy to help patients reach these areas. Mirrors, long-handled sponges, and other aids provide help with grooming to prevent skin breakdown. I'm very cautious about the use of powders in the folds because of caking. With outpatients, you really have to look at their ability to do self-care.

J. Wesley Alexander: The person should have some mobility if considered a candidate for bypass surgery. We absolutely demand that they get out of bed the first day. Occasionally, there is a patient who comes in with a complication, such as bleeding or infection, who is later confined to the bed. That can be a very bad problem. Pressure necrosis in the feet is more common than in the sacral area, but the sacral area can also be involved. These people need special beds so that they're on an alternating air mattress as well as foam padding on the legs. They have to be looked at every day to make sure that something is not going on.

Lisa Rowen: Dr. Alexander, is there any evidence that general, epidural, or another type of anesthesia is better or worse for skin care, skin breakdown, or the maintenance of skin integrity?

J. Wesley Alexander: I don't think there's any difference. Some people claim that

epidural anesthesia is typically better than general anesthesia, but I don't find that to be true. Part of the problem with epidural anesthesia is that we like to give anticoagulants, so there's a risk of epidural hematomas. I don't use epidurals.

Also, I have not had anybody getting skin breakdowns from lying on the table too long, although this is certainly a possibility. We take a great deal of effort to make sure the table is padded, the patient is lying on it correctly in the middle, and there are not any pressure points.

Susan Gallagher Camden: Some hospitals have actually set criteria for operating room (OR) times. If the OR time has exceeded a certain number of minutes or hours, the patient is placed on pressure-relief prevention—some type of air mattress—right off the OR table. This is done instead of waiting for the patient to get to critical care (if they are an outlier) or then delay it again several more days until skin redness appears.

J. Wesley Alexander: Right. There are special, soft bariatric beds that feel like air mattresses.

Lisa Rowen: Do we have established criteria for those patients we are concerned about?

Susan Gallagher Camden: Yes. Many hospitals use their performance improvement, or quality improvement, whatever the department is called. But the risk management and improvement departments look at hospital-specific criteria. I have not seen any national criteria. As I said, some hospitals have set criteria so that the patient is moved right off the OR table simply based on the amount of time on the table and placed on an air mattress without waiting for skin breakdown to develop.

Catherine T. Milne: Sharon Aronovitch has done a number of research studies on OR times and the development of pressure ulcers. Her work shows that an OR time of greater than three hours puts any patient at higher risk for developing pressure ulcers. There is no mention of morbid obesity or body mass index (BMI) in her studies, which probably needs to be looked at.

Lisa Rowen: How do you assess wound etiology to determine the specific type of treatment?

THE EXPERTS WEIGH IN: ACTION ITEMS FOR CONSIDERATION IN SKIN CARE FOR THE OBESE PATIENT

- **At the heart** of most skin complications is immobility.
- **A risk assessment,** such as the Braden score, needs to be documented.
- **Stressors** present prior to hospital admission contribute to pre-existing nutritional deficiencies.
- **Intervention** includes collaborative practice involving nurses, physicians, dieticians, social workers, and physical and occupational therapists communicating before the patient comes in and after they leave.
- **Documentation** of a wound's measurements and characteristics by all caregivers is important so that we can see progress or relapse in the status of a wound or skin issue. Photography should be considered as well.
- **Pain can be acute** or chronic and carry some element of emotional pain that can make assessment difficult without an interdisciplinary team.
- **It is important** to make sure the operating table is padded, the patient is lying on it correctly in the middle, and there are no pressure points.
- **We have to determine** that vendors can provide appropriately sized equipment in a timely fashion.
- **Medical, nursing, and allied health** curricula need to include a greater emphasis on the care of the bariatric patient.
- **We need to focus** on data collection to facilitate infection prevention, document the incidence and prevalence of pressure ulcers and rashes, and quality-of-life issues.
- **Centers should consider** including a patient representative to specifically advocate for their obese patients.
- **We need to learn** from the patients themselves what they can do in terms of self-care, where they want to go, what they want to do, and how they can do it.

Susan Gallagher Camden: That's a big question. My focus has been prevention, because it is such a cost-effective alternative to treatment. Patients need to be turned and repositioned every two hours at least. A risk assessment, such as the Braden score, needs to be done and documented.

The patient's skin is assessed every eight hours per hospital policy. This is the standard of care for our non-obese patients. As clinicians, our challenge lies in implementation.

As was mentioned earlier, the challenge is nutrition. These patients come in malnourished, so we need to look at their protein stores. Then, we need to prevent, reduce, and treat pressure-related problems. These are really the challenges to us in terms of prevention.

Madeline Cafiero: We also have to determine, at least in skilled nursing facilities, that appropriately sized equipment and a knowledge base exists for these patients. They are given a diagnosis of morbid obesity, but we are really not sure what their weight is before they come in. This makes it difficult to plan what size bed and type of pressure-reduction devices will hold their weight. If we can get this information from the transferring facility or from home, then we can better plan for those patients.

Sherrill Conroy: One important member of the multidisciplinary team is the dietician who looks specifically at protein stores and the need for repletion.

Surgery produces stressors for the patient. Even the obesity itself is a stressor in a variety of different ways. Stress increases metabolism, which requires energy in the form of protein stores. If you don't have good protein stores in the first place, you are going to magnify the problem. This needs to be looked at very closely. If there is good intake/output, correct use of energy stores, and diminished use of lactic acid stores, then you have a better situation for healing.

Susan Gallagher Camden: Are you speaking about all obese patients or just the weight-loss surgery ones?

Sherrill Conroy: All obese patients have this problem.

Catherine T. Milne: I'm hearing some interesting things about nutrition and prevention, but the standard of care for preventing pressure ulcers requires the use of a risk assessment tool, such as the Braden or Norton score. How accurate do we think this is when it comes to nutrition in these patients?

Susan Gallagher Camden: I believe the Braden score captures at-risk patients. Some hospitals suggest putting together a special bariatric skin risk assessment tool. If the Braden scoring is done properly, they should capture at-risk patients. Still other hospitals say if the patient has a BMI greater than a certain value (usually $\geq$40), a wound, ostomy, and continence nurse (WOCN), physical therapist, respiratory therapist, and dietician should see the patient. At the very least, you'd want an expert to evaluate the patient and determine whether or not there are any specific risks.

Lisa Rowen: All of you have talked about nutrition, positioning, mobility, and duration on the OR table. What do you believe are the skin- and wound-related core competencies clinicians should have in order to manage morbidly obese patients?

Renay D. Tyler: As a nurse practitioner who sees patients pre- and post-op in a surgical setting, I find many clinicians assume it's a fungal rash until proven otherwise. They also are undecided whether to order an ointment, powder, cream, or barrier ointment of some kind. I sometimes find a lack of competencies in the nursing and physician communities regarding how to treat these rashes and problems between skin folds that are seen pre- and post-op. It would be nice to have some type of in-service education or basic understanding between caregivers and providers and the skin and ostomy wound nurses so that we are not constantly calling each other asking how we should treat everything we see.

Madeline Cafiero: People need to know what they are looking at and then decide what they are going to use. Whatever they choose, it must be something the patient can do. These very large individuals have difficulty reaching, so we need to involve the caregiver, or work creatively with the patient. In terms of competencies, providers should understand the limitations of size and be able to work with the patient from there.

Catherine T. Milne: Are we starting to see a trend in nursing education in terms of curriculum adjustments for the care of obese patients?

Nancy Lynn Whitehead: We have revised our curriculum to include obesity and bariatric surgery.

Catherine T. Milne: How about medical schools, are we doing anything there?

J. Wesley Alexander: I don't know the answer to that question. A lot of physicians don't pay too much attention to wound and skin care. For the most part, it is left up to the nursing staff, possibly because the nursing staff is more competent in recognizing these problems and they have more direct patient contact. It is something that certainly needs to be emphasized more in general medical training.

Nancy Sujeta: If you have areas of the hospital that specialize in taking care of bariatric patients, then all your competencies are right there. The nurses know how to deal with these problems and where to find needed equipment so there's no lag time waiting for a chair or a bed the patient can use.

Catherine T. Milne: I think you bring up a good point about centers of excellence. In places with these models, it is easier to take expert opinion or evidence-based practice and translate it into bedside nursing care. It is much more difficult to see this same type of quality translated from research to practice in smaller community hospitals or hospitals without any expertise.

Renay D. Tyler: The center of excellence idea is wonderful, especially from a surgical outcomes perspective. All of us are starting to look at the graying of the population and gearing health care toward seniors. We are also seeing the rise in weight gain in the United States. We are now seeing obese patients in the hospital who are not admitted for bariatric surgery. As a result, we need to look at all hospitals and all providers to make sure they are accommodating obese patients—whether medical or surgical.

Susan Gallagher Camden: My interest in this began when I started looking at the needs of the non-bariatric surgery patient. It has now moved to bariatric weight loss patients, because that's the direction the country is going.

But we cannot disregard the needs of those patients who come in through the emergency room and then stay in the hospital for months and months. Such patients are at risk for skin injury, and their caregivers are also at risk for occupational injuries. This is also a barrier to patient mobility, because if the caregiver is concerned about injury, they are less likely to help the patient get up and move around. In this vicious cycle, caregivers are afraid of being injured, they don't move the patient, the patient becomes immobile, and then they develop skin problems. At least this is what I'm seeing in the acute care setting.

We can talk about local skin care, prevention, and other things. But unless we address the issue of caregivers fearing injury, we will continue to have immobility-related skin problems in the acute care setting.

(Editor's Note: Mobility and caregiver injury will be addressed in a future issue.)

Lisa Rowen: What are some examples of measurable outcomes we should develop and benchmark regarding wound care for the morbidly obese?

Madeline Cafiero: Of course, for open wounds, we would look at their infection rate. We know these patients are more prone to infection. If their wound can heal without infection, that would be one benchmark or outcome wanted.

Lisa Rowen: Are you speaking of surgical wounds?

Madeline Cafiero: Yes, and pressure ulcers as well.

J. Wesley Alexander: Let me say a word about surgical wounds. Using standard techniques and then applying topical antibiotics to the wound through a catheter after skin closure, we have been able to eliminate wound infection in morbidly obese patients undergoing gastric bypass. I just looked at our last 760 patients. There was not a single wound infection that started in the subcutaneous tissue.

Wound infections that occur under the stitch really don't need extra treatment. There are no real costs to the patient except perhaps a few sponges for a small stitch abscess.

The major problem that I see is when morbidly obese patients develop a wound infection from an abdominoplasty or another cause. You have huge wounds sometimes—just huge. It

has been my experience that the best way to treat these is with a wound vacuum system, which greatly accelerates healing.

Lisa Rowen: Is the antibiotic given as a continuous infusion, and is it done prophylactically?

J. Wesley Alexander: It isn't done prophylactically. We use about 50 to 80 mL of a kanamycin solution, which is one-tenth of a percent, or 1000 mcg/mL. We infuse it through a Hemovac catheter that's left in the wound, and we don't activate the Hemovac for two hours. This lets it dwell for a while. You actually get systemic concentrations of kanamycin at the therapeutic range. But at the wound site itself, there is an enormous concentration—a hundred times more than is needed to kill most bacteria. By doing the topical application in this fashion, along with other standard procedures, you can eliminate wound infections.

Lisa Rowen: Does anyone have any other thoughts related to measurable outcomes that we should be tracking?

Susan Gallagher Camden: There are a number of ways of doing prevalence and incidence studies within acute care facilities, and each hospital may have its own process. Whatever their process is, the facility needs to follow it over time longitudinally. We know certain things about the patients, so we can profile which patients develop nosocomial pressure ulcers while under our care.

We need to know what the patient's BMI is, in order to identify which patients are at risk. Then we can follow them from there. We can say, anecdotally, we had a lot of patients who had a longer OR procedure and so we're going to implement this change. However, it is much better if data can be collected quantitatively and followed longitudinally. In this way, we can see that, in fact, this was the issue, this is how we managed it, and this was the change thereafter.

I encourage hospitals, when they are doing prevalence and incident studies, to include BMI so they can determine whether or not these patients develop skin ulcers. If they do, then management should be based on what their specific needs are. This is an important acute care measurement tool for skin care among obese patients.

Renay D. Tyler: There is also a lack of uniform documentation. The entire wound is not always documented consistently so that someone else can come and understand fully what the wound or the rash looks like. If we can benchmark some kind of uniform documentation from the first time the patient is assessed and then through the continuum, that can allow us to do other interventions covered by insurance. A good example is a panniculectomy, if skin excoriation has been a continuing problem after weight loss.

Catherine T. Milne: In addition to monitoring incidence and prevalence of pressure ulcers, we should probably also be looking at rashes, excoriations, and other issues specifically seen in this patient population.

Susan Gallagher Camden: That's a great idea. We could identify all patients with a BMI >40 and identify the skin issues they came in with or developed later. This would offer an opportunity to educate patients. If 80% of patients admitted had some kind of candidiasis, then the hospital could develop a tool to be given to patients. It would include such things as "monitor your blood sugar, wear cotton garments and loose clothing"—all those things that we know help prevent some problems with candidiasis in the outpatient or home settings. If we could measure what type of skin problems we were seeing specifically in obese patients, it would help us make changes within our facilities.

Sherrill Conroy: It would be interesting to have a case-management approach for bariatric patients—whether medical or surgical—within any given hospital that would look closely at these indicators.

Lisa Rowen: If you were a case manager, what criteria would you like to see documented related to skin and wound integrity?

Sherrill Conroy: The rate of healing might be interesting. You'd want to look at the wound depth and size. Also, the whole process would be documented in terms of what one sees in the wound itself, such as an exudate. This would be correlated with whatever measure is used to care for the wound.

Nancy Sujeta: In this age of digital photography, it is also nice to take pictures and use them for comparison.

Sherrill Conroy: Yes, I've seen that used in the pediatric population. It has been very effective. With digital photography, you can actually send this photo to all team members for good input on possible ways to treat the wound.

Nancy Lynn Whitehead: I would like to look at treatments that have already been tried and come up with criteria for other facilities that can be disseminated when we have successful treatment of the wounds.

Lisa Rowen: In concluding our roundtable today, what clinical pearls would you like to offer readers regarding skin and wound care management assessment?

Madeline Cafiero: Use your team members. No one is in this alone. We need all the team members, especially our dieticians, physical therapists, and occupational therapists.

Susan Gallagher Camden: I believe every institution—it doesn't have to be acute care, it can be any practice setting—has to have a diverse and interdisciplinary task force with a lot of interest in improving the care of bariatric patients.

Also, we should consider having vendor representatives who can either change their equipment to meet our needs or help us understand what equipment is available. There also needs to be a patient representative, someone who weighs 500 pounds or more who can say, "I know the team thinks this is a great idea, but let me tell you why it's not really going to work for us."

J. Wesley Alexander: My pearl is that 1 in 20 people in the United States is now morbidly obese. A lot of hospitals are just not set up to handle these patients. Every hospital that treats patients with heart disease or any kind of medical problem has morbidly obese patients. They should make certain they have adequate equipment to handle them. There is now equipment widely available on the market specifically designed for the markedly overweight patient. These devices not only help with personnel injuries, but also with injuries and wound problems associated with their in-hospital care. So my advice would be to get the proper equipment.

Sherrill Conroy: We also need to look at the patients themselves and find out what they can do in terms of self-care, where they want to go, what they want to do, and how they can do it. We should be looking at ways to help this, if possible. It's a question of looking at the culture of obesity, what obesity means to them, and looking at ways they can help themselves to get out of the situation.

Catherine T. Milne: I feel like we are preaching to the choir. We have readers who are already champions in their own practice with an interest in providing the best care for this patient population. My pearl is a challenge to them to contribute data so we can develop best practices and benchmark outcomes for these patients. In this way, we can develop clinical practice standards that would hopefully be accepted by the Agency for Healthcare Research and Quality.

Nancy Lynn Whitehead: I think we need to look at quality-of-life issues in terms of hospitalization, and at 5 and 10 years down the road, to see what it will be like and track that.

Nancy Sujeta: We need to have the collaborative practice mentioned earlier, involving nurses, physicians, social workers, and physical and occupational therapists. They need to communicate before the patient comes in and after the patient leaves, to see who is following up, who knows what equipment is available, and what equipment works.

Renay D. Tyler: My pearl is that it is important to do the screening initially and then document all along the way so that we can see progress or relapse in the status of a wound or skin issue.

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