

Super-sized equipment supports bariatric needs

by Jeannie Akridge

In the fifteen-year span between 1986 and 2000, the number of super-obese people in the U.S. (those with a body mass index or BMI above 50) quintupled from one in 2,000 to one in 400 people¹. The health threats of the obese and particularly the super-obese are numerous and they are presenting to emergency departments everywhere with a unique set of challenges, said a recent article in the *Annals of Emergency Medicine*².

"It's not only emergency departments," commented Michael Klein, vice president for bariatric products and equipment distributor [TSK Products](#), Eatontown, NJ. "The flow starts from the acute side and then begins to work down to sub-acute and eventually into long-term care."

"Bariatrics is one of the fastest growing healthcare market segments," remarked Randy Tomaszewski, vice president of marketing, [Skytron](#), Grand Rapids, MI. "We're becoming more and more of a sedentary population. Access to convenience at every street corner, at every restaurant serving sizes are far greater than they ever used to be. Even the healthcare education in terms of nutrition is not where it should be."

"All you have to do is read the newspaper to realize that this is a phenomenon that we as a society are going to be living with for quite some time to come," said Ward Sanders, clinical services manager for [STERIS Corporation](#), Mentor, OH. "We're all very hopeful that we can educate our population on the importance of nutrition and exercise to sustain a healthy weight. However, for the foreseeable future, reports indicate that operating rooms will see increasing numbers of obese and bariatric surgery patients."

The problem is universal. "The need to accommodate larger patients is no longer limited to those facilities specializing in bariatric procedures," said Dave Rector, director of marketing, [TRUMPF Medical](#), Charleston, SC. "As the population's weight increases all facilities need to accommodate larger patients."

By its very nature, a bariatric care plan requires a comprehensive approach. "Obese patients suffer from the same ailments as the rest of us do, and unfortunately for most, sooner than the rest of us do," said Tomaszewski. "You can imagine a patient that's quite heavy, it's a tremendous strain on their heart, their vascular system, bone structure, etc. So there are going to be degenerative processes going on at a faster rate than for a normal patient."

For several years now TSK Products has been providing healthcare facilities with detailed site surveys that are designed to assess end-to-end bariatric patient flow patterns — from admission to discharge — and make equipment, product, and facility renovation recommendations. Modeled after Surgical Review Corporation requirements for designation as an American Society for Metabolic and Bariatric Surgery (ASMBS) Center of Excellence, the assessment asks, "Can you handle the patient safely?" related Eric Klein, vice president, TSK Products. "Because that's the question — down to the toilet — can you handle this patient?"



i-Mover distributed by TSK



Sittris BA Bariatric Chair

[Medline Industries](#), (Mundelein, IL) offers a bariatric assessment tool with its Bariatric Readiness Program. Said Richard Derks, vice president of marketing for Medline's Durable Equipment Division, "when you look at where the bariatric person becomes problematic for hospitals, more often than not, it's a consequence of them not thinking through moving that patient all the way from admission through discharge. So often is the case that the hospital has overlooked something and then the patient gets hurt or something gets damaged."

Facilities have failed SRC audits for something as simple as not having the proper toilet supports noted Michael Klein — a problem that could easily have been remedied with an inexpensive product such as the Toilet Jack available through TSK. "They were rightly so focused on some of the bigger equipment issues, and a little slip up cost them," he said.

Universal toilet supports that hold up to 1,000 lbs. are the hottest selling products right now for Burr Ridge, IL-based Alco Sales & Service, according to Dan Collins, director of sales & marketing. "A lot of wall-mounted toilets are only rated to about 350 lbs. before they come out of the wall and break."

Providing bariatric patients with readily available equipment will go a long way towards preserving the dignity of the obese patient. "When I talk with nurses about handling bariatric people, they stress to me it's embarrassing for everyone when you have to start searching for something to fit the patient," said Derks.

Patient handling amplified

Sales of mechanical lifts and other patient handling equipment are booming as the push towards enacting safe lifting policies in hospitals gains momentum. "A lot of hospitals are putting in no-lift programs which are also called zero lift, or minimal lift programs," commented Derks.

In addition to several states that have passed safe patient handling legislation, "as a federal bill, HR 378, (the Nurse and Patient Safety and Protection Act of 2007) has been introduced for consideration," explained JoAnn Bunke, MA, RN, clinical coordinator for [Liko](#) (Franklin, MA). "Formerly known as HR 6182 the bill proposes to establish a Federal Grant Program to provide financial assistance to cover some or all of the costs of purchasing safe patient handling equipment for health facilities such as hospitals, nursing facilities and outpatient facilities."

"If there isn't a law, there are most likely discussions about it," said Amy McCaw, marketing and communications manager, [ArjoHuntleigh](#), Roselle, IL. ArjoHuntleigh offers a variety of ceiling lifts, mobile floor lifts, standing/raising aids and sliding sheets designed to accommodate heavier patients – including the 1,000-lb. capacity Maxi Sky ceiling lift. The company also offer bariatric slings in a variety of sizes and types, including a deluxe, divided leg hammock. "Our bariatric slings cover the patient's weight, body shape and personal needs. We also offer tailor-made slings for patients that require a more customized solution."

The ArjoHuntleigh 500-lb. capacity Maxi Move is a versatile, mobile floor lift with an optional Powered Dynamic Positioning System (Powered DPS). "Powered DPS allows for effortless positioning and repositioning of a patient at the touch of a button," McCaw explained.

Liko offers a variety of overhead lifts, mobile lifts, slings and accessories offering solutions for all points along the care continuum from a totally dependent patient in the ICU to a patient that needs to ambulate in a rehabilitation unit, said Bunke. She noted the importance of using the appropriate sling. "The first thing to always ask when choosing a sling is what is the task you want to accomplish? Do you want to reposition a patient, transfer to a gurney or chair or ambulate or toilet the patient? Next the caregiver needs to make an assessment including the following: head control, back support, hip flexion, amputations, weight-bearing ability, mental status, skeletal or dermal pain, and obesity or morbid obesity."

In addition to being used for transferring patients throughout the hospital, "Liko ceiling lifts and equipment are being used in procedure rooms and OR suites across the country to safely lift a patient onto and off of a procedure table as well as reposition patients and provide limb support," said Bunke.



Skytron Hercules

"Patient handling is becoming a hotter topic within the OR now," said Derks. "There's increasing evidence that there are patient handling problems and injuries emanating from the OR. It's the last area in which hospitals are trying to determine the best means of transferring the patient and/or supporting limbs during surgery."

Oftentimes surgical services staff do not have access to even inexpensive and readily available devices that can help them safely transfer patients, for example lateral transfer technologies such as the Air Matt, Airpal and Hover Mat air mattresses, said Michael Klein. "There's still a long way to go, as far as complementing surgical services with existing technology let alone anything new that may be coming out."

Even lift teams, who are specially trained in the biomechanics of patient lifting, are encouraged to use mechanical lifts. "They're not invulnerable to having injuries especially when handling bariatric patients," said Derks. "I find in the implementation of patient handling in institutions, equipment is probably only 50 percent of the equation, the other 50 percent is having a sound lift program in place," he continued. "The components of a lift program include a lift policy that talks about the do's and don'ts of lifting within the hospital and makes it mandatory to use mechanical lifts. You need a good lift assessment protocol – how do you determine when to put a person in a lift, what kind of lift to use, what kind of sling, and how many people will be involved in that lift? And you need good training on how to use lifts. Without those other pieces of the puzzle, patient lifting can just fall like a house of cards."

"If you don't change your habits, if you don't change the process with which you deliver care, you won't use the equipment," Eric Klein advised. "You won't provide the patient or your staff with a safer environment. It has to be a cultural change where people value staff safety." He added, "One of the hospital CEO's biggest problems is personnel — nurses that they have to take care of and retain. And you don't lose them to another hospital, you lose them to a back injury. It doesn't make sense."

The Mobility Gallery, posted on ArjoHuntleigh's website, www.arjo.com, portrays the various body types of obese and morbidly obese patients, discusses their unique mobility issues and provides tips on what types of handling equipment can best



ArjoHuntleigh Maxi-Slide

accommodate them. The ArjoHuntleigh sales team provides in-facility training, as well as offering inservice tapes and DVD's. "We will allow some customers to put our material on their Intranet, so they're able to train electronically, and access the program whenever needed," McCaw said.

The emphasis on safe lifting has implications hospital-wide. "The awareness of staff safety is transferring beyond patient care into the overall operation of the hospital," said Michael Klein. "We're getting inquiries where it's not necessarily a patient they're moving. They may have some very heavy carts or beds. Whether it's 400 lbs. with a patient or 400 lbs. with a cart, the mechanics still have to be dealt with." The i-mover available through TSK provides powered transport of any type of heavy equipment.

Medline is also developing a power-assist device that can be used to transport heavy equipment said Derks. "Power assist is going to be the name of the game in the future for the bariatric population because a normal person cannot easily maneuver a 700 lb guy down the hallway in a wheelchair – it's too difficult."

Motorized options are becoming more common on equipment such as stretchers, wheelchairs, beds and other transport equipment. For one, Stretchair Corporation offers motorized versions of its unique multi-functional bariatric transport device that features infinite positioning from stretcher, to bed, to wheelchair, and even can serve as an operating table for some minor procedures. The patient might literally be able to remain on a Stretchair from admission to discharge. While the company provides models that will accommodate up to 1,200 lbs. and feature ride-on platforms for caregivers, they recently developed a smaller motorized version that accommodates patients up to 675 lbs. and can fit through standard doorways.

Multi-functional equipment can not only help eliminate the need for patient transfers, it might also help to alleviate bottlenecks in the emergency department and elsewhere. TSK Products' GynoCart can turn any stretcher or hospital bed into an exam table, reducing wait times for OB/GYN stretchers. "We've had people say that 99 percent of the wait time for pelvic exams is gone with the GynoCart," said Eric Klein. "If you eliminate an internal bottleneck, your ER flows better and the negative impact on revenue is less." He added, "Once that bottleneck hits, it's going to translate into lower quality of care for everybody."



STERIS Surgimax

The Klein brothers described one recent experience with an assessment at a hospital in the Midwest where the entire staff really "got it." "We were really impressed with the level of understanding of the bariatric program on all aspects of the hospital, from the ER to the OR, to ICU, NICU, all the way to the med surg floor," related Michael. "Every one of the nurse managers as well as the staff nurses seemed to understand the patient flow. When we asked them a question for example, where is a specific piece of equipment, even the staff nurses would know – which was great down at that level. They knew where the patient was coming from, where the patient was going."

Eric added: "It was a very strong leadership from the corner office that we felt at each and every department. Each of them was knowledgeable not only about their own department, but how it handed off. Not only did they understand the same mission, vision and values, but they also played well together. I think if they were holding a piece of equipment they could appreciate how it would disrupt the whole system."

Specialty operations

You don't have to look hard to find a surgical table that accommodates even super-obese patients. For example, Skytron's Hercules 6701 table accommodates 1,200 lbs. with 1,000-lb. articulation. The STERIS Cmax table supports patients as heavy as 1,100 lbs., and TRUMPF's TITAN holds 1,000 lbs.

While accommodating the heaviest patient is important, it's more about what a table can do. Tomaszewski explained, "One of the most important things when you're dealing with a bariatric patient is not only the weight capacity, but for the table to be flexibly set up to accommodate their size, girth and width. We have accessories that can be added to the base table that can make it up to 30 inches wide, and specialty pads and accessories such as elevated stirrups that are heavy duty to be able to accommodate that kind of weight."

Low table height is also critical, said Tomaszewski. "The patient typically if they're obese – their back to belly measurement is going to be quite high, or quite deep. The surgeon needs to be able to lower the table down so that he can work comfortably on that large girthed patient without having to reach up and strain their back, or stand on a stool or some other device to be able to work with the patient. The Hercules 6701 table goes down to 23 inches, and the UltraSlide heavy duty top slide table lowers to 24 inches."

"Both the TRUMPF TITAN and TRUMPF MARS have extreme low



Kimberly-Clark bariatric drape

height adjustments at just 24 and 23.5 inches respectively," said Rector. "Articulation is another issue. Tables need to handle their advertised weight at every position. The TITAN at 1,000 lbs. and MARS at 800 lbs. handle that patient weight even at extreme angles of articulation."

Bill Wendt, systems product manager, tables for Skytron, explained that removable back sections such as those available with the Hercules and the UltraSlide tables provide benefits for the anesthesiologist when the patient is slid down the table into a split leg position. "By being able to remove the back section you can open up a lot more room for anesthesia."

Tomaszewski noted that many obese patients also have airway issues. "Some of them cannot tolerate lying flat. A function of the table is to keep the back raised. We have 30 degree tilt, most can only do 20, and that is both for tilt, trendelenberg and reverse trendelenberg. We have a 'beach chair position'

available at the touch of a button. There are functions built right into the table's programming to make the setup for these cases shorter and more convenient."

Tables that feature top-slide or longitudinal translation technology can simplify room set-up and enhance productivity. For example, if a heavy patient needs imaging during surgery, "you can push a button and slide the patient into position," said Tomaszewski.

In addition to the Cmax surgical table featuring longitudinal slide and the 1,000-lb. capacity AMSCO 3085 SP Surgical Table, STERIS also recently launched the 600-lb. capacity Surgimax General Surgical Table in North America as a surgically versatile and cost-effective table for the ambulatory surgery care market.

Among bariatric accessory options available to complement the STERIS tables are bariatric foot extensions, power lift stirrups, split-leg positioners, knee restraint straps, a bariatric fluid collection system, and a convenient bariatric accessory storage cart. All of the STERIS accessories are identified with their specific maximum weight capacities in STERIS customer materials.

Flexible positioning and accessory options mean that these heavy-duty tables aren't limited to use with bariatric patients. "For the healthcare facility, this means a single surgical table that meets all their needs: reducing costs; reducing storage space requirements of multiple tables; and eliminating the need to change tables based on the type of procedure scheduled," said Rector.

Whether its laparoscopic bariatric procedures or any other surgery involving obese patients, there is a need for specially designed surgical instruments. "Because the challenges of operating on obese patients begin with airway management and continue on through to completion of surgery, we offer optimum solutions for performing the most difficult tracheal intubations," said Gregg Nighswonger, marketing communications, [KARL STORZ Endoscopy-America Inc.](#) (Culver City, CA). "This includes the use of our reliable Bonfils retro molar fiberscopes and DCI video laryngoscopes. Use of video during intubation provides exceptional capabilities for airway management in larger patients."

He added, "the additional thickness of the abdominal wall and other anatomical conditions can restrict access, make visualization more difficult and create greater mechanical stresses to the extra length of even the most robust surgical instrumentation. In addition to extended-length trocars and instruments, we ensure that surgeons can rely on high-quality access, retraction and suturing and closure systems to meet the surgical challenges of larger patients. Among these are Clickline instruments, KOH needle holders, reusable trocars and instruments designed specially for bariatric procedures, including gastric bypass and Laparoscopic Gastric Band procedures."



Alco's folding Comfort Classic wheelchair features a solid seat

[Olympus Surgical America](#) (Orangeburg, NY) offers a variety of surgical instruments for use on obese patients. The HD EndoEYE Video Larparoscope with distal chip technology provides a superior image with increased durability compared to traditional rod lens systems; SonoSurg Ultrasonic Surgical Scissors transmit ultrasonic vibrations into energy that prevents bleeding by coagulating blood as it cuts tissue; and HiQ+ Hand Instruments feature an ergonomic design for maximum comfort and reduced fatigue.

[Spectrum Surgical Instruments Corp.](#) (Stow, OH) also offers a full line of longer-length Bariatric Instruments that are available in many patterns with lengths of up to 18", including Tungsten Carbide needleholders, scissors, suction tubes and more, for improved reach in bariatric patients.

Safe and attractive seating

Seating needs of bariatric patients are much more than just wider, stronger versions of normal-sized chairs. For example, features that assist caregivers in transferring patients in and out of the chair are particularly beneficial.

Bariatric recliners are growing popular for use in ambulatory surgery centers, dialysis clinics, oncology centers and even infusion clinics are using recliners to administer antibiotics to bariatric patients, said Michael Klein. "The repetitive action of the nurse bending over to help lift a patient in and out of any chair can be a source of medical problems for staff over time," he said. To help alleviate some of that stress, TSK now offers bariatric recliners featuring swing-away arms for easy lateral transfer.



Cardinal bariatric drape

Carstone Seating (Somerset, KY) has added a new 800-lb. capacity Baricliner recliner and lift chair to its line of bariatric seating. Featuring a safe and easy to use pendant operating system, four powerful motors allow the user to adjust the chair with the push of a button. Carstone's Baricliner reclines to a 39 degree angle, raises and lowers the patient's legs and assists them in standing. "There are no flimsy, difficult to operate manual mechanisms to fuss with," said Sales Manager Benjamin Hubbard.

"Buyers must be aware that, to date, there are no known standardized testing methods for bariatric furniture," he advised. "Most dealers and manufacturers are still hanging their hats on BIFMA testing, which is designed for average duty furniture. Buyers should always request proof of testing methodology from their dealer, as well as a certificate of capacity. Failure to do so could lead to severe problems in the future."

"A proper bariatric chair will be a model that is best suited to be used in its intended environment," added Hubbard. "It must be a workhorse, with proven high weight capacities and have ample seat height to accommodate patients who have trouble sitting and standing. However, seat width, arm options, upholstery requirements and aesthetics will all depend upon the way in which the chair will be used."

For example, Carstone's 51100 600-lb. capacity bariatric chair is popular for use in areas such as cafeterias, triage areas, meeting spaces and cramped waiting rooms, due to its smaller size, and the fact that the chairs are stackable to 8 units high. Carstone's Seattle series chair feature an elegant fully upholstered look; models are available with hand crafted wood accents.

Reminded Alco's Collins, "It's important to know, if you have a bariatric patient, they probably have bariatric visitors." Alco offers a line of patient room and waiting room furniture to accommodate heavy patients and their guests.

"We're seeing more manufacturers fit bariatric definitions into their product lines," concluded Michael Klein. New offerings include high-end furniture with a sophisticated, sleek look that could be proudly showcased in the posh waiting room of the wealthiest hospitals. "And it's not so expensive that it's only for the three percent of the hospitals that actually have huge endowments," he added.

TSK's site assessment is designed to encourage facilities to make good business decisions when equipping their facilities to accommodate the bariatric patient population. "If you're living in the shadow of this huge hospital down the road – patients have a choice of going to that hospital or your hospital – how are you going to handle that? You have to fill those ORs," said Eric Klein. "Hospitals understand how to go sign up a doctor, what they may not be as good at is competing for the patient." **HPN**

References:

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