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VA National Center for Patient Safety

P.O. Box 486
Ann Arbor, MI 48106-0486

Phone: (734) 930-5890

Fax: (734) 930-5877

E-mail: NCPS@va.gov

Web Sites:

Internet: ... www.patientsafety.va.gov

Intranet: ... vaww.ncps.med.va.gov

Robin R. Hemphill, M.D., M.P.H.
VHA Chief Safety

and Risk Awareness Officer

Director, VA National Center
for Patient Safety

Editor

Joe Murphy, M.S., APR
Public Affairs Officer

Graphic Design and Copy Editing

Deborah Royal

Visual Information Specialist

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Surgery Risks are Higher for Obese Adult Patients

By Paula Allstetter, B.B.A., M.B.A, M.Div., NCPS program analyst, and Rodney Williams, M.P.A., J.D., L.L.M., NCPS program manager

A 2007 University of Michigan study demonstrated how obese people have a much higher risk of potentially fatal complications following surgery.¹

Researchers found obese patients had a significantly higher risk of postoperative complications, such as heart attack, wound infection, nerve injury, and urinary tract infections.

In addition, the study showed morbidly obese patients (patients more than 100 pounds over their ideal weight) were nearly twice as likely to die as a result of complications following non-cardiac surgery.

“Our study provides further evidence of the dangers of obesity as it relates to surgery,” noted researcher Olumuyiwa A. Bamgbade, M.D., a visiting instructor at the University of Michigan.¹

Researchers analyzed postoperative complications among 6,773 patients treated between 2001 and 2005 from the University of Michigan Department of Anesthesiology database. Of the patients who experienced complications, about one-third were obese and nearly 15 percent were morbidly obese.

The results showed obese patients had much higher rates of postoperative complications than non-obese patients, such as:

- Five times higher rate of heart attack
- Four times higher rate of peripheral nerve injury
- 1.7 times higher rate of wound infection
- 1.5 times higher rate of urinary tract infection

The overall death rate did not vary between obese and non-obese patients, but the death rate was nearly twice as high among morbidly obese patients compared with non-obese patients: 2.2 percent vs. 1.2 percent.

Because of the increased risk of postoperative complications, researchers recommend that obese patients who have outpatient surgery stay in the hospital for monitoring for 23 hours.²

Morbid Obesity

In 2012, a study reported in *USA Today* that about 34.9 percent of the people in the United States are obese, which is roughly 35 pounds over

a healthy weight. The prevalence of adult obesity increased dramatically in the 1980s and 1990s after being relatively stable in the United States between 1960 and 1980, when about 15 percent of people fell into the category.³

Obesity is determined by calculating a person’s body mass index (BMI), a number that takes into account height and weight; however, it doesn’t distinguish between fat and muscle. Adults are considered obese if they have a BMI of 30 or greater.

Obesity Takes a Toll

The word obesity simply means too much body fat. As noted above, someone who is obese has a BMI of 30 or more. Morbid obesity is a condition defined as a BMI of greater than 40 kg/m².⁴

Morbid obesity is common in the United States and increasingly so in developed countries. The co-morbidities of morbid obesity are those of obesity, but more severe in conditions such as:

- Type 2 diabetes
- Cardiovascular disease
- Stroke
- High blood pressure
- Liver problems
- Gallbladder disease
- Degenerative joint disease
- Gout
- Increased fall risk
- Certain types of cancer

It also contributes to breathing problems, such as sleep apnea (when a person stops breathing for a short time during sleep) and asthma.

Search and Findings

The NCPS Patient Safety Information System was searched several times to shed light on how surgery could be a high-risk event for obese patients.

This internal, confidential non-punitive reporting and analysis system allows users to electronically document patient safety information from across VA so that actions taken and lessons learned can benefit the entire system.

A common theme in the cases reviewed involved bowel perforation during a colonoscopy

Outreach: Providing a Framework for Patient Safety

By Joe Murphy, APR, NCPS public affairs officer

Staff members of the VA New York Harbor Health System¹ are helping support the development of a patient safety program within the Medical Services Division (MSD) of the United Nations.

“We met with Dr. Jillian Farmer, MSD’s director of medical services, and her team this February at the U.N. to discuss what most interests them,” said Dea Hughes, the system’s patient safety manager. “They are in the very early stages of rolling out a patient safety program.”

The MSD provides a comprehensive occupational health service to U.N. staff system-wide and to peace-keeping troops, including health promotion, clinical care and travel health services. The division also offers medical advice to U.N. medical facilities across the globe, coordinating implementation of U.N. policies on health care. The overall goal is to improve staff health, lower risk and ensure that job demands are met.²

“It’s a very large and diverse system,” she said. “They have to deal with language barriers, volatile governments, political issues, along with providing safe health care to the U.N. troops and staff around the globe.”

More than 83,300 U.N. troops, alone, were conducting peace-keeping efforts during summer of 2014, requiring MSD support.³

Hughes noted commonalities between MSD and New York Harbor, saying: “For instance, they treat soldiers; we treat Veterans. We are both parts of a much larger organization; in their case, an international one. I think the similarities made them comfortable reaching out to us, as opposed to a non-government, private sector medical system.”

Dr. Farmer and her team had specific items they wanted to focus on, which were discussed at length at a second meeting held in April 2014: incident reporting, time-out procedures and “Just Culture.”

Over the years, VA patient safety efforts have grown, not just in the number of programs offered, but in depth. VA’s systems-based approach to problem solving has led to an emphasis on the creation of what is termed a Just Culture. For instance, in such a culture caregivers at all

levels are encouraged to speak up – take action – if one witnesses another making a mistake.⁴

“During their visit to our Manhattan facility, we showed them our incident reporting system process and de-identified samples of data analysis,” she said. “We also discussed various components of the Root Cause Analysis – RCA – process in detail, due to its importance to patient safety.”

Conducting an RCA is a critical aspect in the process of improving patient safety. Multidisciplinary RCA teams investigate matters ranging from medication errors, to suicides, to wrong-site surgeries. The goal of the RCA process is to find out what happened, why it happened, and to determine what can be done to prevent it from happening again.⁵

A combined total of more than a million RCA reports and safety reports have been entered into the NCPS Patient Safety Reporting System since it was first pilot-tested in 1999.⁶ This internal, confidential, non-punitive reporting and analysis system allows users to electronically document patient safety information from across VA so that lessons learned can benefit the entire system.

The MSD team also had number of questions as to how the patient safety program had been implemented at VA New York Harbor.

“It is very gratifying that an organization like the U.N. would turn to the Manhattan VA for guidance on matters of patient safety and quality,” said Neil Shapiro, M.D., associate chief, Medical Service, VA New York Harbor. “Working with Dr. Farmer and her team has given me a new appreciation for just how far VA has come.”

“Throughout our health care system, we have developed and implemented a wide range of best practices to address patient safety and quality issues,” he continued. “We have accomplished so much that our expertise can now be shared with similar organizations.”

The MSD team will be returning to the Manhattan facility for the next step in their introduction to VA patient safety methods: participating in a simulated time-out.

The VA New York Harbor is the first health care system in VA to have had its simulation center accredited by the Society for Simulation in Healthcare and the Council for Accreditation of Healthcare Simulation.

“We also want them to meet with a number of our clinical leaders, like the chief of surgery, attending physicians and surgical staff,” said Hughes.

“We are really happy to work with Dr. Farmer and her team,” she concluded. “We have had two really productive meetings and are looking forward to conducting the simulation. It’s also been a great exchange of ideas and we have found parallels in the ways we deliver care.”

NY Harbor Team Members

- Dea Hughes, M.P.H., deputy performance improvement manager/patient safety manager
- Matthew Ingham, M.D., chief resident in quality and patient safety, 2013-2014
- Sarah MacArthur, M.D., chief resident in quality and patient safety, 2014-2015

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Chief Residents in Quality and Safety “Boot Camp”

By Dawn Sillars, M.P.H., NCPS patient safety fellow

As of academic year 2015, nearly 60 Chief Residency in Quality and Safety (CRQS) positions are located throughout VA. All participants gather for a boot camp held at the beginning of the year to jumpstart their journey into quality improvement and patient safety. As they enhance their knowledge, they are also given tools to assist them in sharing that information with more junior residents.

The CRQS initiative funds one-year physician chief resident positions to support physician education in quality improvement and patient safety. The chief residents disseminate their newly developed knowledge in quality and safety to more junior residents in the program.

The initiative is all the more relevant because the Accreditation Council for Graduate Medical Education (ACGME) has implemented a “Clinical Learning Environment Review” program as a part of its “Next Accreditation System.”¹ Patient safety, health care quality, care transitions, supervision, professionalism, and fatigue management are among the areas of emphasis. These changes were partly in response to comments from U.S. hospital leaders indicating that newly trained physicians were often trained in an environment deficient in the areas of communication and interprofessional teamwork.²

Boot camp participants are introduced to simulation as a tool for practicing teamwork and communication skills. Different modes of simulation offer different advantages, depending on the learning goal.

- Partial trainers – Anatomical models that allow learners to practice one specific task, such as intubation or catheterization.
- Standardized patients – Individuals trained to act as real patients that allow the learner to practice skills such as history-taking or delivering “bad news.”
- Virtual simulation – Computer-based simulations and animations that can include complex clinical problems and decision making.
- High-fidelity simulation – Use of a life-like mannequin that displays physiological changes in response to the actions of the learners. Simula-

tors feature breath sounds, palpable pulses, blood pressure, etc.

All modes of simulation allow learners to receive feedback on their knowledge, performance and skill, without any negative consequences to an actual patient.

During boot camp, the attendees participate in a virtual simulation, as well as several high-fidelity simulation scenarios. The scenarios are specifically designed to give them the opportunity to experience challenges to interprofessional communication, as well as maintaining situational awareness during a crisis.

“Situational awareness is a concept which describes the ability to continually process information in one’s environment, and to determine its consequences. When situational awareness has been lost, critical information may not be integrated into decision making.”³

Participants gain practice using cognitive aids developed by the NCPS Clinical Team Training Program, under the direction of Gary Sculli, M.S.N., A.T.P., NCPS program manager. The cognitive aids include the “3Ws,” which address clear, concise communication; and, the “1-2-3 Rule,” which addresses situational awareness.

The “3Ws” is a phrase that reminds the user to communicate three essential pieces of information to avoid “hint and hope” communication:

1. What I see
“I have an immediate postoperative thyroidectomy patient who is complaining of dysphagia and neck fullness.”
2. What I’m concerned about
“I’m concerned about the possibility of a developing hematoma and that it might quickly compromise her airway.”
3. What I want
“I really need you to come in to assess the patient as soon as possible.”
The “1-2-3 Rule” instructs participants to do the following when faced with a confusing situation:
 1. Stop and take a step back
“Hmm, this doesn’t make any sense ...”

2. Analyze any information available
“I should review the labs, imaging and physically assess the patient...”
3. Call upon appropriate resources for assistance (people, information, equipment)

People/Information

“Sarah, I need some further information about this patient. Would you help me locate this patient’s nurse?”

People/Equipment

“Michelle, please bring the crash cart in here just in case we need it.”

Information

“Do you have any questions about what I need you to do, Sarah?”

Conclusion

Introducing the chief residents to simulation during the introductory boot camp gives them the opportunity to practice these new skills in a safe environment. It also introduces them to the various modes of simulation, which can be used to teach safety behaviors to more junior residents; and, serves as a method for addressing the ACGME interpersonal communication and systems-based practice competencies.

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Surgery Risks are Higher for Obese Adult Patients

(Continued from page 1)

in the obese patient. People who are obese are less apt to have thoroughly cleansed their colon before getting a colonoscopy, hampering the effectiveness of the procedure.

Being obese increases the risk for several gastrointestinal issues, including colon cancer, which is most effectively diagnosed by identifying colon polyps during a colonoscopy; however, failing to properly cleanse the colon can result in the polyps not being detected during the procedure.⁵

Managing Obesity

VA offers an inclusive weight management program, Move![®] It is designed to help Veterans lose weight, keep it off and improve their health.⁶

For overall health benefits, experts suggest 30 minutes of moderate-intensity exercise on most (preferably all) days of the week. It can be accumulated in shorter bouts, such as three 10-minute walks. For weight loss and to prevent regaining weight, at least 60 minutes of moderate-intensity physical activity every day is usually needed.⁷

Doing aerobic activity and strength training two to three days of the week can produce healthy weight loss and improve overall fitness. The American Heart Association and the American College of Sports Medicine recommend a minimum of 30 minutes of moderate aerobic activity five days per week, or at least 20 minutes of vigorous activity three days per week.⁸

It is often difficult to find time or energy for exercise, but the results are worth it. If one can't go to the gym, start with activity that can be done as part of a normal day. For instance, parking one's car far from an entrance to work allows one to get in a few extra steps.

Losing weight is easier when you have the support of friends and family. Many hospitals and schools sponsor support groups made up of people who offer each other encouragement and support. Research shows that people who participate lose more weight than going it alone.⁹

Along with exercise is diet: A 2010 publication by the U.S. Department of Agriculture and U.S. Department of Health and Human Services recommends caloric and other dietary

restrictions based upon current weight and weight loss goals and other medical considerations.¹⁰

Basically, proteins, vegetables and fruit are most important followed by limited amounts of healthy fats and complex carbohydrates/starches. These things vary depending upon the individual; consulting a doctor is important before starting any new diet.

Most weight-loss medicines for obesity work by making one feel less hungry or feel full sooner than normal, but should be used together with healthy eating habits and exercise. Medicine doesn't work for everyone. And medicine alone is not as effective as when it is combined with healthy eating habits or activity. Nonprescription weight-loss products aren't recommended. Some have dangerous side effects, and others have no proven benefit.¹¹

Evidence shows that people who lose weight gradually and steadily (about one to two pounds per week) are more successful at keeping weight off. Healthy weight loss isn't just about a "diet" or "program." It's about an ongoing lifestyle that includes long-term changes in daily eating and exercise habits.¹²

Conclusion

CDC and Duke University researchers predict that by 2030, 42 percent of Americans will be obese; 11 percent severely obese. Once rare, severe obesity now afflicts 1 in 20 Americans. By 2030, the study suggests that more than 1 in 10 Americans will be severely obese.¹³ An obvious conclusion from this is that the cost of health care for this patient demographic will also rise. The Mayo Clinic published a study in 2012 that claims obesity now outweighs smoking in employer health cost.¹⁴

It's important to our patient safety efforts to decrease the risks for obese patients, which can lessen the potential occurrence of adverse events or close calls. Whenever possible, we should help them recognize that they can improve their health through sustained behavioral changes.¹⁵

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