



PRF NEWS

Covering Practice and Risk Management Issues for Physicians

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Stephen Scheifele, MD,
Executive Editor
Robert D. Nachtigall, MD,
Editor

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Knox Communications

Physicians Reimbursement
Fund, Inc.
711 Van Ness Avenue
Suite 430
San Francisco, CA 94102
(415) 921-0498 - voice
(415) 921-7862 - fax
June@PRFrrg.com
www.PRFrrg.com

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Soad Kader
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O B E S I T Y A N D I T S R I S K S

The Metabolic Syndrome: Truth or Consequences

BY COLMAN RYAN, MD, FAHA

The metabolic syndrome is defined by five basic clinical elements: (1) central obesity (an “apple” versus “pear-shaped” midsection), (2) hypertension (BP greater than 130/85), (3) low HDL cholesterol, (4) high serum triglycerides, and (5) abnormal glucose metabolism.

While the metabolic syndrome is more frequent in women and increases with age, it is currently estimated that almost one out of every three children and adults in the U.S. has this clinical syndrome. The fact that the prevalence of obesity and overweight patients (and physicians!) has doubled in the past 10 years suggests that the metabolic syndrome is not just reflective of a genetic predisposition. In fact, increasing evidence points to the combination of a sedentary population prone to snacking while ingesting “super-sized” meals loaded with trans-fatty acids and saturated fats. The resulting central obesity is marked by an accumulation of visceral fat that secretes peptides, hormones, and cytokines. Along with an increased secretion of insulin, these substances released from visceral fat may lead to an increased incidence of diabetes, endothelial damage, and cardiovascular disease.

Yet despite over 30,000 published articles, the syndrome is not without controversy. For example, most European physicians are op-

posed to the suggestion that the metabolic “syndrome” is actually a syndrome at all. Furthermore, many American cardiologists believe that the traditional Framingham risk score (which includes all of the elements of the metabolic syndrome plus smoking, total cholesterol, and age) is a better predictor of cardiovascular disease than the metabolic syndrome alone. They also point to evidence that suggests that an elevated fasting glucose on its own is an equally good predictor for the development of diabetes as the complete metabolic syndrome. Nevertheless, there appears to be agreement that waist circumference is a better predictor of cardiovascular risk and diabetes than body mass index.

The most frequent medicolegal ramification of the metabolic syndrome is the allegation that a physician’s failure to recognize and treat the clinical elements of the metabolic syndrome (abnormal serum lipids, hypertension, diabetes, and obesity) led to an avoidable outcome such as stroke, heart attack, or death. Indeed, failure to treat/failure to recognize is the eighth most common cause of

malpractice action in the U.S. One of the difficulties for the defense is that even in the best clinical trials, the treatment of cardiovascular risk factors results in a clinical reduction of less than 40 percent for stroke and 22 percent for heart attack. Furthermore, even though the patient may have contributed to the development of the metabolic syndrome through dietary indiscretion and the avoidance of exercise, the patient is rarely held accountable for a bad outcome.

From a national public health standpoint, there is now clear evidence that a reasonable diet in combination with exercising at least three days a week (with less TV and computer time!) can reduce the risk of developing the metabolic syndrome as well as diabetes and cardiovascular disease. For now, at least, the metabolic syndrome is easier to prevent than to reverse. ■

Dr. Ryan is a clinical professor of medicine at UCSF and executive and medical director of The San Francisco Heart and Vascular Institute.

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O B E S I T Y A N D I T S R I S K S

Bariatric Surgical Options Carry Benefits and Risks

BY JOHN D. HUSTED, MD

Although its origins date to the 1950s, weight-loss surgery to treat obesity (bariatric surgery) has increased exponentially over the last decade. About 1,000 bariatric surgeons currently perform over 100,000 procedures per year in the United States. As the popularity of bariatric surgery grows, the population of post-bariatric surgical patients presenting to their primary care physicians and other medical specialists grows as well, exposing doctors to the issues unique to this patient population.

Considering the clinically available surgical procedures offered in the U.S., risk and benefit tends to go hand-in-hand. That is, the more technically involved procedures are the most effective but carry the highest risk. From lowest risk to highest risk, today’s bariatric surgical options are LapBand, gastric bypass, and duodenal switch.

- ▶ **LapBand** involves placing a silastic, adjustable band around the cardia of the stomach. The band works by limiting the speed at which food can enter the stomach. Once the food passes the banded part of the proximal stomach, it enters a full-sized stomach where it is digested normally. As there is no cutting of the stomach involved, there is an inconsequential risk of leak, gastric perforation, or infection. Most patients having this procedure go home the day of surgery.
- ▶ **Gastric bypass** occupies the next tier of risk and effectiveness. In this procedure, a small (~1 oz) portion of the proximal stomach is cut away and completely separated from the rest of the stomach. Continuity of the GI tract is established by way of a gastro-jejunostomy. The

mechanism of action of gastric bypass is by a combination of restriction and the diversion of food away from the duodenum. There is also some nutrient (not caloric) malabsorption, necessitating life-long supplementation with vitamins, calcium, and iron. The surgical rearrangement of the intestine exposes the patient to an inherent risk of anastomotic leak, abscess, and bowel obstruction.

- ▶ **The duodenal switch** is a more aggressive and technically more demanding form of the gastric bypass procedure. Duodenal switch is the most effective of the bariatric surgical procedures with most patients losing 80-90 percent of their excess weight. Like gastric bypass, nutrient malabsorption occurs as well, requiring patients to take vitamins (including fat-soluble vitamins) and calcium for the rest of their life. Because of the numerous gastric-duodenal-intestinal anastomoses required by this procedure, the patient is also at risk for leak, infection, and obstruction.

Overall, bariatric surgery carries a 10 per-
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Obesity and Its Risks

Bariatric Surgical Options Carry Benefits and Risks

Physicians in many different specialties need to be aware of some of the more insidious long-term risks to which bariatric surgery patients are exposed.

Simple Approaches to a Complex Problem: Obesity

Follow these suggestions when discussing the health consequences of obesity with your patients.

The Metabolic Syndrome: Truth or Consequences

Even though the patient may have contributed to the development of the metabolic syndrome through dietary indiscretion and the avoidance of exercise, the patient is rarely held accountable for a bad outcome.

Simple Approaches to a Complex Problem: Obesity

BY TOBY MORRIS, MS, RD

According to the latest report from the Centers for Disease Control and Prevention, the prevalence of obesity (BMI >30) has more than doubled in the past 25 years, with 34 percent of American adults now obese. In 2000, obesity cost the U.S. economy \$117 billion in medical treatment, decreased productivity, and the loss of potential income due to premature death. Physicians are faced with the challenge of addressing the health consequences of obesity for their patients and society as a whole. Here are some suggestions to help you improve the quantity and quality of conversations with patients regarding their weight:

- **Discuss weight loss with overweight and obese patients.** Although a medical emergency is the most common trigger for long-term successful weight loss, research confirms that patients who are counseled by the doctor to lose weight are more likely to do so. Yet primary care physicians discuss weight loss with their patients only six percent of the time. As sensitive and complex as weight management can be, a willingness to discuss the issue with patients is the first step in facilitating their behavior change.
- **Counsel compassionately.** It is important to remember that behavior change happens in stages, moving back and forth through pre-contemplation, contemplation, preparation, action, maintenance, and relapse. A simple question, such as “are you interested in losing weight?” can illuminate where the patient is in the process.

Physicians can use this knowledge to tailor counseling. For example, an obese patient who says he “feels great at this weight” is likely *not* contemplating weight loss – the physician would be wise to open a discussion of the impact of the patient’s weight on current and long-term health. On the other hand, if an obese patient is diligently following a diet and exercise plan, the physician should praise these changes, acknowledge that weight loss is hard work, and perhaps ask how else the physician can be supportive.

- **Give practical suggestions.** If a patient seems ready to make changes in their weight, here are five simple but effective ideas:
 - 1) **Eat a healthy breakfast.** Surveys of people who have lost weight successfully found that the vast majority eat breakfast daily. Nutritious morning meals prevent extreme hunger

and overeating later in the day. Whole grain toast with a bit of peanut butter and a piece of fruit, a bowl of rice porridge and an egg, or oatmeal with berries and low-fat, skim, or soy milk are examples of healthy breakfasts.

- 2) **Eliminate sweetened drinks.** This includes sweetened tea drinks, special coffees, sports drinks, and juice drinks. During 1999-2000, sweetened beverages comprised seven percent of Americans’ total calorie intake. If patients are not willing to give up these drinks completely, negotiate a decrease. Replace sugary drinks with water, or diet drinks if necessary.
- 3) **Use the “plate method.”** The chart at left shows a simple teaching tool used to promote balanced, plant-based meals. Start by filling half the plate with non-starchy vegetables such as spinach, broccoli, mushrooms, onions, carrots, and cauliflower. Then fill one-fourth with a lean meat or vegetable protein, such as tofu, egg whites, fish, or chicken. Fill the other fourth of the plate with high-fiber carbohydrates, such as sweet potato, brown rice, whole wheat pasta, bulgur, quinoa, or whole grain bread. Patients who need more calories can add a small fruit or a serving of low-fat or nonfat

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rooms, onions, carrots, and cauliflower. Then fill one-fourth with a lean meat or vegetable protein, such as tofu, egg whites, fish, or chicken. Fill the other fourth of the plate with high-fiber carbohydrates, such as sweet potato, brown rice, whole wheat pasta, bulgur, quinoa, or whole grain bread. Patients who need more calories can add a small fruit or a serving of low-fat or nonfat

milk or yogurt. As long as one doesn’t drench it all in butter or cream sauce, this type of meal will be heart-healthy, carbohydrate-controlled, and satisfying – but not too high in calories.

- 4) **Walk more.** For most people, walking is the easiest, most accessible form of exercise. In addition to its many health benefits, it can help with weight loss and maintenance if done diligently. Most people burn approximately 100 calories per mile. Suggest your

patient wear a pedometer and gradually work up to 10,000 steps, roughly 5 miles, per day.

- 5) **Consider professional nutrition counseling.** Finally, given their limited time with patients, physicians should consider referring patients to a registered dietitian who has specialized training in nutrition therapy and counseling. ■

Toby Morris, MS, RD is a registered dietitian at University of California San Francisco Medical Center.

Bariatric Surgical Options Carry Benefits and Risks

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cent complication rate, with a mortality risk of approximately one percent. Ultimately, it is the responsibility of bariatric surgeons to treat the consequences of the operations their patients undergo. In reality, however, post-bariatric patients circulate like any other segment of the population and present to their primary-care physicians and other medical specialists. As a result, physicians in many different specialties need to be aware of some of the more insidious long-term risks to which bariatric surgery patients are exposed.

- **Thiamine deficiency** is an underappreciated complication of weight-loss surgery and is especially prevalent in gastric bypass patients. Vomiting is the significant underlying cause, and patients may exhibit symptoms of Wernicke-Korsakoff syndrome after as little as two days of vomiting. Withholding IV dextrose solutions and administering pharmacological doses of IV thiamine (100 mg. per day) are the essential clinical tenets of treating this condition. It is best to treat vomiting presumptively, rather than waiting for patients to develop symp-

toms of overt thiamine deficiency.

- **Osteoporosis** may be insidious in onset in post-bariatric patients. Some osteopenia is to be expected following weight loss, but the calcium malabsorption induced by gastric bypass and duodenal switch accelerates this bone loss. Even with calcium supplementation, patients may develop significant osteoporosis. As the human body places a high priority on maintaining a normal blood calcium level, measurements of serum calcium are unreliable; a measurement of PTH is necessary to assess the state of skeletal mobilization of calcium.
- **Anemia** occurs as a consequence of iron malabsorption and parallels calcium malabsorption, as both are primarily absorbed in the duodenum, which is bypassed and duodenal switch. When oral iron therapy fails, these patients are generally best treated with IV iron infusions. Oral iron interferes with calcium absorption, and it

is generally recommended that iron and calcium supplements not be taken within two hours of each other. Adding more oral iron in an attempt to overcome iron malabsorption has the potential of worsening calcium malabsorption and thus places the patient at greater risk for developing osteoporosis. It is better to replace iron intravenously and reserve the oral route for calcium replacement.

- **B12 Deficiency** may occur with any procedure that limits nutrient intake, but is of a special concern in gastric bypass patients. The absorption of Vitamin B12 is facilitated by the binding of intrinsic factor, a protein made in the gastric antrum. As this is a part of the stomach excluded from the food/nutrient flow in gastric bypass, patients may become deficient unless specially supplemented. High-dose oral vitamin B12 will often suffice, but many, if not most, patients will require a more reliable preparation. Sub-lingual and intra-nasal preparations

containing intrinsic factor are directly absorbed and bypass the need for GI tract absorption. The sequelae of vitamin B12 deficiency can be prevented by adjusting B12 supplementation based on annual blood levels of the vitamin. ■

Dr. Husted, a bariatric surgeon in private practice in San Francisco, is a graduate of UCSF. He is a committee member in the American Society for Metabolic and Bariatric Surgery and a member of the Honorable Order of Kentucky Colonels.

