Management of the Obese Patient

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Management of the Obese Patient

Introduction/Purpose Statement
According to the National Center for Health Statistics, more than 60 percent of adults in the United States are considered to be overweight or obese. A sizable number of these adults are morbidly obese or bariatric, leading to a number of medical and nursing challenges. Bariatrics is a field of medicine that studies obesity; its causes, prevention, and treatment.

The purpose of this home study packet is to define obesity using current guidelines, look at health problems that can occur (especially in relationship to the ICU environment), give some tips on how to manage the nursing care of these patients, and briefly review common bariatric surgery procedures.

Target Audience
This home study was designed for health care professionals with little to no familiarity with management of the obese patient.

Content Objectives
1. Define the terms overweight, obese, and morbidly obese.
2. Identify health conditions common to those who are overweight.
3. Describe nursing interventions specific to the obese patient.
4. Identify common bariatric surgical procedures.

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<th>Contact Hour Information</th>
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<td><strong>For completing this Home Study and evaluation, you are eligible to receive:</strong></td>
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<tr>
<td><strong>Criteria for successful completion:</strong> You must read the home study packet, complete the post-test and evaluation, and submit them to TCHP for processing.</td>
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<tr>
<td>The Twin Cities Health Professionals Education Consortium is an approved provider of continuing nursing education by the Wisconsin Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.</td>
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<td>Please see the last page of the packet before the post-test for information on submitting your post-test and evaluation for contact hours.</td>
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The Size of the Problem

The National Institutes of Health define being overweight as a body mass index (BMI) of 25 to 29.9 kg per m². (2,10) BMI describes the relationship between height and weight and is calculated using one of the two formulas below:

\[ \text{BMI} = \frac{\text{Weight in kilograms}}{\text{Height in meters squared}} \]

\[ \text{BMI} = \frac{\text{Weight in pounds x 703}}{\text{Height in inches squared}} \]

With BMI, the higher the number, the more weight there is for that given height. Obesity is defined as a BMI of 30 or more and morbid obesity as a BMI more than 40. (3,1) The term bariatric most often refers to the study and care of patients who are morbidly obese, with a BMI more than 40. If you are wondering where you stack up in all this, a Body Mass Index Chart is provided in the appendix.

As you’ve heard in the media, obesity rose dramatically during the late 1990’s for Americans of all ages. (17,1) The data show that 31 percent of adults 20 years of age and older (nearly 59 million people) have a BMI of 30 or more, compared with 23 percent in 1994. (17,1) The prevalence of overweight children and adolescents has also risen. Children who are at or above the 95th percentile of their BMI for age according to the CDC growth charts are considered overweight. (1,1) Ten percent of preschool children (2-5 years of age) are overweight (up from 7 percent in 1994), and 15% of children and teens (6-19 years of age) are overweight according to 1999-2000 data (nearly triple the rate from 1980) (17,2) This is concerning because overweight children often grow up to be obese adults and obese adults are at risk for significant health problems. (17,2) Researchers at the 2003 American Heart Association’s Scientific Sessions reported that about 1 in 8 school children have 3 or more risk factors of the metabolic syndrome, a precursor of cardiovascular disease. (20,1)

Obesity does not strike everyone equally. In adults, more women are obese (33%) than men (28%), with the problem greatest among non-Hispanic black women (50%) compared to Mexican-American women (40%), and non-Hispanic white women (30%) (17,2) There was no significant difference in obesity rates among men based on race/ethnicity. In children ages 6-11 years, more Mexican-American (24%) and non-Hispanic black (20%) children are overweight compared to non-Hispanic white children (12%). By adolescence, more non-Hispanic black and Mexican-American children (24%) are likely to be overweight than non-Hispanic white adolescents (13%). (17,2)

What all this means is that no matter what type of client you serve in the healthcare community, obesity is a significant problem.

Assessment of Risk

What’s the big deal about obesity, you might ask. Being overweight or obese substantially increases the risk of morbidity from hypertension; dyslipidemia; type-2 diabetes; coronary heart disease; stroke; gallbladder disease; osteoarthritis; sleep apnea and respiratory problems; and endometrial, breast, prostate, and colon cancers. Higher body weights are also associated with an increase in all-cause mortality. (2,1)

When assessing risk in your clients, there is more to worry about than the degree of obesity. It is necessary to also look at overall health status and the waist circumference. Excess abdominal fat is an important, independent risk factor for disease. Central obesity (excessive fat tissue around the abdomen) ties into the whole concept of metabolic syndrome. Metabolic syndrome is a cluster of disorders that increase the likelihood of developing diabetes, heart disease, peripheral vascular disease, or a stroke.

Central Obesity (high waist circumference)

Waist circumference is a useful tool to use in patients who are categorized as normal or overweight, but adds little to the predictive power of the disease risk classification of BMI in individuals with BMIs ≥ 35 kg/m². Men who have a waist circumference more than 40 inches and women more than 35 inches, are at greater risk for diabetes, dyslipidemia, hypertension, and cardiovascular disease. Individuals with a waist circumference above these values should be considered one risk category above that defined by their BMI (see figure 1).

Overall Health Status

Some types of diseases or conditions associated with obesity place patients at a high risk of mortality and require aggressive treatment. Established coronary
heart disease (or other atherosclerotic disease), type-2 diabetes, and sleep apnea all increase a patient’s risk of death. Osteoarthritis, gallstones, stress incontinence, and gynecological abnormalities such as amenorrhea and menorrhagia also increase risk but are not life-threatening. Risk factors such as hypertension, cigarette smoking, high low-density lipoprotein cholesterol (LDLs) and low high-density lipoproteins (HDLs), impaired fasting glucose, and a family history of early cardiovascular disease, and age (male ≥45 years and female ≥55 years) also create a high absolute risk in the obese patient. The following table is offered as a way of classifying risk, according to the NIH. (2,10)

**Figure 1: Classification of Overweight and Obesity by BMI, Waist Circumference, and Disease Risk**

<table>
<thead>
<tr>
<th>BMI Class</th>
<th>Obesity Class</th>
<th>Disease Risk* (relative to normal weight and waist circumference)</th>
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<tbody>
<tr>
<td>Underweight</td>
<td>&lt;18.5</td>
<td>Normal waist circum.</td>
</tr>
<tr>
<td>Normal</td>
<td>18.5-24.9</td>
<td>Increased</td>
</tr>
<tr>
<td>Overweight</td>
<td>25-29.9</td>
<td>High</td>
</tr>
<tr>
<td>Obesity</td>
<td>30-34.9</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>35-39.9</td>
<td>Very high</td>
</tr>
<tr>
<td>Extreme Obesity</td>
<td>≥40</td>
<td>Extremely high</td>
</tr>
</tbody>
</table>

*Disease risk for type-2 diabetes, hypertension, and cardiovascular disease

**Waist circumference >40 inches in men and >35 inches in women

***Increased waist circumference can also be a marker for increased risk even in persons of normal weight (Source: NIH)

While each of these disorders is a risk factor in itself, the combination of the disorders greatly increases the chance of potentially life-threatening illnesses. While this cluster of disorders is not new (formally known as syndrome X, the deadly quartet, and insulin resistance syndrome), it is becoming increasingly common. It’s estimated that 47 million U.S. adults have it. (18,1) The underlying causes are thought to be lack of physical activity, being overweight/obese, and genetic factors.

**The Critically Ill / Injured Obese Patient**

Robert is a 30 year-old male with a history of hypertension and depression. At a height of 70 inches and a weight of 400 lbs., Robert is well above a BMI of 40. Robert has been involved in a motor vehicle accident. The main problem the ambulance crew is having at the moment is just getting Robert from the scene to the hospital. The ambulance crew is not only having trouble extricating and moving Robert, but they cannot get a cervical collar on him to stabilize his neck. Robert is tachycardic, tachypneic, diaphoretic, and in pain.