

## We're Fatter than We Think

According to the most recent data released by the Centers for Disease Control, approximately 36% of the American adult population is obese, and 17% of American children are following suit. If this trend continues, a recent study predicts that 86% of Americans will be overweight or obese by 2030, and by 2048, every single American will be either overweight or obese. We are progressively getting fatter, and alarmingly enough it appears we no longer recognize how large we are becoming. With the advent of vanity sizing, women who would have worn a size six or eight fifty years ago now fit into a size zero or one. Children are not aware of their size because they see everyone around them at the same size. Michelle Justus of the Arkansas Center for Health Improvement said “part of it’s the way our lifestyle is now. The norm is getting more and more overweight, so at first look a child may not seem overweight compared to the other kids in the class.” Arkansas is one state out of approximately a quarter of the country that requires its school districts to measure the heights and weights of its students and notify the parents of the results. The goal of these body mass index measurement projects is to identify students who may be at risk for weight-related diseases such as type II diabetes, which is becoming more and more common among young people. Unfortunately, the benefits of the screening program have yet to be fully recognized for a number of reasons, including the fact that parents admit they have not reduced the number of times they dine out (a frequent issue in weight maintenance), nor did students themselves make substantial changes in their dietary habits, even though a majority of them did express concerns about their weight after the project was implemented. Schools themselves struggle to get the information to parents, citing the financial costs of mailing the information and the potential physical and emotional costs should the information regarding a student’s size get into the hands of bullies.

Across the board, people from cultures around the world tend to underestimate their size, and therefore, the state of their health. A group of researchers at the University of Illinois asked 3,622 young men and women in Mexico to estimate their body size. They were given categories ranging from underweight to very overweight from which to choose. While the normal-weight individuals selected the correct category about 80% of the time, 58% of the overweight students wrongly described themselves as normal weight, and 75% of the clinically obese students placed themselves in the overweight category. Interestingly, a small group of people considered to be at a healthy weight classified themselves as underweight. Multiple studies conducted in the United States, Canada, and Europe have arrived at the same conclusions, leading researchers to believe it is partially the complex process by which the brain forms our body images. Perspective, of course, may also play a role. Children who feel normal in a class full of similarly overweight students may also be influenced by the size and shapes of their parents. A study performed in Quebec resulted in findings similar to those of the University of Illinois study: nearly 70% of the overweight and obese children identified with a slimmer size. However, the researchers also noted that the children with the heaviest parents were far more likely to underestimate their weight than the children of normal-weight parents and peers.

Clearly our perceptions of what is considered an appropriate weight have become skewed. Not only are families as a whole becoming larger and more accepting of this new, larger status, but researchers who had long feared that our body image issues would be shaped by their constant exposure to images of superfit or superthin celebrities are finding the opposite is true. Certainly we are bombarded daily with pictures of people who are too skinny, too heavy, or otherwise imperfect. Every five-pound weight gain (or loss) is documented and analyzed, and people are judged not by their

accomplishments but by whether or not they fit into a particular size. At the same time, the population as a whole is becoming more complacent about our steadily increasing size, to the point of denial. However, while with some individuals it is easy to see that they need to lose weight, it is often harder to tell with normal-weight people, and this can create willful ignorance to the risks of diseases normally associated with clearly heavy people.

If a doctor or researcher were to examine a celebrity's overall body composition, the results might be surprising. For over a century, researchers, medical professionals, and trainers have used the Body Mass Index, or BMI, to determine an individual's body composition. The BMI takes into account the height and weight of an individual and is used to identify the person's risk of disease based on this information. Individuals are considered healthy if they fall into the BMI range of 18-24.5. People are considered overweight if their BMI falls between 25 and 27, and they are classified obese if their BMI registers greater than 27. In recent years the BMI has come under fire for inaccuracy; muscular individuals are often classified as overweight or obese because the dense muscle tissue takes up less space in the body than an equal amount of fat, but the additional muscle shows up as excess weight on the scale. Conversely, thin individuals who don't weigh a lot relative to their height may be classified by the BMI as normal weight, or even underweight, but if they have their body fat checked they might find that they are clinically obese and therefore at risk for a host of diseases of which they might not even be aware. Because they are thin, however, and therefore fit a socially acceptable size, these people may not see the need to exercise or eat properly, especially if the thinness is a genetic "blessing," so the risk of disease further increases. These "metabolically obese but normal weight" (MONW) individuals have been identified at increased risk of developing cardiovascular diseases even though their appearance in the mirror is one of health. Because there is no clear definition of MONW, identifying individuals

who may be at risk is difficult because of the prevailing notion that a thin person is a healthy person. However, any person, regardless of size, who carries excess visceral or subcutaneous fat increases their risk of developing metabolic disease. Two similar studies, one in Poland and one in Korea, examined this increased risk. Of the 8,987 Korean individuals assessed, 14.2% of the men and 12.9% of the women were classified as MONW. Risk of MONW was identified through high total cholesterol, triglyceride levels, and LDLs, with the men having better odds of their status being identified. Both groups of researchers felt that early intervention could help prevent the onset of disease in these MONW individuals, with the Polish team specifically identifying physicians as the first line of screening.

The Korean study analyzed the results of both men and women, but a study in Switzerland essentially classified MONW as primarily a woman's concern. Termed normal weight obesity (NWO), the team of researchers assessed the body fat of over 6,000 men and women. Because only 3% of men presented with NWO, compared to 5.4% of the women, the researchers only analyzed the women's results. NWO women had higher levels of body fat than overweight women, as well as higher blood pressure, dyslipidemia, and fasting hyperglycemia than lean women. Overall, the women with NWO were at greater risk of developing cardiovascular diseases than the lean women, and again, the study team felt it was important to incorporate screening for NWO would help to reduce the prevalence of cardiovascular disease among women. Women often do not present with the classic symptoms of a heart attack; rather than chest pains or tingling in the left arm, women may feel lethargic, bloated, or otherwise tired. These symptoms can often be mistaken for other issues, leading to increased concerns that women may not get the treatment they need for cardiovascular disease.

Because the risk of cardiovascular concerns is not readily identified in thinner people, these

studies and others have shown perhaps it is time to re-evaluate the BMI scale. Two studies conducted in India have raised the possibility that the upper end of the “healthy” range of the BMI may need to be lowered, especially if body fat percentage is used to establish an individual’s obesity. In one study, researchers measured the body fat percentage of 1,111 males between the ages of 18 and 69. Of these men, 44% had levels of body fat greater than 25% even though their BMI was between 24-25; numbers which represent the high end of the normal range. They were at greater risk of diseases such as hypertension and type II diabetes, even though their BMIs were considered healthy. In the other study, researchers examined 123 Asian Indian men and women and found that the conventional BMI cut-off underestimated overweight and obese individuals when the body fat percentage was used to define overweight. In both cases, the researchers suggested that lowering the BMI scale may be crucial to preventing the prevalence of disease among these populations. Because their BMIs place them in the healthy

range, individuals who carry excess body fat may not be aware of their risk for cardiovascular disease.

Among all the studies, several points were consistent. One, body weight alone is not enough to determine one’s risk of disease. Because muscle is denser than fat, a muscular person may weigh more than a person of the same height with less muscle. Alternately, just because one is thin does not mean one is healthy. Two, a lack of physical activity and poor dietary choices were prevalent among those individuals who could be classified as MONW or NWO. In many cases, the heavier people were less likely to participate in exercise or be aware of good nutritional principles. Three, reducing the current range of healthy BMI is key. While no one study identified an appropriate range, it is clear that the risk of disease and early mortality due to factors as controllable as our weight, physical activity, and consumption habits must be slowed before the epidemic becomes uncontrollable.