

WEIGHT LOSS / EATING HABITS

## **Talking About Waist Circumference**

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New estimates suggest more than two-thirds of Americans are either overweight or obese.<sup>1</sup> The medical significance of this statistic is astounding: Being overweight / obese is a major risk factor for type 2 diabetes, coronary heart disease, hypertension, some types of cancer, asthma, sleep apnea, non-alcoholic fatty liver disease, osteoarthritis, infertility, and metabolic syndrome.

However, not all fat is the same — visceral fat (belly fat) is much deadlier than subcutaneous fat

(under the skin) and even retroperitoneal fat (outside of the peritoneal cavity).<sup>2</sup> Recent scientific research has focused on visceral fat because of the predictive health risk factor associated with it. Abdominal fat can act as an endocrine organ and upregulate pro-inflammatory signaling molecules known as cytokines.

The increased production of these inflammatory mediators seems to primarily stem from excess visceral fat.<sup>3</sup> Health care providers are now associating this surplus belly fat with chronic low-grade inflammation, which may be the crucial factor in many chronic "age-related" disorders.<sup>4</sup>

Implementation in Practice

Throughout the past few years in practice, I have noticed a greater percentage of patients who, despite realizing they are overweight or obese, have never been educated on the dangers of abdominal fatness and its correlation to disease.

During the initial consultation, I started to routinely assess a patient's "systemic health" with a simple measurement called waist circumference (WC). Unlike measuring body-mass index (BMI), where one can be in the overweight status, but may not be at increased health risk (think athlete with increased

muscle mass), WC can be used to determine central obesity.<sup>5</sup>



When I started measuring WC as an easy-to-perform, in-office diagnostic test, I noticed an immediate response by patients that encouraged them to talk more about their health and the possible impact their excess belly fat has had on them. Patients were beginning to understand that where body fat was

placed within the body was more important than the actual quantity of body weight or fat. $^{5}$ 

Patients were surprised that their primary care providers never approached this subject and therefore never felt their belly fat was ever a health concern. The first step in bringing attention to the patient is to show them their waist circumference. I always ask permission to measure them first. Patients are typically unaware of their waist circumference and underestimate their measurement.

## How to Measure WC

Measuring WC in adults is a simple task without much room for error. The great thing about WC as an anthropometric measurement is the value in assessing health risk in persons categorized as having a normal BMI, as I have measured many patients described as being thin on the outside, but fat on the

inside (TOFI).<sup>6</sup> The correct way to measure WC is to locate the top of the right iliac crest, the highest point of the hip bone on the right side. Place a measuring tape in a horizontal plane (parallel to the floor) around the abdomen at the level of the iliac crest. The tape should be snug, but should not compress the skin. Take the reading at the end of a normal expiration a few times to check for accuracy.<sup>6</sup>

Once WC is measured, I show the patient their risk, particularly if they fall into the high-risk category:<sup>7</sup>

- Males: > 40 inches
- Females: > 35 inches

I always approach this topic in a gentle, non-judgmental fashion. For example, I might say: "Mr. Griffin, as you can see with your current WC at 43 inches, you are now in the high-risk category." The patient can now "see" how their excess belly fat can be dangerous and perhaps want to know what you can do to help them. This ultimately increases the services you can offer and a whole other po-pulation of patients you can help.

Visual aids are very important, as I have anatomical models and posters throughout the office that show abdominal fat and how close in proximity many organs are to this fatty-deposit layer.

## Getting the Patient Started

Be prepared to have a variety of treatment plans in place for this type of patient. You may need to modify your equipment and obtain some continuing education as well. In my office, I offer a variety of aerobic and weight-bearing exercises, educational literature and videos, supplements and prepackaged medical foods to facilitate a fat-loss program.

As with any patient who comes into your office, attaining success with this type of patient revolves around ongoing education and positive encouragement. In part 2 of this article, I will discuss the actual program a fat-loss candidate can undergo to decrease their visceral fat and overall health risk.

## References

- 1. Yang L, Colditz GA. Prevalence of overweight and obesity in the United Stat-es, 2007-2012. JAMA Internal Med, 2015 Aug;175(8):1412-3.
- 2. Van Greevenbroek MM, Schalkwijk GG, Stehouwer CD. Obesity associated low-grade inflammation in type 2 diabetes mellitus: causes and consequences. Neth J Med, 2013 May;71(4):174-87.
- 3. Baglioni S, Cantini G, Poli G, et al. Functional differences in visceral and subcutaneous fat pads originate from differences in the adipose stem cell. PLoS One, 2012;7(5):e36569.
- 4. Candore G, Caruso C, Jirillo E, et al. Low grade inflammation as a common pathogenetic denominator in age-related diseases: a novel drug targets for anti-ageing strategies and successful aging achievement. Curr Pharm Des, 2010;16(6):584-96.
- 5. Guan X, Sun G, Zheng L, et al. Associations between metabolic risk factors and body mass index, waist circumference, waist-to-height ratio and wait-to-hip ratio in a Chinese rural population. J Diabetes Investig, 2016;7:601-606.
- 6. Lee R, Nieman D. Nutritional Assessment, 6th Edition. Science Engineering & Math, 2013:185-87.
- The Practical Guide: Identification, Evaluation, and Treatment of Overweight and Obesity in Adults. Washington, DC: National Heart, Lung and Blood Institute. National Institutes of Health, U.S. Department of Health and Human Services, 1988.

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