

# The Wellness Express™



Jump on the train to good health

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## Is Fat-Fighting Fat a Solution for Obesity?

Presented by:

It seems counter intuitive, but science believes manipulating body fat may be a vital new weapon in the battle against obesity. This knowledge has only come to light in the last five years because of technological advances in medical imaging equipment.

### Why Do We Have Body Fat?

Your body contains fat throughout, including under the skin and around the internal organs. What is the purpose of body fat? It is primarily a storage area for lipids – molecules that consist of fat, sterols and vitamins that your body uses to create energy. Visceral fat in the abdominal area also helps protect internal organs from injury.

### Too Much of a Good Thing

Unfortunately, many of us today are carrying too much body fat, especially visceral fat around the abdomen. This increases our risk of developing health problems. Visceral fat increases inflammation, which is linked to heart disease.

It also surges the levels of hormones and makes you more likely to become resistant to insulin – a problem closely associated with type 2 diabetes.

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Abdominal body fat is a risk factor for fatty liver disease, which can eventually cause damage to this organ. About 23% of obese people will develop the inflammatory inducing version of this disease.

The circumference of your waist is a good indicator of the proper range of visceral body fat for you. For women, the waistline should be less than 35 inches (88 cm). For men, the waist measurement should be less than 40 inches (102 cm).

### White Fat. Brown Fat

Fat cells can be white or brown. White fat is more widespread whereas brown fat is found mostly in the neck and chest. Until recently, scientists believed brown fat disappeared in humans after infancy but new medical imaging proves brown fat continues to exist into adulthood.



### Exercise of the Week

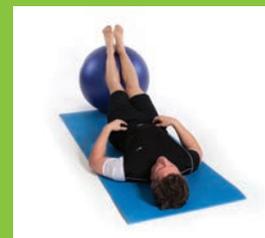
Hamstring Curls Supine, Hips Held Motionless

Difficulty: Easy to Moderate

*(Consult your chiropractor before starting this or any other exercise.)*

**Start:** Lie on back, lower legs resting on ball, knees straight. Hands can rest on hips with elbows touching floor. Press down into ball with legs, lifting hips until entire body is in a straight position, feet to shoulders. Stabilize with stomach tucked in and hold.

**Exercise:** Roll ball toward buttocks using both feet. As ball comes closer to buttocks, hips should keep still, neither rising, falling or tilting to Curl legs to sides. Curl legs to 90 degrees & hold for 2 counts. Return to starting position, maintaining a tight abdomen throughout. Repeat 5-10 times.



The amount of brown fat varies from one person to another, but it is generally more prevalent in young women and least common in older, overweight men.<sup>1</sup>

## The Science of Brown Fat

Unlike white fat, which stores energy, brown fat burns energy (calories). In fact, one study reported three ounces of brown fat can burn several hundred calories a day.<sup>1</sup>

Scientists are investigating possible ways that brown fat's metabolic effect can be used to develop treatments for obesity. Along with changes to diet and lifestyle, curbing appetite has usually been the treatment path of traditional medicine. Now health experts have an alternate therapeutic approach with brown fat.

The key to making it successful is to find ways for the body to produce more brown fat without creating any dangerous upsets to the body's regular metabolic functions.

In research recently published in the journal *Nature Medicine*, scientists manipulated the body's chemical pathway responsible for converting vitamin A (retinols) into retinoic acid. Retinols play a vital role in the development of fat cells. By controlling this process, the research scientists were able to force fat-storing white cells to mimic the energy burning properties of brown fat cells.<sup>2</sup>

We know hormones play an essential role in determining body fat in humans. Science has learned obese people are deficient in a hormone known as orexin.

In laboratory experiments, researchers discovered this hormone actually signals brown fat to burn calories. In the future, obese patients could receive orexin hormonal treatments to reduce body weight.

Although it may be an excellent tool for weight loss, brown fat still requires much more scientific scrutiny and testing before it is ready to be used as a common treatment for weight loss. Doctors have been able to successfully grow human brown fat cells in a laboratory dish after removing a sample of brown fat from a surgery patient's neck.<sup>3</sup> However, researchers note that it is unlikely brown fat therapy in itself would be enough to counteract obesity without including sufficient exercise and good dietary practices as well.

Are you struggling with too much body fat? Talk to your chiropractor about how you can improve your chances of winning your weight battle with proper exercise and diet.



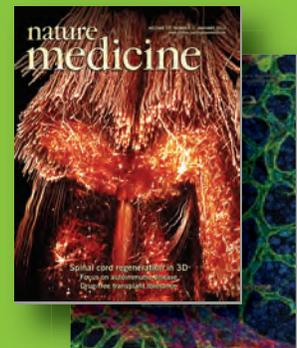
## Quote to Inspire

*“Every choice  
you make  
has an end result.”*

*~Zig Ziglar*

## References and sources:

1. Adults, Especially Women, Have Calorie-Burning 'Brown Fat' – *The Endocrine Society, press release, June 11, 2009.*
2. Retinaldehyde dehydrogenase 1 Regulates a Thermogenic Program in White Adipose Tissue - *Nature Medicine, 2012; 2012; DOI: 10.1038/nm.2757.*
3. Orexin Is Required for Brown Adipose Tissue Development, Differentiation, and Function - *Cell Metabolism, 2011; 14 (4): 478-490 DOI: 10.1016/j.cmet.2011.08.010.*



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