

Get-Fit-Tips' # 3a - 'Central Obesity':

Why you can't seem to get rid of your belly fat,
(And the consequences it could have on your overall health.) Part 1

Belly fat...Pot belly...Beer belly...Spare tire...Love handles...Buddha belly. There are many nick names for that adipose tissue, or visceral fat, accumulating around and more importantly within your mid-section mainly in a connective tissue organ draped around your stomach called the Omentum. And as you age it may become more difficult to stop the accumulation, never mind reduce it. And while for men in particular, who tend to store more fat around their mid-section rather than their hips and butts, it is mostly just aesthetically unappealing, the harsh reality is that doctors, dieticians, and scientists alike now agree that your bulging belly may be a physical characteristic or even the cause of many serious health problems such as type-2 diabetes, and heart disease.

Raising Awareness - 'Central Obesity' Can be an Indicator of Serious Health Risks:

I started writing this topic with the intent of making it the second of a two part summer series for simply looking good in a swim suit. For most of us, we just care about what we see in the mirror, and would love to see a 6-pack set of abs reflecting back at us. This can be great for motivation, but after extensive research on the relentless belly or gut afflicting so many people, (63% of Americans are overweight, and 35% are obese), what I found was that this area of fat storage is mysteriously linked to many health problems, and perhaps even the cause of them. The 'apple shaped' body type. Belly fat, or visceral fat is a strange animal, producing inflammatory and immune triggers, converting precious testosterone to estrogen, and is directly linked to insulin resistance/glucose intolerance.

So what should motivate you to lose your belly even more than the mirror or beach vacation might instead come from clinical lab tests from your doctor. Poor lab test results from tests such as fasting-glucose test, cholesterol and triglyceride tests, and 'C-Reactive Protein' tests, could indicate that you are on your way to becoming insulin resistant or even diabetic, have heart-disease or clogged blood vessels, hypertensive, or have systemic/body-wide inflammation. And medical and physiology research now has confirmed that there is a direct correlation between how large your mid-section is, termed 'central obesity', and major epidemics such as type-2 diabetes and heart disease. There are several new buzz labels for this disorder affecting so many Americans, such as 'Metabolic Syndrome' and 'Syndrome-X', characterized by central obesity/visceral fat, and insulin-resistance or poor glucose tolerance – (unable to store and metabolize sugar properly.) Even the commercial diet market has jumped on board to capitalize from the American belly-fat syndrome, largely blaming it solely on chronic, elevated Cortisol levels. However this mass marketing is incorrectly skewed, as Cortisol is only partly to blame. Excess sugar, refined foods, lack of dietary fiber, and lack of exercise are the real underlying culprits of America's bulging belly and sugar-metabolism problems...sound familiar...it is not rocket science!

Don't Panic – Let This Serve as a Gut Check:

Quite often I realize I can come across as a ‘doomsday guy’, when really it is only my intent to raise your awareness. So let me reassure you that you can be over weight and still be perfectly healthy...perhaps just not look like a cover model. Obesity is when all the major health risks and increased mortality rates typically become a reality, (Obesity is clinically defined as having a body mass index BMI of greater than 30.) I may be OCD about fitness, but I do realize and accept that there will be some decrease in lean body mass as we all age, especially past age 40. It is not inevitable that we get fatter, and you need not accept such a fate. Certainly as we age it is more difficult to maintain muscle mass, but there is no physiological reason to gain fat. Major hormonal shifts are mostly to blame, as testosterone and growth hormone levels drop off, and DHT and estrogen levels rise, (in men). However, don’t ever give up the fitness battle and keep your gut in check, because regular exercise and eating right delays and minimizes all the negative aging effects. Exercise is the number one way to keep insulin under control and make it function normally to fuel muscles, vs. just storing fat and causing inflammation. Even if you only gain 5 pounds a year, (50 excess calories per day), that adds up very quickly and next thing you know you’re a fat guy with high triglycerides, high cholesterol, hypertension, pre-diabetic, enlarged prostate, elevated C-reactive protein levels and no energy for exercise. You see when you’re excessively overweight you get handed all these health issues in one nasty package.

Basic Body Fat Physiology and Contributing Factors to Belly Fat:

I’m talking about body fat here, as an organ, not dietary, macro-nutrient fat that you eat. By all means is this not all-inclusive, and these statements are generalizations that I feel are noteworthy and could make an impact on your fat-fighting strategies and get-fit lifestyle. There may be exceptions! This should also serve to bust a few fat myths:

You do not spot-store and cannot spot-reduce fat. I.E., crunches will not cause you to lose the subcutaneous fat covering your abs. Creating a calorie deficit each day through diet and exercise will slowly melt away your fat stores.

Excess daily calories can either be used to build muscle, store as glycogen in muscle in liver cells for energy, or store as fat in adipose tissue, sometimes all of the above.

The body stores fat in adipose tissue, either subcutaneously under the skin, or viscerally, (internally), in the abdomen mostly on a large piece of connective tissue/organ called the OMENTUM. Fat can also be stored within our muscles and as fatty acids in our livers, for more immediate energy.

Insulin is a transport hormone that shuttles glucose and nutrients to the cells for energy and for growth and repair. Insulin will store excess glucose as fat. In insulin-resistant, pre-diabetic folks, the cells do not respond well to insulin and blood sugar stays elevated.

When extra energy is needed your body accesses fatty acids from your liver first, then from visceral/Omentum, (internal belly), fat through the portal vein. Then subcutaneous fat and intra-muscular fat is accessed.

Reducing visceral/Omentum fat is how you reduce belly size. Reducing subcutaneous fat is how you look more defined, tone, and vascular.

You cannot burn purely fat for fuel, ever, even when you are in an emergency energy metabolism state called ketosis, because even in this condition you are also breaking down muscle tissue for protein as an energy source. In normal aerobic energy production, the body always requires some form of carbohydrate from glucose or stored glycogen to burn fat, known as the Krebs cycle.

Fat cells, called adipocytes, enlarge as you store more fat, but they never divide into more fat cells. Your set number of fat cells is established during adolescence, so if you were overweight as a kid then you probably carry more fat cells.

Men generally store more fat in their upper body adipose tissue while women store more in their lower body adipose tissue. The adipocyte cells located in the mid-torso have the potential to super-enlarge.

Adipose tissue produces the satiety, (fullness), hormone known as Leptin in proportion to how much body fat you have. Obese people become insensitive to Leptin hormone.

Fat/adipose tissue is not an inert storage organ, but rather an important metabolically active endocrine organ that is vital for good health and releases a long list of hormones, enzymes, cytokines, molecules, and other factors involved in body metabolism.

Adipose tissue produces an enzyme known as Aromatase that converts testosterone into estrogen. The more body fat you have, the higher your estrogen levels will be and consequently the lower your testosterone levels. This is why obese men can develop gynecomastia, (man-boobs). This is also why some women become 'estrogen dominant'. Don't forget that testosterone builds muscle, drives libido, and increases lean-body mass.

Visceral/internal belly fat secretes large quantities of pro-inflammatory chemicals known as interleukin-6, C-reactive protein, as well as free-radicals. These molecules directly cause systemic inflammation, oxidation, and can damage blood vessel walls, causing lesions where oxidized cholesterol can attach. In addition, they trigger immune response. Also the Omentum can pump toxic fat and inflammatory chemicals directly into your liver via the Portal vein.

Growth Hormone is a major player in maintaining lean body mass, and especially reducing visceral fat. To maximize Growth Hormone levels, get a good night's sleep, and incorporate more intense, lactic acid producing exercise into your training plan.

****Note: Elevated C-reactive protein levels, CRP, are now recognized as a clinical marker of heart disease/atherosclerosis, more accurate than Cholesterol testing. Elevated CRP levels are associated with 4.5 greater risk of having heart attack, and elevated CRP is both a marker and a cause of heart disease.****

Visceral/Omentum/internal belly fat interferes with insulin function and promotes glucose intolerance, and may increase levels of Resistin hormone which further causes cells to resist insulin and not uptake glucose – a viscous cycle develops.

Visceral/Omentum/internal belly fat can become ‘sick’ or dysfunctional and this has been termed adiposopathy and is pathological adipose tissue dysfunction.

Chronic, elevated Cortisol levels are linked to excess visceral/Omentum/belly fat, but scientists aren’t sure exactly why. This fight-or-flight, stress response hormone mobilizes energy by increasing blood-glucose and releasing fatty-acids into the blood stream, and consequently, insulin increases as well. So if you’re just sitting around and not “fighting or flighting”, you’re just causing more fat storage and blood-sugar fluctuations. It is thought that the Omentum organ simply has a many cortisol receptor sites. Therefore, belly size is a good indicator of your stress levels.

Insufficient sleep causes an increase in the hunger hormone known as Ghrelin which is produced by the stomach. Sleep deprivation promotes increased appetite.

Human metabolism was biologically evolved thousands of years ago for times of famine and starvation, so we’re very efficient at storing fat. Nothing puts your metabolism into efficient fat-storing mode more, then skipping breakfast, fasting all day and then eating a huge dinner late at night.

BEER DOES NOT CAUSE a ‘BEER BELLY’! Excess calories, lack of exercise, poor diet, and other lifestyle factors cause a fat, large Omentum, which gives the look of a beer/pot belly – so by all means enjoy your beer...in moderation!

What You Can Do to Combat Visceral, Omentum, Belly Fat:

Referencing the fat-fact list above should give you a general overview of what lifestyle factors contribute to obesity, and visceral fat, and how to mitigate it. In a nutshell a healthy lifestyle is healthy in all ways and no special diet is needed for this, that, or the other latest marketing buzz. A truly healthy lifestyle consists of eating whole foods, avoiding/minimizing refined foods – especially white flours and sugars. Your meals should be divided up into many smaller snacks throughout the day vs. fasting all day and then having a large meal late at night. You need regular exercise, incorporating aerobic and strength training. You need to get a good night of sleep. You need to take action to minimize stress. Please reference my pilot-portal library archive for extensive details on

eating properly, exercising, dealing with stress and Cortisol, and even detoxing. Specifically:

Minimize sugar and refined carbohydrates.

Exercise, exercise, exercise!..especially intense workouts which produces lactic acid and consequently stimulates Growth Hormone.

Eat a high-fiber diet, at least 30 grams per day.

Get adequate, quality sleep.

Find ways to minimize and deal with your stress and lower your cortisol.

Consume caffeine and other stimulants in moderation.

Ingest healthy essential omega fats from nuts, olive and flax oil, and cold-water fish.

Eat soy products. Soy isoflavones block unhealthy estrogens and synthetic xeno-estrogens.

Try adding these supplements regularly:

- Vitamin C, all doses safe. (Anti-inflammatory, balances Cortisol, anti-oxidant)
- Vitamin E, up to 1000 IUs daily, (Anti-inflammatory, anti-oxidant)
- Fish Oil (Anti-inflammatory)
- DHEA, 25 mg per day, after discussing it with your doctor. (Regulates Cortisol and balances all adrenal hormones.)
- Zinc. (Blocks estrogen/promotes testosterone)
- Cinnamon extract improves insulin efficiency and glucose uptake by muscle cells.
- Green Tea increases thermogenesis and fat burning.
- Amino acid L-Arginine taken before bed time on an empty stomach, 1 teaspoon, or up to 3 grams, will trigger a great GH release.

Remember fat is an actual endocrine organ that serves many necessary functions for living. We need it! And the Omentum serves many beneficial purposes, including securing our organs in place with connective tissue, immune function and fighting off

abdominal cavity infections. We just need to keep our guts in check so we don't end up like approx 25% of the adult population who has now been labeled with 'Metabolic Syndrome X'. If you suspect your pot-belly is taking control of you, it is never too late to fight back. Insulin resistance, hypertension, heart disease, and man-boobs do not need to be an accepted way of life. Take charge of your belly now!

Sources: 'The Inflammation Syndrome' by Jack Challem; 'Alternative Therapies in Health and Medicine 2006 12(1):10-16); www.medicineau.net; www.wikipedia.com; healthfully.org; Dr. Oz and his book, 'You on a Diet!' as seen on Oprah.

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**Not medical advice*