

Fat that is Visceral Makes your heart miserable

Written by Dr Harold Gunatillake-
Health writer

You have heard about fats and fatty acids reading through some of my health articles. Today, we are discussing a very special kind of fat called the 'Visceral Fat' lying deep in your belly behaving differently to the benign fat in the rest of your body. In short if you have a big belly, quite prevalent among Sri Lankans, the push is mostly due to the toxic visceral fat we are going to discuss.



This visceral toxic fat is more likely to give you heart disease, high blood pressure, diabetes, sleep apnea, atherosclerosis (thickening of blood vessels with plaques), colorectal cancer and linked to erectile dysfunction (ED, impotence) in men who are over 60 years of age.

This fat also increases your insulin resistance, and those who suffer from diabetes needs to get rid of it by vigorous daily exercise (10,000 steps) and restricted balanced diet, to increase the insulin sensitivity.

Fat lies in every part of your body: under your skin called *subcutaneous fat*, found in two layers separated by a thin membrane called the deep fascia. This fat can be pinched and measured. Normally the width between your thumb and index finger on pinching should approximate less than one inch. The fat beneath this deep fascia membrane has very little blood vessels, or lymphatics. It is this layer of fat the cosmetic surgeons remove in liposuction procedure without hazards.

Liposuction of this deep fat layer has no metabolic health benefits, not much weight is reduced, other than the focus on your shape. Some doctors call it 'contouring surgery'.

Fat surrounds most organs in your body. They form fat bags to stabilize the organs within and share the shock of sudden jerks and regulates the temperature.

Sudden loss of fat by losing weight, can harm your organs like the kidneys (perinephric fat): They can float or kink in the empty space with no fat and cause twisting (nephroptotic).

Lose weight gradually through dieting and exercise, without taking drastic measures.

Heart is also surrounded by a layer of fat. Obese people seem to have a thick layer of fat around the heart and is considered a predictor of atrial fibrillation (irregular heartbeats).

All fat in your body is not created equal and healthy. Within your abdomen, there is fat stored mainly located near several vital organs, including the liver, stomach, pancreas, kidneys and intestines. This in total is referred to as visceral fat.

Greater omentum-the policeman of the abdomen'

There is a thin membrane hanging from the greater curvature of your stomach like an apron called the *greater omentum*. In under-nourished people this is a thin tissue like membrane, which general surgeons would desire to see when operating within the abdomen, contrary to the affluent class of individuals this membrane seems to be studded with layers of fat: sometimes cumbersome to the surgeon when performing intra-abdominal surgical procedures. Above the stomach along the lesser curvature there is a minor membrane (lesser omentum) which is not found studded with fat as the greater omentum.

The omentum is considered an organ, by most researchers, and is also nicknamed the 'policeman of the abdomen'. It secretes hormones related to obesity and many other functions that are still not discovered.

This fat seems to secrete high levels of an inflammatory molecule called interleukin-6 (cytokines)- a toxic molecule and visceral fat including these molecules drains into the portal vein and gets into your liver and beyond.

The omentum is called the policeman because it takes a role in fighting intra-abdominal infections. In situations when the intestines rupture with perforations due to inflammatory diseases, the omentum seals the perforations to prevent further complications. It tends to wrap round foreign bodies in the abdominal cavity, such as accidentally left surgical instruments.

Mesentery stabilizes the mobile small bowel

Then, there is the 'Mesentery' a fold of tissue that anchors the 17 feet of small bowel to the back of the abdominal wall.

This tissue is also considered an organ today, secreting hormone (cytokines). The blood supply and the lymphatics to the small gut travels through this folded membrane

This membrane also gets studded with visceral fat in obese people.

Likewise, visceral fat surrounds the kidneys, pancreas and even around your vestigial appendix to form a padding.

So, visceral fat is the fat lying within the abdomen, wrapping round organs, including the omentum and mesentery mentioned before.

When you are young and active, there is hardly any visceral fat to talk about. It is just sedentary life, and extravagant lifestyles, eating calorie dense foods with no exercise that may cause the problem, including aging.

Fat that accumulates within the abdomen seems to be dangerously toxic. As Dr David Haslam, clinical director of the National Obesity Forum, explains: 'Visceral fat may seem to be an inert lump of lard, but it's actually highly active and constantly pumping poisons into the bloodstream.'

Visceral fat unlike other fat is inflammatory and unhealthy, produces toxic material to damage your large gut, the arteries, and seems a major cause of heart disease, diabetes, insulin resistance, metabolic syndrome and some types of cancer.

Many years ago, we believed that thickening of blood vessels with plaque formation (atherosclerosis) was related to excessive lipids, including cholesterol in your blood. Today we believe that inflammation plays a role in plaque formation, cancer and aging.

Studies have revealed that toxic molecules from visceral fat as described earlier may be responsible for the above changes in the blood vessels. This is how visceral fat is considered a risk factor for heart disease.

How to find out whether you have visceral fat

If you have a protuberant belly you are most likely to have visceral fat, other than in pathological situations like tumours within your abdomen.

Men should have a girth measurement of less than 40 inches round the mid-waist, while women should have a girth less than 35 inches when breathe out. It has no bearing on the height of the person. So, take your measuring tape and check whether you are a subject having visceral fat.

Men's bellies are apple-shaped those with fat concentrated around the abdomen and within, giving the shape due to central obesity, while women have a more pear shape abdomen where the fat is concentrated more subcutaneously and not internally as in men. This fat seems to hang like an apron to give the pear shape. Apples tend to be at a greater risk for heart disease, diabetes among others mentioned earlier.

Women seems to store fat in the hips and legs, but that fat is not associated with the same health problems as belly fat. These fats can even give energy to women during pregnancies and breast feeding. Hormone oestrogen seems to be responsible for this distribution of fat in women. After menopause, their oestrogen level drops and the fat distribution tend to focus in the belly, as men.

When men eat too much of dense foods and drink alcohol regularly, the excess fat seems to get stored in your belly. When the belly gets jam-packed with fat, the fat starts to accumulate in the liver, pancreas and skeletal muscles. Then the gates open for chronic diseases mentioned earlier.

New studies have revealed that belly visceral fat seems to increase risk of dementia, osteoporosis in women including cancer.

Most people in Sri Lanka seems to have pot bellies, and they walk about with no shame and like nobody's business. They little realise that they are living on a time bomb. Health education through the mass media is slacking in Sri Lanka and replaced mostly by political discussions and soap operas. The few health topics discussed by health personal use heavy Sinhala words that the average man cannot grasp.

They have no time for an evening walk. They only find time after open heart surgery from a heart episode.

How can you reduce visceral fat?

The answer is simple. Exercise daily (minimum 10,000 steps- burns approximately 300kcal. Take a walk for one and a half hours. Wearing a devise to measure your steps, and other parameters will motivate and be challenging.

Diet: calorie restricted diet may be required initially. Stick to whole grain foods rich in vitamins, minerals and fibre, such as instant oats for breakfast, brown rice and whole meal bread for lunch and dinner. Avoid foods with trans-fat and added sugars. Rethink your drinking. Alcohol has empty calories. It is best to avoid any beverage other than pure water during the regime to control your waist-line.

Best of luck. Hope this article will enlighten you on the seriousness of having a pot belly and the need to get rid of it, that will bring in a new life worth living.

Dr Gunatillake-Health editor is a member of the Academy of Medicine, Singapore. Member of the Australian Association of Cosmetic Surgery. Fellow of the Royal College of Surgeons (UK), Corresponding Fellow of the American Academy of Cosmetic Surgery, Member of the International Societies of Cosmetic surgery, Fellow of the International College of Surgery (US), Australian diplomat for the International Society of Plastic, Aesthetic & Reconstructive Surgery, Board member of the International Society of Aesthetic Surgery , Member of the American Academy of Aesthetic & restorative Surgery, Life Member of the College of Surgeons, Sri Lanka, Batchelor of Medicine & Surgery (Cey): Government scholar to the UK. for higher studies. Now retired living partly in Sri Lanka and Sydney.

