Obesity part 1 - Measures and Causes

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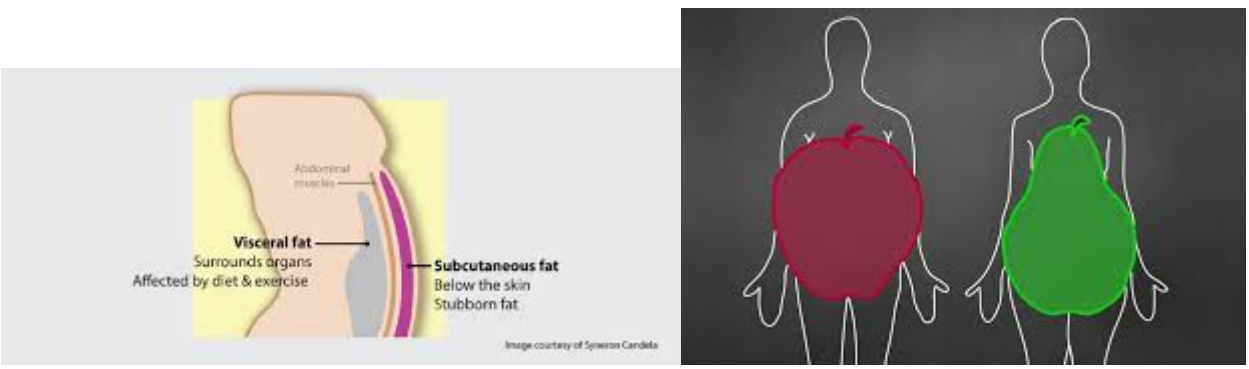
What is it?

Obesity is defined as excessive fat accumulation that may diminish health. It is an increasingly common condition which heightens your vulnerability to other problems, such as cardiovascular disease, cancer, diabetes and musculoskeletal disorders.

Your fat distribution can in part determine your health risk. Internally stored fat is referred to as visceral fat and is located around our organs. It is more metabolically active and therefore more threatening. In general, an android body shape (apple shape), where the majority of weight is around the midriff is associated with this form of fat, please refer to *Nugget 1*. Conversely, externally stored fat is called subcutaneous fat. This is found just under the skin and is believed to be less dangerous than visceral fat. Fat accumulated in the lower body, giving a gynoid body shape (pear shape), is largely subcutaneous. Several factors such as genetics and hormones can influence where fat is stored.

iOWNA Nugget 1

Visceral vs. Subcutaneous Fat



iOWNA Gem 1

The fat stored internally, visceral fat, is named after the viscera - the internal organs of the body. The gold standard for measuring total body fat is a total body fat composition study which is a simple scan that takes no more than 5 minutes to complete.

Measures of Obesity

DEXA scan

A dual-energy X-ray absorptiometry (DEXA) scan can precisely measure body composition using low dose X-rays. Fat mass and lean mass (alongside bone density) are mapped, with fat areas highlighted in yellow and the lean areas in green. This will enable you to see where the majority of your fat is stored. The android/ gynoid fat ratio provided by a DEXA scan will give you a good idea of your body shape. A ratio >1 indicates an android shape, whereas <1 would mean a gynoid shape.

Skinfold caliper

A convenient, though arguably less accurate measure is done by using a special caliper to record the thickness of a pinch of skin and fat in certain parts of the body. A body fat percentage can thereby be estimated using these values.

Waist circumference

Waist circumference is another measure which can help diagnose whether you are living with obesity and determine your risk of developing other conditions, such as type 2 diabetes. In general, a circumference of 94cm or more for men and 80cm or more for women raises the likelihood of developing obesity-related health issues. However, this can vary with ethnicity and should be lower in Asians and orientals; the cut off points for South Asian, Chinese and Japanese is 90cm for men and 80cm for women.