

# Plus-Size: Body shapes

Plus-size people can have a wide variety of body shapes in addition to differences in BMI. Two people may weigh the same, however, how their weight is distributed i.e. their body shape, may be completely different. Body shapes are based on waist to hip ratio and are commonly classified into categories. Each body shape poses its own functional challenges in relation to transfers, mobility and equipment selection.



*Knowledge bank*

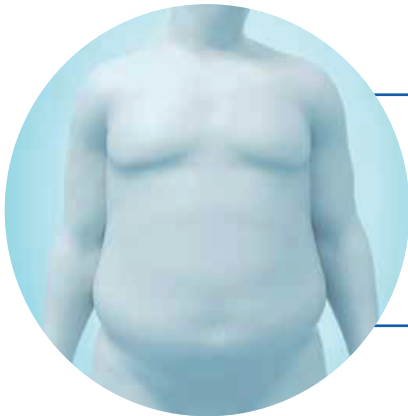


Yes, you can.®

## Apple (android)

Commonly referred to as being “apple shaped”, this body shape describes individuals who have excessive weight distributed around their stomach or abdominal area, otherwise known as abdominal or central obesity.

The type of fat associated with this body shape is known as visceral fat. It’s a gel-like fat, which wraps around major organs including the liver, pancreas and kidneys and has a strong correlation between cardiovascular disease and type 2 diabetes. Typically, the apple shape is more common in males than in females. Men tend to be referred to as having a “pot belly” or “beer belly”.



### This type of shape is associated with:

- Upper body obesity
- Abdominal obesity
- Android or male obesity
- Centralised obesity

## Apple ascites

Ascites is the accumulation of fluid in the abdominal (peritoneal) cavity, which causes the abdomen to extend and become rigid. Although the exact cause of ascites development is not completely understood, most theories suggest an increased pressure in the blood flow to the liver, known as portal hypertension. The basic principle of ascites development is similar to the formation of oedema - an imbalance of pressure, in this case in the inside of the abdominal cavity and outside. As well as their connection to cardiovascular disease, ascites can also be related to liver disease, cirrhosis or kidney disease.

### In general, plus-size people with an apple ascites distribution have:

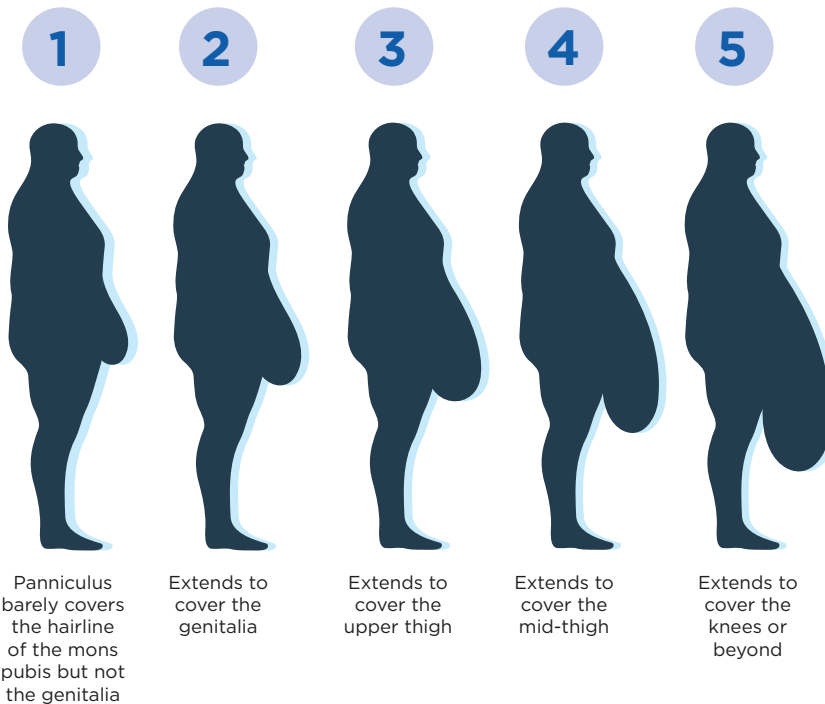
- **A high waist to hip ratio - hip to waist ratio is the circumference of the waist divided by the circumference of the waist.** Waist to hip ratio (WHR) is used to determine health. When the waist ratio is higher than that of the hips, the person could be at risk of developing serious health issues.
- **The person may have difficulty lying flat on their back (supine) or on their front (prone) and need several pillows under the head end of the bed when lying on their back to achieve what is known as a semi-fowler position.** This is when the head of the bed is elevated between approximately 30-45 degrees to assist breathing.
- **Breathing becomes more difficult as excessive weight on the chest puts additional strain on the respiratory muscles, meaning they must work harder.** Further, excess adipose tissues in the abdominal wall restricts movement of the diaphragm restricting movement in and out of the lungs.



## Apple Panniculus

A panniculus or pannus is the term used to describe a hanging mass of subcutaneous fat in the lower abdomen. Commonly referred to as an “abdominal apron”, the mass consists of skin, fat and in some situations the contents of the abdominal cavity following a hernia (most commonly of the bowel).

**Panniculi can vary in size and severity, therefore, there is a grading system from 1-5 to differentiate them:**



**The complications of a panniculus, especially Grade 3 or higher, is the effectual shortening of the person’s seat depth. It can prevent contact with a back support and can also cause lordosis and compromised balance in sitting, standing and during ambulation.**

Diet and/or exercise alone will not reduce the size of a panniculus - surgical removal is the only option. This type of surgery is called a panniculectomy and helps improve other health conditions, or to improve quality of life for the individual. Please note, it should not be confused with the cosmetic tummy tuck surgical procedure.

**In general, plus-size people with an apple pannus distribution have:**

- High waist to hip ratio
- A mobile chest or mobile umbilicus
- A variable supine tolerance and may find it difficult to lie flat on their back
- May tolerate a prone position



## Pear Shape

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**Pear shaped is the term used to describe someone who carries their excess weight around their bottom and thigh region.**

Typically, excessive tissue can be distributed either medially (towards the inside of the thighs - known as Pear Abducted) or laterally (towards the outside of the thighs - known as Pear Adducted). The major difference with the two types of “pear shapes” is the location of the feet. This is a major consideration if the person is going to use a wheelchair.

- Lower body obesity
- Gluteal-femoral obesity
- Generalised or peripheral obesity
- Gynoid or female obesity

## Pear Abduction

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**Excessive tissue on the inside of the thighs will cause the hips and legs to abduct (fall outwards) when seated.** This can make positioning or supporting the legs and feet a challenge, as the individual is not able to sit with their legs together and straight as is typically the ‘norm’.

- A very low waist to hip ratio
- Majority of tissue below the belt line and femur in abducted posture
- Severely painful knees due to valgus stress
- Tendencies to move from supine to sit via long sitting and avoid log rolling

## Pear Adduction

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**In the case of pear adducted body shapes, excessive tissue on the outside of the thighs means the individual will require a wider seat.** The lower limbs in this case can typically achieve a midline (straight) position as the weight is distributed to the outside rather than the inside, making positioning of the hips, legs and feet far easier.

- A very low waist to hip ratio
- Lower adducted extremities that are in-line with the body
- Tendencies to move from supine to sit via long sitting or may seek rolling technique



## Gluteal Shelf

**Excessive tissue located around the buttocks creates a posterior (rearward) protruding mass of tissue commonly referred to as a shelf.** Individuals with excessive gluteal tissue will most likely encounter problems positioning themselves right back in a seat as their excess tissue prevents them contacting the back support. This can change the individual's centre of gravity, which is especially important if considering wheelchair provision.



**In general, plus-size people with a gluteal shelf have:**

- **A mixed waist to hip ratio with either excessive posterior tissue in gluteal region or limited supine tolerance**

## Anasarca

**Anasarca is a severe and generalised oedema with widespread subcutaneous tissue swelling. Subcutaneous tissue is found beneath the lowermost level of the skin and is where adipose (fat) cells are found.** Anasarca is not a disease entity on its own - it signifies a severe underlying disease.

## What is oedema and why does it occur?

Oedema can be described as an abnormal presence of excessive fluid in the interstitial space (fluid that lies in between cells). About 60% of our lean body weight is made up of water, of which two thirds (40%) lies within the cells (intracellular) and one third (20%) lies outside the cells (extracellular).

Oedema is caused by an accumulation of excess fluid in the interstitial space between the cells. This occurs due to changes in pressure (or forces) between the interstitial space and the extracellular space. When this happens, fluid moves between the two spaces, causing fluid levels to change.

- Localised oedema means that the oedema is localised to a specific region of the body, commonly due to venous/lymphatic causes, allergy or inflammation
- Generalised oedema involves more than one part of the body simultaneously and is most commonly due to cardiac, hepatic, renal or endocrine causes

**Normal**

**Oedema with pitting**



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