

## Children's Section: How do you know if a child is overweight/obese? Does it really matter?

The term 'obesity' simply means that a person's excess body fat has increased to such an extent that health may be negatively affected.

In order to find out whether your child is overweight or obese you need to take some measurements.

### Taking an accurate weight

- Ideally use digital scales for accuracy
- Remove shoes and outer clothing
- Check that scales are on level floor and not on a soft carpet
- Child stands on centre of scales, keeping still, facing forwards and head straight
- Record measurement



### Taking an accurate height

- Take child's shoes off
- Child stands straight against backboard of stadiometer
- Child places heels against heel plate, big toes touching
- Check that corner of eye is level (straight line) with hole in ear
- Ask the child to breathe normally and remain still
- Place head-plate on top of child's head
- Record measurement on measurement sheet



### Calculating BMI (body mass index)

BMI is useful for comparing a person's weight to their height and will determine the degree of overweight or obesity.

Calculation:  $BMI = (\text{weight in kg}) / (\text{height in meters})^2$

#### In adults :

BMI 20-24.9 = healthy weight

BMI 25-29.9 = Overweight

BMI 30+ = Obese

#### In children under 18 years of age

- Cut-off points differ according to age and gender
- Plot the BMI onto BMI growth charts for children
- Check children's classification:
  - Healthy weight (< 91st BMI centile)
  - Overweight (91st - 98th BMI centile)
  - Obese (> 98th BMI centile)



# GIRLS UK Body mass index (BMI) 2-20 years



The BMI centile is a simple and reliable indicator of thinness and fatness in childhood. Where severe over- or underweight is a concern, or where there is a need for monitoring over time, BMI can be calculated and plotted on this chart. It is important also to plot the height and weight separately on the main 2-18 chart. There is also a BMI centile look-up on the standard 2-18 chart for less complex cases.

BMI is calculated by dividing weight (in kg) by the square of height (in metres e.g. 1.32 m, not centimetres e.g. 132 cm).  
A simple way to do this on a calculator or mobile phone is:  
1. Enter the weight. 2. Divide by height. 3. Divide the result by height.  
The result can then be plotted on the chart below.

### Overweight and obesity

A BMI above the 91st centile suggests overweight. A child above the 98th centile is very overweight (clinically obese) while a BMI above the 99.6th centile is severely obese. In addition to the usual nine centile lines, the BMI chart displays high lines at +3, +3.33, +3.66 and +4 SD, which can be used to monitor the progress of children in overweight treatment programmes.

### Thinness

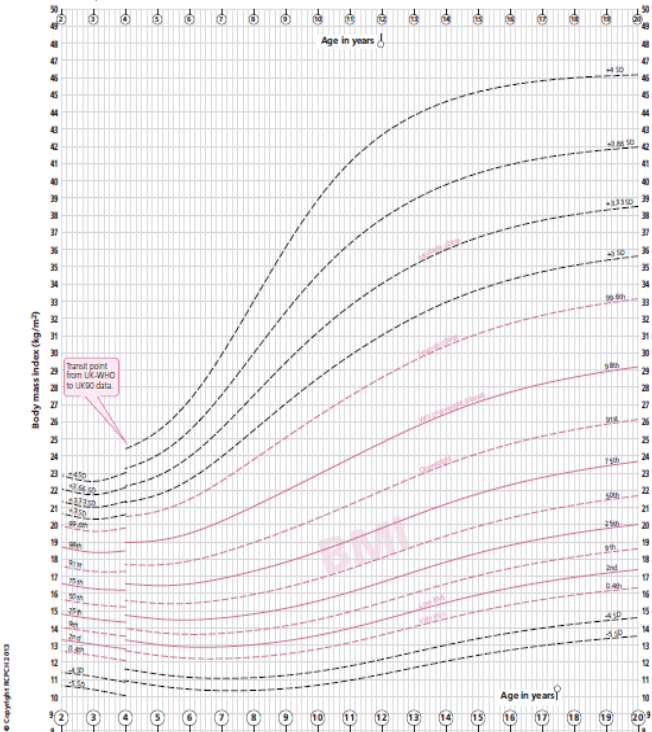
A BMI below the 2nd centile is unusual and may reflect undernutrition, but may simply reflect a small build. The chart also displays low lines at -4 and -5 SD for those who are severely underweight. Children whose BMI lies below the 0.4th centile are likely to have additional problems and if not already receiving medical or dietetic attention should be referred.

Please place sticker (if available) otherwise write in space provided.

Name: \_\_\_\_\_  
 NHS/CHI No: \_\_\_\_\_  
 Hospital No: \_\_\_\_\_  
 Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_

### Data Recording

Measurement 1
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 2
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 3
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 4
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 5
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 6
Recording Date
Weight
Length/height
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Location
Health worker name
Measurement 7
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 8
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 9
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 10
Recording Date
Weight
Length/height
BMI
Location
Health worker name



## Understanding BMI charts

Ignore the bold dark lines they are to compare population data and not for clinical use

> 98th BMI percentile = obese

91<sup>st</sup> – 98<sup>th</sup> BMI percentile = overweight

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Measurement 1
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Measurement 2
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Weight
Length/height
BMI
Location
Health worker name
Measurement 4
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 5
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 6
Recording Date
Weight
Length/height
BMI
Location
Health worker name
Measurement 7
Recording Date
Weight
Length/height
BMI
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# BOYS UK Body mass index (BMI) 2-20 years



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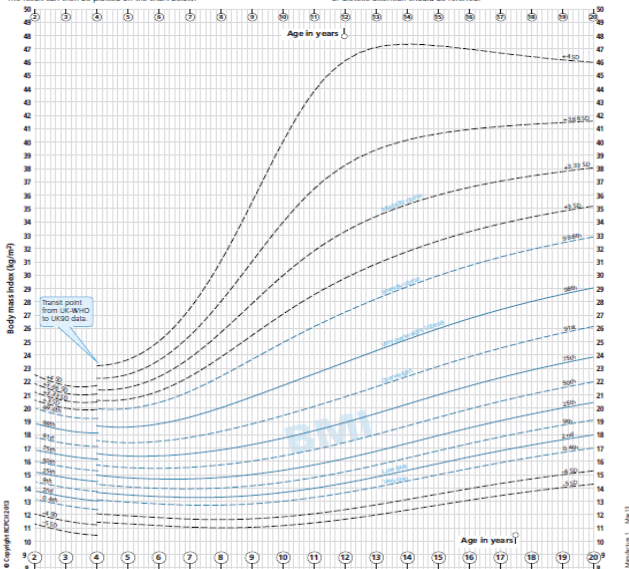
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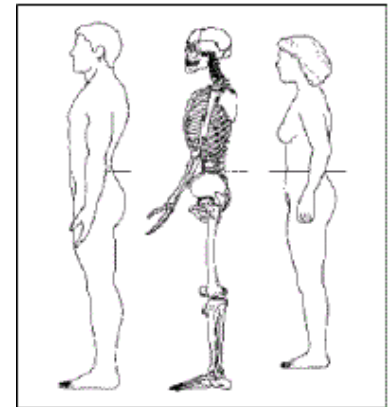
## The benefits of taking waist circumference measurements:

Waist circumference measurements provide us with information about the distribution of body fat and are a measure of risk for conditions such as coronary heart disease. It is well known now that people who carry their excess fat centrally (within the abdominal cavity) are more likely to suffer the consequences of being overweight.

By recording waist measurements in children they can be used as a motivating factor. Whilst we encourage children to maintain their weight but continue to grow taller a reduction in waist circumference is reassurance that the hard work is worthwhile.

## Taking an accurate waist circumference measurement

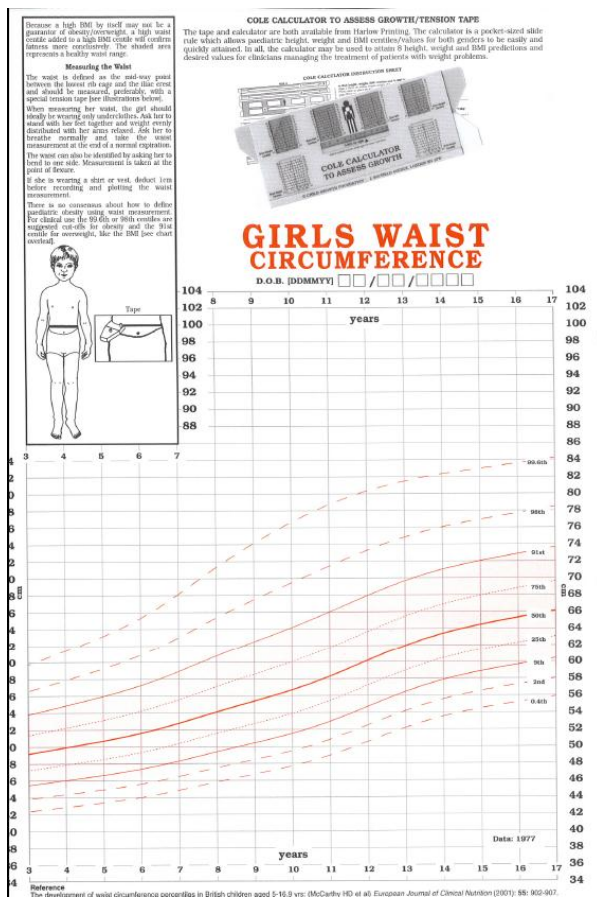
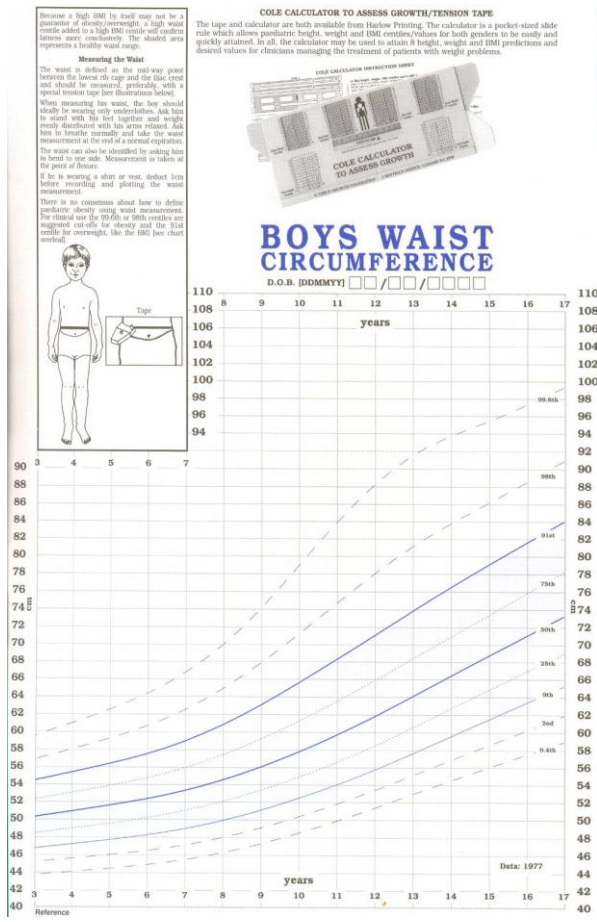
- Child to stand facing you
- Ask the child to pull their own t-shirt up - avoid measuring waist with clothes
- Find the narrowest girth of the waist (about 2cm above the belly button)
- Ensure tape is level & not twisted behind the child's back
- Measure waist circumference with the tape horizontal



## Plot waist circumference on the gender specific charts

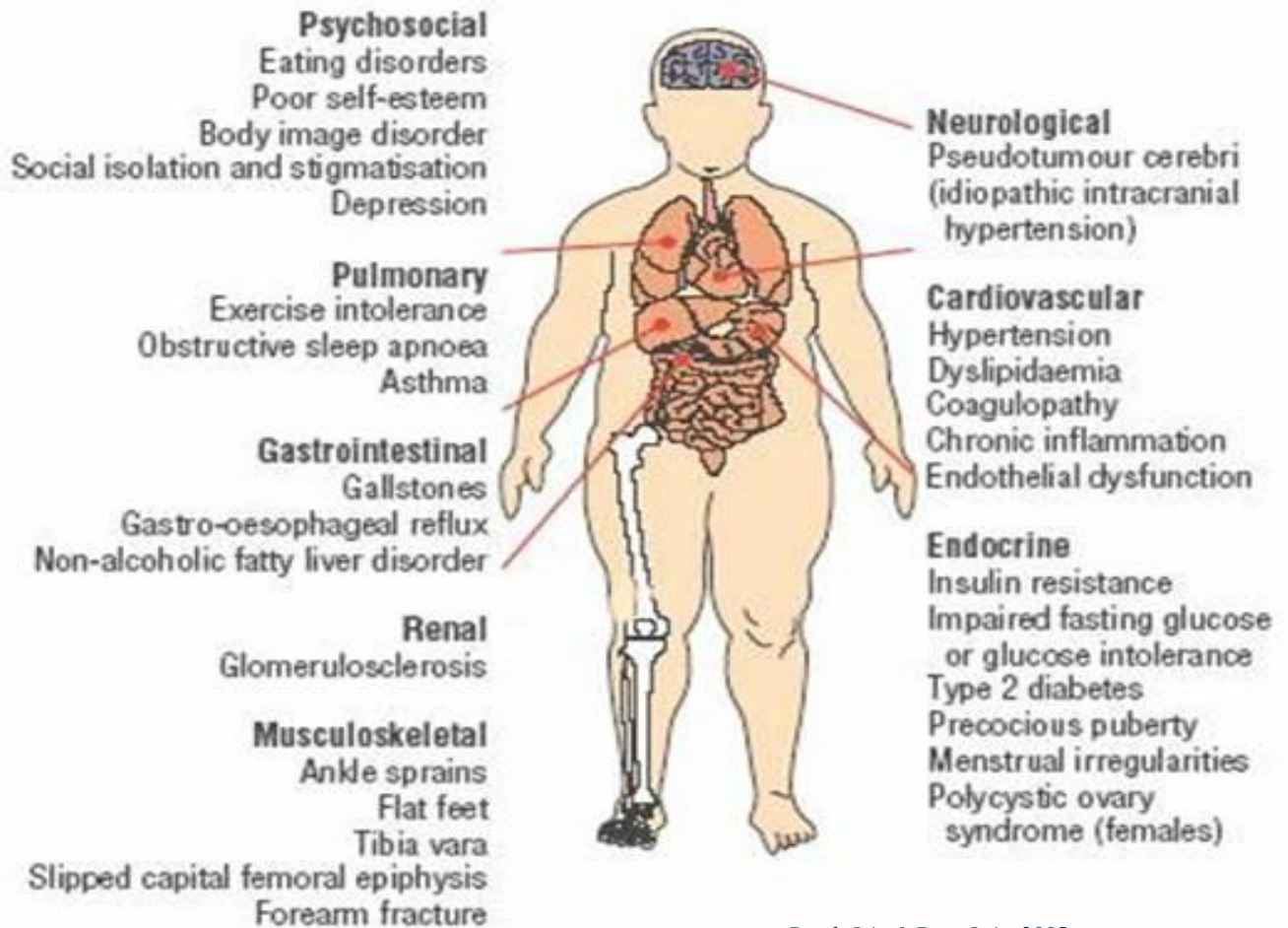
Cut-off points differ according to age & gender **But...**

- There is no consensus on how to define obesity in children based on waist circumference
- For clinical use: <91<sup>st</sup> centile = healthy; 91-98<sup>th</sup> – overweight and >98<sup>th</sup> centile = obese



## Children's Section: How do you know if a child is overweight/obese? Does it really matter?

Does it matter if children are overweight or obese? ... YES it does. The diagram below shows the medical problems associated with obesity.



*Batch J.A. & Baur L.A., 2005*

### Where do I access help and support available?

**Fit4it Juniors** is a community programme for children aged 7-12 years old who are concerned about their weight. The programme is a 10 week programme and focuses on teaching both parents and children about healthy eating, active living and ways to change their behaviour. Each session lasts 1½ hours.

For more information about Fit4it Juniors or to sign up for the course contact Community Sports Foundation on 01603 761122, visit [www.communitysportsfoundation.org.uk](http://www.communitysportsfoundation.org.uk) or email [info@communitysportsfoundation.org.uk](mailto:info@communitysportsfoundation.org.uk)

**Fit4it Seniors** aims to help teenagers aged 12-16 years old with eating for health, encouraging them to try out new activities and improve their self-confidence.

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If you are concerned about your child's weight why not enrol them on to a HENRY (Health, Exercise and Nutrition for the Really Young). HENRY aims to help your child stay a healthy weight.

