The UK Growth Chart 2-18 years

This chart is mainly intended to assess the growth of school age girls. It bone values data from the UK 1990 growth reference for children and birth and from 4-11 years with the WHO growth standard for children aged 2 to 4 years. This chart can be plotted on the more detailed UK-WHO 0-4 years growth charts.

As well as simply using this chart for plotting growth data, it also includes a number of new features which may wish to use to help interpret the growth data:

- Birth centile plotting scale
- Height/length plotting grid
- Estimates to calculate adult height
- Guide to assessing puberty

Measurement procedure
Accurate measurement is essential and shoes should be removed for all measurements.

Height: Measure height recorded to the last millimetre. A correctly installed stand, measure lying down, using an approved length measuring device and plot as for height.

Weight: Remove heavy clothing and shoes and weigh using class III clinical electronic scales in metric setting.

Plotting
Plot each measurement by placing a small dot where a vertical line through the child’s age crosses a horizontal line through the measured value (see illustrations). If a child cannot stand, measure lying down, using an approved length measuring device and plot as for height.

Birth centile plotting scale
The chart starts at age 3 years, but there is a plotting scale on the left of the chart where for term infants, birth weight (and measured, height) can be plotted to allow comparison of the birth centile with later growth.

When is further assessment required?
If any of the following:
- Where weight or height or BMI is below the 0.4th centile, unless already fully investigated at an earlier age.
- If the height centile is more than 3 centile spaces below the mid-parental centile.
- A drop in height centile position of more than 2 centile spaces will as a long as measurement error has been excluded.
- Smaller centile falls or discrepancies between children’s and mid-parental centile, if seen in combination, or if associated with other clinical concerns.
- If there are any other concerns about the child’s growth.

Adult Height Predictor
This allows you to predict the child’s adult height based on their current height, but with a regression adjustment to allow for the tendency of very tall and short children to be less extreme in height as adults. Four girls out of five will have an adult height within ±6 cm of the predicted adult height.

Instructions for use
Plot the most recent height centile on the centile line on the Adult Height Predictor (on the flap to the right of the height chart) and read off the predicted adult height for this centile.

Mid-Parental Centile
The ‘mid-parental’ centile is the average adult height centile to be expected for all children of these parents. It incorporates a regression adjustment to allow for the tendency of very tall and short parents to have children with less extreme heights. Comparing this to the child’s current height centile can help assess whether the child’s growth is proceeding as expected. The larger the discrepancy between the two, the more likely it is that the child has some sort of growth disorder. Most children’s heights (nine out of ten) are within ±6 cm centiles of the mid-parental centile, and only 1 percent will be more than three centile spaces below.

Instructions for use
The Mid-Parental Centile Comparator is on the flap to the right of the height chart. If possible plot both parents’ heights, or else use reported heights. Plot their heights on the Mother’s and Father’s height scales. Join the two points with a line between them. The mid-parental centile is where this line crosses the centile line in the middle. Compare the mid-parental centile to the child’s current height centile, plotted on the adult height predictor centile scale.

Mid-parental target height
This can be obtained by plotting the mid-parental centile on the main chart at age 18 and reading off the corresponding height. Four girls out of five will have an adult height within ±7 cm of this target height. However the predicted adult height (above) is usually closer than mid-parental target height to the child’s final height.

Pубertal Assessment
The puberty phase may be ascertained through simple questions about the appearance of secondary sexual characteristics as well as by clinical examination.

By history from parents, carers or young person

Prepuberty
In Puberty
Completing Puberty

BMI chart

What does a height in the shaded area below the 0.4th centile mean?

This chart provides some extra guidance about the lower limit (0.4th centile) for height in girls 8-13 years. If a plot falls within the shaded area on the height chart between 8 and 13 years, pubertal assessment will be required and mid-parental centile should be assessed.

If they are In puberty or Completing puberty, they are below the 0.4th centile and should be referred. In most instances a Pre-pubertal plotter girl at this is growing normally, but comparison with the mid-parental centile and growth trajectory chart may also help assess whether further investigation is needed.

Centile terminology
A centile is the distance between the two centiles.

Body Mass Index (BMI) centile look-up

If weight is above the 75th centile or if weight and height centiles differ, the BMI centile should be calculated, as the BMI centile is the best indicator of thinness and fatness. The BMI look-up allows you to read off the BMI centile, accurate to a quarter of a centile.

Instructions for use
1. Note the weight and height centiles from the growth chart.
2. Plot the weight centile against the height centile on the BMI look-up chart.
3. If between centiles, read across in this percentage.
4. Read off the corresponding BMI centile.

References

www.rchp.org.uk/ukgrowthchart

For further reliable references see fact sheet downloadable from www.growthcharts.rchp.ac.uk

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UK Growth Chart 2-18 years
GIRLS 2-8 years

GIRLS 8-18 years

Parent points from UK-WHO or UN data

Parent Height Comparator

Father's height: ____________
Mother's height: ___________

• Compare the mid-parental height centiles are within ±6 cm of this value.
• Read off the predicted adult height predictor centile.
• Four out of five children will be within ±2 centile spaces of the mid-parental centile.
• Plot the most recent height and weight for this centile.

Adult Height Predictor

For all Children plotted in the shaded area see instructions.

Mid-parental Centile
• Plot the the Mother's and Father's heights on their respective scales and join the two points with a line. The line crosses the centile line in the middle.
• Compare the mid-parental centile to the child's current height centile, plotted on the adult height predictor centile scale.
• Nine out of ten children's height centiles are within ±2 centile spaces of the mid-parental centile.