

# How to...monitor a child's growth

**With the theme of the current publication being obesity, this article provides the reader with hands-on, practical tips on how to effectively monitor a child's growth in the general practice setting.**

## GROWTH MONITORING IN CLINICAL PRACTICE

It is normal practice to undertake three anthropometric measures to monitor growth for infants and toddlers; namely weight, height (length) and head circumference. In pre-school children's weight and height are measured. Both weight and height measurements are required to calculate a body mass index (BMI). BMI estimates the total amount of body fat and it is calculated by dividing weight in kilograms (kg) by height in metres squared (m<sup>2</sup>). It is calculated for children older than 2 years.

## GROWTH MONITORING GUIDELINES

To ensure good measurement practice:

- adhere to any guidelines or standards that apply to clinical practice in the service where you work
- ensure you have reliable working equipment
  - ❖ use weighing scales and stadiometer (wall tape measure) that are calibrated. This is very important if the practice has recently changed floor coverings as the fixed wall tape measure may no longer be correctly calibrated.
  - ❖ test the weighing scales are working (the scales have working batteries; you can read the display; and that they are set to zero)

- ❖ test that the fixed wall rolling tape measure goes low enough to measure a child's height. It is important to check this if you usually measure the height of adults in your particular practice.
- measure the child's weight accurately
  - ❖ ask the child to undress down to his/her underwear. If this is impractical, at least ask the child to remove shoes, jumpers, jackets or coats. Check the child's pockets are empty - little people will often carry souvenirs such as stones or cars that will add weight! (When you record the weight note down that the weight was taken with the child wearing clothes).
  - ❖ ensure the child is standing on the centre of the scales and not holding onto anything
  - ❖ ensure the child stands on the scales until the measurement is stable
  - ❖ record the weight in kilograms (kg).
- measure the child's height accurately
  - ❖ remove any hair clips or other things that may affect apparent height
  - ❖ ask the child to stand in bare feet with heels against the wall, and with his/her head against the wall, looking forward
  - ❖ ensure the child's head is perpendicular to the wall and the bottom of the measuring tape touches the child's head firmly
  - ❖ record the height. If you record in centimetres (cm) you will need to convert to metres (m) for the BMI calculation.

## WHAT DO YOU NEED TO DO?

- Engage with the parent/s and the child. Discuss with the parents what you will be doing and why it is important that measurements are taken accurately. Children can be slow to warm up to an unfamiliar person, so you may ease the way

## INTERPRETATION OF BMI

The interpretation of BMI differs from growth chart interpretation, as there are defined cut-offs for overweight, underweight and obese. You must ensure that you are using the correct chart for whatever it is that you are calculating. You will note that a BMI percentile chart looks as though it dips in the middle, whereas the percentile charts for weight and height climb in a steady upwards curve.

## BMI INTERPRETATION

Under 3rd percentile	Underweight
3rd to 85th percentile	Normal range
85th to 95th percentile	Overweight
95th percentile and above	Obese

What is known about BMI measurements in children is that a child who is overweight or obese in childhood is much more likely to become an overweight adult with all the associated health risks this will entail. Thus, monitoring of a child's BMI is good preventative health practice.



by engaging with the parent/s first. When it is time to measure the child, request an action with a purpose, such as "come over here with me and I'll show you my measuring tape". This may be preferable to asking if the child would like to be measured (as this just provides an opportunity to refuse). Verbally reward the child's efforts, for example, "Well done, you did a good job of standing still on the scales". If appropriate, provide a sticker or stamp when the child has completed the measurements and got dressed again.

- Document the growth measurements in all the appropriate places eg. the child's parent-held record, the clinic record card and/or the electronic record.
- Calculate the child's BMI. You can do this manually or use a BMI calculator available online.
- Chart the measurements accurately. There are different growth charts for boys and girls and most parent-held records contain these growth charts. (Refer to the box titled "Percentile charts explained") Chart the child's weight accurately for their age on the gender appropriate weight-for-age growth chart. Chart the child's height accurately for their age on the appropriate height-for-age growth chart and chart the child's BMI accurately for their age on the appropriate BMI-for-age chart.
- Interpret the measurements. Interpretation is very important as this will help you to make a decision on the advice and any referral pathways that are needed. (Refer to the box titled "Interpretation of BMI").



- Explore whether the family have any concerns about their child's growth. A good place to start is to ask if the parents have any concerns about the child's weight. Weight is generally understood as the indicator for growth. Parents may be aware there is an obesity issue if the child wears clothes much bigger

than recommended for their age.

- Discuss your findings with the family. One of the key issues when discussing growth is the ability to explain percentile charts and BMI.
- Provide appropriate advice or referrals. If a child is obese, you need to review the child's nutritional intake and activity levels. In this