**PLOTTING CHILD GROWTH**

Checking growth is very important in child health practice. We don’t always check every time we see a child and this can be due to a number of reasons. We might be very busy, have a short period of time to see the child, there might be other major issues that need to be discussed and the child might be uncooperative. But regularly practicing growth measurements will help you to do it every time.

There are some common errors that we make when measuring children and the best way to avoid these errors is to do things consistently. Have a little checklist in your head.

First thing is equipment. The equipment should be appropriate equipment, and appropriate for age. It should be calibrated regularly and it should be used accurately and according to instructions.

Next, the child. The child needs to be undressed. For babies under the age of two, down to the nappy. For children over the age of two, shoes off, hats off, everything out of the pockets and down to light clothing.

Thirdly, writing the measurements down correctly. I find that if I write the measurements down quickly, then I’ll be able to accurately transcribe them when I get back to my computer, or to the paper chart that I’m using. In general it’s better to use a computer program because the plotting will be more accurate. But if you don’t have a program that plots the growth over time, you might need to transfer the values to a paper-based chart because following growth – both height and weight – over time, is the most important component in monitoring growth for children.

In plotting children’s weight on charts, we need to consider a number of factors. One is the variety of charts that are available. There is now a worldwide recommendation that children under two years of age should be plotted onto the WHO growth charts. Over two, there are a range of growth charts available, and I think it’s important for each of us to be familiar with a particular type of chart, to be aware of when they’re updated with new information, and to use it consistently.

The other important issue to remember is that children who are born prematurely, should have their degree of prematurity taken into account up to about the age of two, when plotting their growth onto charts.

It’s very important that we measure and understand the use of BMI in our population of today, with a very considerable percentage of children overweight and obese, with the long-term medical outcomes so significant.

Firstly with BMI, it’s really important to measure the height particularly accurately because the calculation of the BMI is the weight, divided by the square of the height. And if you get the height wrong, you square the wrong number and then you use it as the dividing number, you won’t get anywhere near the accurate BMI.

Although BMI is a very important way of looking at patterns of overweight and obesity, we also have to remember that it’s not the only way to measure overweight and obesity. So it has to be thought about in the context of the whole consultation and your knowledge of the child’s health and of the family environment overall.

It’s really important to plot on a BMI Centile Chart and this is because the value of the BMI in terms of measuring overweight or obesity is different throughout childhood and different compared to adults. So if, if you just use a standard adult BMI, understanding of when you’re overweight and obese, you won’t get it right for kids. BMI should be plotted over time and on a regular basis, just as we do with height and weight. But remember that BMI is only an accurate measure over about the age of two.

There are some important take-home messages about children’s growth and measurement over time.

Firstly, growth is part of an overall assessment of a child and the measurements should always be taken in the context of your overall knowledge about the child’s health and development.

Secondly, one single measure of height and weight and BMI, if the child is over two, is not going to tell a whole story. You must follow the child over time and take opportunities to measure growth at regular intervals.

For example, last week I had a child who seemed to lose ten centimetres in height between this visit and the last visit six months ago. Clearly the last visit’s measurement was inaccurate. So knowing about the context of the child’s health overall, is really significant.

It’s also important for families to understand the value of understanding growth and growth patterns in their overall understanding of their child’s health and development. Using a growth chart which can be plotted over time, is an excellent way to help families understand how their child is growing and the importance of a steady growth.