

Growing Children

Patterns of Growth in Children



During childhood and adolescence a huge amount of growth occurs. There are two periods where it's particularly significant - early childhood and at puberty at around 10-16 years old (usually slightly earlier in girls).

Puberty is a period of several years in which rapid physical growth and psychological changes occur, largely influenced by hormonal activity. The onset and pace of puberty vary widely, primarily influenced by heredity, however environmental factors such as diet and exercise also exert some influence.

Children experience a rapid increase in height and weight resulting from the simultaneous release of growth hormones, thyroid hormones and androgens. At their fastest, boys can grow taller by as much as 9cm a year and girls at a rate of 8cm a year.

The accelerated growth in different body parts happens at different times, but for all adolescents it has a fairly regular sequence. It starts on the outside of the body and works in. Hands and feet are the first to expand. Next, arms and legs grow longer and even here the 'outside-in' rule applies. The shinbones lengthen before the thigh and the forearm before the upper arm. Finally, the spine grows. The very last expansion is a broadening of the chest and shoulders in boys and a widening of the hips and pelvis in girls.

This non-uniform growth is one reason why an adolescent body may seem out of proportion. Many teenagers shoot up so fast that their brains cannot keep up. As their height increases, their centre of gravity lifts.

As a result, the body's ability to know where it is in space without looking (also known as proprioception - which uses receptors all over the body) can be put under a lot of strain as the brain tries to catch up with these changes. This happens so quickly the brain does not get a chance to calculate the new rules for balancing.

Consequently, during periods of larger growth, you may find your child can appear more clumsy or poorly coordinated as the brain adapts.

Girls, on average, have usually finished growing by the age of 18. However, boys continue to grow into their early 20's.

Males experience their growth spurt about two years later than girls and grow muscles much faster than females, who experience a higher increase in body fat. An adolescent's heart and lungs increase in both size and capacity during puberty; these changes contribute to increased strength and tolerance for exercise. Weight bearing exercise is important during these times to ensure a high peak bone mass is reached.

During childhood it's important to keep active to aid in growth and development, something which can be difficult to encourage in today's society with modern technology and work loads playing such a huge role in our children's lives.

If you are concerned at any point about your child's growth or development, it's important to get them checked by a health professional.

