

# MAGIC NZ

Supporting Children with Growth Disorders  
and their Families



www.magicnz.org.nz

## *Constitutional Growth Delay*

### Introduction

Short-stature is a common finding in the routine medical examination of children. Between 3 and 5 children out of every 100 children will have short-stature. The causes of short stature are varied from a normal pattern of growth to a presenting symptom of systemic disease or brain tumors. Thus, the challenge to every physician who sees children is to ascertain which child is likely or not likely to have a pathological process.

This brief discussion will focus on one of the most common variants of normal growth: Constitutional Growth Delay (or constitutional delay of maturation). Although there is minimal literature published on this growth pattern, it is commonly applied to many children with short-stature.

### Constitutional Growth Delay Characteristics

There are 6 considerations that need to be satisfied before a physician can conclude that a child has constitutional delay of maturation.

1. Normal birth weight and length.
2. Growth velocity slowing between the ages of 6 months and 2.5 years of life with height percentile usually decreasing to less than the 5th percentile.
3. Beyond the age of 2.5 to 3 years, a velocity of growth which is normal for chronological age.
4. No evidence of a syndrome or systemic disease.
5. A delay in skeletal maturation that equals the delay in height (formally expressed as the bone age is equal to height age).

*Note: If the child was born small-for-gestational age (SGA), a delayed bone age does not indicate that the child will achieve catch-up growth later. See The MAGIC Foundation SGA brochure for more details.*

6. A positive family history for at least one of the parents being short as a child, having delayed onset of puberty, and a final adult height within the normal range.

The sixth item may not be observed for each child; however, absence of any one of the first five items should raise concerns about the diagnosis of constitutional delay of maturation.

### Growth Pattern

The natural history of a child with constitutional delay of maturation has already been suggested. At birth the child is normal size. Sometime between 6 months and 2.5 years of age, they slip on the growth curve such that their height is at or below the 5th percentile. After the slowdown period, the child's growth velocity improves so that he/she grows in parallel with their peer group and remains at the same percentile. The child's weight/height ratio usually remains healthy, so the child does not look "too thin".

The child remains smaller than his/her peers throughout childhood. Catch-up growth occurs in the mid- to late-teens as the child enters puberty later than his/her peers, allowing for extra growing time.

### Diagnosis

If your child's growth varies from a normal growth pattern, do not allow the issue to be dismissed too easily as constitutional growth delay. A variety of other conditions can cause growth problems, and many of these conditions require medical intervention to achieve the best medical and psychological outcome for your child. The child with constitutional growth delay will not require treatment.

A careful evaluation by an individual with experience in growth disorders (ask for a referral to a paediatric endocrinologist) along with regular visits for assessment of growth are necessary to assure that a child does have constitutional delay of maturation rather than some disease process.

## Social Issues

A child with constitutional delay will face many of the same adjustment problems that a child with growth hormone deficiency will face. Parents need to understand these issues and have open communication with their child. Throughout childhood, people may assume your child is younger than his/her chronological age. Your child may also feel out-of-place at school, especially if he/she has trouble keeping up with the physical activities of his/her classmates. Work at building up your child's self-esteem and finding activities that he/she enjoys. Refer to The MAGIC Foundation brochure, "Psychosocial Issues of the Growth Delayed Child".

The time for puberty is a common crisis period. While his/her peers are enjoying the onset of puberty and its associated dramatic growth spurt, the constitutionally growth delayed child's entry into puberty will lag behind. At this stage, the magnitude of short-stature often becomes more pronounced. Eventually, the child will enter puberty normally and final adult height will be within the normal range.

Just as important, however, is not to imply that there is "something wrong" for which the child needs medication. Instead, the child should be reassured of his/her excellent health.

## Advocate for Your Child

Most importantly, be your child's #1 advocate and trust your parental gut instinct. Ensure that your child gets the appropriate medical care under the proper specialists so you can be satisfied that the diagnosis of constitutional growth delay is correct.

Leave no question unanswered, even if you think your questions are simple or silly. Don't be afraid to ask questions or get a second opinion from another specialist. A greater understanding will allow you to provide optimal care for your child.

Many conditions can affect a child's growth. MAGIC NZ has several family-friendly educational brochures available (i.e., Turner Syndrome, Failure-to-Thrive, Growth Hormone Deficiency, Small-for-Gestational Age, Hypothyroidism, Panhypopituitarism, etc.).

For more information visit [www.magicnz.org.nz](http://www.magicnz.org.nz), email [jan@magicnz.org.nz](mailto:jan@magicnz.org.nz)  
or write to MAGIC NZ, PO Box 1493, Wellington.

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