



- Constitutional delay of growth and puberty (CDGP) is a **normal variant** of short stature.
- Short stature is defined as height  $\geq 2$  SD below the mean for age or height  $< 3$ rd percentile.

## PRESENTATION

- |   | PHYSICAL EXAM  |
|---|--|
| <ul style="list-style-type: none"> <li>Birth weight appropriate for gestational age.</li> <li>Slowing of height velocity in first 3 years followed by normal pre-pubertal growth velocity until puberty.</li> <li>Delayed onset of puberty.</li> <li>History of delayed puberty in parents ("late-bloomers").</li> <li>Normal mid-parental height.</li> </ul> | <ul style="list-style-type: none"> <li>Height <math>&lt; 3</math>rd percentile</li> <li>Normal growth velocity</li> <li>Late-normal or delayed puberty</li> <li>No dysmorphic features and normal body proportions</li> <li>No signs of chronic illness</li> </ul> |

## DIAGNOSIS

- Delayed bone age (hallmark in diagnosis)
- Normal growth velocity
- Short stature
- Otherwise healthy with no other concerning symptoms
- Absence of underlying pathological cause of short stature

### INVESTIGATIONS

Bone age – Left wrist X-ray



## Features Suggesting Alternative Etiology



Feature	Possible Etiology
Poor weight gain	<b>Systemic Illness:</b> Anemia Celiac Disease Chronic renal Insufficiency Inflammatory bowel disease
Increased weight for height	<b>Endocrinological Causes:</b> Hypothyroidism GH deficiency
Dysmorphic features	<b>Genetic Syndromes:</b> Turner Syndrome Down Syndrome

## Normal Growth Velocity

Age	Growth Velocity per year
Birth – 12 months	23 to 27 cm
12 months – 1 year	10 to 14 cm
2 to 3 years	8 cm
3 to 5 years	7 cm
5 years to puberty	5 to 6 cm
Puberty	Girls: 8 to 12 cm Boys: 10 to 14 cm

## Normal Onset of Puberty

**Girls:** 8-13 years (average 10.5 years)

**Boys:** 9-14 years (average 11.0 years)

## MANAGEMENT

- Reassurance:** Children with CDGP will undergo catch-up growth when they enter puberty and will achieve a final adult height according to their genetic potential.
- Follow-up:** Close monitoring of growth and pubertal advancement at least every 6 months.
- Hormonal Therapy:** May consider short term hormone therapy under the guidance of an endocrinologist to initiate pubertal changes.

July 2025

Sughra Ali (Medical Student, Western University), Dr. Andrea Ens (Paediatric Endocrinologist, Western University) for [www.pedscases.com](http://www.pedscases.com)