The Short Child

History
- Birth history / birth weight
- Parental heights
- Family history of short stature or pubertal delay
- Detailed systems review
- Medication history

Phases of growth
- **first year** – depends on nutrition
- **Childhood** – GH –dependent (5 cm per year)
- **Pubertal growth spurt** – boys 2 years after girls – about 10 cm/year

Possibilities
Familial or CDGP (95%)
- **genetic** – Turner / Russell Silver
- **GI** – coeliac / Crohns
- **Renal** – CRF
- **Endocrine** – GH deficiency, hypothyroidism , Cushings (suspect in the short, fat child)

Examination
- Accurate height – no shoes (stadiometer height)
- weight / head size
- Tanner puberty stage
- ? Dysmorphic features or short limbs
- measure parents heights and calculate mid-parental height

Indications for specialist referral

Early puberty –
8 years of age in girls and 9 years of age in boys

Delayed puberty –
no signs of puberty in a 13 year old girl or 14 year old boy

Significant short stature with low growth velocity

Investigations
- **assess growth velocity (should be 5 cm per year)**
- **Left wrist for bone age**
- **if short and low growth velocity -> investigate**

Specialist Investigations

GH stimulation test (arginine)

IGF – 1

T4 / TSH

LH / FSH +/- chromosomes if short girl

Coeliac screen

Treatment
- reassurance and annual follow up re growth velocity if familial or constitutional delay(CDGP)
- **see indications for specialist referral**

Delayed puberty issues

No signs of puberty in a 13 yo girl or 14 yo boy **(LH/FSH and bone age assessment helpful**)

Usually familial but may be due to chronic illness (eg CF)

TAKE HOME MESSAGES
Growth is a good indicator of child health
Short stature almost always due to CDGP or familial factors
Need to calculate growth velocity
Accurate measurement of standing height is essential
Watch out for Turners in short girls
Reference:*Archiv Dis Child* 2012 ; 97(1): 9-16

Early Puberty issues

Early breast development with normal growth and no signs of puberty **– u/s to exclude ovarian cyst**
- precocious puberty < 8 in girls and 9 in boys

This algorithm has been produced by the National Paediatric and Neonatology Clinical Programmes. It is aimed at medical, nursing and allied health professionals working in both primary and emergency care settings.
Amendments following suggestions of QIP committee of the ICGP . Secondary care investigations and treatment denoted in **pink**

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