

Girls Growth Charts: 2-18 years

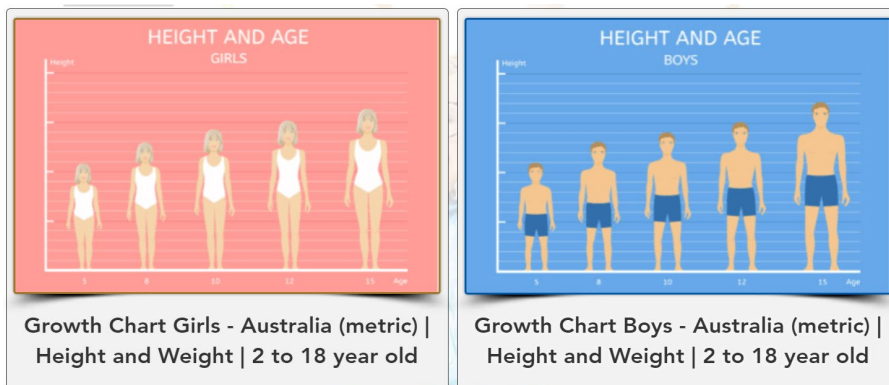
(and how to read them)



Wondering if your child is too short or too tall for their age?
Are they average height? Do they have a healthy weight for height?

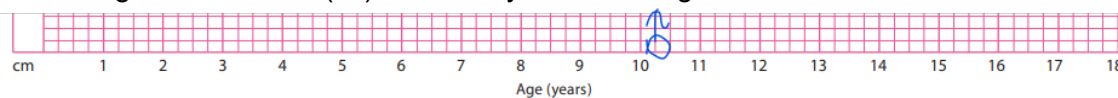
You can skip to the next page **Australian growth charts for girls aged 2-18 years**, or read our quick guide on how to read a growth chart here.

First, check you are using the correct chart for your child's age and sex

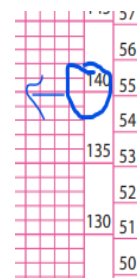


To plot their height using the "Height Percentile" chart:

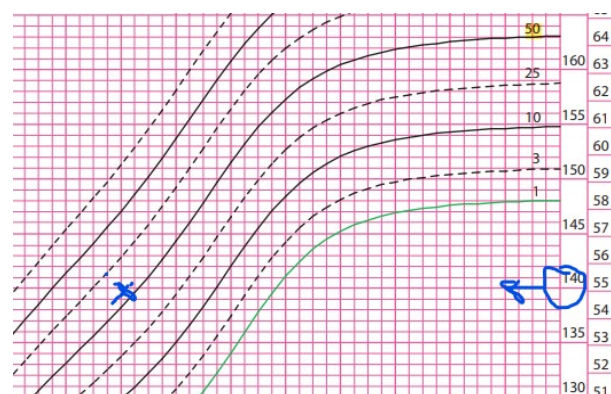
- Along the horizontal (x) axis, find your child's age



- Along the vertical (y) axis, find your child's height
- Trace a line upwards from their age (x) up to the line of their height (y), and mark the point where these two lines meet



The curved lines along the chart correspond to centiles.



- "Average height" corresponds to the 50th centile
- On average 50% of children of the same age and sex will be taller than this, and 50% will be shorter.
- Most children will 'find their centile' in the first couple of years of life, and then 'follow' this centile throughout childhood.

Many [factors contribute to growth](#) throughout childhood and [puberty](#) including nutrition, illness, and family history. Visit our [website](#) and [FAQ](#) for more information, or if you have questions or concerns book an appointment with your child's GP, who can arrange a referral to us at Queensland Paediatric Endocrinology as needed.

Pfizer Australia Pty Ltd
Sydney, Australia

Surname _____

Identification No. _____

Given Names _____

Date of Birth _____

Head Circumference

Measuring Technique: The tape should be placed over the eyebrows, above the ears and over the most prominent part of the occiput taking a direct route. A paper tape is preferable to plastic, which stretches unacceptably under tension. The maximum measurement should be recorded to the nearest 0.1 cm.

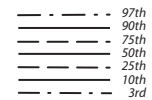


Data Source: 2-5 yr: Jones, DL, NSW Health Communication publication 1973, 5-18 yr: Nelhaus, G. *Pediatrics* 1986; 41:106-114.

Height Velocity

The standards are appropriate for velocity calculated over a whole year period, not less, since a smaller period requires wider limits (the 3rd and 97th centiles for a whole year being roughly appropriate for the 10th and 90th centiles over six months). The yearly velocity should be plotted at the mid-point of a year. The centiles given in black are appropriate to children of average maturational tempo, who have their peak velocity at the average age for this event. The red line is the 50th centile line for the child who is two years early in maturity and age at peak height velocity, and the green line refers to a child who is 50th centile in velocity but two years late. The arrows mark the 3rd and 97th centiles at peak velocity for early and late maturers.

Centiles for girls maturing at average time



Early (+2SD) maturers

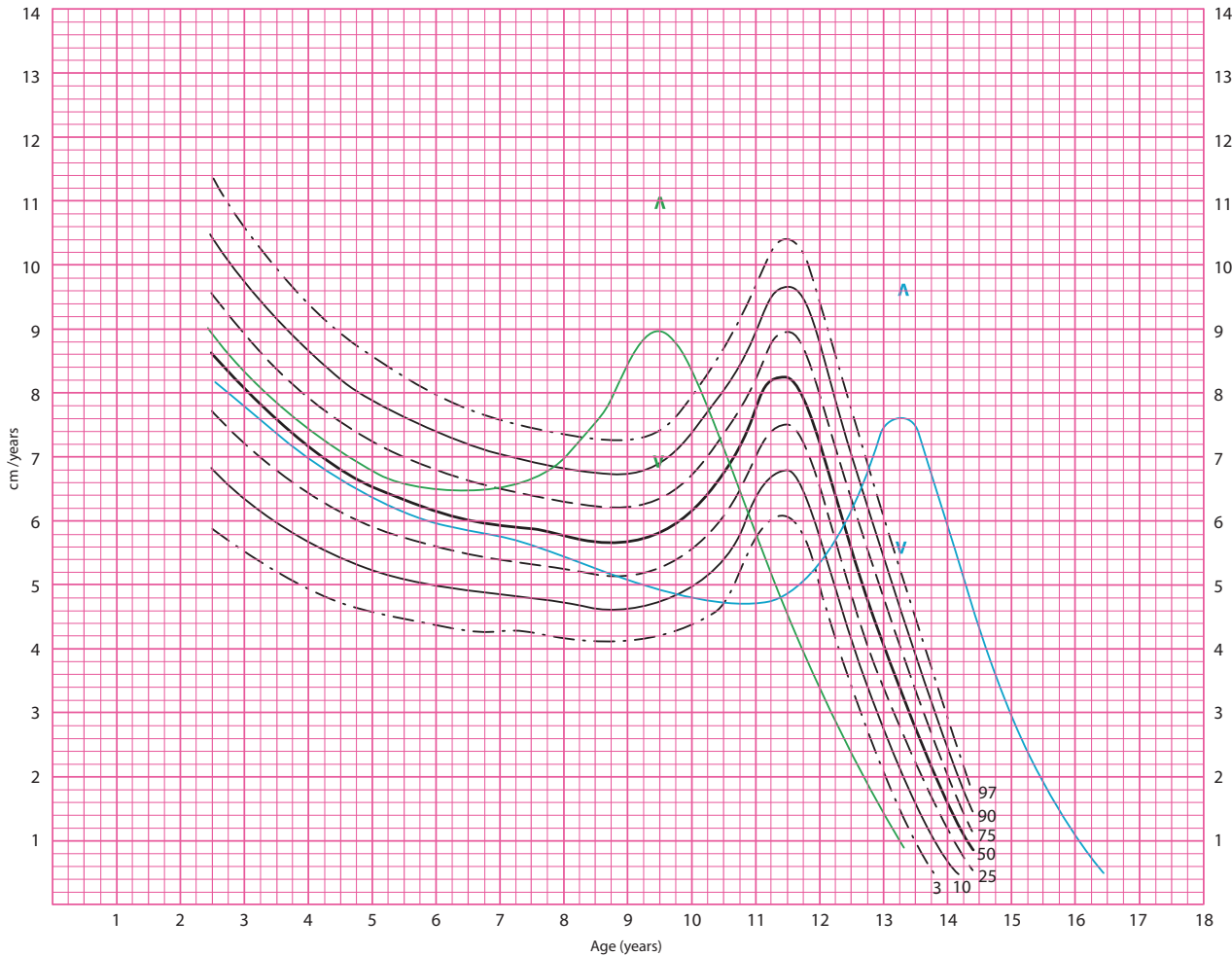


97th centile peak
50th centile peak
3rd centile peak

Late (-2SD) maturers



97th centile peak
50th centile peak
3rd centile peak



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Data Source: Tanner J, Davies P. Clinical longitudinal standards for height and height velocity for North American children. *The Journal of Pediatrics* 1985;107(3):17-329.

Height Percentile

Mother's Height _____

Father's Height _____

Simplified Calculation of Body Surface Area (BSA)

$$BSA (m^2) = \sqrt{\frac{Ht (cm) \times Wt (kg)}{3600}}$$

Reference: Mosteller, RD, Simplified calculation of body surface area, *N. Engl. J. Med* 1987;317:1098.

Supine Length (recommended up to the age of 3 so that there is overlap with standing height at 2 to 3) is taken on a flat surface, with the child lying on her back. One observer holds the child's head in contact with a board at the top of the table and another straightens the legs and turns the feet upward to be at right angles to the legs and brings a sliding board in contact with the child's heels.

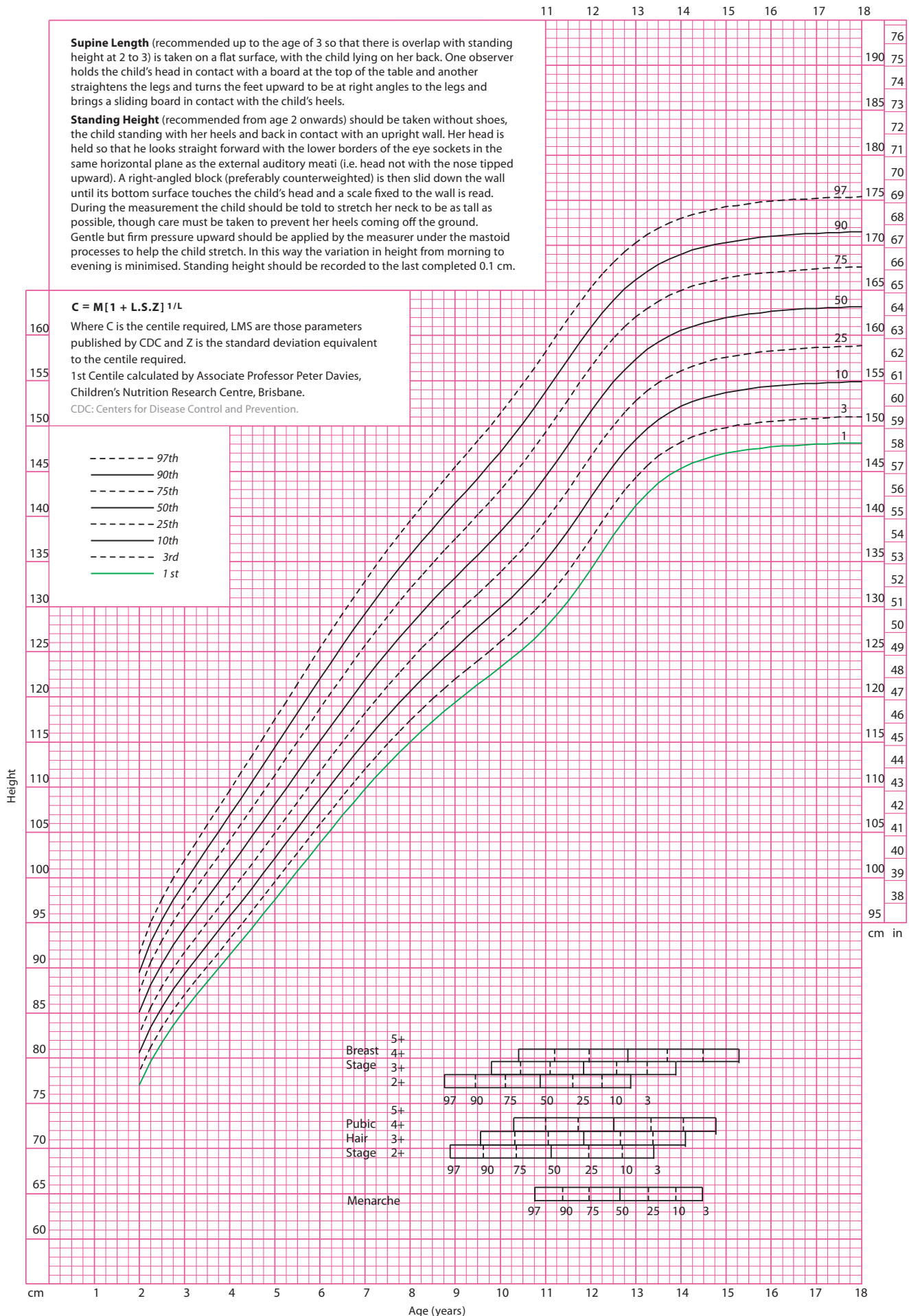
Standing Height (recommended from age 2 onwards) should be taken without shoes, the child standing with her heels and back in contact with an upright wall. Her head is held so that she looks straight forward with the lower borders of the eye sockets in the same horizontal plane as the external auditory meati (i.e. head not with the nose tipped upward). A right-angled block (preferably counterweighted) is then slid down the wall until its bottom surface touches the child's head and a scale fixed to the wall is read. During the measurement the child should be told to stretch her neck to be as tall as possible, though care must be taken to prevent her heels coming off the ground. Gentle but firm pressure upward should be applied by the measurer under the mastoid processes to help the child stretch. In this way the variation in height from morning to evening is minimised. Standing height should be recorded to the last completed 0.1 cm.

$$C = M[1 + L.S.Z]^{1/L}$$

Where C is the centile required, LMS are those parameters published by CDC and Z is the standard deviation equivalent to the centile required.

1st Centile calculated by Associate Professor Peter Davies, Children's Nutrition Research Centre, Brisbane.

CDC: Centers for Disease Control and Prevention.

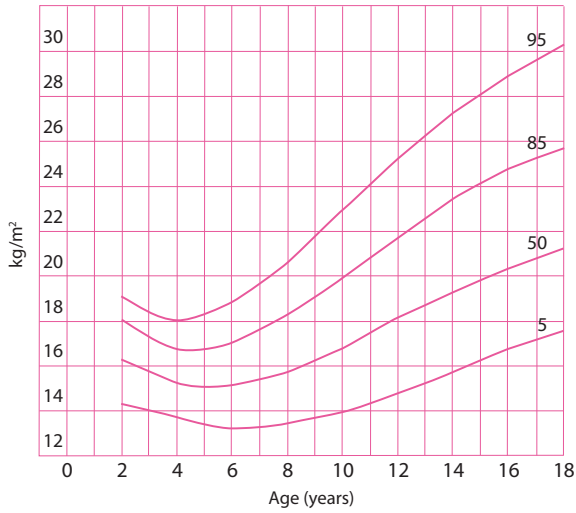


Data Source: <https://www.cdc.gov/growthcharts/data/set1clinical/cj411022.pdf>

Weight Percentile

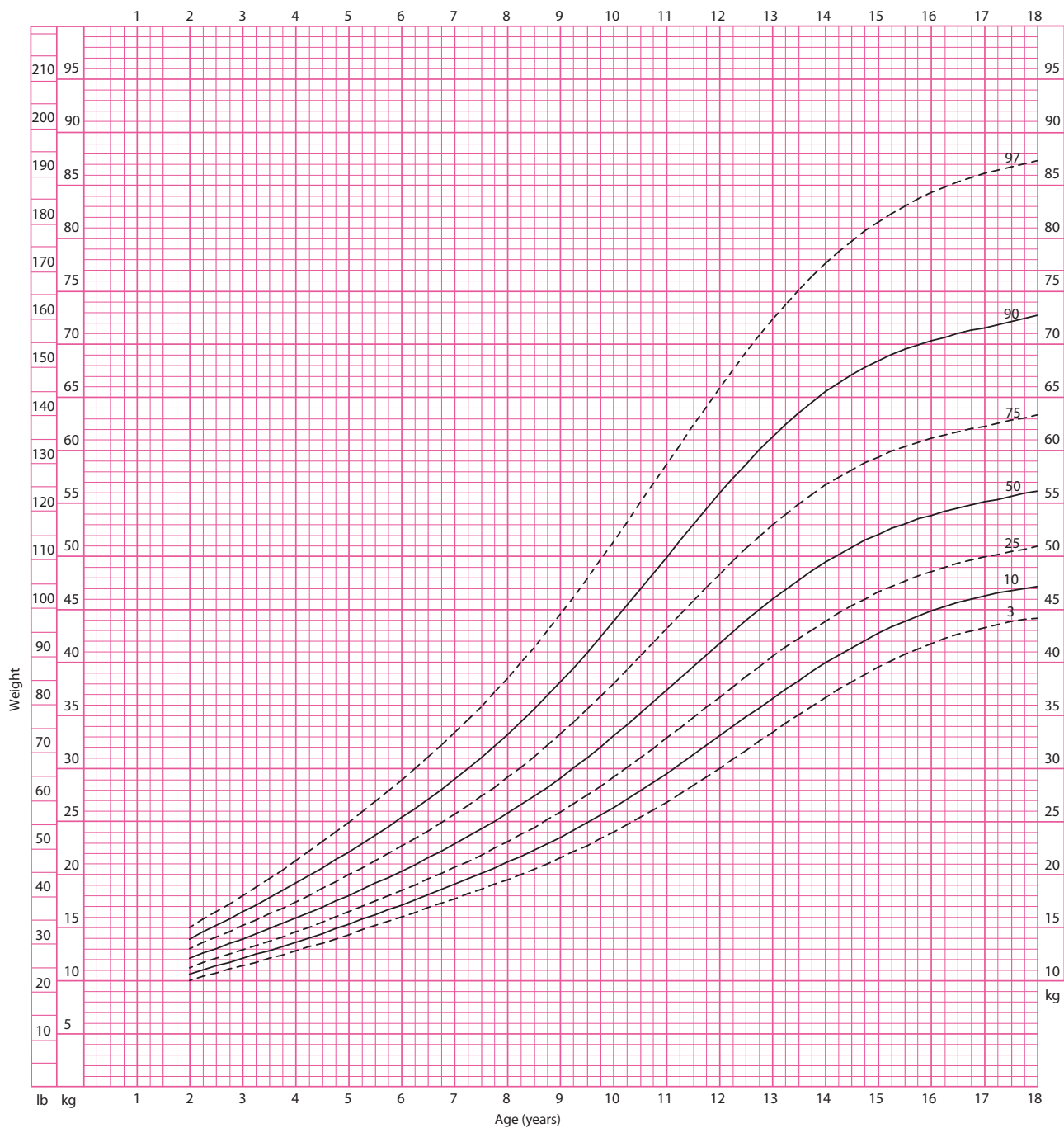
Weight should be taken in the nude, or as near thereto as possible. If a surgical gown or minimum underclothing (vest and pants) is worn, then its estimated weight (about 0.1 kg) must be subtracted before weight is recorded. Weights are conventionally recorded to the last completed 0.1 kg above the age of six months. The bladder should be empty.

Body-Mass Index



Data Source: <https://www.cdc.gov/growthcharts/data/set1clinical/cj411024.pdf>

					PUBERTAL STAGES		
DATE	AGE	HEIGHT	WEIGHT	HEAD CIRCUM.	BREAST	PUBIC HAIR	MENARCHE



Data Source: <https://www.cdc.gov/growthcharts/data/set1clinical/cj411022.pdf>

Girls 2-18 years

Stages of Puberty

Ages of attainment of successive stages of pubertal sexual development are given in the Height Percentile chart.

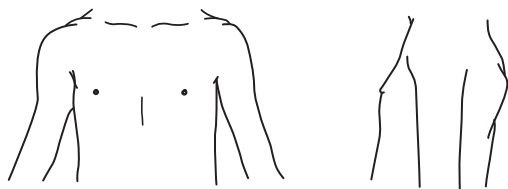
The stage Pubic Hair 2+ represents the state of a child who shows the pubic hair appearance stage 2 but not stage 3 (see below).

The centiles for age at which this state is normally seen are given, the 97th centile being considered as the early limit, the 3rd centile as the late limit. The child's puberty stages may be plotted at successive ages (Tanner. *Growth at Adolescence*, 2nd edn, 1962).

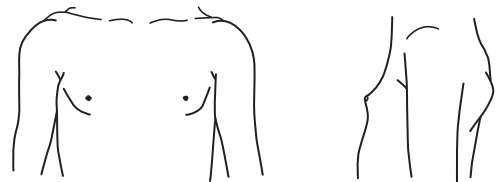
Pubic Hair Development

- Stage 1.** Pre-adolescent. The vellus over the pubes is not further developed than that over the abdominal wall, i.e. no pubic hair.
- Stage 2.** Sparse growth of long, slightly pigmented downy hair, straight or slightly curled, chiefly along labia.
- Stage 3.** Considerably darker, coarser and more curled. The hair spreads sparsely over the junction of the pubes.
- Stage 4.** Hair now adult in type, but area covered is still considerably smaller than in the adult. No spread to the medial surface of thighs.
- Stage 5.** Adult in quantity and type with distribution of the horizontal (or classically 'feminine') pattern. Spread to medial surface of thighs but not up linea alba or elsewhere above the base of the inverse triangle (spread up linea alba occurs late and is rated stage 6).

Breast Development Stages



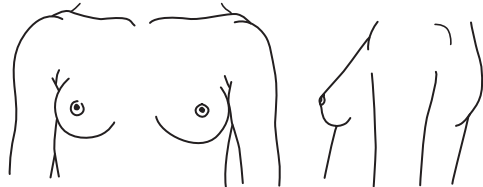
Stage 1. Prepubertal



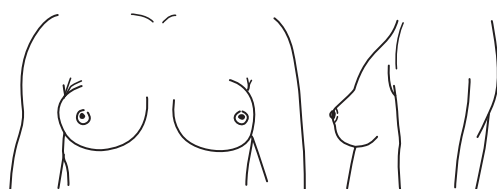
Stage 2. Elevation of breasts and papilla



Stage 3. Further elevation and areola but no separation of contours

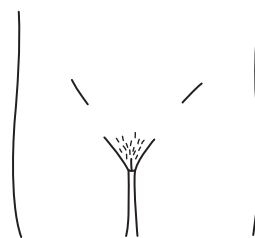


Stage 4. Areola and papilla form a secondary mound above level of the breast

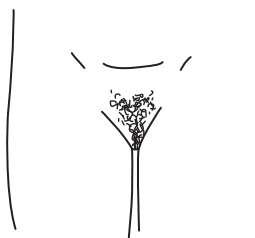


Stage 5. Areola recesses to the general contour of the breast

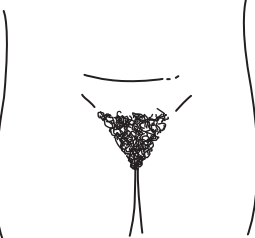
Pubic Hair Stages



Stage 2.



Stage 3.



Stage 4.



Stage 5.

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What is the average height for Australian girls?

Average height of a 2-year-old girl:	85 cm	(range 79cm to 92cm)
Average height of a 3-year-old girl:	94.5 cm	(range 87cm to 102cm)
Average height of a 4-year-old girl:	101 cm	(range 93cm to 109.5cm)
Average height of a 5-year-old girl:	108 cm	(range 99.5cm to 117.5cm)
Average height of a 6-year-old girl:	115 cm	(range 106cm to 125cm)
Average height of a 7-year-old girl:	122 cm	(range 112cm to 133cm)
Average height of an 8-year-old girl:	127 cm	(range 117.5cm to 139.5cm)
Average height of a 9-year-old girl:	133 cm	(range 122cm to 145.5cm)
Average height of a 10-year-old girl:	138.5 cm	(range 126cm to 151.5cm)
Average height of an 11-year-old girl:	144.5 cm	(range 131cm to 158cm)
Average height of a 12-year-old girl:	151.5 cm	(range 137.5cm to 165cm)
Average height of a 13-year-old girl:	157.5 cm	(range 144.5cm to 170.5cm)
Average height of a 14-year-old girl:	160.5 cm	(range 148cm to 173cm)
Average height of a 15-year-old girl:	162 cm	(range 150cm to 174cm)
Average height of a 16-year-old girl:	162.8 cm	(range 150.5cm to 175cm)
Average height of a 17-year-old girl:	163 cm	(range 151cm to 175cm)
Average height of an 18-year-old girl:	163.2 cm	(range 151cm to 175.3cm)

What is the average weight for Australian girls?

Average height of a 2-year-old girl:	12 kg	(range 10kg to 15kg)
Average height of a 3-year-old girl:	14 kg	(range 11.5kg to 18kg)
Average height of a 4-year-old girl:	16 kg	(range 12.9kg to 21.4kg)
Average height of a 5-year-old girl:	18 kg	(range 14.3kg to 25kg)
Average height of a 6-year-old girl:	20.2 kg	(range 16kg to 29kg)
Average height of a 7-year-old girl:	23 kg	(range 17.7kg to 33.5kg)
Average height of an 8-year-old girl:	26 kg	(range 19.5kg to 38.5kg)
Average height of a 9-year-old girl:	29 kg	(range 21.5kg to 44.5kg)
Average height of a 10-year-old girl:	33 kg	(range 24kg to 51.5kg)
Average height of an 11-year-old girl:	37.5 kg	(range 26kg to 59kg)
Average height of a 12-year-old girl:	41.8 kg	(range 30kg to 66kg)
Average height of a 13-year-old girl:	46 kg	(range 33.5kg to 73.4kg)
Average height of a 14-year-old girl:	49.5 kg	(range 36.8kg to 77.8kg)
Average height of a 15-year-old girl:	52 kg	(range 39.7kg to 81.5kg)
Average height of a 16-year-old girl:	54 kg	(range 41.8kg to 84.3kg)
Average height of a 17-year-old girl:	55 kg	(range 43.2kg to 85kg)
Average height of an 18-year-old girl:	56 kg	(range 44kg to 87.2kg)