

• Please place a sticker (if available) otherwise write in space provided.

Surname

First names

NHS number Local no

G.P. Code

H.V. Code

GIRLS

GROWTH CHART

(BIRTH - 18 YEARS)

United Kingdom cross-sectional reference data : 1994/1
 D.O.B. : WEEKS GESTATION
 HOSPITAL COMPUTER Nr.

pre-term

for a girl born before 37 completed weeks, draw a vertical "pre-term" line at the appropriate week and plot measurements from this line for at least twelve months. For all later deliveries plot from the EDD (Estimated Delivery Date) line.

measurements

weight: an infant or toddler should always be weighed naked on a self-calibrating or regularly calibrated scale. An older child should be weighed with the minimum of clothing.

head circumference: head circumference measurements should be taken from midway between the eyebrows and the hairline at the front of the head and the occipital prominence at the back. Appropriate thin plastic or metal tape should be used: sewing tape or paper tape is not recommended for this purpose.

supine length and standing height: an infant should be measured supinely (on her back) by two people with equipment featuring both a head and footboard. Whilst one person holds her head against the headboard, with her head facing upwards and positioned in the Frankfurt plane*, a second person measures her length by positioning her heels against the footboard. The downward pressure on her knees required to ensure that her legs are flat will not endanger hip dislocation. Standing height should be measured against an appropriate vertical height measure. Her feet should be together with her heels, buttocks and shoulder blades touching the vertical with her head positioned in the Frankfurt plane*. To ensure the maximum height, upward pressure to her mastoid processes should be considered.

*The Frankfurt plane is an imaginary line from the centre of the ear hole to the lower border of the eye socket.

guidelines for recording, plotting and referral

Record the measurement using the boxes on this chart immediately you have taken it. Enter the date, specify the measurement in the box with the asterisk (i.e. H/C = head circumference, H = height, L = length, W = weight) and initial your entry. You might find it helpful to enter her current age in the appropriate column. Plot each measurement on the grid with a well defined dot. Trace the growth curve with a line but leave the dots clearly visible. A normal growth curve is one that always runs roughly on/parallel to one of the printed centile lines. If it doesn't, consider these guidelines:-

Refer immediately any girl whose height falls above the 99.6th or below the 0.4th centile. If her growth curve crosses one centile line between two measurements she should be reviewed with particular care at her next measurement and referred if the trend continues. If she crosses two centile lines between one pair of measurements she should also be referred. If she crosses one centile between three measurements (i.e. between 2 - 5 yrs) she should have one further measurement one year later by the health visitor or school nurse. At that point a judgement must be made about referral or discharge but refer if in doubt.

adult height potential

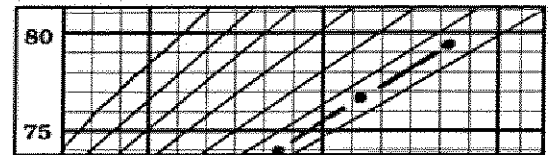
The data in the illustration shows how the potential adult height of a girl - **mid-parental height (MPH)** - is calculated. It indicates that her growth curve should follow the 50th centile - **mid-parental centile (MPC)** - to reach 164cm as an adult. It may follow a centile somewhere between the 91st - 9th (MPH \pm 8.5cm) yet still be within her **target centile range (TCR)**. N.B. This calculation is not appropriate if either natural parent is not of normal stature.

Calculate (and complete on back page) as follows:-

- (a) = father's height
- (b) = mother's height
- (c) = sum of (a) and (b)
- (d) = (c) + 2
- (e) = (d) - 7cm (MPH)
- (f) = MPC - nearest centile to (e)
- (g) = TCR (mid-parental height \pm 8.5cm)

Arrow (h) the mid-parental height/centile and draw a vertical line above and below it to represent the target centile range.

Date	Age	*	Measurement	Initials
24.09.92	20/12	L	72 : 5 cm	AFW
24.09.92	20/12	H/C	44 : 3 cm	AFW
24.09.92	20/12	W	9 : kg	AFW
:	:	:	:	:



(a) ...186...cm	99th = 175	← (h)
(b) ...156...cm	91st = 170	
(c) ...342...cm	75th = 165	
(d) ...177...cm	50th = 160	
(e) ...164...cm	25th = 155	
(f) ...50th...centile		
(g) ...91st centile - ...9th...centile		

references and acknowledgements

1. A peer review paper (Freeman JV et al) describing the compilation of this Reference Chart has been submitted.
2. Cole TJ "Do growth chart centiles need a facelift?" *BMJ*; 1994; 308: 641-2 describes the 9-centile charts.

Compilation: Institute of Child Health London (Freeman JV et al). Data sources: British Size Surveys, Loughborough Consultants Ltd 1993 (Jones PRM, Norgan NG, Hunt MJ, Hooper RH); National Study of Health and Growth (Chinn S, Rona RJ); OPCS National Heights and Weights Survey, 1980; Tayside Growth Study (White E et al); UCH 1000 births 1987/88 (Colley NV, Henson GL); MRC Dunn Nutrition Centre, Cambridge (Paul AA, Whitehead RG); Carpenter's First Year Charts 1992 (Carpenter RG, Carpenter JR, Chadwick JGM).



Designed and Published by
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Pharmacia
 Kabi Peptide Hormones

0-1 yr

NAME

weeks

HE
CONV

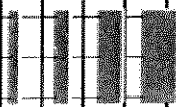
HEAD
cm



99.6th
98th
91st
75th
50th
25th
9th
2nd
0.4th

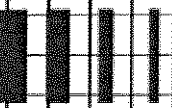
- 2.54cm
- 30.5cm
- 38.1cm
- 45.7cm
- 53.3cm
- 61.0cm
- 68.6cm
- 76.2cm
- 83.8cm
- 91.4cm
- 99.0cm
- 106.7cm
- 114.3cm
- 121.9cm
- 129.5cm
- 137.2cm
- 144.8cm
- 152.4cm
- 160.0cm
- 167.6cm
- 175.3cm
- 182.9cm
- 190.5cm
- 198.1cm
- 200.0cm

LENGTH
cm



- WE
CONV
- 500gn = 1
 - 1kg = 2
 - 1.5kg = 3
 - 2.0kg = 4
 - 3.0kg = 6
 - 3.5kg = 7
 - 4.0kg = 8
 - 4.5kg = 9
 - 5.0kg = 10
 - 5.5kg = 11
 - 6.0kg = 12
 - 6.5kg = 13
 - 7.0kg = 14
 - 7.5kg = 15

WEIGHT
kg



99.6th
98th
91st
75th
50th
25th
9th
2nd
0.4th

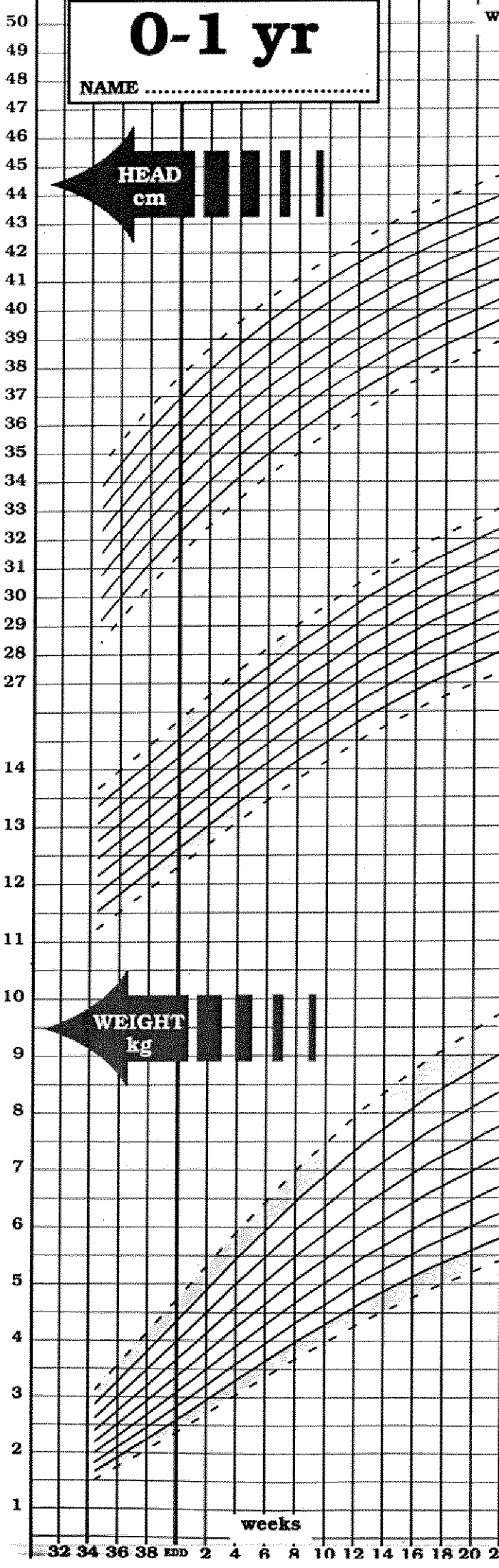
- 8.0kg = 16
- 8.5kg = 17
- 9.0kg = 18
- 9.5kg = 19
- 10 kg = 20
- 10.5kg = 21
- 11.0kg = 22
- 11.5kg = 23
- 12.0kg = 24
- 12.5kg = 25
- 13.0kg = 26
- 13.5kg = 27
- 14.0kg = 28
- 14.5kg = 29
- 15.0kg = 30
- 15.5kg = 31
- 16.0kg = 32
- 16.5kg = 33
- 17.0kg = 34
- 17.5kg = 35
- 18.0kg = 36
- 18.5kg = 37
- 19.0kg = 38
- 19.5kg = 39
- 20.0kg = 40

24 26 28 30 32 34 36 38 40 42 44 46 48 50 52

Date	Age	*	Measurement	Initials
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:
:	:	:	:	:

WHEN FULL, USE
BOXES OPPOSITE

*Measurement: H/C = Head Circumference, L = Length, W = Weight, H = Height



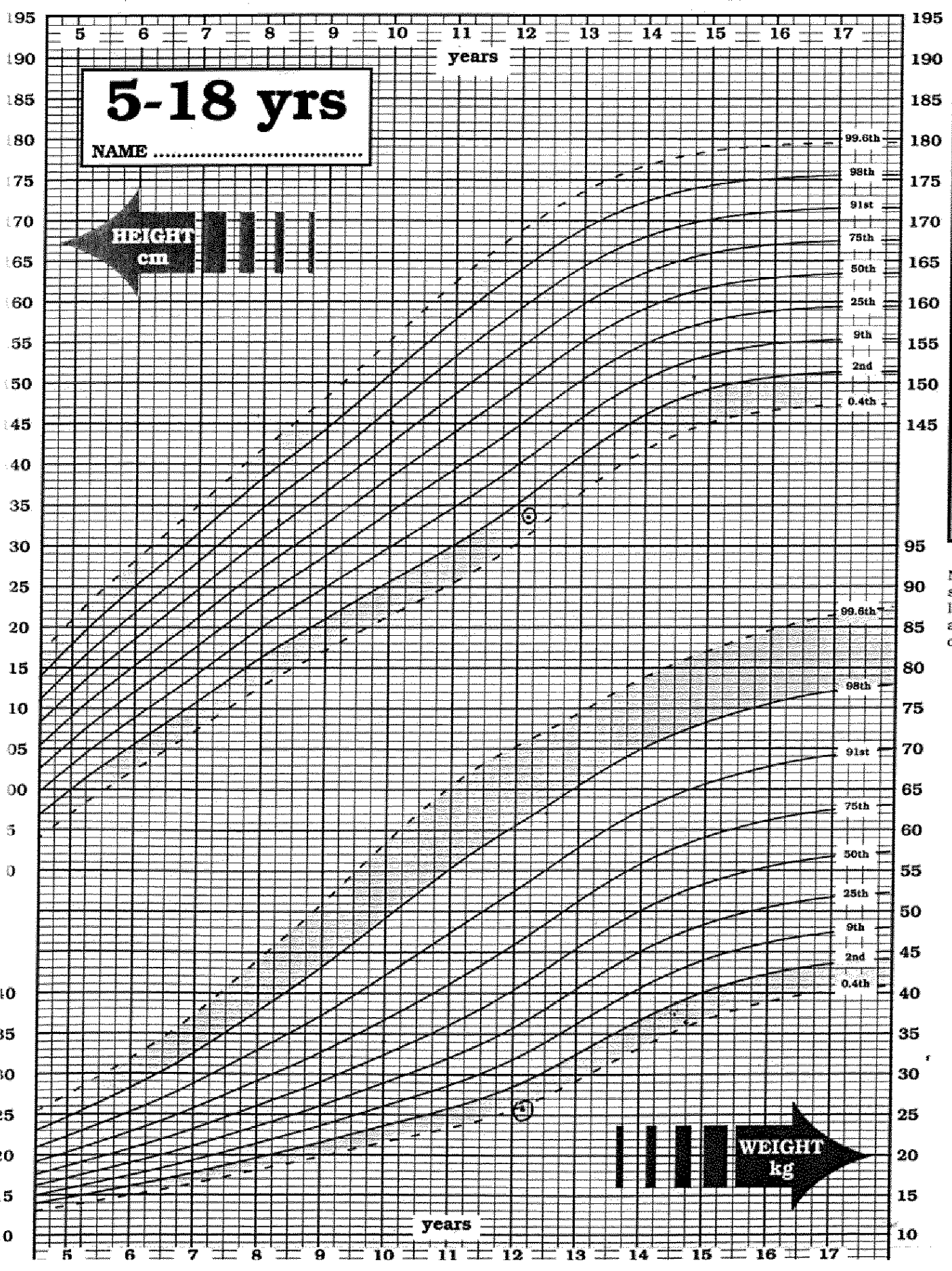
* measurement: H = height, W = weight

D.O.B.

ADULT HEIGHT POTENTIAL

Date	Age	*	Measurement	Initials	Date	Age	*	Measurement	Initials
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:

- (a)cm
- (b)cm
- (c)cm
- (d)cm
- (e)cm (f).....centile
- (g)centile -centile



N.B. She may still put on a little weight after the age of 18.