



PUERICULTURA E PEDIATRIA

Faculdade de Medicina de Ribeirão Preto
UNIVERSIDADE DE SÃO PAULO



Universidade de São Paulo

Guilherme Manso de Lima

Priscila Beatriz de Souza Medeiros

Archives of Disease in Childhood, 1976, 51, 170.



Clinical longitudinal standards for height, weight, height velocity, weight velocity, and stages of puberty

J. M. TANNER and R. H. WHITEHOUSE

From the Department of Growth and Development, Institute of Child Health, University of London

Curvas

- Curvas de crescimento: estudos transversais x longitudinais.
- Fase do estirão de crescimento.
- Curvas transversais: apropriados para usar em fazer comparações entre grupos populacionais.
 - interpretações errôneas em crianças maturadoras precoces e maturadoras tardias.
- Curvas longitudinais – seguimento.
- Diferenças nos padrões de velocidade de crescimento.

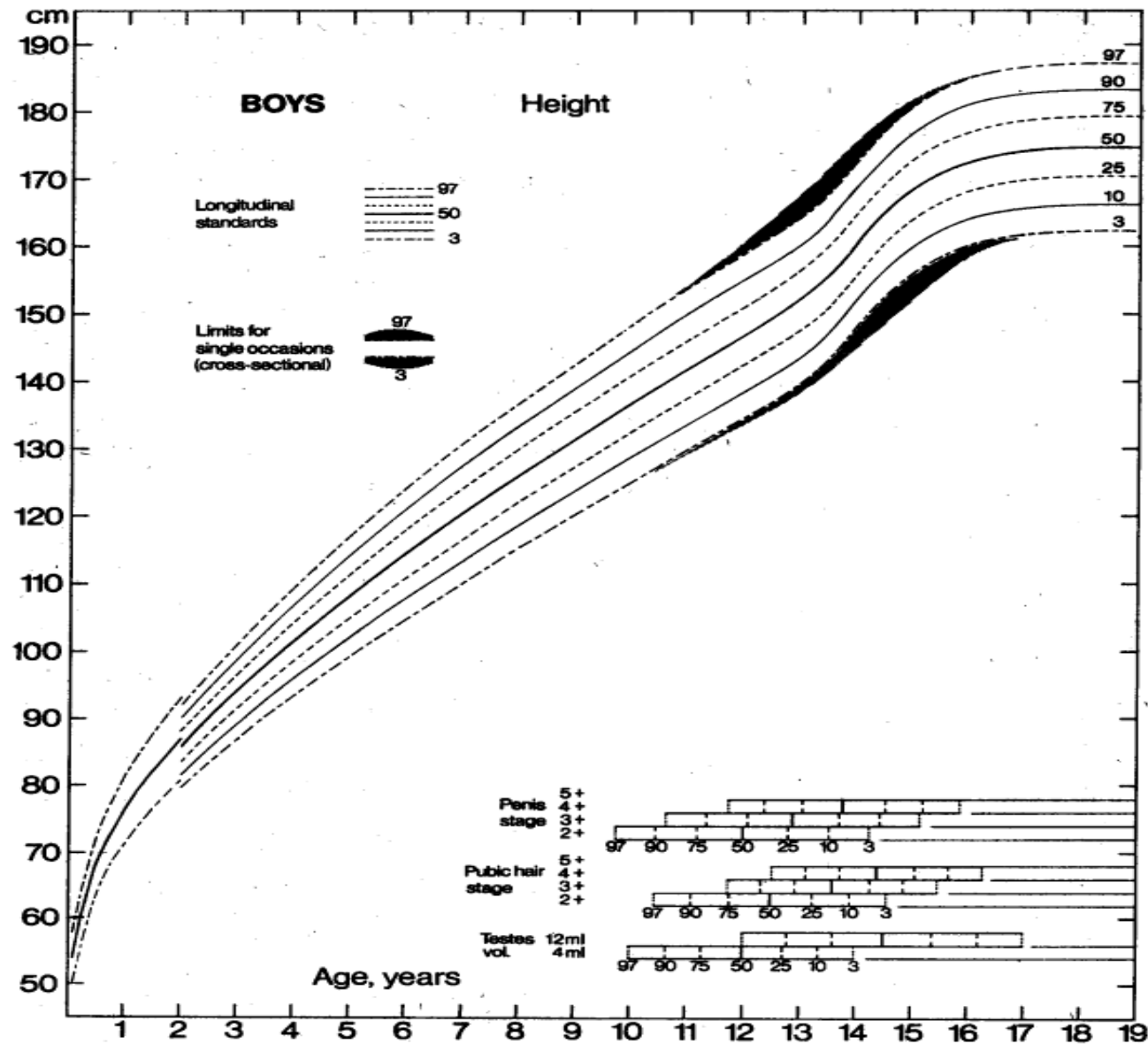


FIG. 1.—Longitudinal standards for height attained at given age, boys. The shaded areas represent the 97th and 3rd centile limits of cross-sectionally derived standards.

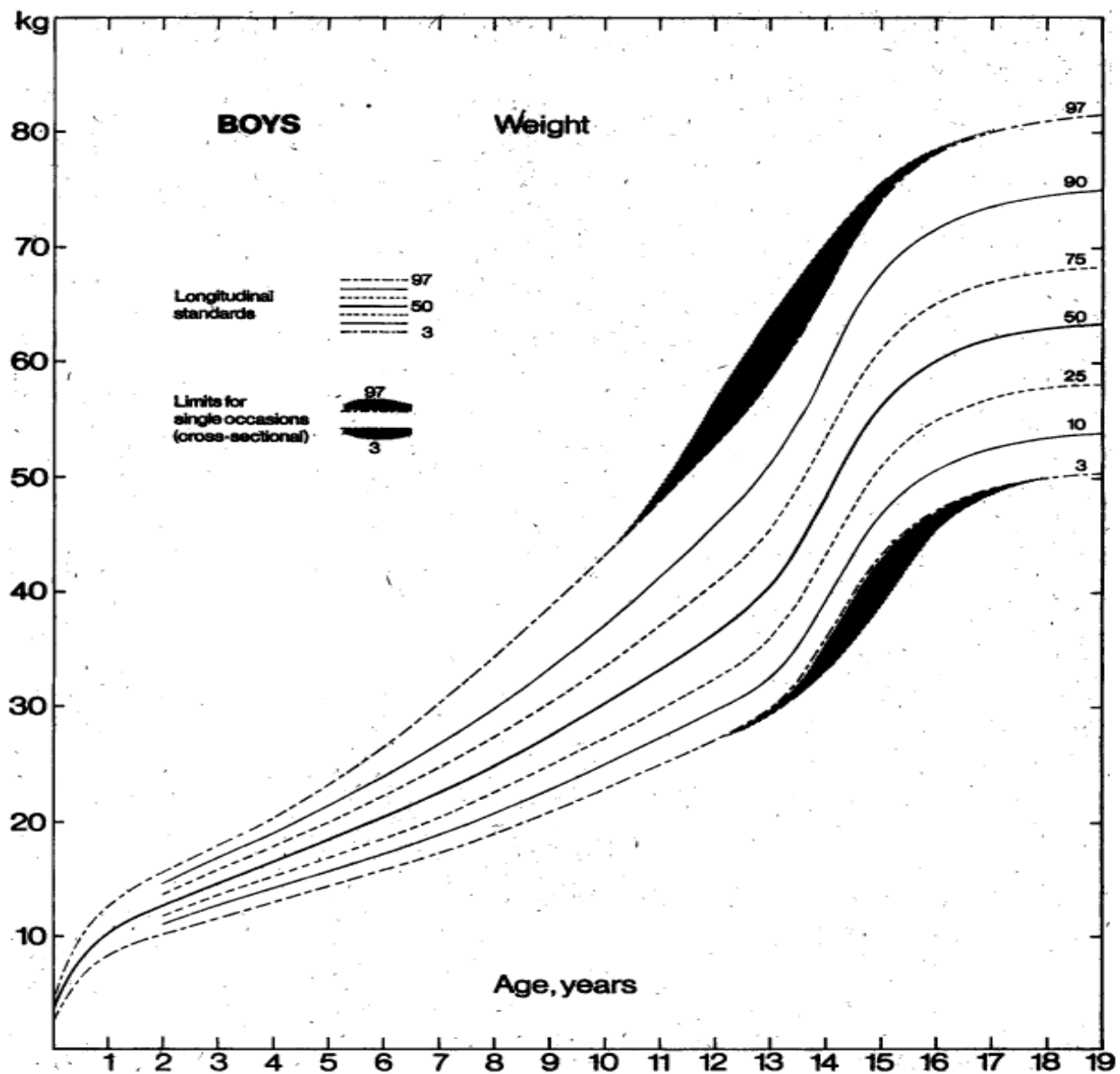


FIG. 2.—Longitudinal standards for weight attained at given age, boys. The shaded areas represent the 97th and 3rd centile limits of cross-sectionally derived standards.

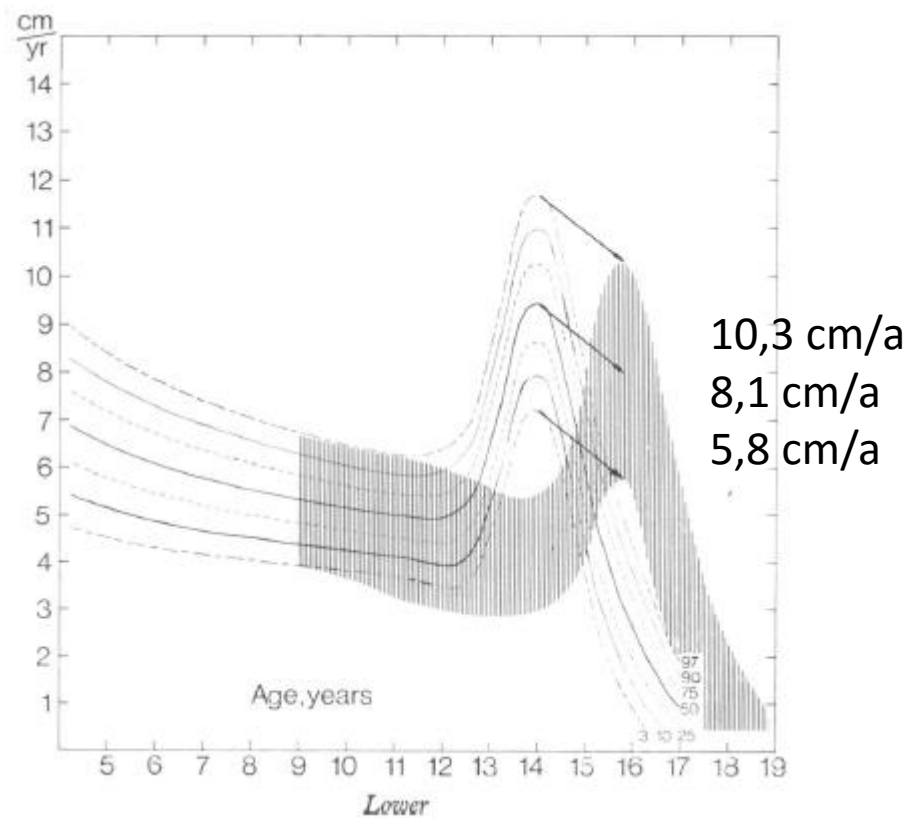
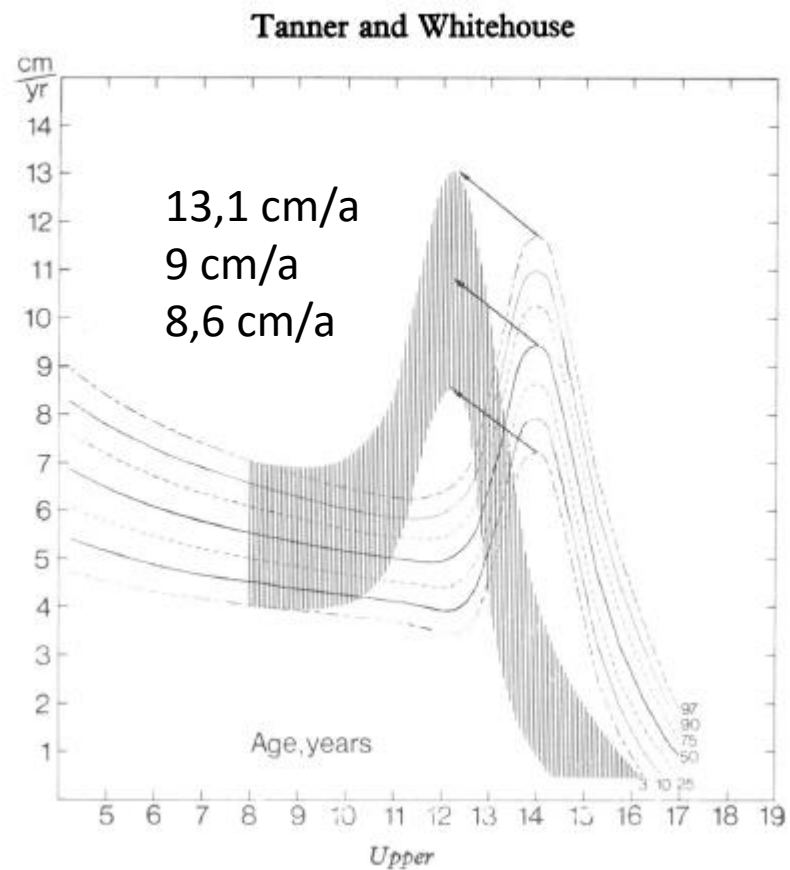


FIG. 3.—Construction of longitudinal standards for height velocity. Centiles represent boys having peak velocity at average age of peak. Upper, hatched area represents centiles for boys with peak occurring 2 SDs of age before mean age (approximately 2 years early). Lower, hatched area represents centiles for boys with peak occurring 2 SDs after mean age (approximately 2 years late).

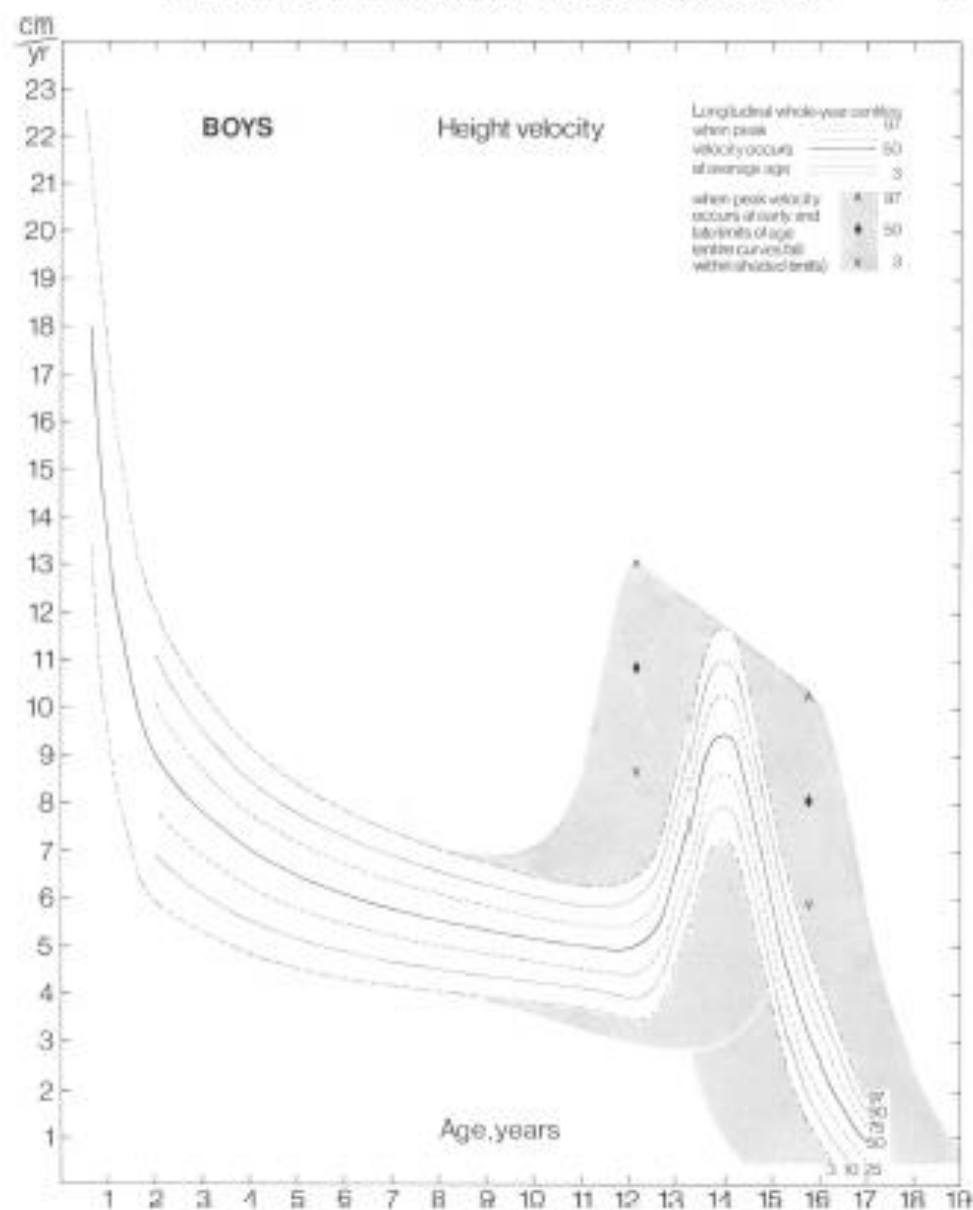


FIG. 4.—Longitudinal standards for height velocity, boys. Shaded area represents total of hatched areas in Fig. 3 upper and lower; it thus encloses all velocity curves within 2nd-97th centile limits for age and for peak velocity. 2nd, 50th, and 97th centiles for early- and late-maturing boys are indicated by arrowhead and diamond symbols.

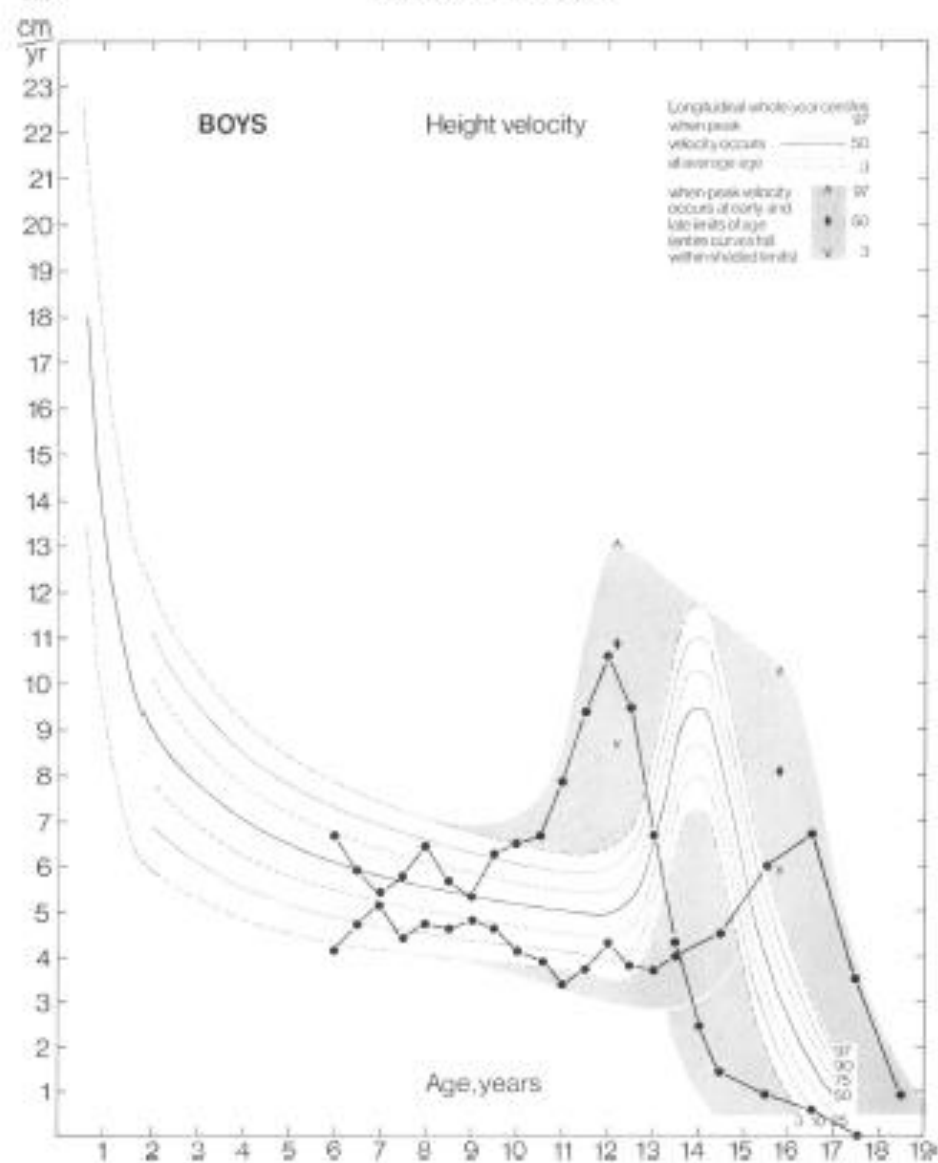


FIG. 5.—Height velocities of an early and a late maturing boy. Whole-year velocities plotted every 6 months, at central point of last completed year, except from age 14 onwards, where only annual measurements were available.

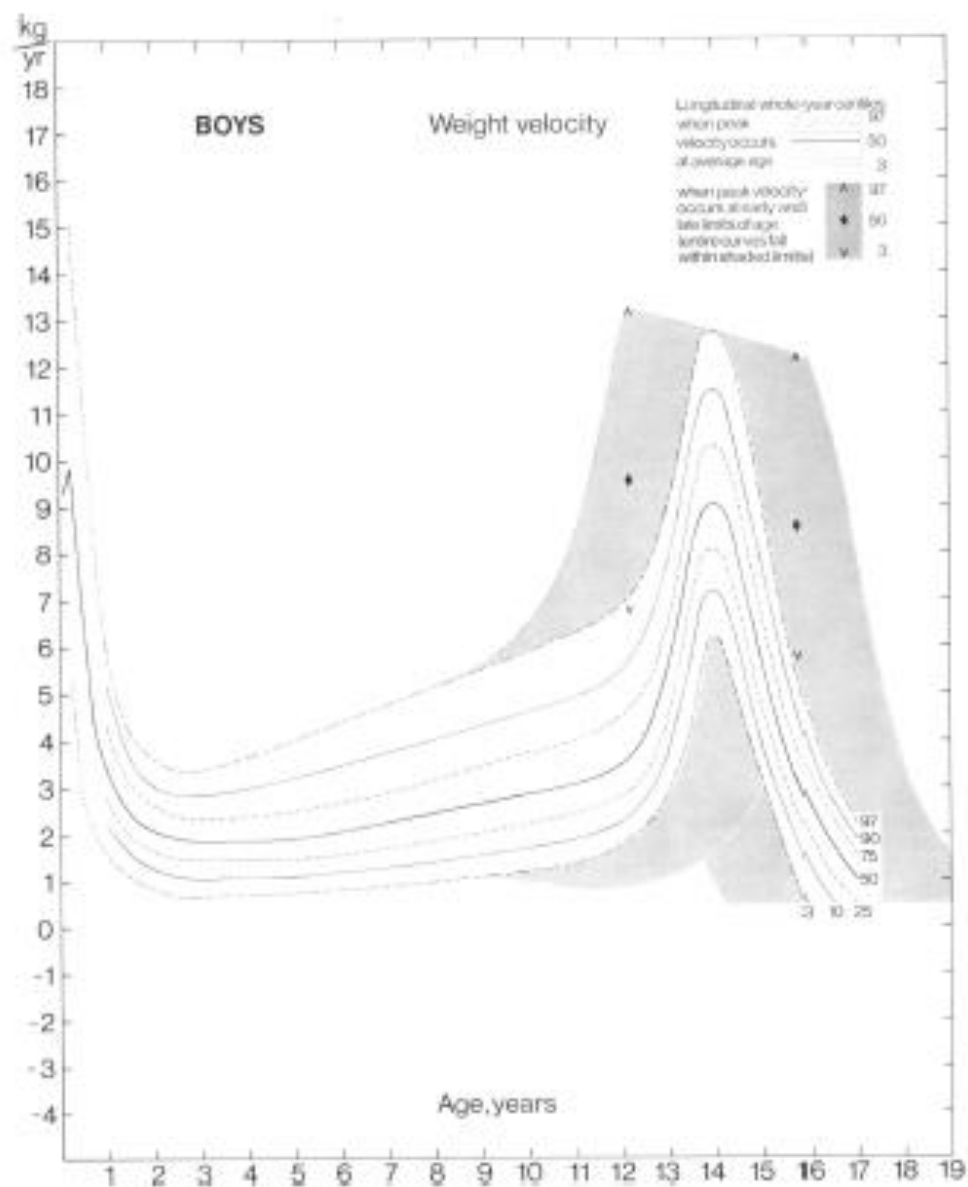


FIG. 6.—Longitudinal standards for weight velocity, boys. Shaded area as for Fig. 4.

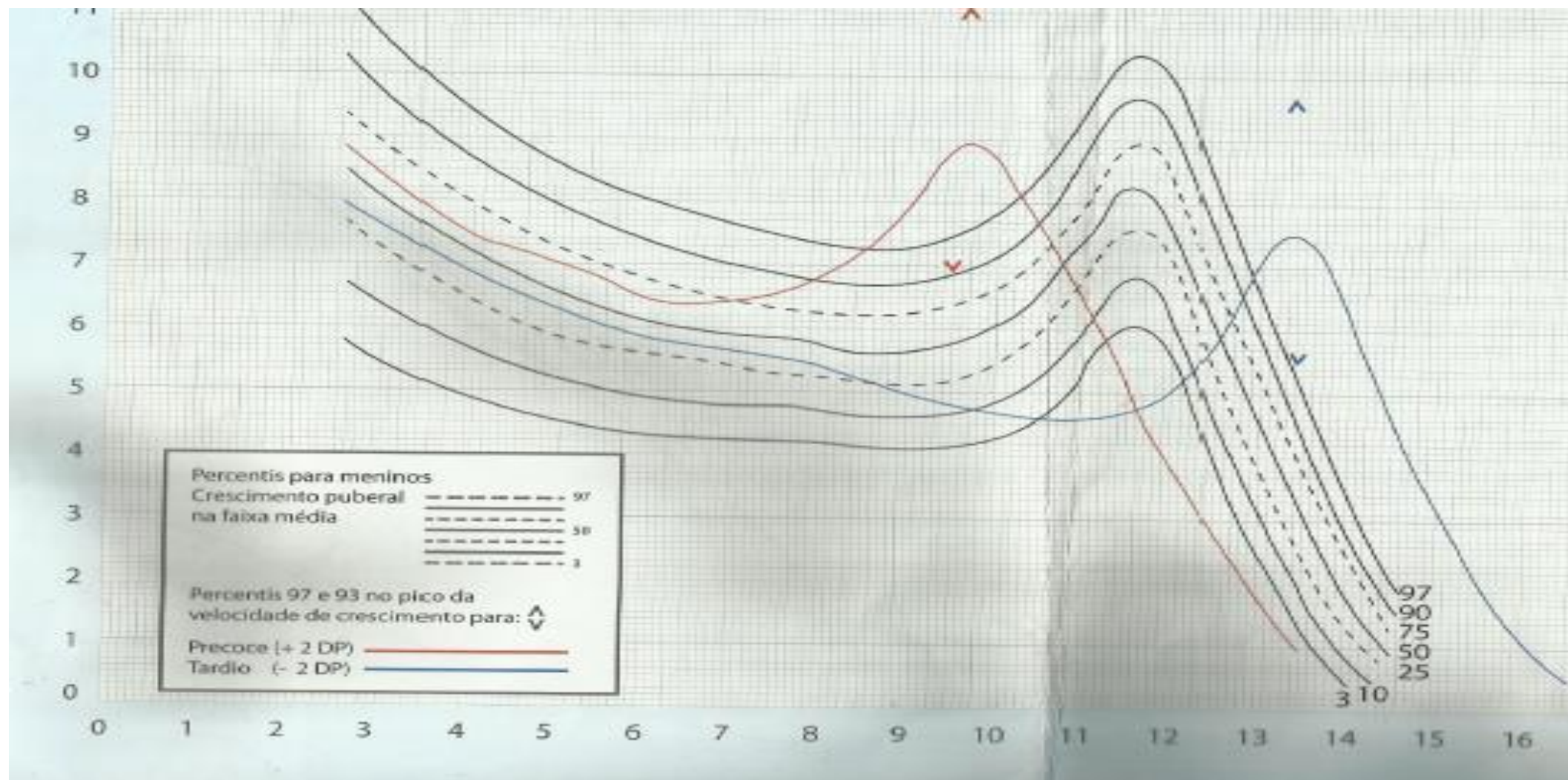
- A estatura final será independente da idade de maturação.
- Uma criança que apresenta-se abaixo do P3 de estatura, pode apresentar velocidade de crescimento normal e terminar com estatura normal.

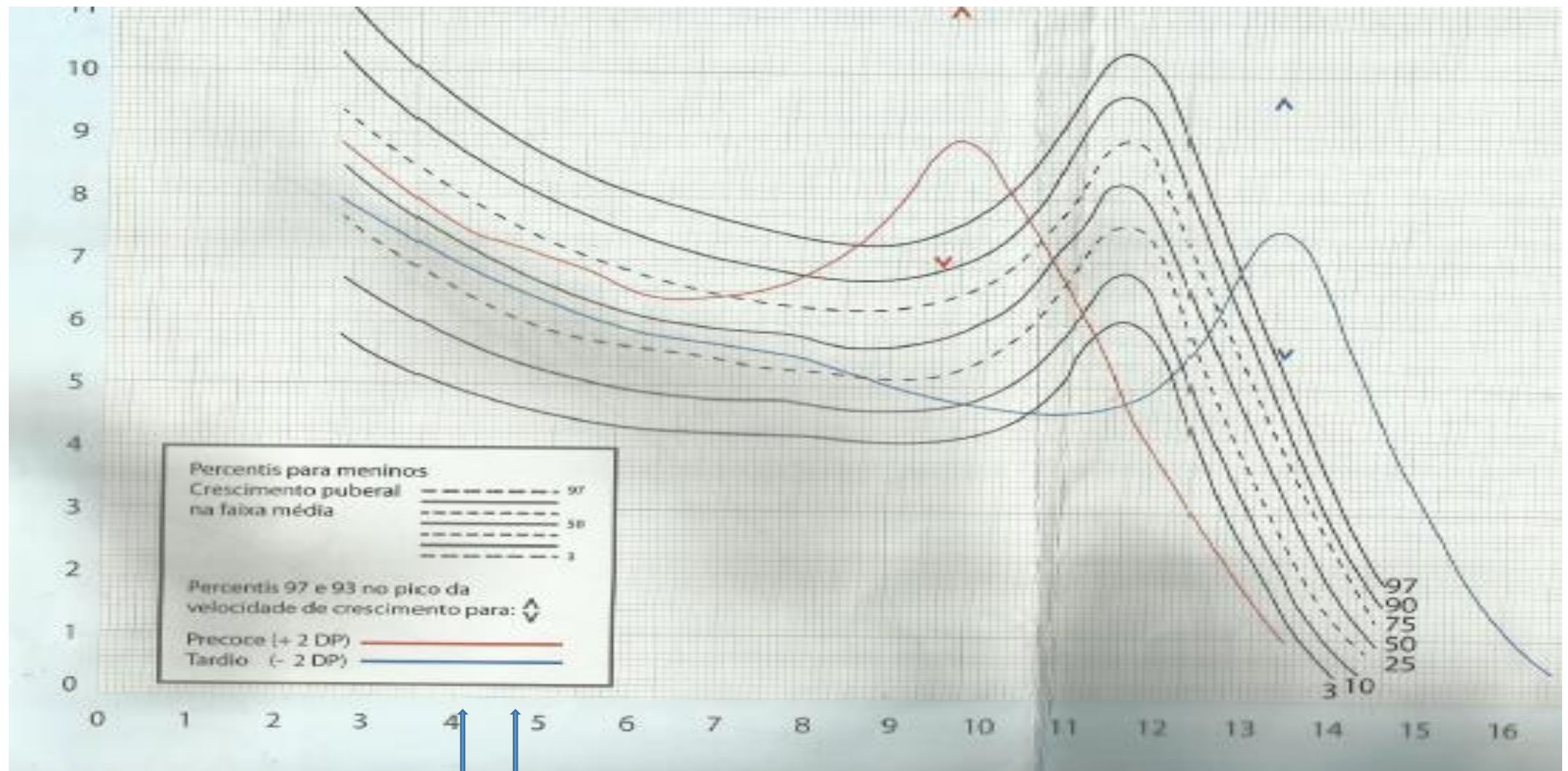
Como plotar na curva de Velocidade Crescimento

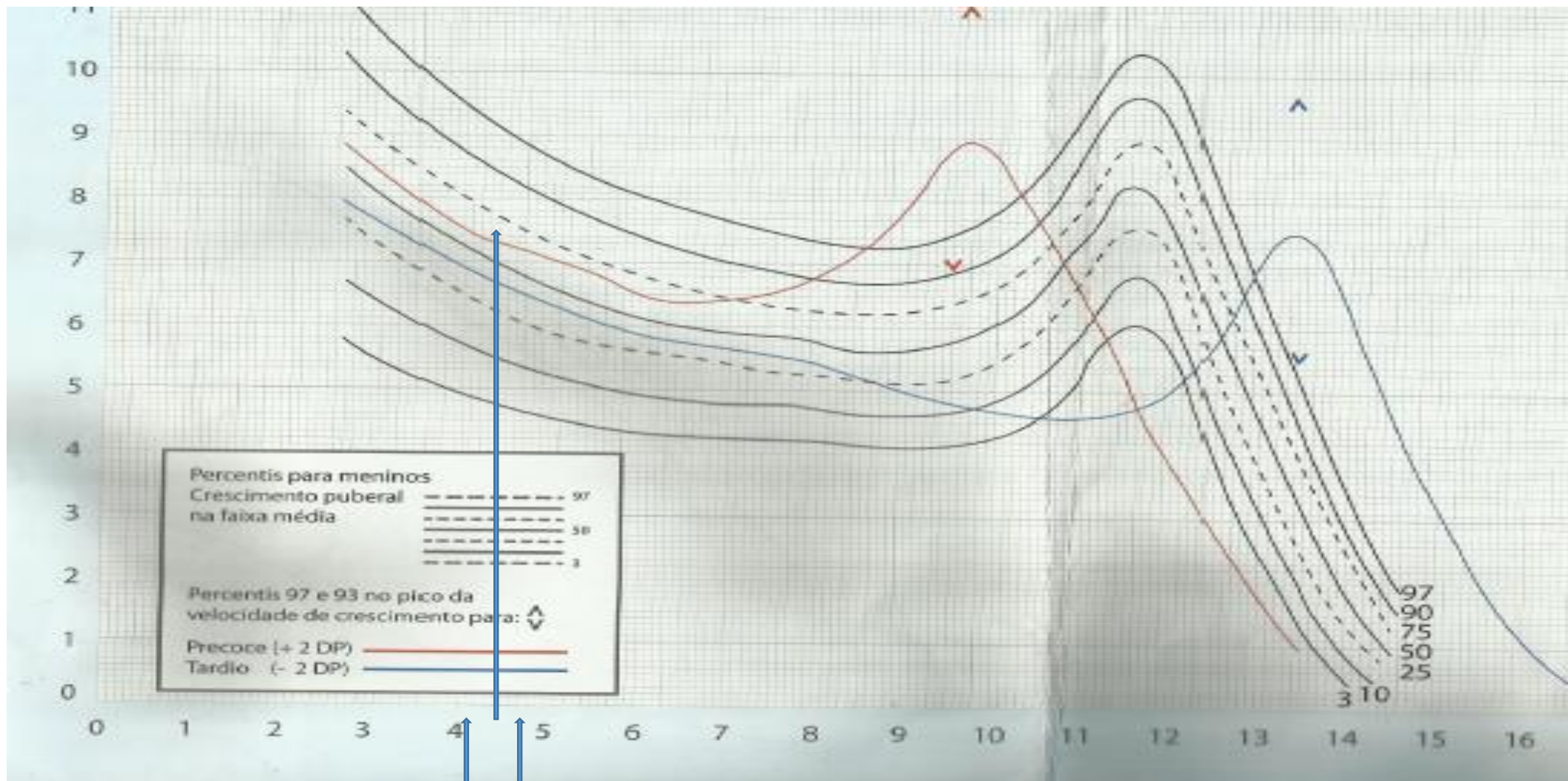
- Exemplo:
 - Criança, sexo masculino, DN= 13/06/2011
 - Evolução estatural:

Data	Idade	Estatura
13/07/15	4 anos e 1 mês	104 cm
15/12/15	4 anos e 6 meses	107,5 cm
13/03/16	4 anos e 9 meses	109 cm

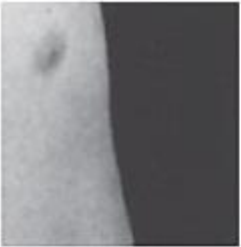
- Cresceu 5 cm em 8 meses x 1,5 cm em 3 meses
- VC= 7,5 cm/ano (em 8 meses) x 6 cm/ano (3 meses)







Padrões de Estadiamento Puberal



M1



M2



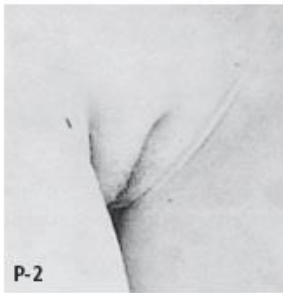
M4



M5



P-1



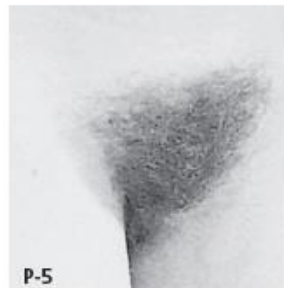
P-2



P-3



P-4



P-5



G1



G2



G3



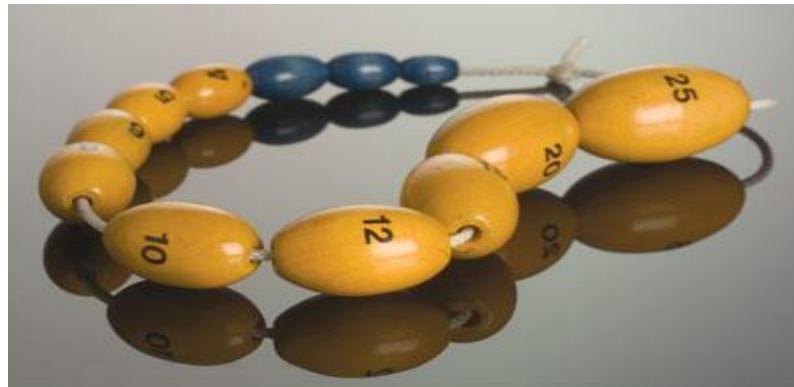
G4

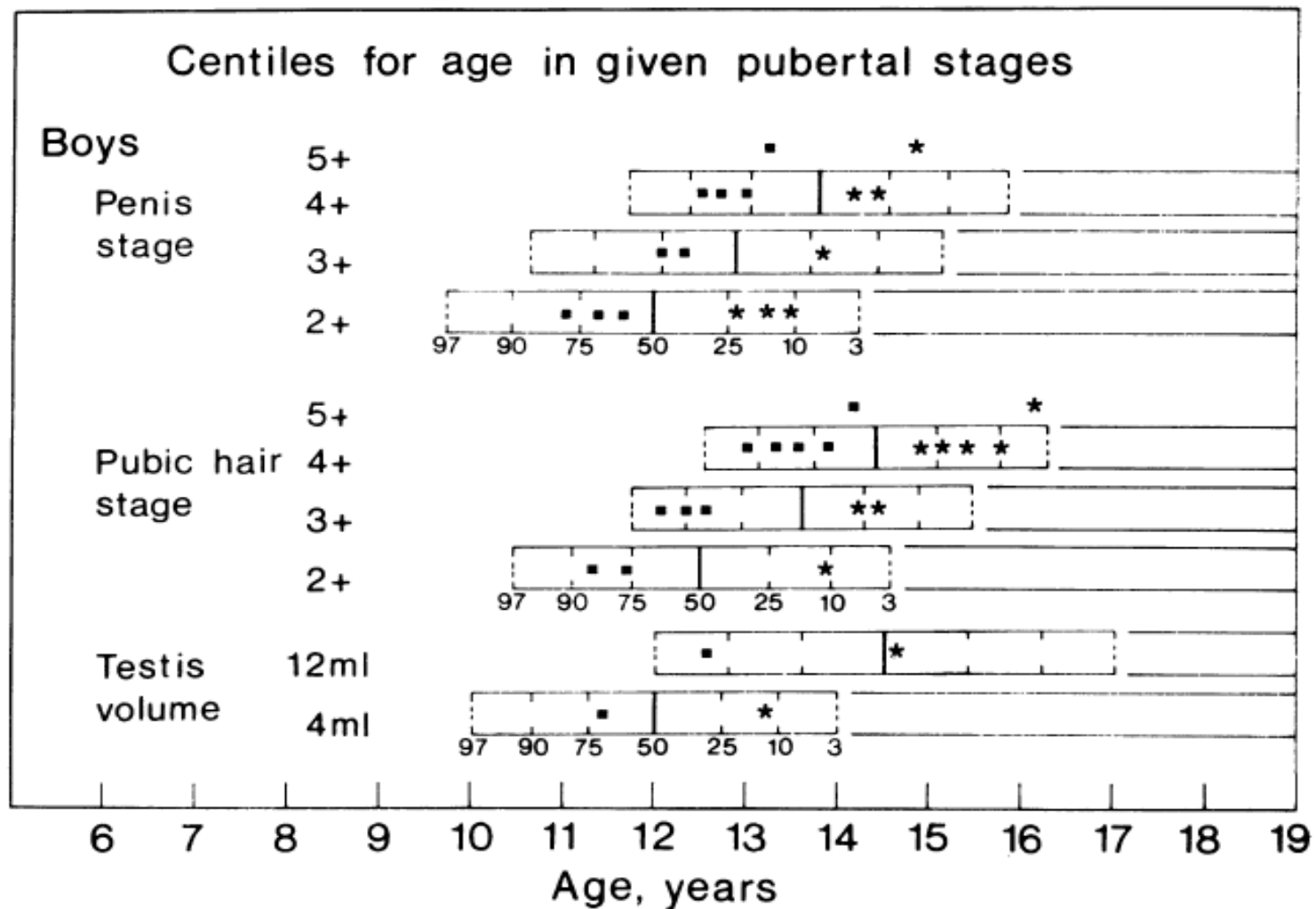


G5

Padrões de Estadiamento Puberal

- Orquidômetro de Prader: O volume testicular é medido e comparado com o orquidômetro que apresenta os volumes 2, 3, 4, 6, 8, 10, 12, 15, 20 e 25 ml.

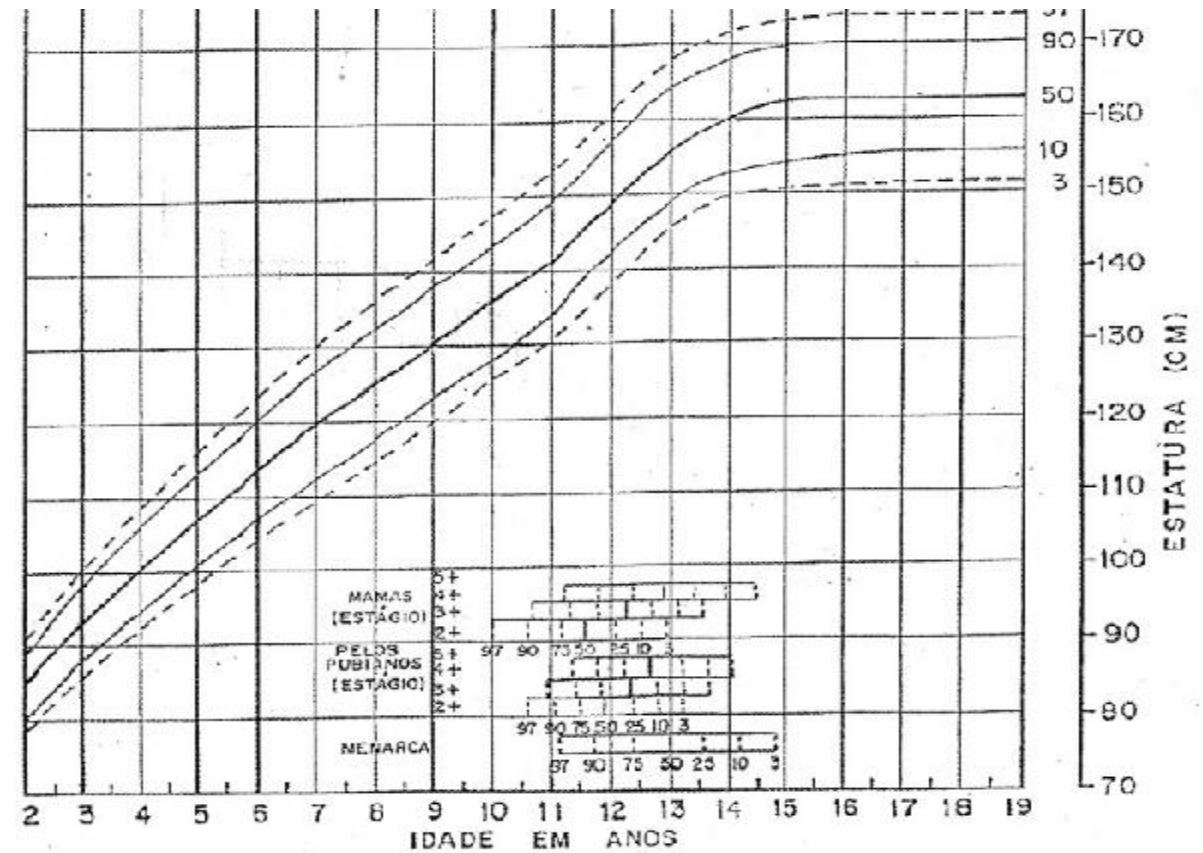
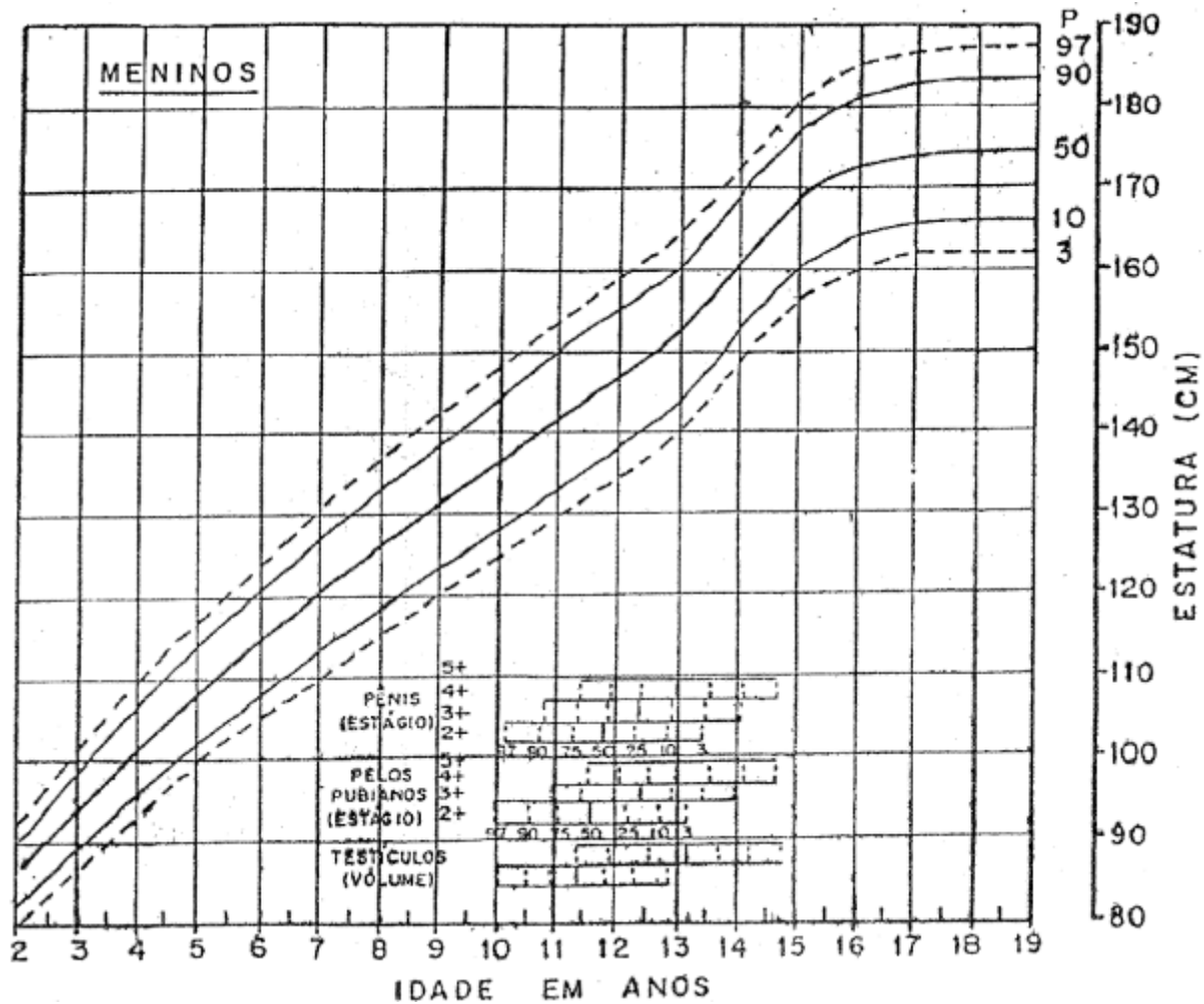




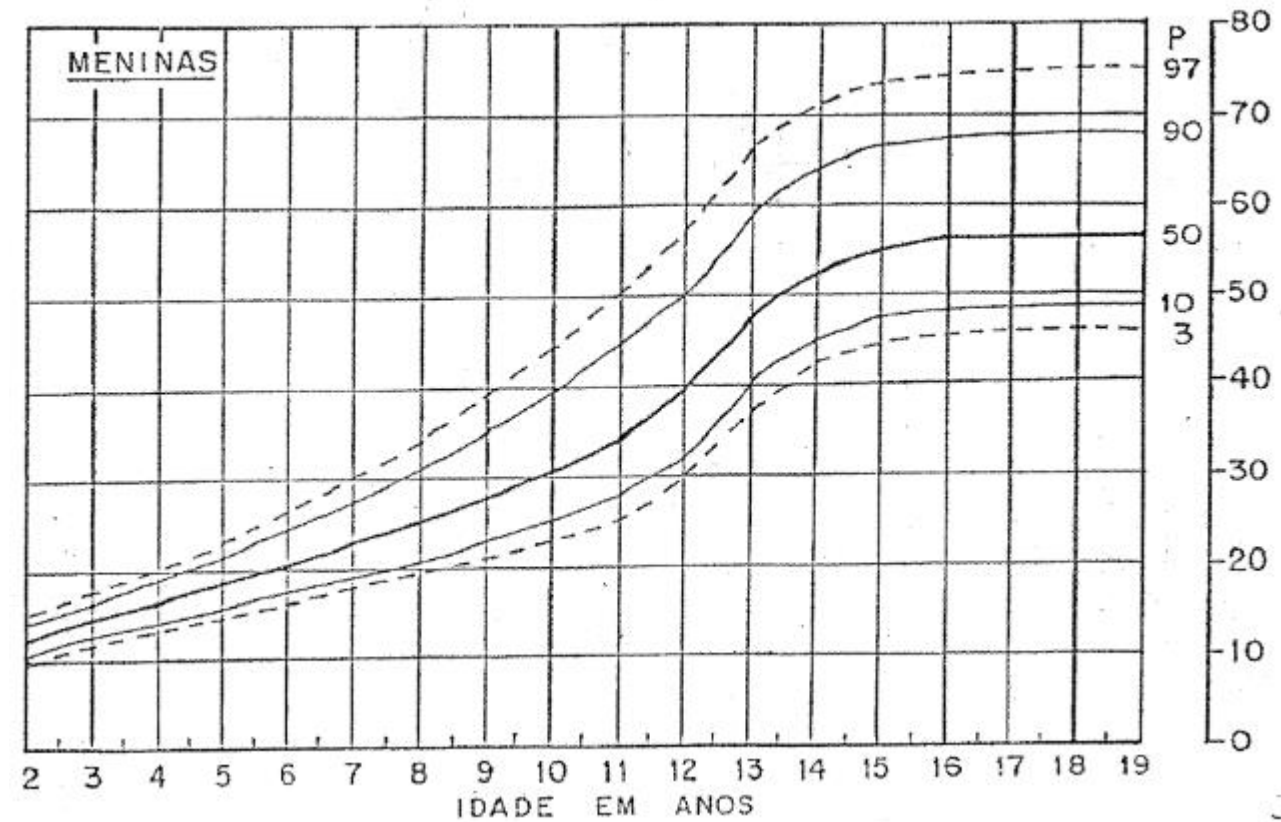
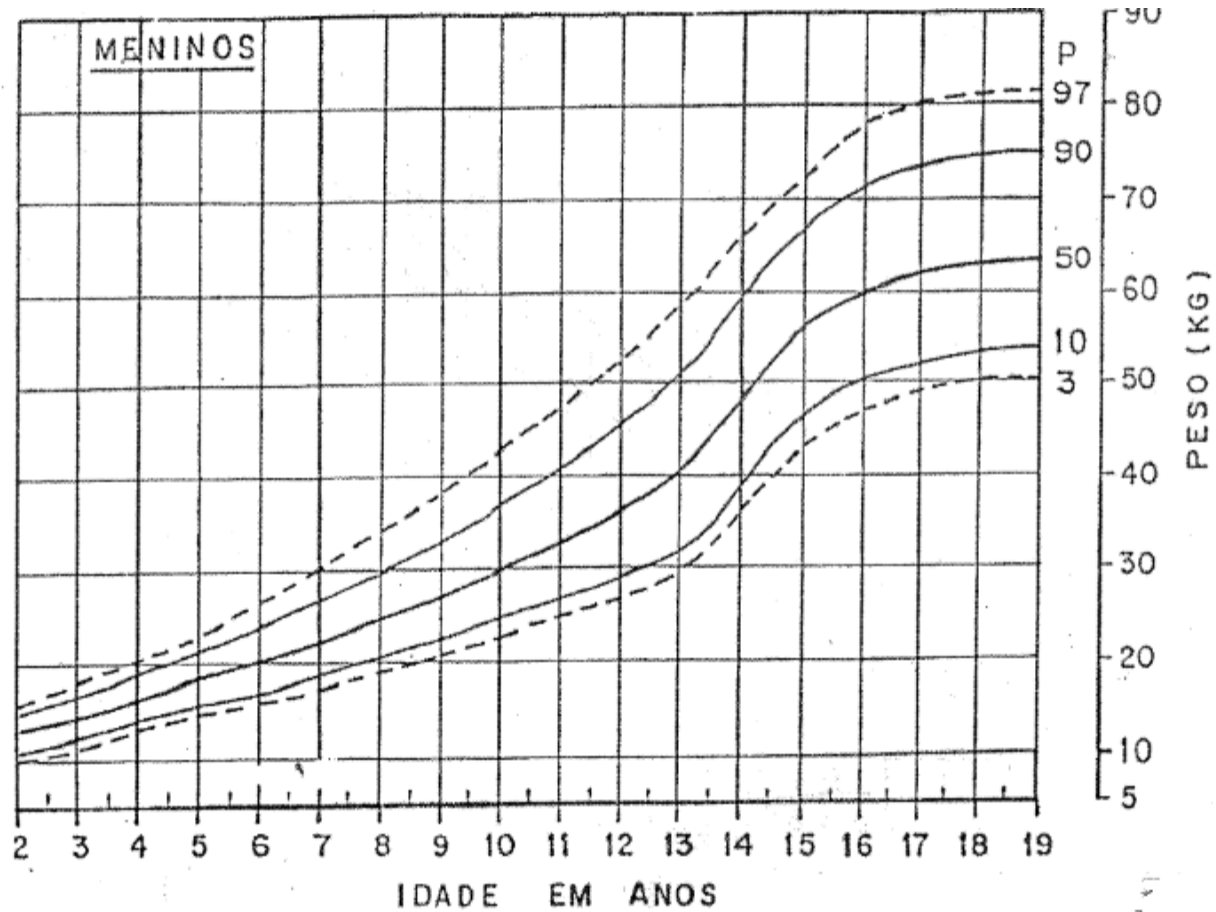
P97- maturador precoce
P3- maturador tardio

FIG. 7.—A generally early-maturing boy (■) and a generally late-maturing (*) boy plotted at successive ages on the puberty standards.

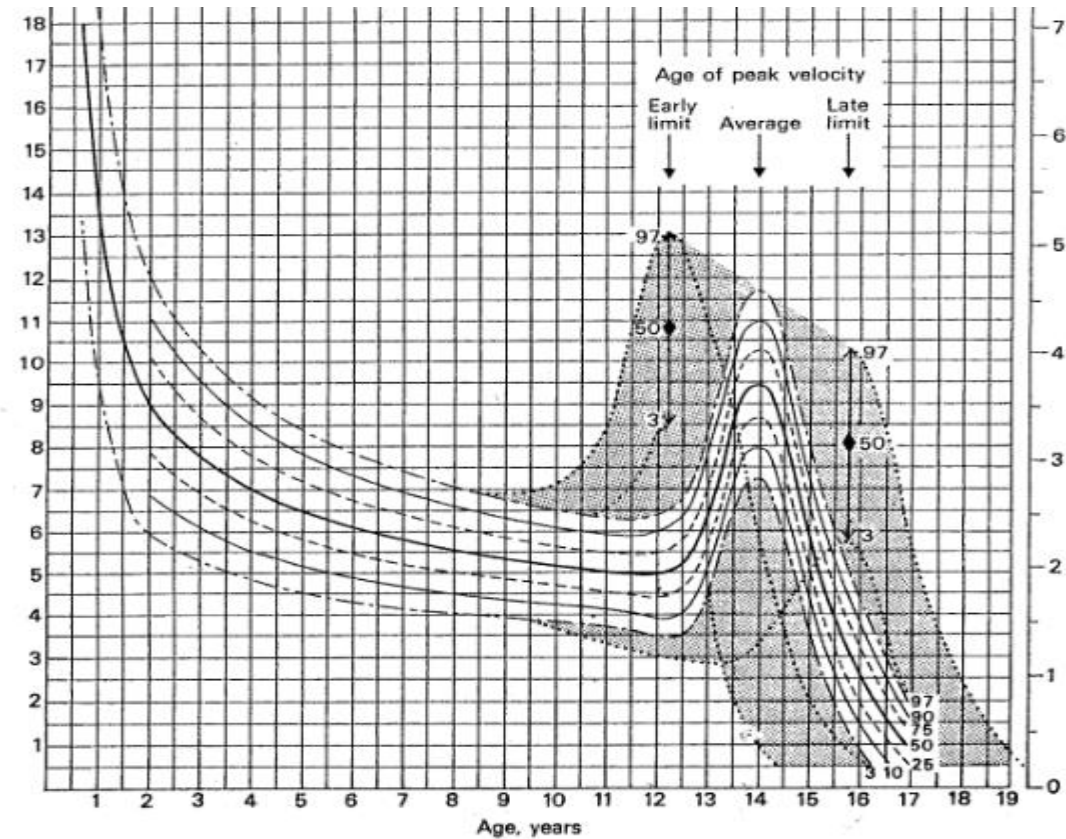
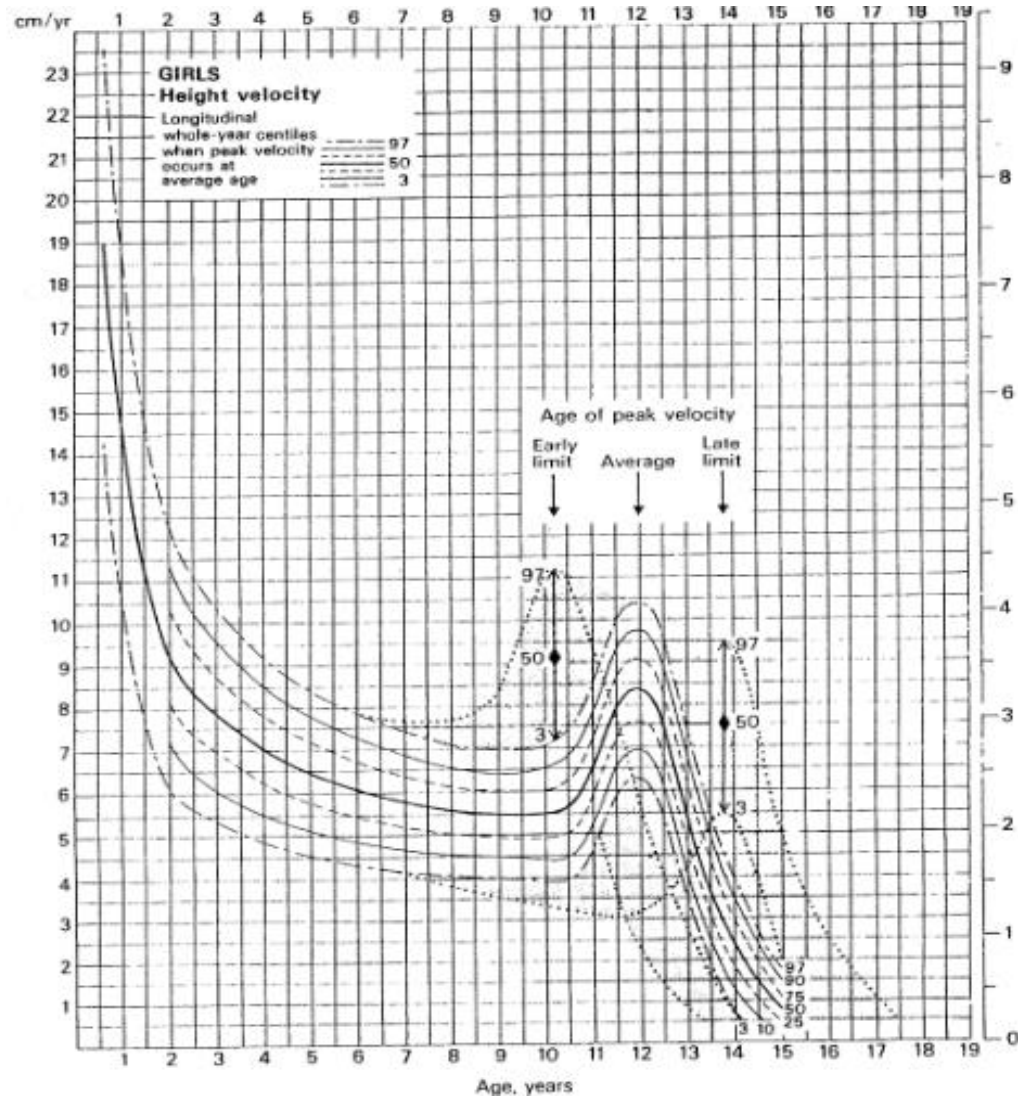
Curvas de Estatura x Idade



Curvas Peso x Idade



Curvas de Velocidade de crescimento



Obrigado!