

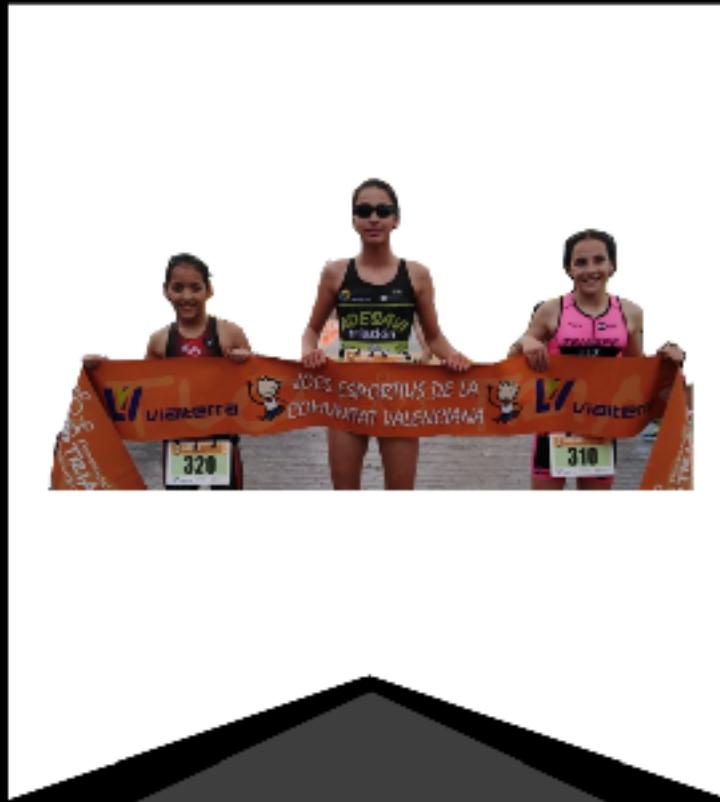
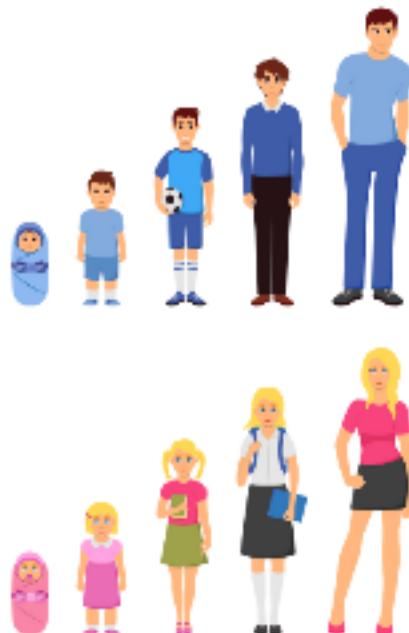


PHYSICAL MATURITY



Brought to you by TEXACO

Maturation is the process of children becoming completely developed mentally and emotionally.



The youngsters experience maturation differently

There are sensitive phases where the appropriate training will increase:



Coordination



Balance



Power

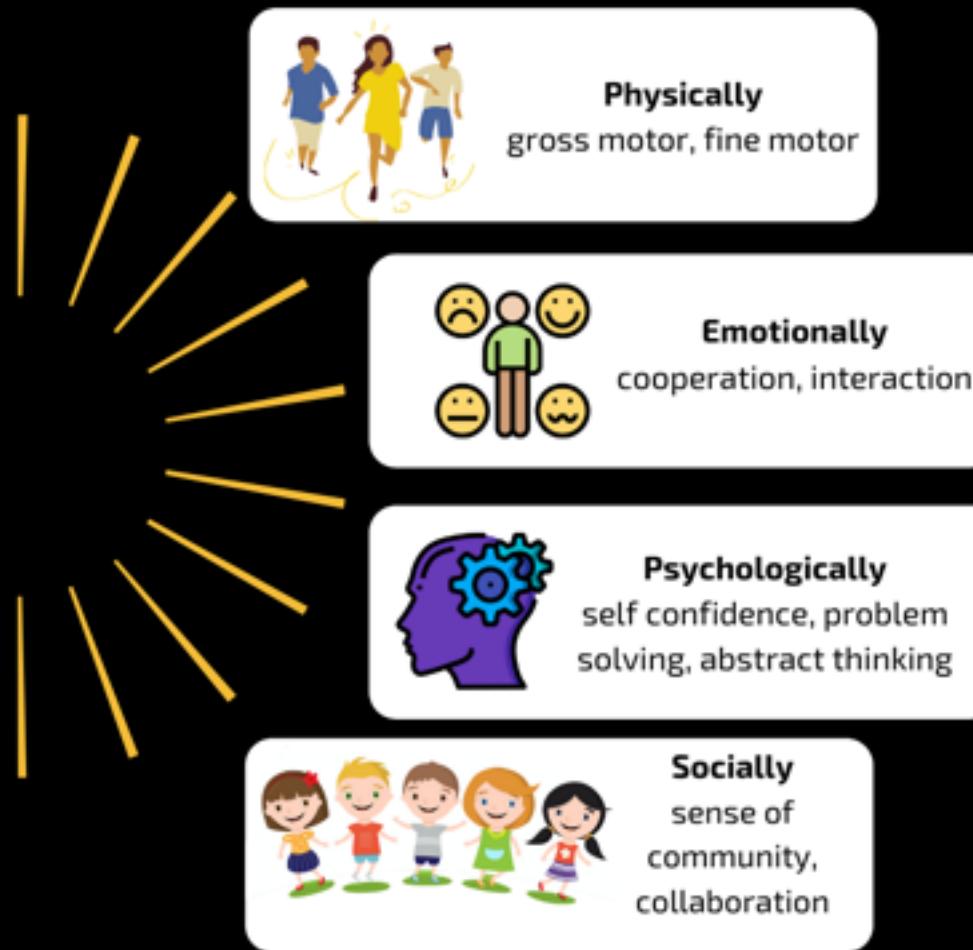


Strength



Motor/
technical skills

Development Components



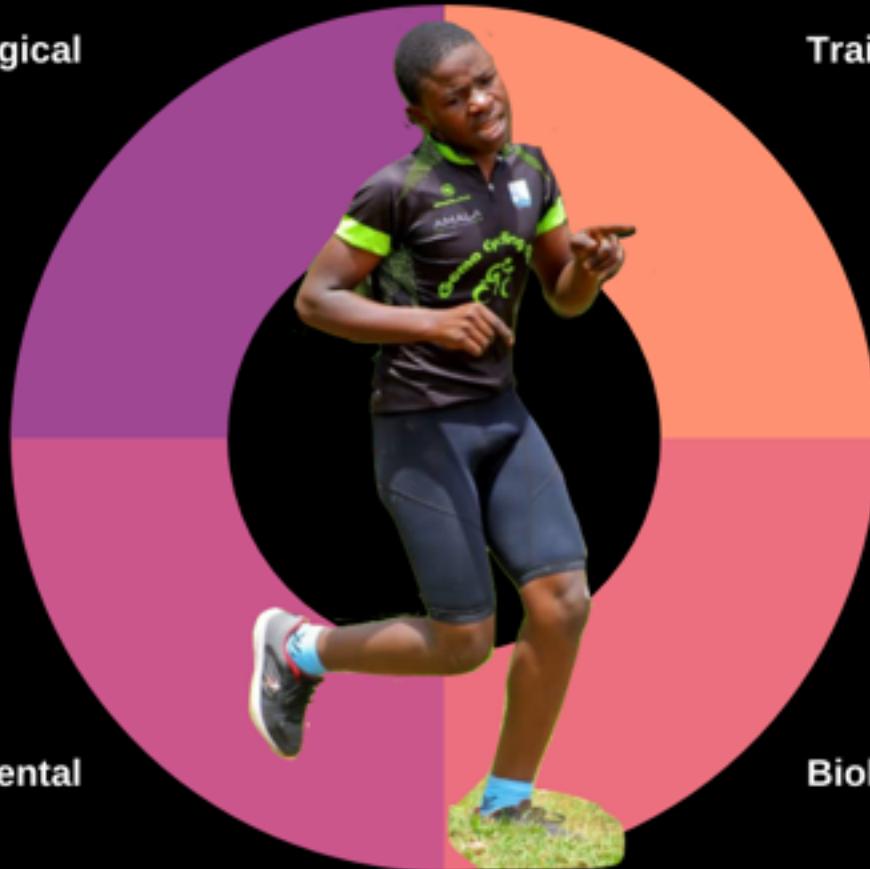
Measures of Development

Chronological

Training

Developmental

Biological



Maturation

Age

20

15

10

5

0

Age 0 to 6

Onset of the Growth Spurt

PHV

Slow deceleration

Cessation of growth

Athlete A

Born in 2005

Athlete B

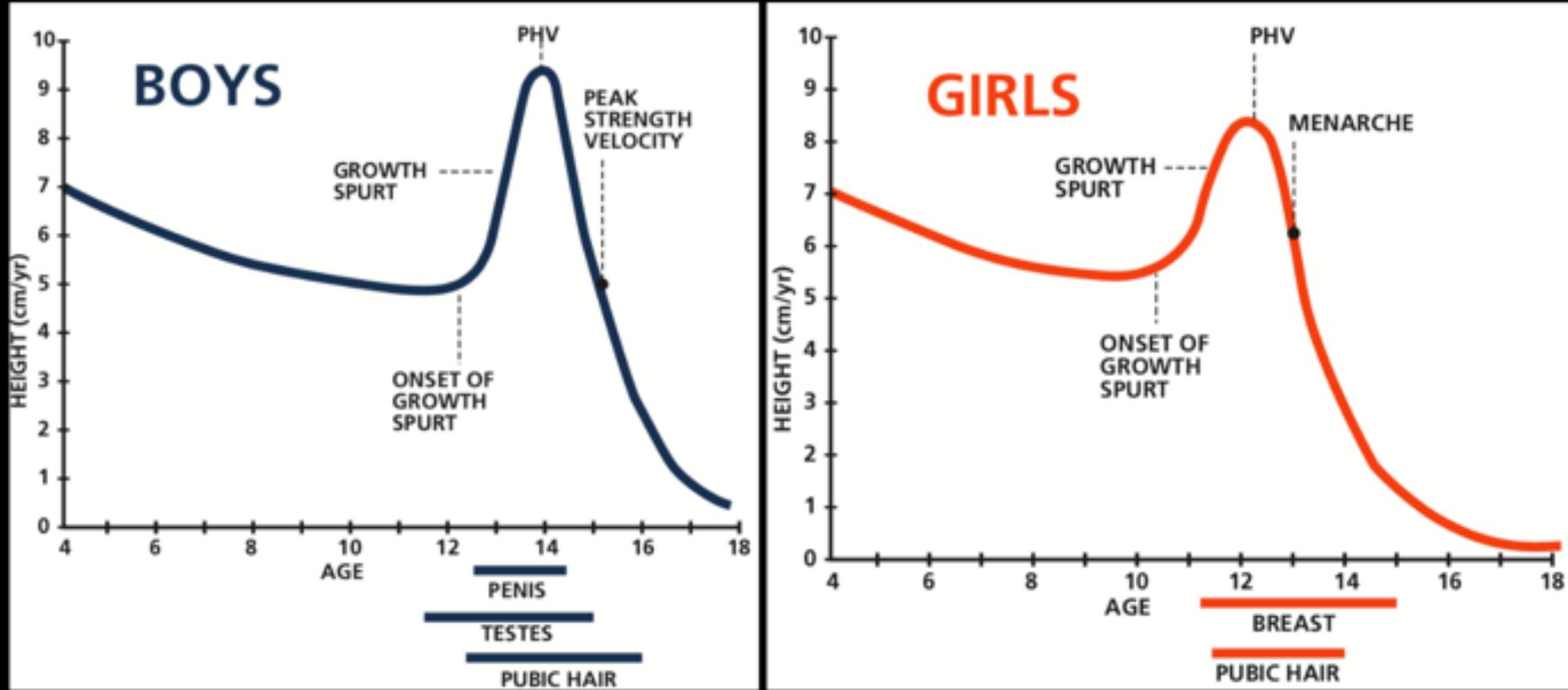
Born in 2005

Development Stages

Relative age effect

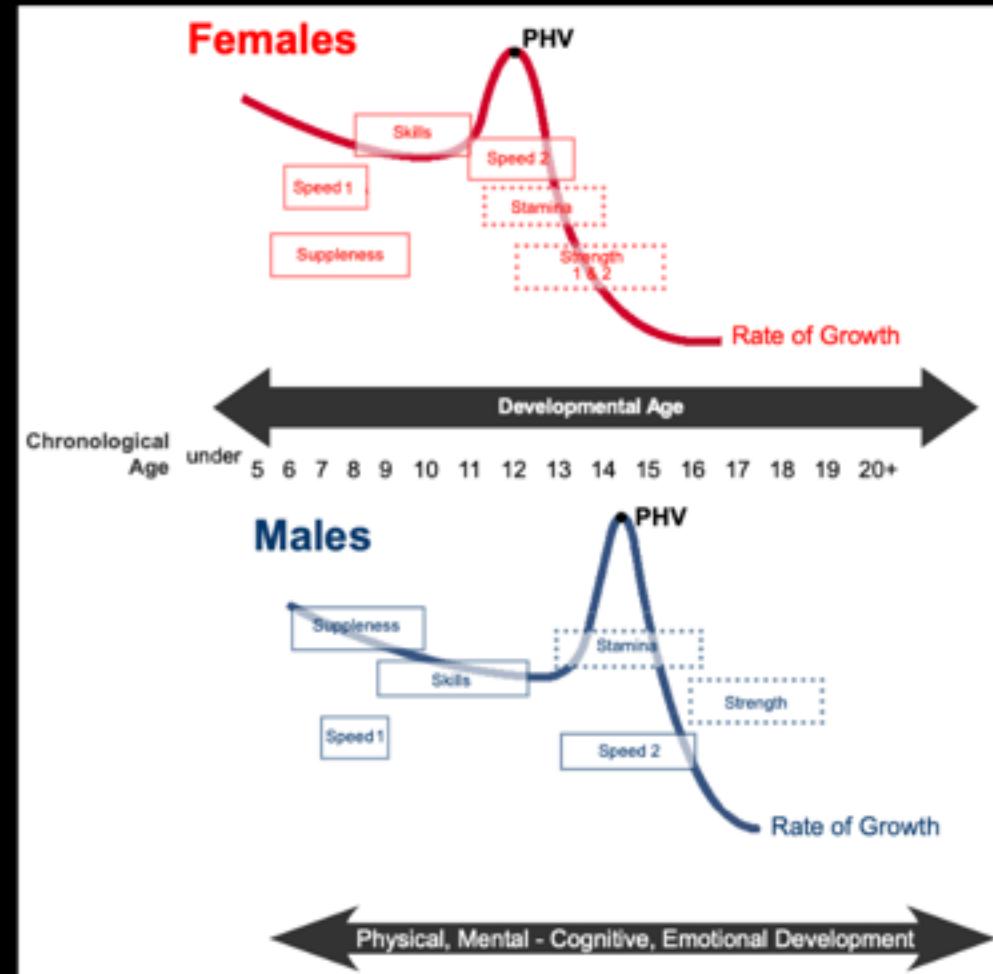


Peak Height Velocity



Maturity events in Girls and Boys (Balyi & Way, 2005)

Windows of opportunity



How to Measure Peak Height Velocity



World Triathlon strongly recommend coaches to use the non-invasive tests available.

Skeletal age

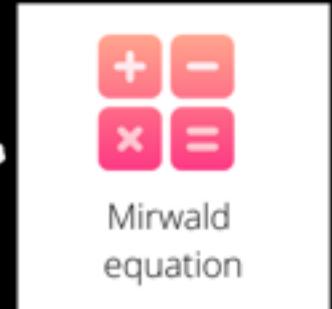
Anthropometric methods

Peak Height velocity

Peak Weight Velocity

{

- Gender
- Date of Birth
- Date of Measurement
- Standing Height (cm)
- Sitting Height (cm)
- Weight (kg)



Age Peak
Height velocity

Ethical and Sensitivity Issues



Key advice would be to use the least intrusive method possible to get appropriate data, and if in any doubt, don't do the measurements. Another possibility is to involve parents to undertake measurements.

Bio-banding

2018 Buenos Aires Youth Olympic Games

Henry Graf - YOB 2002 - P9

Igor Bellido - YOB 2002 - P6



Marie Horn - YOB 2001 - P8

Emilie Noyer - YOB 2002 - P7

TAKE-HOME MESSAGE

- The design of any DEVELOPMENT programs must consider the level of maturation.
- The actual classification systems based only on chronological age frequently results in wrong evaluations, misjudgments, and lead coaches to take poor decisions.
- The key is not to discard any athletes who still haven't fully developed and reached the optimum level of maturation.
- The anatomical age is visible; biological age is not.
- TD programs may be missing opportunities to nurture world-class athletes by releasing them from their academies/systems during vital developmental periods.



Q & A



A black and white photograph of a triathlete wearing a dark wetsuit. The word "TERMO" is visible on the chest area of the suit. The background is blurred, suggesting motion or a transition zone.

**Thank you!
See you next week**

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Other sources:

- <https://www.scienceforsport.com>