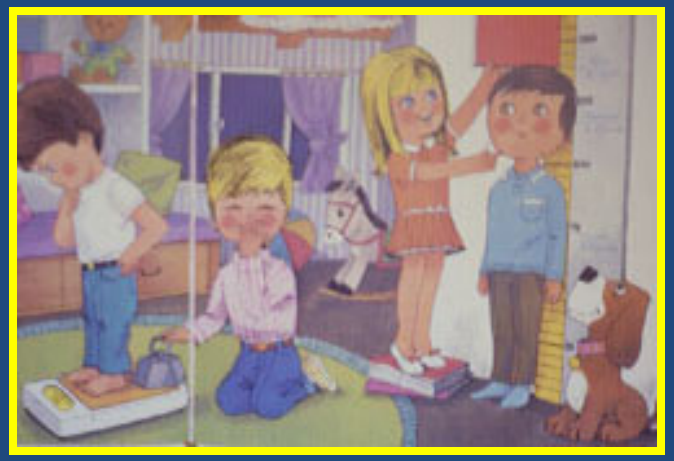
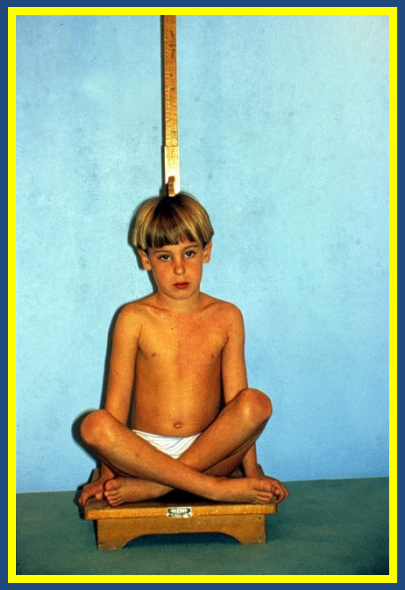
THORAX IS THE FOURTH DIMENSION OF THE SPINE

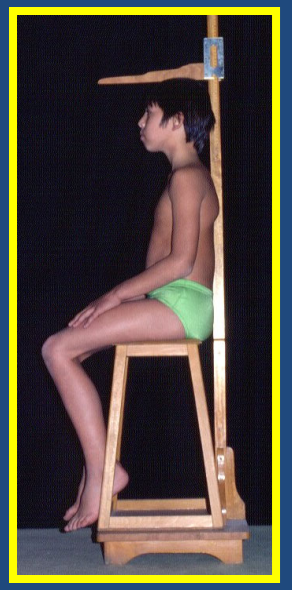
A. DIMEGLIO

From Birth to Skeletal Maturity



- Height increases by 350%.
- Weight increases 20 folds.
- Femur and tibia triple in length.
- Spine doubles in length.





MEASUREMENT EACH 6 MONTHS

ANNUAL GROWTH VELOCITY

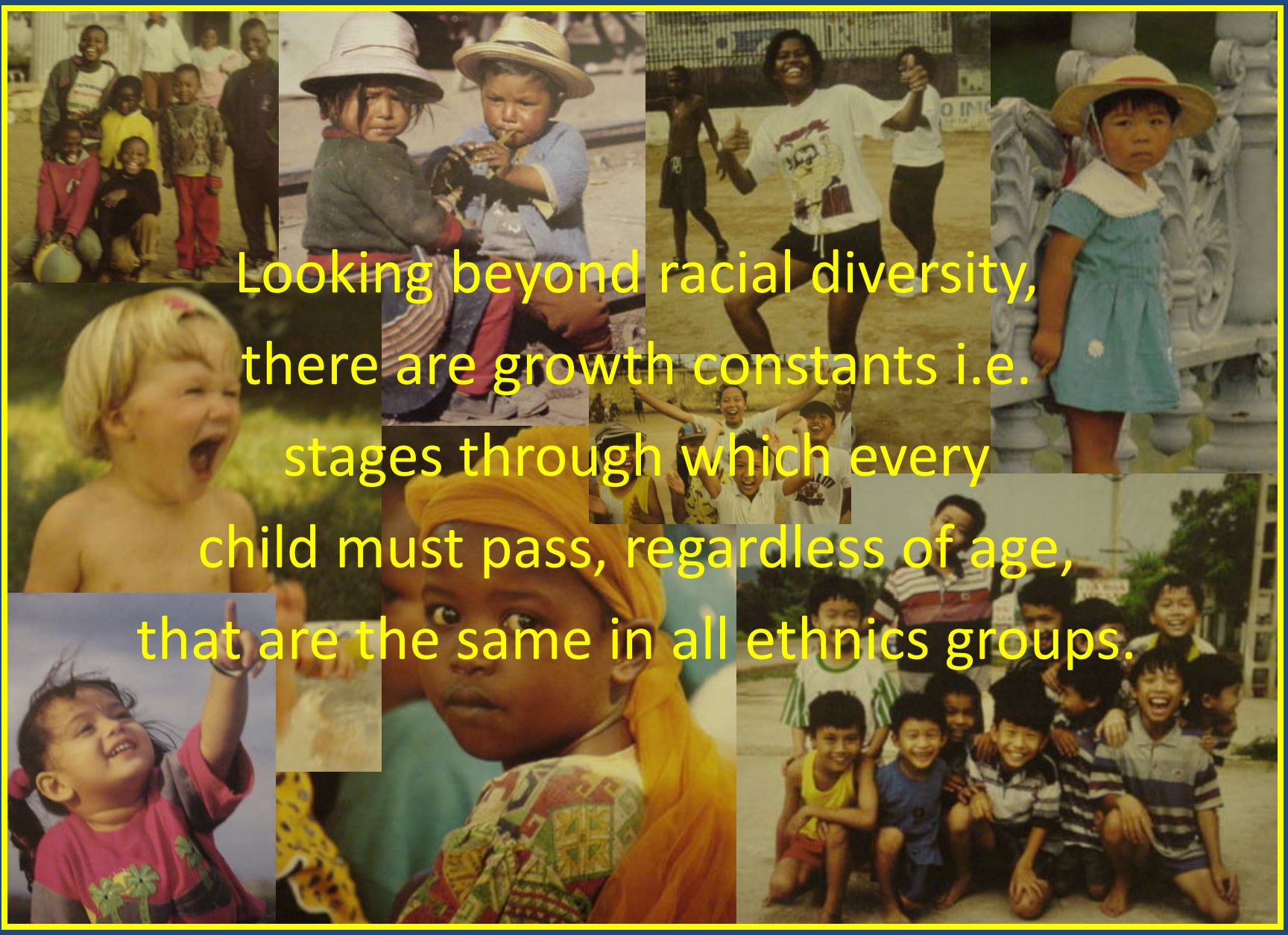
WEIGHT

BIRTH: 3.5 Kg

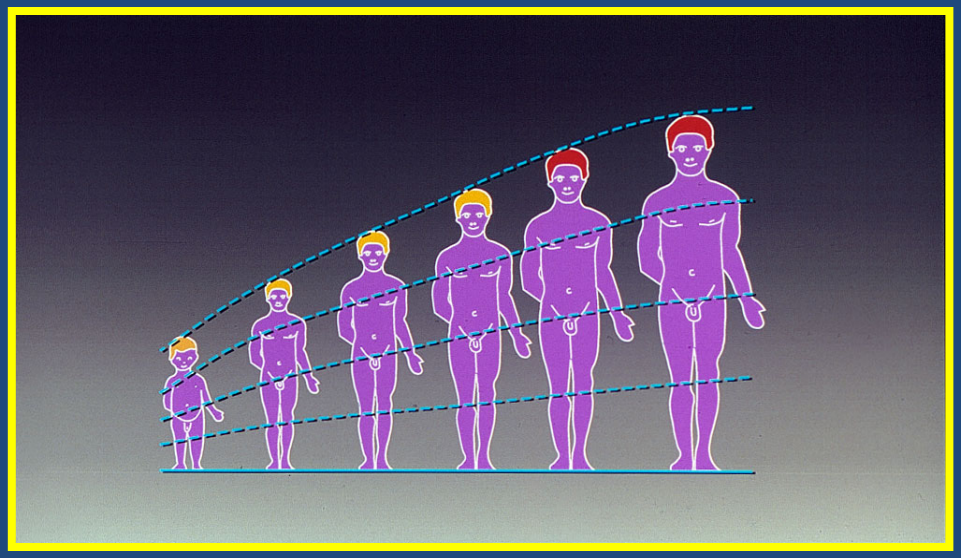
5 y: 20 Kg

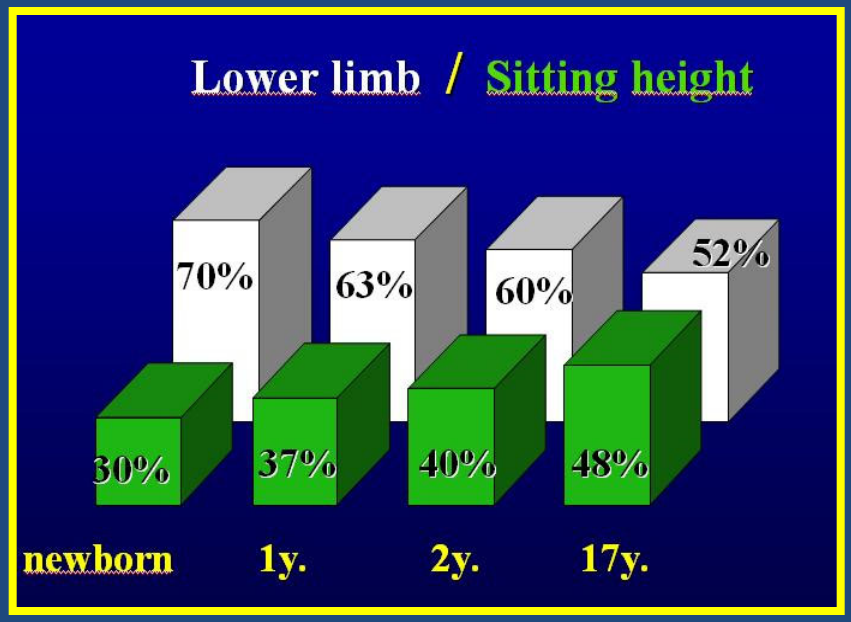
10 y: 30 Kg


The problem raised about growth
data is that such data are ethnically
specific and that it is difficult to
transfer parameters from
one population to another.


Looking beyond racial diversity,
there are growth constants i.e.
stages through which every
child must pass, regardless of age,
that are the same in all ethnics groups.

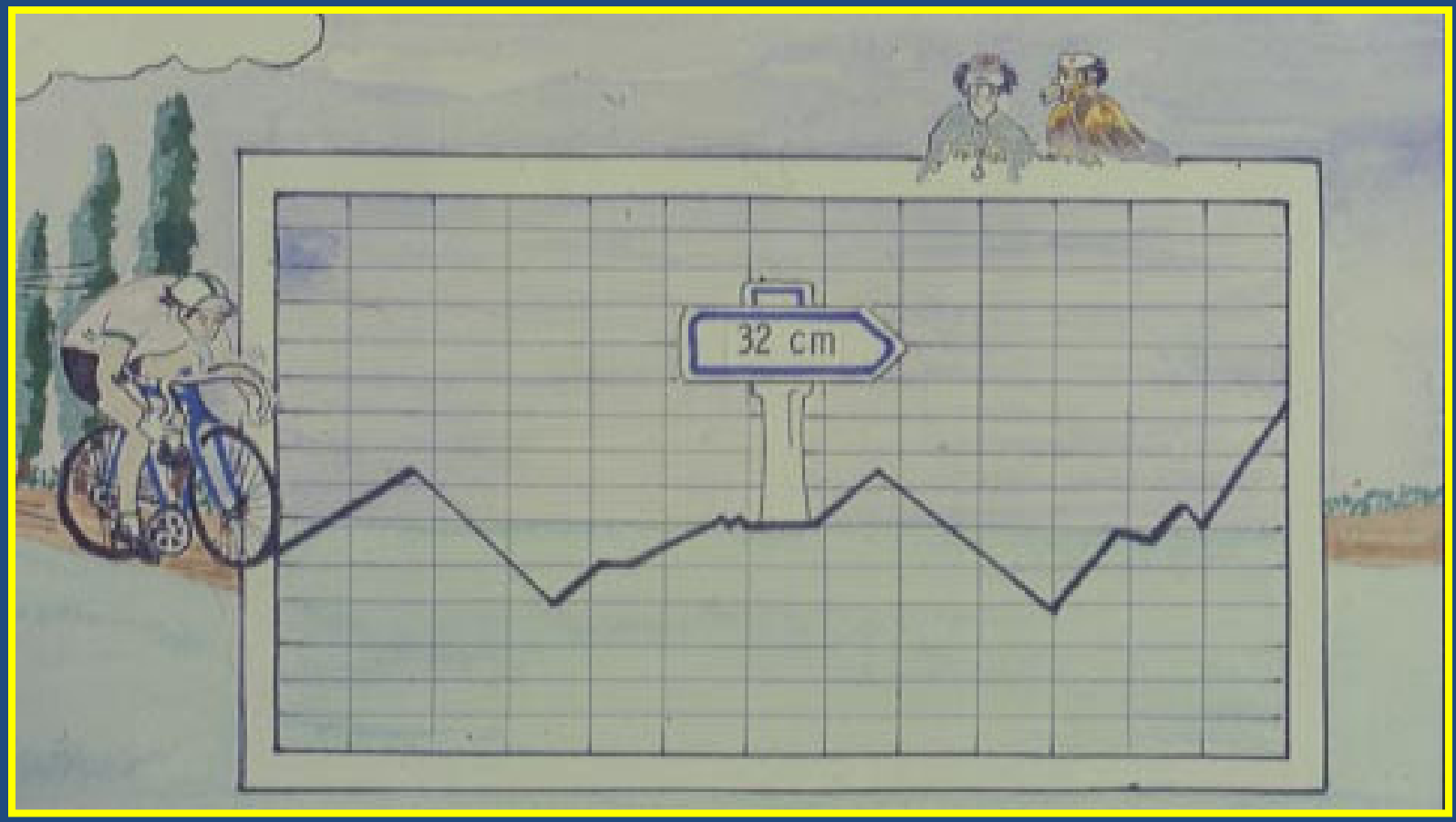
“Growth is a change in proportions”





	Sitting height:	Subischial leg length:
Birth:	35 cm	18 cm
Skeletal maturity:	93 cm	81 cm
Gain:	58 cm	63 cm

5 years: remaining standing growth 65 cm
5 years: remaining sitting growth 32 cm

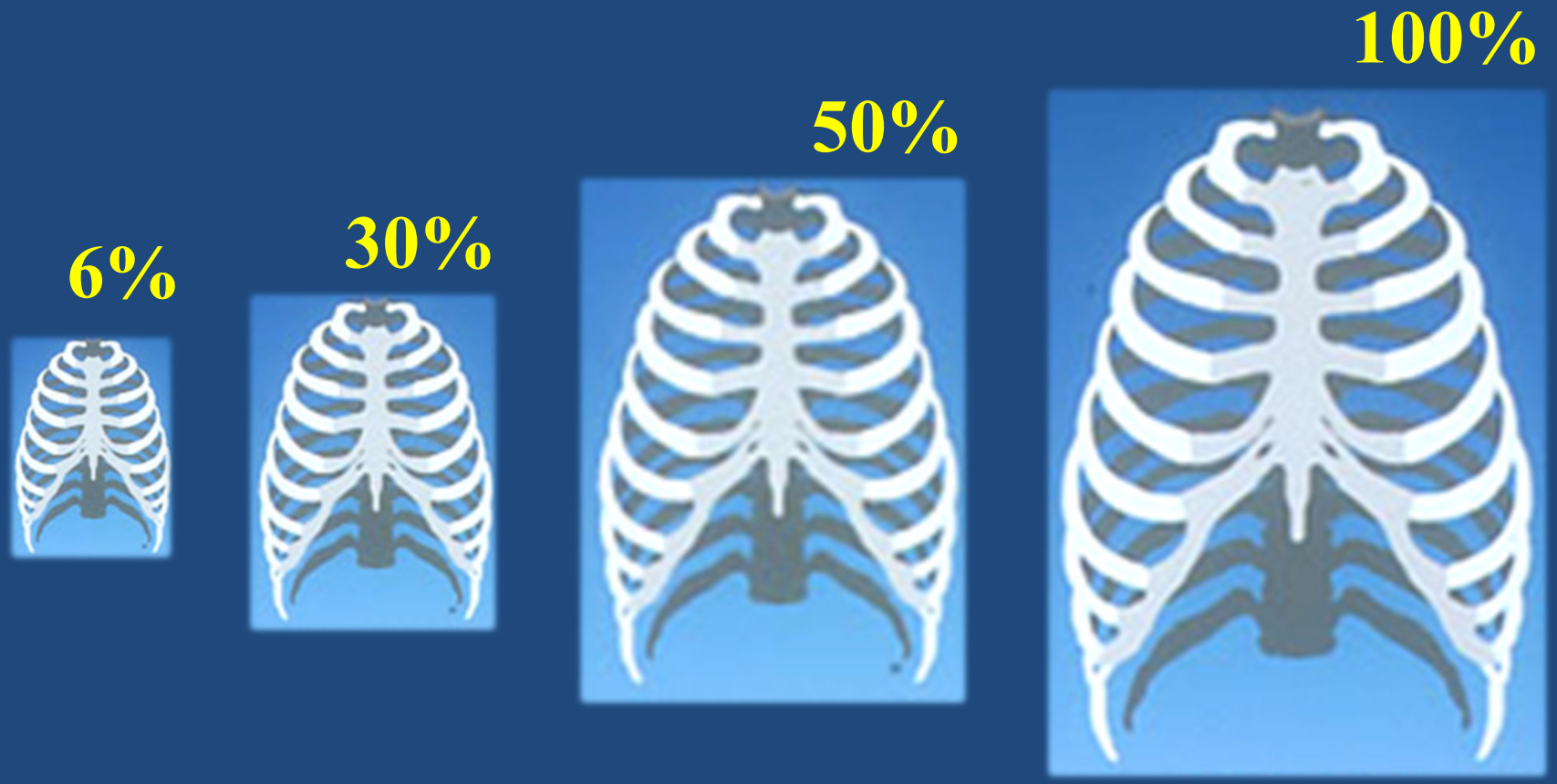


La scoliose entraîne une disgrace morphologique

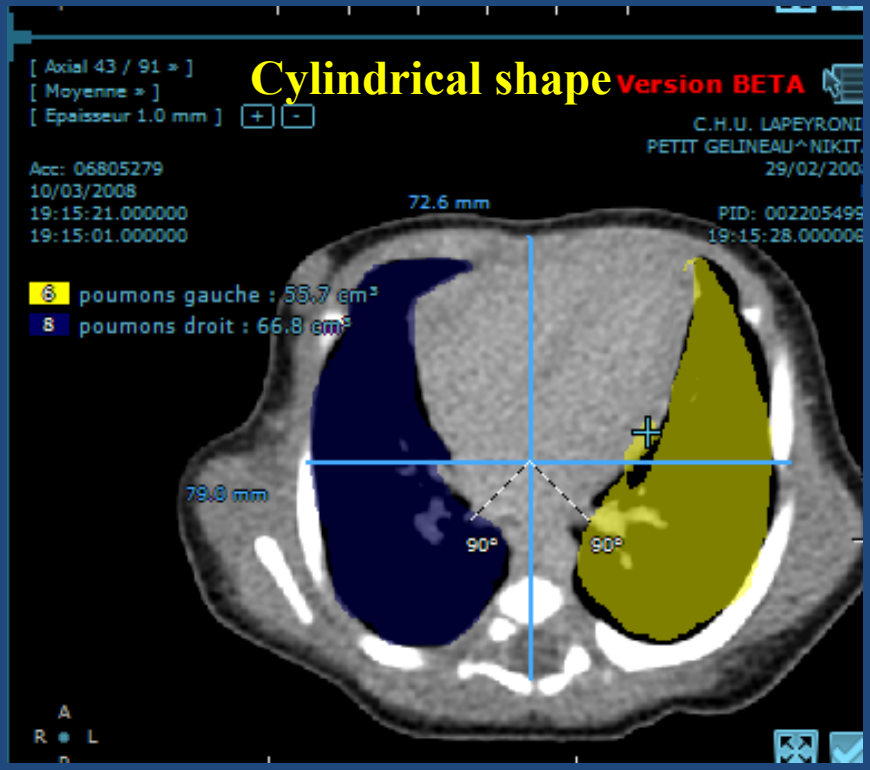
La scoliose est une maladie qui dure toute la vie

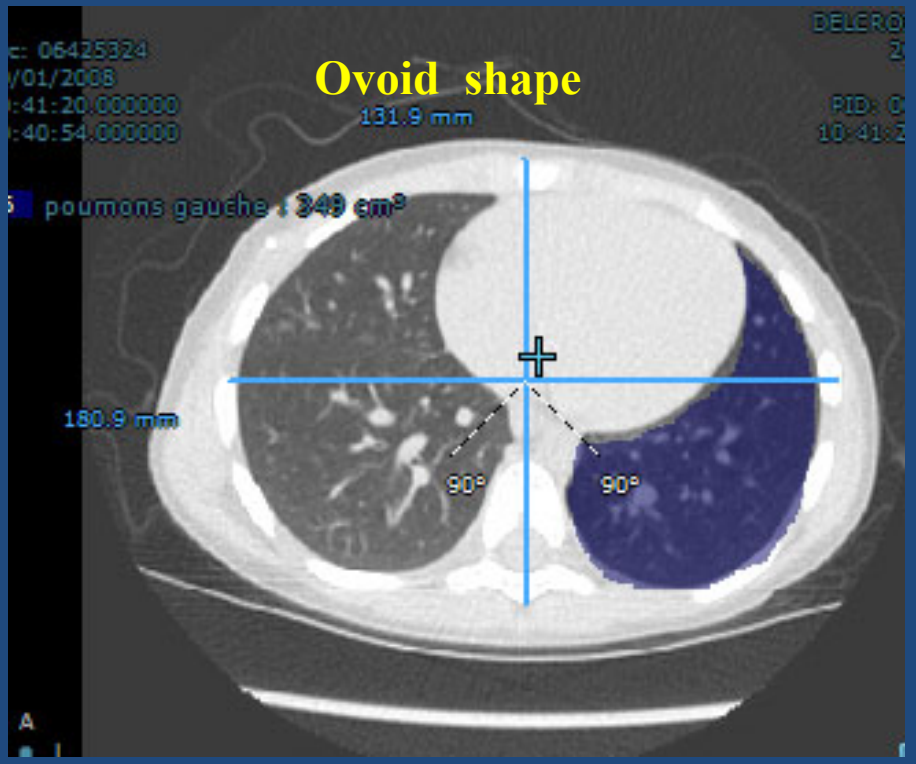
VOLUMETRIC GROWTH

The thorax: the fourth dimension of the spine



The growingspine, Springer Velarg 1



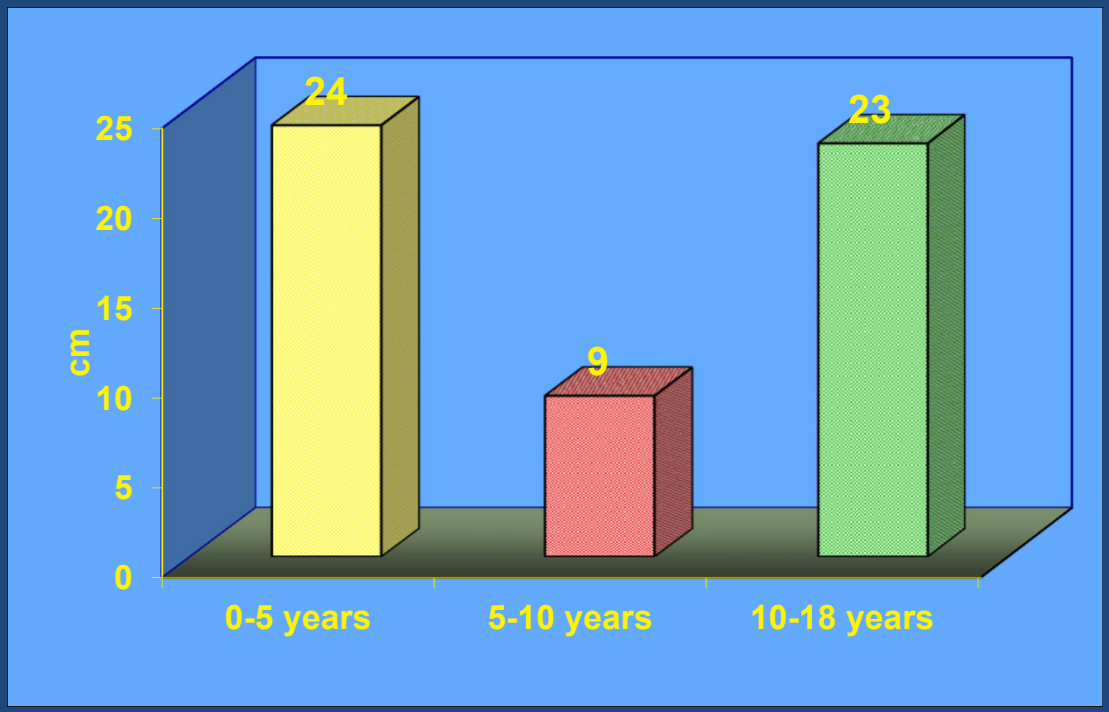


Birth
AP: 72 mm
L: 79 mm
Volume Right 67 cm3
Volume Left 56 cm3

5 years
AP: 132 mm
L: 181 mm
Volume Right 398 cm3
Volume Left 349 cm3

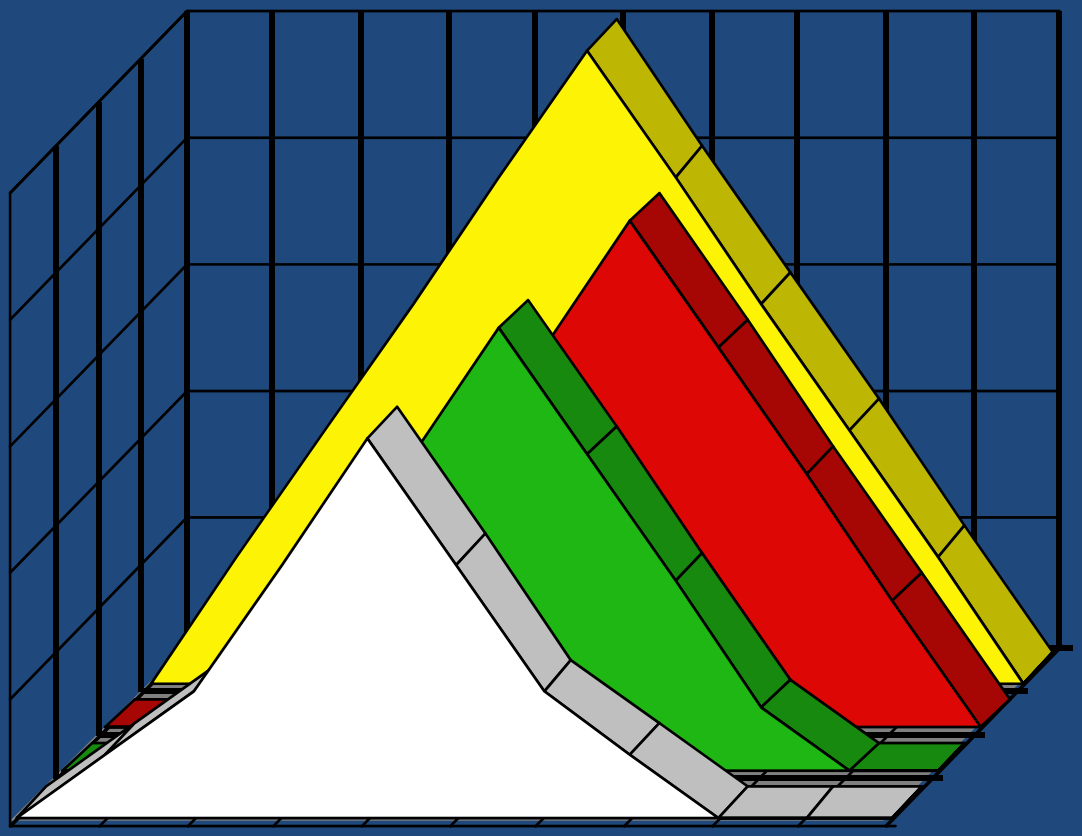
Frontal diameter grows faster than AP Diameter

THORACIC PERIMETER GROWTH



The gain is particularly important the first 5 years (24 cm) with a slow down after 5 years and a new peak at puberty.

3 Periods in growth / Standing height



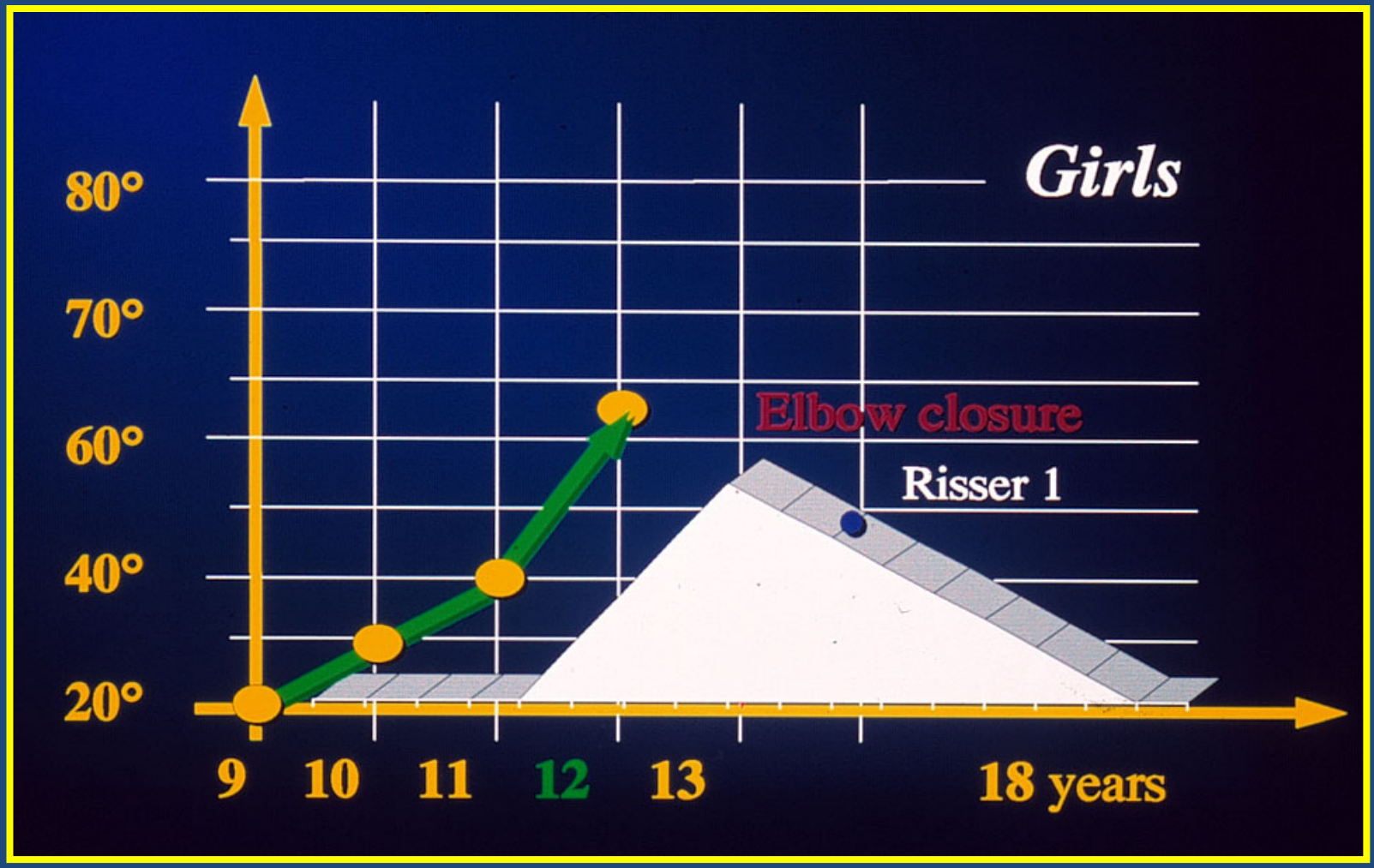
Standing height

Thorax

Sitting height

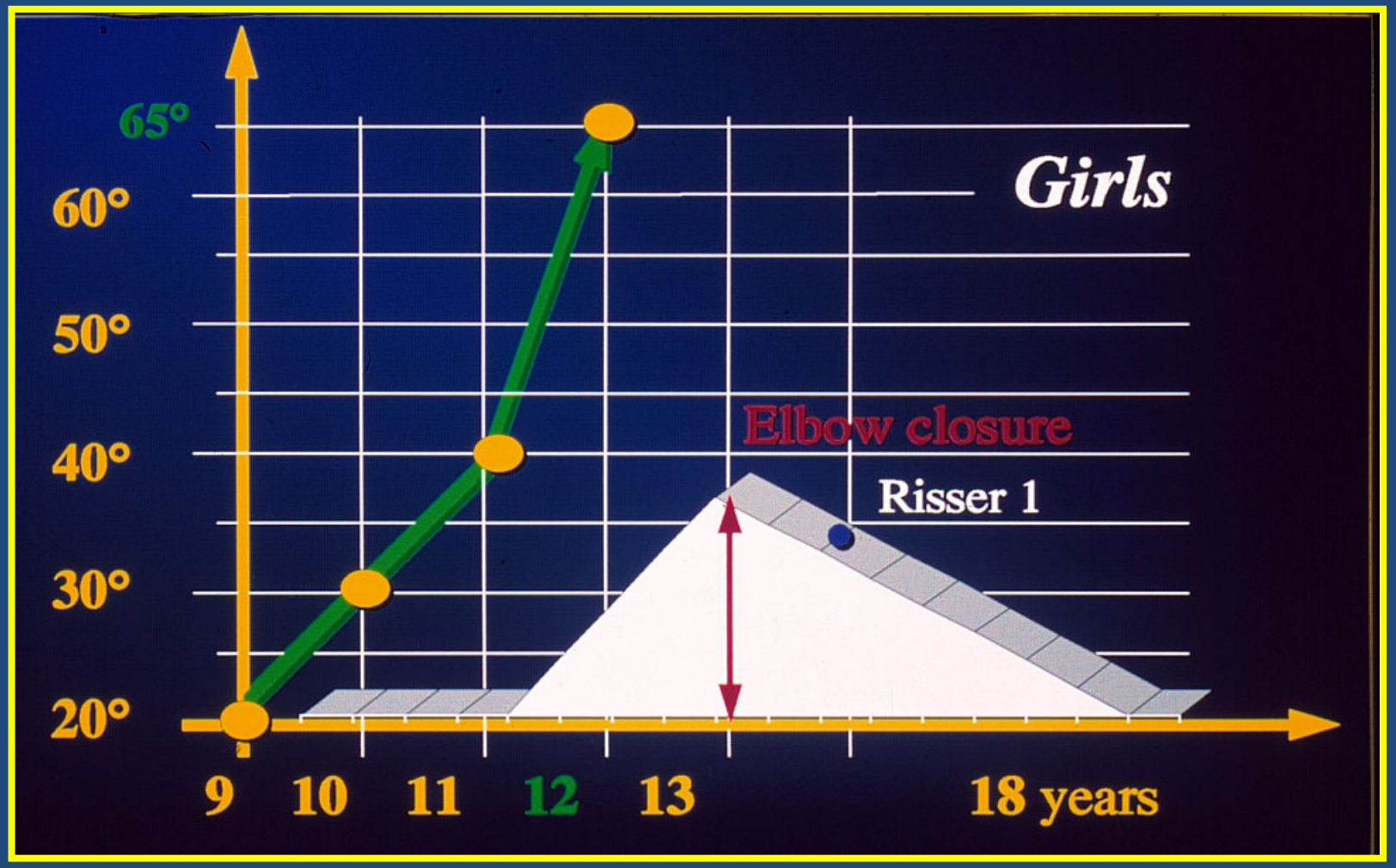
Lower limb

Détecter tôt les formes graves au début de la puberté



Un degré par mois: forme grave

Détecter tôt les formes graves au début de la puberté



Un degré par mois: forme grave