

### Growth and Nutrition

Growth: quantitative changes  
cellular growth (hyperplasia, hypertrophy)

Development: qualitative changes

Positive growth/involution

"...morphological, physiological and other modifications that characterize an individual's development from time of fertilization to adulthood."

differential growth  
population differences

Stages of growth:

#### Prenatal

Ovum	0-14 days (implantation of zygote, cleavage, gastrulation)
Embryo	14 days to 8-9 weeks
Fetus	9 weeks to birth

#### Postnatal

Neonatal	0-4 weeks
Infancy	1st year
Childhood	
early	1-6 years
late	7-12
Adolescence	
female:	8 or 10 to 18 years
male:	10, 12 to 20 years

Distance covered curve (cumulative)  
Velocity or incremental curve

Longitudinal growth study  
Cross-sectional  
Mixed

Adolescence: growth spurt, puberty (linear growth and weight gain, secondary sex characteristics)

Relative or proportional growth

1. head region doubles
2. trunk 3x
3. upper limb 4x
4. lower limb 5x

