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
devolution 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
      early 1-6 years
      late 7-12
    Childhood
      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
DE MONTBEILLARD'S SON
1759 - 1777

SIZE ATTAINED AS
OF TOTAL POSTNATAL GROWTH

LYMPHOID

BRAIN & HEAD

GENERAL

REPRODUCTIVE

AGE, YEARS

HEIGHT CM.

HEIGHT GAIN CM. PER YEAR

AGE, YEARS