

Physical Development in Infants and Toddlers

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PSY 356

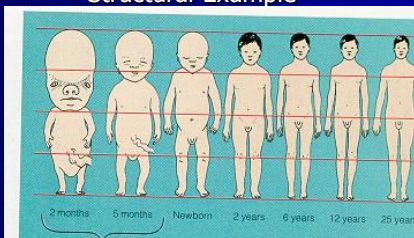
Topic Outline

- Healthy Growth
- The Developing Nervous System
- Motor Development

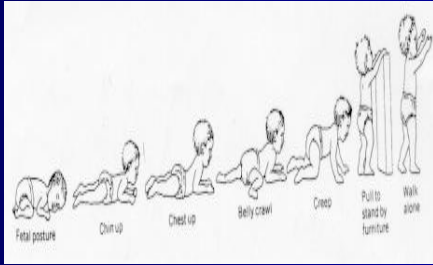
Principles of Physical Development

- Cephalocaudal - development from head down.

Structural Example



Cephalocaudal Development Functional Example



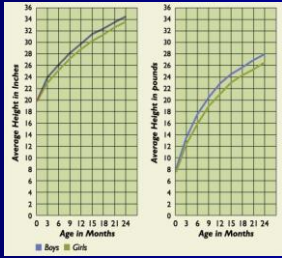
Principles of Physical Development

- Proximodistal: development from inside out
- Mass-to-specific: gross motor skills (large muscles) develops first followed by fine motor (small muscles) skills

Growth

- Newborn: 20 inches long; 7 1/2 pounds
- 1 inch per month
- 1/2 adult height by age 2
- double weight by 4 months, triple by 12 months
- Head Circumference
- Fontanels
 - Ossification

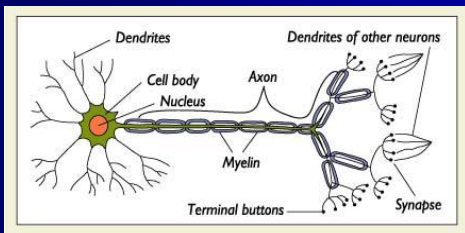
Average Height and Weight



The Developing Brain

- Human brain – most functional and best-organized 3 pounds of matter in universe.
- Part of Central Nervous System
- Controls voluntary and involuntary activities

The Neuron: basic unit of the nervous system

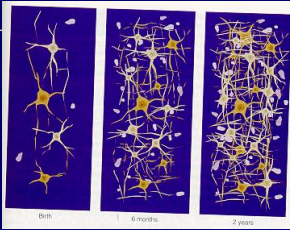


The Birth and Growth of Neurons

- Most neurons formed halfway through gestation
- Virtually no synaptic connections
 - it is experience and interaction with the environment that forms the synaptic connections
- 83% of dendritic growth (connections between synapses) occurs after birth

The Developing Brain

- Synaptogenesis



- Myelination
- Lateralization
- Triples in weight by age 3

Use it or lose it – Natural Selection of Brain Wiring

- Exposure to enriched environments with extra sensory and social stimulation enhances the connectivity of the synapses
- However, children can lose up to 20 million per day when not stimulated

Norms versus Individual Differences

Motor Milestones

