

Growth and Development

Infancy
Early Childhood
Middle Childhood
Adolescent



Stages of Growth and Development

- **Infancy**
 - Neonate
 - Birth to 1 month
 - Infancy
 - 1 month to 1 year
- **Early Childhood**
 - Toddler
 - 1-3 years
 - Preschool
 - 3-6 years
- **Middle Childhood**
 - School age
 - 6 to 12 years
- **Late Childhood**
 - Adolescent
 - 13 years to approximately 18 years

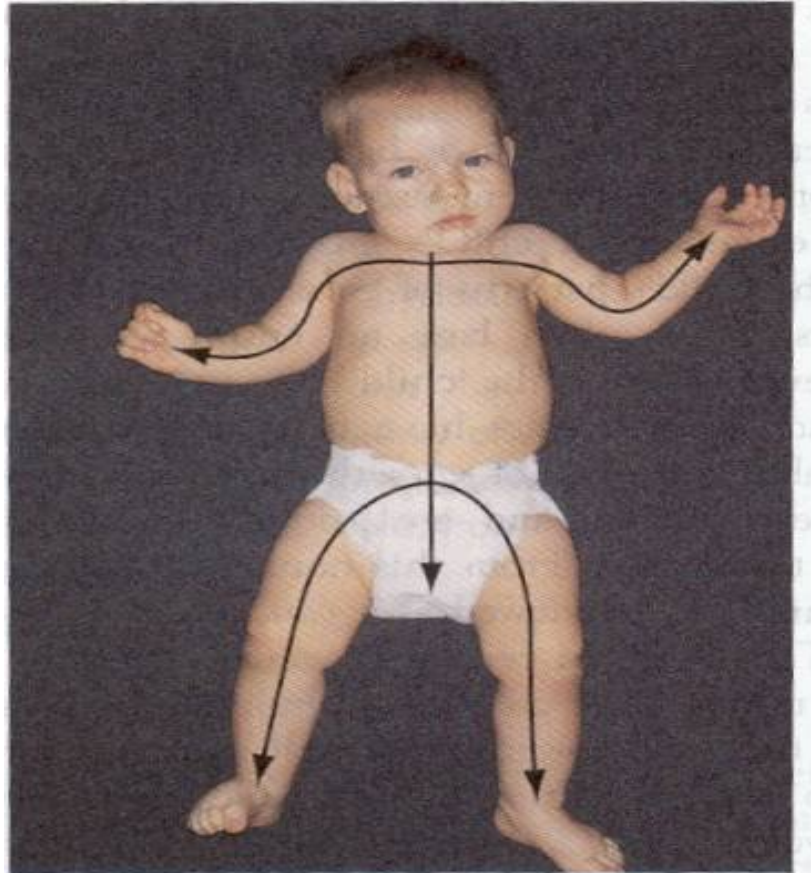
Principles of Growth and Development

- Growth is an orderly process, occurring in systematic fashion.
- Rates and patterns of growth are specific to certain parts of the body.
- Wide individual differences exist in growth rates.
- Growth and development are influenced by multiple factors.

Principles Continued

- Development proceeds from the simple to the complex and from the general to the specific.
- Development occurs in a cephalocaudal and a proximodistal progression.
- There are critical periods for growth and development.
- Rates in development vary.
- Development continues throughout the individual's life span.

Growth Pattern



Growth Patterns

- The child's pattern of growth is in a head-to-toe direction, or cephalocaudal, and in an inward to outward pattern called proximodistal.

Why developmental assessment?

- Early detection of deviation in child's pattern of development
- Simple and time efficient mechanism to ensure adequate surveillance of developmental progress
- Domains assessed: cognitive, motor, language, social / behavioral and adaptive

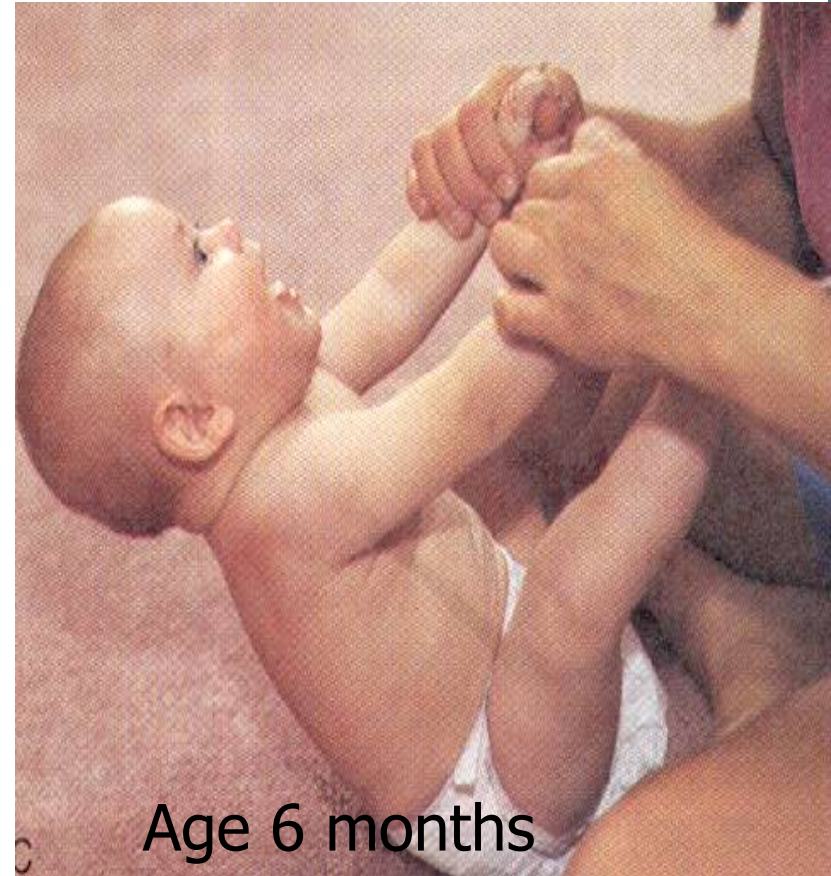
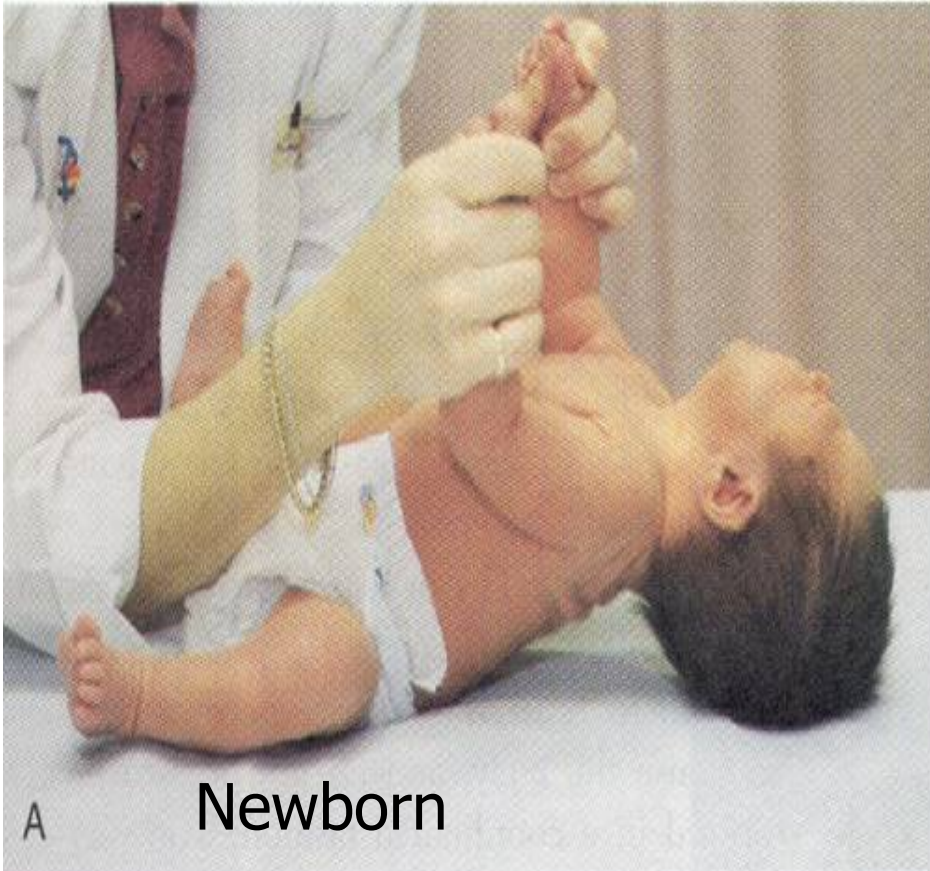
Gross Motor Skills

- The acquisition of gross motor skill precedes the development of fine motor skills.
- Both processes occur in a cephalocaudal fashion
 - Head control preceding arm and hand control
 - Followed by leg and foot control.

Gross Motor Development

- Newborn: barely able to lift head
- 6 months: easily lifts head, chest and upper abdomen and can bear weight on arms

Head Control



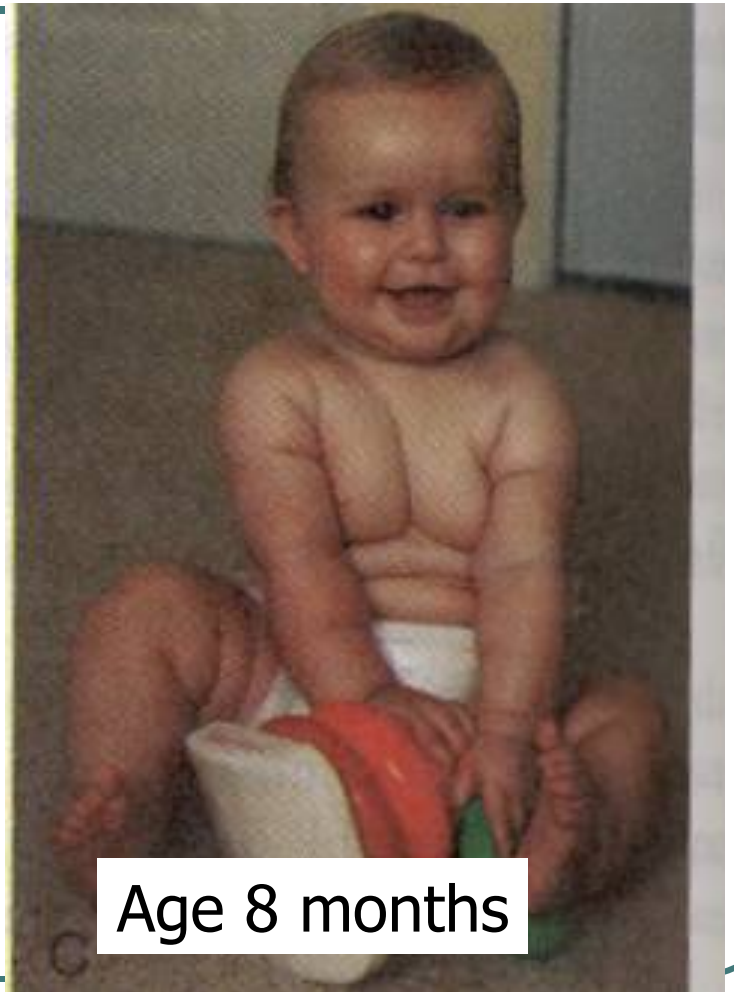
Sitting up

- 2 months old: needs assistance
- 6 months old: can sit alone in the tripod position
- 8 months old: can sit without support and engage in play

Sitting Up



Age 2 months

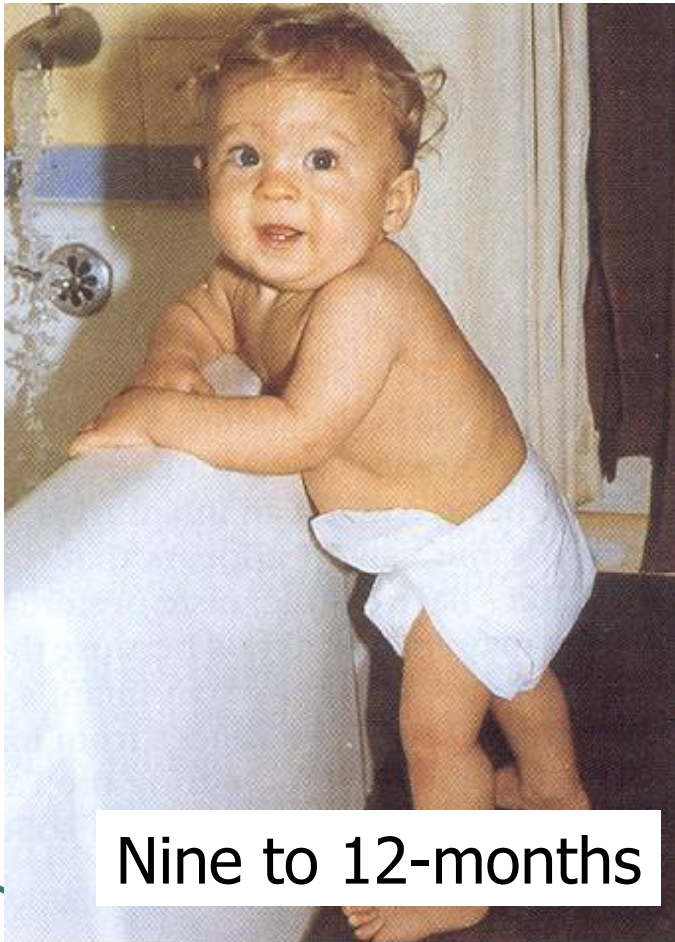


Age 8 months

Ambulation

- 9 month old: crawl
- 1 year: stand independently from a crawl position
- 13 month old: walk and toddle quickly
- 15 month old: can run

Ambulation



Nine to 12-months



13 month old

Fine Motor - Infant

- Newborn has very little control. Objects will be involuntarily grasped and dropped without notice.
- 6 month old: palmar grasp – uses entire hand to pick up an object
- 9 month old: pincer grasp – can grasp small objects using thumb and forefinger

Speech Milestones

- 1-2 months: coos
- 2-6 months: laughs and squeals
- 8-9 months babbles: mama/dada as sounds
- 10-12 months: “mama/dada specific
- 18-20 months: 20 to 30 words – 50% understood by strangers
- 22-24 months: two word sentences, >50 words, 75% understood by strangers
- 30-36 months: almost all speech understood by strangers

Hearing

- BAER hearing test done at birth
- Ability to hear correlates with ability enunciate words properly
- Always ask about history of otitis media – ear infection, placement of PET – tubes in ear
- Early referral to MD to assess for possible fluid in ears (effusion)
- Repeat hearing screening test
- Speech therapist as needed

Fine Motor Development



6-month-old



12-month-old

Red Flags in infant development

- Unable to sit alone by age 9 months
- Unable to transfer objects from hand to hand by age 1 year
- Abnormal pincer grip or grasp by age 15 months
- Unable to walk alone by 18 months
- Failure to speak recognizable words by 2 years.

Fine Motor - toddler

- 1 year old: transfer objects from hand to hand
- 2 year old: can hold a crayon and color vertical strokes
 - Turn the page of a book
 - Build a tower of six blocks

Fine Motor – Older Toddler

- 3 year old: copy a circle and a cross – build using small blocks
- 4 year old: use scissors, color within the borders
- 5 year old: write some letters and draw a person with body parts

Toddler



Adele Piliterri, Child Health Nursing, Lippincott

Toddler



Safety becomes a problem as the toddler becomes more mobile.



Toddlers



Issues in parenting - toddlers

- Stranger anxiety – should dissipate by age 2 ½ to 3 years
- Temper tantrums: occur weekly in 50 to 80% of children – peak incidence 18 months – most disappear by age 3
- Sibling rivalry: aggressive behavior towards new infant: peak between 1 to 2 years but may be prolonged indefinitely
- Thumb sucking
- Toilet Training

Pre-School



Fine motor and cognitive abilities

- Buttoning clothing
 - Holding a crayon / pencil
 - Building with small blocks
 - Using scissors
 - Playing a board game
 - Have child draw picture of himself
- Pre-school tasks

Red flags: preschool

- Inability to perform self-care tasks, hand washing simple dressing, daytime toileting
- Lack of socialization
- Unable to play with other children
- Able to follow directions during exam
- Performance evaluation of pre-school teacher for kindergarten readiness

Pool Safety



School-Age



School Years: fine motor

- Writing skills improve
- Fine motor is refined
- Fine motor with more focus
 - Building: models – legos
 - Sewing
 - Musical instrument
 - Painting
 - Typing skills
 - Technology: computers

School performance

- Ask about favorite subject
- How they are doing in school
- Do they like school
- By parent report: any learning difficulties, attention problems, homework
- Parental expectations

Red flags: school age

- School failure
- Lack of friends
- Social isolation
- Aggressive behavior: fights, fire setting, animal abuse

School Age: gross motor

- 8 to 10 years: team sports
- Age ten: match sport to the physical and emotional development

School Age



School Age: cognitive

- Greater ability to concentrate and participate in self-initiating quiet activities that challenge cognitive skills, such as reading, playing computer and board games.

13 to 18 Year Old



Adolescent

- As teenagers gain independence they begin to challenge values
- Critical of adult authority
- Relies on peer relationship
- Mood swings especially in early adolescents

Adolescent behavioral problems

- Anorexia
- Attention deficit
- Anger issues
- Suicide

Adolescents



Adolescent Teaching

- Relationships
- Sexuality – STD' s / AIDS
- Substance use and abuse
- Gang activity
- Driving
- Access to weapons

Adolescents

