

Physical Development

During the First Three Years

Birth

Childbirth takes place in four stages

- 1 Dilation of the cervix
- 2 Delivery of the baby
- 3 Expulsion of the placenta
- 4 Recovery

Methods of Delivery

Medicated Delivery

Natural and Prepared

Cesarean Delivery

Medical Monitoring

Settings for Childbirth

Hospitals

Home

The Newborn

Neonatal Period is the first four weeks of life.

The average neonate weighs about 7 1/2 pounds and is about 20 inches long.

Boys tend to be slightly longer and heavier.

Size is related to birth number, race, sex, parents' size, and mother's nutrition and health.

Fontanelles are soft spots in the skull.

Lanugo is a fuzzy prenatal hair.

Vernix caseosa is an oily protection against infection.

Body Systems

Circulatory - heartbeat is fast and irregular.

Respiratory - baby may suffer anoxia without breathing within 5 minutes.

Gastrointestinal- Meconium, a stringy, greenish-black waste matter is secreted in the first few days.

Neonatal jaundice may occur because of immaturity of the liver.

Temperature regulation- Layers of fat and activity level help babies to maintain temperature.

The Brain and Reflex Behavior

The brain is about 25 percent of adult weight at birth. It reaches 70 percent in the first year and 80 percent by the end of the second year.

The subcortical areas are most fully developed.

Early experiences can affect the brain's capacity, the wiring of the cortex and functioning.

The Newborn

Reflex behaviors are automatic responses to external stimulation.

Many reflexes are present at birth or soon after.

Rooting

Sucking
Darwinian (grasping)
Moro (startle reflex)
Babinski
Tonic neck

Apgar scale is used to make assessment after birth.
There are five subtests: appearance(color), pulse(heartrate), grimace(reflexes), activity(muscle tone), and respiration(breathing).
The baby is rated 0,1,or 2 on each measure.

Phenylketonuria(PKU) and hypothyroidism screenings are required in all states.
PKU can cause retardation unless the child is placed on a special diet.
The Brazelton Neonatal Assessment is used to assess interactive behaviors, motor behaviors, physiological control, and response to stress.
Low Birthweight
Low birthweight babies weigh less than 5 ½ pounds.
Low birthweight babies fall into two categories:
Preterm (premature)
Small-for-date

Factors in low birthweight
Demographics such as age, race, education and marital status
Medical conditions before pregnancy such as abortions and stillbirths
Medical factors such as vaginal bleeding, infections or too little weight gain
Behavioral and environmental factors such as smoking, use of alcohol and drugs, stress

The rate of low birthweight in the U.S. is higher than 21 European, Asian and Middle East nations.
African American babies are more than twice as likely as white babies to be born with low birthweight
These rates may be due to higher poverty, less education, less prenatal care and teen pregnancy.

Low birthweight may mean :
Higher risk of death
Immature respiratory system
Lower IQ scores
Low-birthweight babies need special diet, care, and gentle handling.

Postmaturity two weeks after the due date may lead to brain damage or even death.
The infant mortality rate in the U. S. is now the lowest ever.
Birth defects are the leading cause of infant mortality, followed by low-birthweight and SIDS.

Black babies die at nearly 2 ½ times the rate of whites.

Sudden infant death syndrome (SIDS), is the sudden death of an infant that is not explained by by autopsy.

SIDS babies are more likely to be black, male and of low-birthweight.

Mothers are more often young, poor, smokers, users of other drugs, ill during pregnancy, receive poor prenatal care and have had another baby less than one year before.

Early Physical Development

Development proceeds according to two fundamental principles.

Cephalocaudal - head to tail

Proximodistal - center of the body to outer

Infant States

An internal “clock” regulates daily cycles of eating, sleeping, elimination, and mood.

Newborns average 16 hours of sleep waking about every 2 hours.

Growth Rate

Faster during first 3 years

Birthweight doubled in 5 months

Birthweight tripled in 1 year

Gains 5 to 6 pounds second year

Gains 4 to 5 pounds third year

Breast milk or formula is the only food most babies need until 4 to 6 months of age.

Breast milk is usually the best food for babies.

A complete source of nutrients

More digestible and less likely to cause allergies

Teeth and jaws develop better

Protection against diarrhea, respiratory infections and otitis media, an infection of the middle ear.

Early Sensory Capacities

Touch is the first and most well developed at birth.

Newborns can tell where odors are coming from.

Babies prefer sweet tastes to sour or bitter ones.

Hearing is acute even before birth.

Vision is the least well developed sense at birth.

Motor Development

Develop motor skills in a certain sequence

Some degree of environmental interaction needed

Motor development is marked by a series of milestones.

Denver Developmental Screening Test used to identify abnormal development