Chapter 4

BIRTH AND THE NEWBORN CHILD
Learning Objectives

- **LO 3.1** Describe the three stages of the birth process
- **LO 3.2** Name two common types of birth complications and explain how they can be overcome by cesarean delivery
- **LO 3.3** Compare and contrast cultural variations in birth beliefs
- **LO 3.4** Explain the role of the midwife and compare and contrast cultural practices and medical methods for easing the birth process
- **LO 3.5** Summarize the history of birth in the West from the 15th century to today
- **LO 3.6** Describe the differences in maternal and neonatal mortality both within and between developed countries and developing countries
- **LO 3.7** Identify the features of the two major scales most often used to assess neonatal health
- **LO 3.8** Identify the neonatal classifications for low birth weight and describe the consequences and major treatments
- **LO 3.9** Describe neonates’ patterns of waking and sleeping, including how and why these patterns differ across cultures
Learning Objectives

- **LO 3.10** Describe the neonatal reflexes, including those that have a _functional purpose_ and those that do not
- **LO 3.11** Describe the neonate’s sensory abilities with respect to touch, taste and smell, hearing, and sight
- **LO 3.12** Describe the cultural customs surrounding breast-feeding across cultures and history
- **LO 3.13** Identify the advantages of breast-feeding and where those _advantages are largest_
- **LO 3.14** Describe neonates’ types of crying and how crying patterns and _soothing methods vary across cultures_
- **LO 3.15** Describe the extent to which human mothers “bond” with their neonates and the extent to which this claim has been exaggerated
- **LO 3.16** Describe the reasons for postpartum depression and its _consequences for children_
Learning Objectives

- **LO 4.1** Explain the gains in height and weight, the two basic principles of physical growth, and the growth of teeth in this period.
- **LO 4.2** Identify the different parts of the brain and describe how the brain changes in the first few years of life.
- **LO 4.3** Describe how infant sleep changes in the course of the first year and evaluate the risk factors for SIDS, including the research evidence regarding cosleeping.
- **LO 4.4** Describe how infants’ nutritional needs change during the first year of life and identify the reasons and consequences for malnutrition in infancy.
- **LO 4.5** List the major causes and preventive methods of infant mortality and describe some cultural approaches to protecting infants.
- **LO 4.6** Describe the major changes during infancy in gross and fine motor development.
- **LO 4.7** Describe when and how infants develop depth perception and intermodal perception.
- **LO 4.8** Describe the first four sensorimotor substages.
- **LO 4.9** Explain how object permanence develops over the course of the first year.
Learning Objectives

• LO 4.10 Summarize the major critiques of Piaget’s sensorimotor theory
• LO 4.11 Explain how attention and habituation change during infancy
• LO 4.12 Explain how short-term and long-term memory expand during infancy
• LO 4.13 Describe the major scales used in measuring infant development and explain how habituation assessments are used to predict later intelligence
• LO 4.14 Evaluate the claim that educational media enhance infants’ cognitive development
• LO 4.15 Describe the course of language development over the first year of life
• LO 4.16 Describe how cultures vary in their stimulation of language development
• LO 4.17 Define infant temperament and describe three ways of conceptualizing it
• LO 4.18 Explain how the idea of goodness-of-fit pertains to temperament on both a family level and a cultural level
Learning Objectives

• LO 4.19 Identify the primary emotions and describe how they develop during infancy
• LO 4.20 Describe infants’ emotional perceptions and how their emotions become increasingly social over the first year
• LO 4.21 List the main features of infants’ social worlds across cultures
• LO 4.22 Compare and contrast the two major theories of infants’ social development
Learning Objectives

- LO 5.1 Describe the typical changes in physical growth that take place in toddlerhood and explain the harmful effects of nutritional deficiencies on growth.
- LO 5.2 Describe the changes in brain development that take place during toddlerhood, and identify the two most common methods of measuring brain activity.
- LO 5.3 Describe the changes in sleeping patterns and sleeping arrangements that take place during toddlerhood.
- LO 5.4 Describe the advances in motor development that take place during toddlerhood.
- LO 5.5 Compare and contrast the process and timing of toilet training in developed countries and traditional cultures.
- LO 5.6 Distinguish the weaning process early in infancy from weaning later in toddlerhood.
- LO 5.7 Outline the cognitive achievements of toddlerhood in Piaget’s theory.
- LO 5.8 Explain Vygotsky’s sociocultural theory of cognitive development and contrast it with Piaget’s theory.
Learning Objectives

- **LO 5.9** Summarize the evidence for the biological and evolutionary bases of language
- **LO 5.10** Describe the milestones in language development that take place during the toddler years
- **LO 5.11** Identify how parents’ stimulation of toddlers’ language varies across cultures and evaluate how these variations relate to language development
- **LO 5.12** Describe how emotional development advances during toddlerhood and identify the impact of culture on these changes
- **LO 5.13** Describe the changes in self-development that take place during toddlerhood
- **LO 5.14** Distinguish between sex and gender and summarize the evidence for the biological basis of gender development
- **LO 5.15** Describe the essential features of attachment theory and identify the four classifications of attachment
- **LO 5.16** Identify the key factors influencing the quality of toddlers’ attachment to their mothers, and explain what effect attachment quality has on development
Learning Objectives

• LO 5.17 Summarize the major critiques of attachment theory, including the cultural critique
• LO 5.18 Compare and contrast the typical patterns of father involvement with infants and toddlers in traditional cultures and developed countries
• LO 5.19 Describe relationships with siblings, peers, and friends during toddlerhood
• LO 5.20 Identify the characteristics of autism spectrum disorders and recognize how they affect prospects for children as they grow to adulthood
• LO 5.21 Identify the typical rates of television use in toddlerhood and explain some consequences of toddlers’ TV watching
Brain Development

- At birth, brain is \( \frac{1}{4} \) the size of adult’s brain
- By age 2 it will be 70% of adult size
- Neurons in the brain drops by age 2
- Growth in brain due to
  - Exuberance - dendritic connections multiply - Although neurons in the brain drops the brain still grows and neurons multiply vastly by a process known as overproduction or exuberance.
  - Myelination - axons become encased in a myelin sheath - which is a process where axons become encased in a myelin sheath. Myelin sheath is a fatty material that increases the speed of communication between neurons.
- **Synaptic pruning increases efficiency** - Dendrites connect to other neurons. At the time the brain goes through a ‘use it o lose it” process. The strong neurons survive and those that aren’t being used wither away.

LO 4.2 Brain Structures and Changes
Brain Development

- Brain divided into three major regions
  1. Hindbrain
  2. Midbrain-
     - Both structures mature early and perform basic biological functions i.e. breathing, heartbeat and bodily movements
  3. Forebrain- Divided in two parts.
     1. Limbic system-
        - **hypothalamus**- Responsible for monitoring and regulating hunger, thirst, body temperature, sexual desire and hormone levels.
        - **Thalamus**- Receiving and transfer center for sensory information from the body to the brain.
        - **Hippocampus**- Is crucial for memory. Especially for making short term into long term memory.
     2. Cerebral Cortex- Is the outer most part of the forebrain. It is the biggest part of the brain. Most brain growth after birth. Responsible for our ability to speak, understand language, work out problems, and think in terms of concepts, ideas and symbols.

LO 4.2 Brain Structures and Changes
Infancy: Growth and Development
Brain Specialization

**Figure 4.2  Lobes of the Brain** What are the distinct functions of each lobe?

- **Frontal Lobe** - Spoken language, planning for the future and making decisions.
- **Parietal lobe** - Help understand the sensations felt in the body.
- **Occipital lobe** - Assist with visual information.
- **Temporal lobe** - Process auditory information, including understanding spoken language.
Infancy: Growth and Change
Infant Brain Plasticity

• Plasticity important for the infant’s brain development- highly responsive to environmental circumstances.
• Adaptable to overcome damage
• Environmental deprivation can have permanent effects
• **Example seen in Romanian Adoptions**
Figure 4.3 Romanian Adoptees’ Cognitive Abilities, by Age of Adoption  The later the age of adoption, the lower their cognitive abilities. Source: Based on Beckett et al. (2006)
Infancy: Growth and Change
Sleep Changes

- Neonates sleep 16-17 hours
- 3-4 Months sleep 6-7 hours at night
- 6 Months cultural patterns influence sleep patterns
  - American 14 hours
  - Kipsigis 12 hours
  - Dutch 16 hours
Infancy: Growth and Development

Sleep Changes

• Early infancy is highest risk period for Sudden Infant Death Syndrome (SIDS)
  ▪ Leading cause of death for infants 1-12 months in developed countries
  ▪ Ethnic variations
    - Asians are less at risk; higher rates for African Americans and Native Americans
  ▪ Poorer prenatal care could be a factor
Infancy: Growth and Development

Sudden Infant Death Syndrome

- Risk factors:
  - Sleeping on stomach instead of back
  - Low birth weight and APGAR score
  - Smoking
  - Soft bedding

- Why aren’t these referred to as causes?

LO 4.3 Infant Sleep Changes
Infancy: Growth and Development
Sudden Infant Death Syndrome

• Campaign to reduce SIDS includes a Back to sleep campaign
• Campaign has caused reduction of SIDS worldwide

LO 4.3 Infant Sleep Changes
Infancy: Growth and Change

Co-Sleeping

• Authorities in US warn against co-sleeping
  ▪ Why might this be?

• Developing countries view it as normal
  ▪ Believed to protect infants and to make breast feeding easier.

• How does this difference reflect different cultural beliefs?

LO 4.3 Infant Sleep Changes
Infant Health: Nutritional Needs

- Infants need a high fat diet which breast milk provides.
- About 6 months may introduce solid foods:
  - Cultural variations in food introduced
  - West-rice cereal
  - Traditional cultures-mashed, pre-chewed, pureed
Physical Development

Infant Health: Nutritional Needs

- Malnutrition during this time can be severe and enduring
- Can be caused by inability of mother to breastfeed
- Can cause marasmus- wasting away of body tissue due to lack of nutrients.

LO 4.4 Changes in Infants’ Nutritional Needs
Most infant mortality is neonatal mortality

Top sources of infant mortality include
- Malnutrition
- Malaria
- Diarrhea

Vaccinations have been beneficial

LO 4.5 Causes and Prevention of Infant Mortality
Cultural Beliefs and Practices to Protect Infants

Traditional cultures:
• Awareness of infant’s vulnerabilities influenced parenting practices
• Developed practices to help infants avoid harm
• Magical practices employed when medical remedies are not trusted or available

LO 4.5 Causes and Prevention of Infant Mortality
Physical Development
Motor and Sensory Development

• Gross motor development includes whole body movements like crawling
• Children tend to develop gross motor skills in sequence
• Sequence has genetic beginnings with environmental influences

LO 4.6 Gross and Fine Motor Development
<table>
<thead>
<tr>
<th>Milestone</th>
<th>Average age</th>
<th>Age range*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding head up unsupported</td>
<td>6 weeks</td>
<td>3 weeks–4 months</td>
</tr>
<tr>
<td>Rolling over</td>
<td>4½ months</td>
<td>2–7 months</td>
</tr>
<tr>
<td>Sitting without support</td>
<td>7 months</td>
<td>5–9 months</td>
</tr>
<tr>
<td>Crawling</td>
<td>7 months</td>
<td>5–11 months</td>
</tr>
<tr>
<td>Standing</td>
<td>11 months</td>
<td>5–12 months</td>
</tr>
<tr>
<td>Walking with support (cruising)</td>
<td>11½ months</td>
<td>7–12 months</td>
</tr>
<tr>
<td>Walking</td>
<td>12 months</td>
<td>9–17 months</td>
</tr>
</tbody>
</table>

*Age ranges provided are for 90% of American infants.
Based on: Bayley (2005).

Table 4.1  **Milestones of Gross Motor Development in Infancy**  Age ranges provided are for 90% of American infants. Based on: Bayley (2005)