Chapter Overview

- Biological Changes
- Health Issues
- Responses to Puberty

Puberty

- derived from the Latin word ‘pubescere’ which means to “grow hairy”
- The body undergoes a biological revolution that dramatically changes the adolescent’s physiology.
The Endocrine System

Hormonal changes begin here

Gradually increases production of GnRH (Gonadotropin-releasing hormone) triggering the PG.

This occurs once a threshold level of body fat is reached. Fat cells produce leptin that provides the signal to the hypothalamus.

"SET POINT" – when sex hormones reach an optimal level in bloodstream and the hypothalamus reduces GnRH.

Sex Hormones

Compare the differences in hormone production between boys and girls during puberty

Testosterone

Estradiol

Physical Growth during Puberty

Notice the differential timing in when growth spurts begin

Notice when the difference in final height is achieved
Growth Spurts

- Not all parts of the body grow at the same pace
- Asynchronicity in growth explains the “gangly look” in early adolescence

Extremities are the first to hit the growth spurt

Rates of Obesity among Adolescents

May be due to:
- Fast-food
- Lack of exercise
- Television
- Soft-drinks and junk food in schools

Physical Functioning in Emerging Adulthood

- Emerging adulthood is the period of the life span with the least susceptibility to physical illness

... but that's not the whole story
Physical Functioning in Emerging Adulthood

- Lifestyles of many emerging adults often include a variety of factors that undermine health such as
  - Poor nutrition
  - Lack of sleep
  - Stress of juggling school/work/multiple jobs
- Automobile accidents are the leading cause of death among emerging adults in the United States
- Homicide is another common cause of death in the U.S. during emerging adulthood
- Rates of contracting sexually transmitted diseases, including HIV, are highest in the early twenties

Sex Characteristics

<table>
<thead>
<tr>
<th>Boys</th>
<th>Primary Sex Characteristics</th>
<th>Secondary Sex Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Production of sperm</td>
<td>Hair growth in public areas, underneath arms, chest, face, shoulders and back</td>
</tr>
<tr>
<td></td>
<td>Development of sex organs</td>
<td>Skin becomes rougher</td>
</tr>
<tr>
<td>Girls</td>
<td>Production of eggs</td>
<td>Hair growth in pubic areas, underneath arms and a slight amount of facial hair</td>
</tr>
<tr>
<td></td>
<td>Development of sex organs</td>
<td>Skin becomes rougher</td>
</tr>
</tbody>
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The Order of Pubertal Events

**GIRLS**
- Appearance of breast buds
- Growth spurt
- Menarche
- Development of underarm hair

**BOYS**
- Appearance of pubic hair
- Growth spurt
- Deepening of the voice
- Development of facial hair
- Increased growth of penis
- Secretion of increased skin oil and sweat
- Development of underarm hair
Culture and Pubertal Timing

Age of Menarche in Relation to SES

Cultural Responses to Puberty: Rituals Traditional Cultures

INTERESTING FOOTNOTE: Globalization has been credited with the decline in frequency of these rituals
How do parent-adolescent relations change at puberty?

- Conflict increases and closeness decreases.
- Parents and adolescents seem less comfortable in each other’s presence.
- Physical change leads to relationship change, not age?

Distancing hypothesis: It may be adaptive for young people to move away from closeness to their parents once they reach sexual maturity so that they mate and reproduce with persons outside the family, thus avoiding the genetic problems that often result from incest.

Early Maturation - Girls

- The effects of early maturation are especially negative for girls.
- Early maturing girls are at risk for a variety of problems:
  - Depressed mood
  - Negative body image
  - Eating disorders
  - Substance use
  - Delinquency
  - School problems
  - Conflicts with parents

Why???

Late Maturation - Girls

- Late maturing girls have few of the problems that early-maturing girls have.
- Although they can suffer from:
  - Teasing
  - Negative body image (during the years when other girls have begun to develop)
- However, by their late teens they tend to have a more favorable body image than other girls.
- They are more likely to end up with the lean body build that tends to be regarded as attractive in Western majority cultures.

Why???
Early Maturation - Boys

- The effects of early maturation tend to be positive for boys.
- Early maturing boys have:
  - More favorable body image
  - Higher popularity
- Although not everything is favorable. They tend to be involved in:
  - Substance use
  - Delinquency
  - Sex

Late Maturation - Boys

- Late maturing boys show evidence of problems.
- Compared with boys who mature “on time” late maturing boys have higher rates of:
  - Alcohol use
  - Delinquency
  - Lower grades in school

Key Chapter Ideas

- Hormonal changes lead to changes in physical functioning and to the development of primary and secondary sex characteristics.
- The typical age of reaching puberty has declined steeply in industrialized countries over the past 150 years.
- Emerging adulthood is a time of peak physical functioning for most people.
- Cultures influence young people’s experience of puberty through cultural technologies in nutrition and medical care that affect the timing of the initiation of puberty, through rituals that give meaning to pubertal changes, and through providing or failing to provide young people with information about what is happening to their bodies.