Adolescence: Biosocial Development

- Between ages of 10 & 14, the average girl gains about 38 lbs. & grows 9 5/8 inches.
- Typical boy gains about 42 lbs. and grows 10 inches between ages 12 & 16.
- Growth spurt proceeds from extremities to trunk, making adolescents temporarily big-footed, long-legged, & short-waisted.
- As they mature, they become increasingly dissatisfied with their bodies, especially the girls, some develop anorexia or bulimia.
Nutritional requirements during adolescence include a need for additional calories and about 50% more calcium, iron, and zinc than prior to the growth spurt.

Because of menstruation, adolescent females also need additional iron in their diets and are more likely to suffer from iron-deficiency anemia.
Internal organs grow, including the lungs, which triple in weight, and the heart, which doubles in size and slows in rate. These changes give the adolescent increased physical endurance.

The lymphoid system, including the tonsils and adenoids, decrease in size, making teenagers more susceptible than children to respiratory ailments.
During puberty, oil, sweat, and odor glands become more active, producing acne in approximately 90% of boys and 80% of girls and a need for deodorant in most.
### Sequence of Puberty

**TABLE 14.1 The Sequence of Puberty**

<table>
<thead>
<tr>
<th>Girls</th>
<th>Approximate Average Age*</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ovaries increase production of estrogen and progesterone†</td>
<td>9</td>
<td>Testes increase production of testosterone†</td>
</tr>
<tr>
<td>Uterus and vagina begin to grow larger</td>
<td>9½</td>
<td>Testes and scrotum grow larger</td>
</tr>
<tr>
<td>Breast “bud” stage</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Pubic hair begins to appear; weight spurt begins</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Peak height spurt</td>
<td>11½</td>
<td>Pubic hair begins to appear</td>
</tr>
<tr>
<td>Peak muscle and organ growth (also, hips become noticeably wider)</td>
<td>12</td>
<td>Penis growth begins</td>
</tr>
<tr>
<td>Menarche (first menstrual period)</td>
<td>12½</td>
<td>Spermarche (first ejaculation); weight spurt begins</td>
</tr>
<tr>
<td>First ovulation</td>
<td>13</td>
<td>Peak height spurt</td>
</tr>
<tr>
<td>Voice lowers</td>
<td>14</td>
<td>Peak muscle and organ growth (also, shoulders become noticeably broader)</td>
</tr>
<tr>
<td>Final pubic-hair pattern</td>
<td>15</td>
<td>Voice lowers; visible facial hair</td>
</tr>
<tr>
<td>Full breast growth</td>
<td>16</td>
<td>Final pubic-hair pattern</td>
</tr>
</tbody>
</table>
Early vs. Late Maturing

- A daughter’s age of menarche correlates with her mother’s age of menarche.
- Menarche is also related to body weight with most girls having their first menarche about the time they reach 100 lbs.
- Stocky children tend to experience puberty earlier than those with taller, thinner builds.
- Average age of puberty onset varies among nations & ethnic groups.
Discuss issues related to early or late maturing.

Most experts agree that it is less traumatic if one goes through puberty at about the same time as one’s closest friends.
Adolescence: Cognitive Development

- Adolescent egocentrism – regard themselves as more socially significant than they actually are (i.e., no one has ever loved so deeply or hurt so badly)
- Invincibility fable – immune to common dangers
- Imaginary audience -- fantasy about how others will react to their appearance & behavior
- Personal fable – a unique or heroic life
- The teen brain: It’s not grown-up yet
- Understanding the mysterious teenage brain
Keys for Creating Top High Schools

- Make it tough
- Expect more
- Put parents to work
- Tear down the walls
- Adopt new ways of testing
- Shrink the school
- Close the factory
- Make it real
- Get wired
- Hand over the keys