THE DIGESTIVE SYSTEM

The primary role of the digestive system is to break food down into units that are small enough to fit inside each individual cell, providing our body's systems with the nutrients they need.

Two types of digestion—chemical and physical—occur throughout most of the gastrointestinal tract. Both chemical and physical digestion begin in the mouth. Your 32 teeth are immediately put to use physically tearing food apart. As chewing occurs, saliva, which contains enzymes, mixes with the food and chemically changes the structure of the food in order to help digest it.

Physical digestion continues through the stomach and into the small intestine while chemicals from the stomach, pancreas, liver, and gallbladder continue the chemical digestive process. The chart on the following page details the path of digestion from your mouth through the rest of the system.

<table>
<thead>
<tr>
<th>Organ of Digestion</th>
<th>Location</th>
<th>Function</th>
<th>Length of Food Stay</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOUTH</td>
<td>Face</td>
<td>Chemical and physical digestion</td>
<td>5–30 seconds</td>
</tr>
<tr>
<td>ESOPHAGUS</td>
<td>Throat, in back of trachea (&quot;wind pipe&quot;)</td>
<td>Connects mouth to stomach, guides food using muscles contractions: peristalsis</td>
<td>4–8 seconds</td>
</tr>
<tr>
<td>STOMACH</td>
<td>Upper left abdominal quadrant</td>
<td>Holding area, chemical and physical digestion</td>
<td>2–4 hours</td>
</tr>
<tr>
<td>SMALL INTESTINES</td>
<td>Mostly lower abdominal quadrants</td>
<td>Digestion completion, nutrient absorption</td>
<td>4–10 hours</td>
</tr>
<tr>
<td>LARGE INTESTINE</td>
<td>Surrounds small intestine</td>
<td>Absorption of water and some nutrients</td>
<td>3–10 hours</td>
</tr>
</tbody>
</table>
OTHER DIGESTIVE ORGANS OF IMPORTANCE

<table>
<thead>
<tr>
<th>Organ</th>
<th>Location</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALIVARY GLANDS</td>
<td>Parotid: in front of ear</td>
<td>Lubricates food and begins chemical digestion process</td>
</tr>
<tr>
<td></td>
<td>Submandibular: under the base of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tongue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sublingual: under the tongue</td>
<td></td>
</tr>
<tr>
<td>LIVER</td>
<td>Upper right and left abdominal quadrants</td>
<td>Produces bile</td>
</tr>
<tr>
<td>GALLBLADDER</td>
<td>Right, upper abdominal quadrant</td>
<td>Holds bile, releases bile into small intestine for lipid breakdown</td>
</tr>
<tr>
<td>PANCREAS</td>
<td>Left, upper abdominal quadrant</td>
<td>Secretes enzymes to help break down fats, carbohydrates, and proteins; also secretes insulin and glucagon for blood sugar regulation</td>
</tr>
</tbody>
</table>

IMPACT OF GOOD NUTRITION ON THE DIGESTIVE SYSTEM

Since the digestive system is responsible for the breaking down of food and absorption of nutrients into the bloodstream, maintaining digestive health is important for proper functioning of the digestive system. One of the most important dietary components for digestive health is fiber. Most fiber needs are obtained by eating a balanced diet rich in whole grains, legumes, fruits and vegetables. This balanced diet ensures receiving the right amount of fiber each day, which is approximately 25-30 grams a day for women and 30-40 grams a day for men. Fiber comes in two forms: soluble and insoluble. Insoluble fiber reduces constipation and encourages removal of wastes from the body. Soluble fiber also slows the rate of digestion, which in turn slows the rate at which glucose (sugar) is released into the bloodstream, helping to keep blood sugar levels steady. Soluble fiber also reduces cholesterol levels by acting like a sponge that absorbs cholesterol and excretes it as waste. A diet rich in fiber also reduces the risk for certain digestive diseases such as diverticulitis and diverticular disease.

CREDITS AND MORE INFORMATION:

http://www.colon-cancer-digestion-health-zone.com/highfiber.html
http://www.mplsheart.org/professionaleducation
http://www.nlm.nih.gov/