

## 4. The digestive system

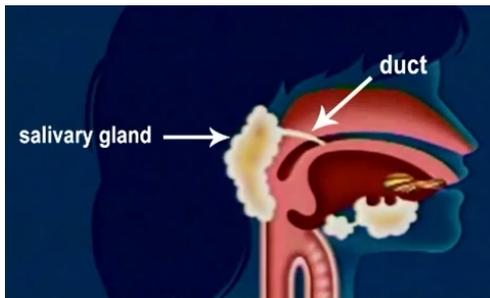
### 4.1 The organs in the digestive tract

4.1.3

## The digestive glands

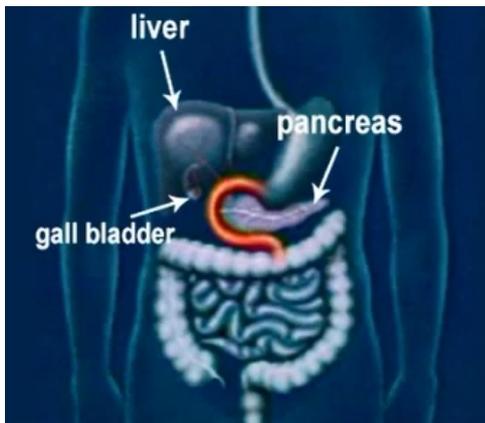
### APPENDED DIGESTIVE GLANDS

Digestive glands produce the chemical substances found in the various organs of the digestive tract. The term **chemical substance** may seem vague, but there is one we all know well – **saliva**.



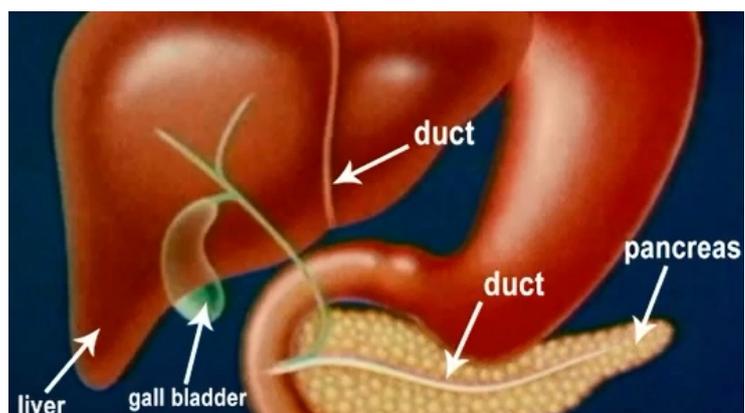
Saliva is secreted by digestive glands called **salivary glands**. The mouth is not the only organ in the digestive tract to have glands. Although some organs, such as the oesophagus and large intestine, do not have any glands at all.

Salivary glands are appended to the digestive tract by ducts.



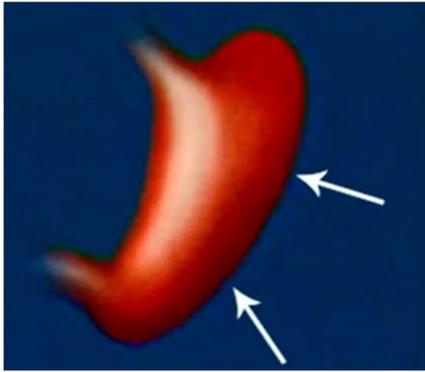
The **pancreas**, **liver** and **gall bladder** are examples of other 'appended' glands.

If we zoom in a bit, we can see that these glands are also appended to the digestive tract via ducts.

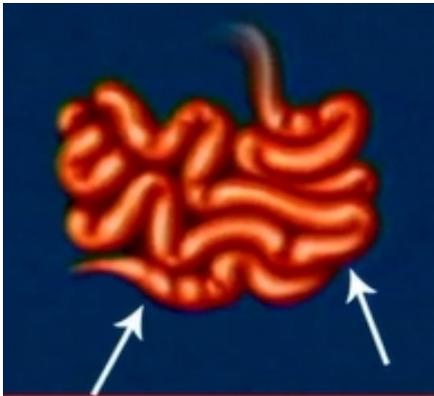


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## INTEGRATED DIGESTIVE GLANDS



There are other digestive glands that are not depicted because they are directly integrated into the wall of the digestive tract. These do not have ducts. **Gastric glands**, for example, are integrated into the stomach wall.



Likewise, **intestinal glands** are integrated into the wall of the small intestine.

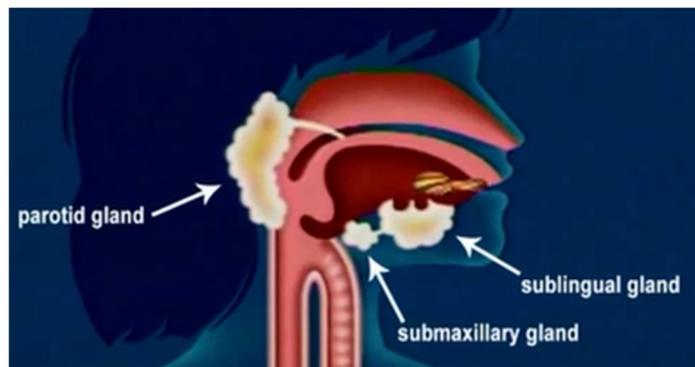
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## GLANDS IN DIGESTIX

DIGESTIX has several kinds of game pieces, including digestive glands. The game differentiates between appended glands and integrated glands by asking you to place the pieces either at a distant slot connected by a duct or directly on the wall.

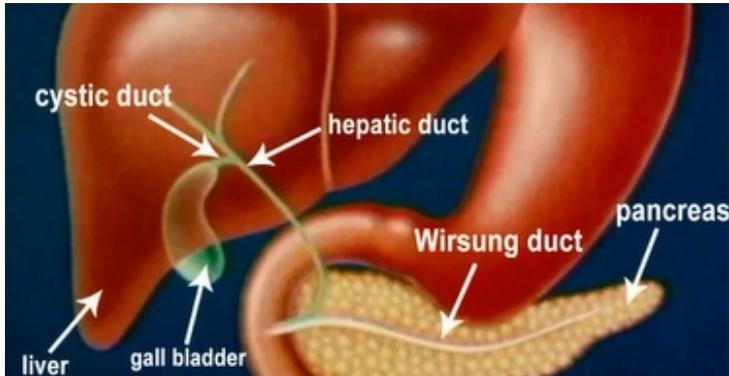
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We could go into much more detail. For example, a dentist will have extensive knowledge of the anatomy of the mouth and its salivary glands, along with the classification and composition of teeth. There are three salivary glands called the **parotid gland**, the **sublingual gland** and the **submaxillary gland**.



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The ducts also have specific names. The pancreatic duct is called the **Wirsung duct**, after the German anatomist who discovered it. The duct that leaves the liver is the **hepatic duct**.



The body's anatomy is quite complex. Although the human body is well organised, researchers continue to study it because we do not yet know all its secrets!