

# The Dog's Digestive System

All blue text in the original is hyperlinks. In this excerpt, only local links and links into the public domain will work.

## Contents of this chapter:

<a href="#">The components of a dog's digestive system</a>	19
<a href="#">The mouth, including teeth, jaws, and saliva</a>	20
<a href="#">The canine stomach - and how it digests food</a>	21
<a href="#">The intestines and their finishing the digestion process</a>	23
<a href="#">Overview of the Wolf/Dog system, compared to the Human system</a>	27

First of all, you should realize that your dog is not a monkey. Neither is it a miniature human. Although it is a carnivore, it is not as exclusively dependent on meat as for instance a cat is. From a physiological point of view, dogs can best be classified somewhere in-between carnivores and omnivores, with some very profound carnivore preferences.

It serves no purpose to argue whether the correct classification should be "carnivore" or "omnivore". The important thing is that you fully understand the huge differences between the way a dog is "constructed", compared to the way a human is. Those differences call for a complete adjustment of what you should think is right for your dog. If something is right for you or for another human, it might actually be very, very wrong for dog... and if something is not good for you, it could be a very healthy thing for the dog!

## The components of a dog's digestive system

The visible components are the organs and the physical remedies the dog has available to digest food. There are some significant and very obvious differences to what *you* have in *your* body. These are fairly easy to understand, because the differences can be observed, even by a layperson. The teeth are the most profound example.

But there are also some huge differences in *chemistry*. Chemistry is, unfortunately, not very many people's favorite discipline. It can be very complex and difficult to comprehend, but it is paramount for your ability to

make sound decisions based on a good understanding of your dog's needs that you do understand some of the basic chemistry.

It is not my purpose to make you fully educated in neither physiology nor chemistry - but I hope I can give you enough understanding of those topics for you to at least feel the "aha effect" when you see the perspective of why things are as they are.

[Back to start of this section](#)

[Back to start of this chapter](#)

[Back to Table of Contents](#)

## **The mouth, including teeth, jaws, and saliva**

When you look at a dog's mouth, you will easily see how different its teeth are from yours. The fang teeth are there to grab and hold and tear. The front teeth are there to scrape meat off bones. The incisors (small "saw teeth") are there to grab and hold. The big incisors are there to cut - acting as a pair of scissors. And the molars in-behind are there to crush. The jaws are fairly long, compared to the face (except for breeds that have been deliberately manipulated by human breeding to provide a shorter, more human-like face), enabling the fang to grab quite large objects. The muscles that control the jaws are some of the most powerful muscles in the dog's entire body.

One more important thing, which you might not have noticed yet: the dog cannot move its jaws sideward! You can move your lower jaw from side to side, enabling a grinding process when you chew your food. Your dog cannot do that. The fang teeth make it impossible, and the jaw joint is a stiff hinge joint, like your knee joint - it does not allow any flexible movements other than up and down. If your dog trusts you well, it might allow you to test this by trying to gently move its lower jaw from side to side - but if you ever get your hands on a skull of a dog, you can very quickly verify this.

Already from this, we can make some important conclusions:

Humans who lack all their teeth get sick or malnourished because they do not digest their food properly. Chewing is important to us. Our stomach does not handle big chunks of food very well. And it also does not deal well with food that has not been properly mixed with saliva.

We know that our saliva contains some important chemicals that assist in the chemical processes of breaking down the food into smaller molecules our body can absorb and use. These chemicals are called enzymes, and enzymes are characterized by stimulating chemical reactions in other molecules they come

Excerpt from Mogens Eliassen's book:  
**"Raw Food For Dogs - the Ultimate Guide for Dog Owners"**

in contact with, without being destroyed in the process, as normally would be the case in a more "traditional" chemical reaction. They act as catalysts.

These enzymes are absent in dog saliva! Dogs have no need for chewing their food. They can't. Their stomach takes care of all the digestion, without any support from the saliva. The dog's saliva serves the purpose of being a lubricant for swallowing, and that's about it!

You can test this, as I did many years ago. I gathered some saliva of my own in a cup. (I don't need to explain how I did that, but it took me a couple of days...)

Then I gathered some saliva from my dog, a Labrador Retriever. I did this by holding up a delicious treat in front of its nose - and held a bowl underneath to collect the saliva... I repeated this, also over several days, until I had enough to do some chemical experimenting.

I now took two pieces of apple and two pieces of meat. I dropped a piece of apple and a piece of meat into each cup. I covered the cups with cellophane wrap and left them on the kitchen counter.

Next day, the apple piece in my own saliva was almost totally dissolved. The meat piece looked gross - it had changed color and looked swollen.

In the dog's saliva, I could not observe any change.

A week later, my own saliva was just looking like one cloudy soup. It was disgusting. I could still feel the presence of some meat (through a teaspoon), but it was severely transformed. (Yes - it smelled horrible!)

In the dog's saliva, I could still see both the meat piece and the apple piece - no change, except a general cloudiness of the liquid and a far-from-pleasant odor that was much less strong than the odor from my own saliva, though.

At this point, I threw the samples out - but I think you can draw the conclusions....

[Back to start of this section](#)

[Back to start of this chapter](#)

[Back to Table of Contents](#)

## **The canine stomach - and how it digests food**

I hope you now understand that wolfing the food down in big chunks without "enjoying" is the natural thing for the dog to do with a meal it really enjoys!

Excerpt from Mogens Eliassen's book:  
**"Raw Food For Dogs - the Ultimate Guide for Dog Owners"**

It will use its teeth to cut the food into pieces that are just about small enough to be swallowed and get through the esophagus into the stomach.

You will often see a dog overestimate its own ability to swallow big pieces of meat. It tried to get it down, but the piece comes back up again. The dog will then get at the piece again and cut it one more time, and now get the smaller pieces down, one by one. (I know - for a human, it can look disgusting, but the dog has no problems with this, so you seriously shouldn't either!)

When the food is down in the stomach, the stomach will notice the presence of digestible material, and it will start a huge production of digestive enzymes and other chemicals that assist the breakdown of the food into small molecules that can be absorbed and used by the body. Some of these enzymes are produced by the pancreas, but many are produced by other small glands in the stomach wall itself.

But raw food is not simple to digest... it takes some very strong chemistry to break down raw proteins. So, the dog's stomach will produce some large amounts of strong acid, thus lowering the pH level down to somewhere between 1 and 2! Now, pH=1 corresponds to an acidity you would obtain with a 0.4% solution of Hydrochloric acid! That is a seriously corrosive fluid you could not hold your hands in without getting burned! (There is more to explain about pH later in the section ["Using Numbers"](#) - so don't worry if you are a bit unfamiliar with the concept of using pH as a measure of acidity. For now, it is enough that you understand that this very low pH level is much lower than what *your* stomach can produce - a human stomach generally operates around pH=5, only two units below the neutral pH=7).

Most enzymes are extremely sensitive to pH. If pH is off what they need, they simply don't function. From this, you can understand that the enzymes the dog has available for its own digestion are totally different in their nature to those *you* have in *your* stomach. This again means that food that is great for a human to digest might not be digestible at all for a dog - and vice versa!

You know this when you think of horses and cattle. They eat grass as their main source of food. You cannot digest grass... But you also cannot digest raw meat and raw bones! Each species has developed its own set of chemicals to digest the food it depends on and we cannot draw conclusions from one species to another about which sources of food are "good" and which are not.

*(To be continued...)*