

# Human Physiology



Although many modern humans eat a wide variety of plant and animal foods, earning us the honorary title of "omnivore," we are anatomically herbivorous. Biologists have established that animals who share physical characteristics also share a common diet. Comparing the anatomy of carnivores with our own clearly illustrates that we were not designed to eat meat.

## Teeth and Nails

To contrast human physiology with that of carnivores, start at the beginning of the digestive tract. Teeth, nails, and jaw structure indicate that nature intended for people to eat a plant-based diet. They have much shorter and softer fingernails than animals and pathetically small "canine" teeth (they're canine in name only). In contrast, carnivores all have sharp claws and large canine teeth capable of tearing flesh.

The jaws of carnivores move only up and down, requiring them to tear chunks of flesh from their prey and swallow it whole. Humans and other herbivores can move their jaws up and down and from side to side, a movement that allows them to grind up fruit and vegetables with their back teeth. Like other herbivores, human back molars are flat and allow the grinding of fibrous plant foods. Carnivores lack these flat molars. If humans had been meant to eat meat, they would have the sharp teeth and claws of carnivores. Instead, their jaw structure, flat molars, and lack of claws indicate that they are best suited for a plant-based diet.

Dr. Richard Leakey, a renowned anthropologist, summarizes, "You can't tear flesh by hand, you can't tear hide by hand. Our anterior teeth are not suited for tearing flesh or hide. We don't have large canine teeth, and we wouldn't have been able to deal with food sources that require those large canines."

**"Although we think we are one, and we act as if we are one, human beings are not natural carnivores. When we kill animals to eat them, they end up killing us because their flesh, which contains cholesterol and saturated fat, was never intended for human beings, who are natural herbivores."**

—William C. Roberts, M.D.,  
editor, *American Journal of Cardiology*<sup>3</sup>

## Stomach Acidity

After using their sharp claws and teeth to capture and kill their prey, carnivores swallow their food whole, relying on their extremely acidic stomach juices to do most of the digestive work. The stomach acid of carnivores actually plays a dual role—besides breaking down flesh, the acid also kills the dangerous bacteria that would otherwise sicken or kill the meat-eater.

As illustrated in the chart below, our stomach acids are much weaker in comparison because strong acids aren't needed to digest pre-chewed fruits and vegetables. In comparing the stomach acidity of carnivores and herbivores, it is obvious that humans fall into the latter category. We can cook meat to kill some of the bacteria and make it easier to chew, but it's clear that humans, unlike all natural carnivores, are not designed to easily digest meat.

## Intestinal Length

Evidence of our herbivorous nature is also found in the length of our intestines. Carnivores have short intestinal tracts and colons that allow meat to pass through it relatively quickly, before it has a chance to rot and cause illness. Humans, on the other hand, have intestinal tracts that are much longer than carnivores of comparable size. Like other herbivores, longer intestines allow the body more time to break down fiber and absorb the nutrients from a plant-based diet.

The long human intestinal tract actually makes it dangerous for people to eat meat. The bacteria in meat have extra time to multiply during the long trip through the digestive system, and meat actually begins to rot while it makes its way through the intestines. Many studies have also shown that meat can cause colon cancer in humans.

Comparing our anatomies clearly illustrates the fact that the human body is built to run on a vegetarian diet. Humans have absolutely none of the distinguishing anatomical characteristics that either carnivores or even natural omnivores have. [Read author John Robbins' discussion of the anatomical differences between humans and carnivores.](#)

Here is a chart from "The Comparative Anatomy of Eating" by Dr. Milton Mills that compares the typical anatomical features of carnivores, omnivores, herbivores, and humans.<sup>2</sup> Notice how closely human physical characteristics match those of herbivores. [Review Dr. Mills' entire article on the topic.](#)

[Read more.](#)

### Facial Muscles

Carnivore	Reduced to allow wide mouth gape
Omnivore	Reduced
Herbivore	Well developed
Human	Well developed

### Jaw Motion

Carnivore	Shearing; minimal side-to-side motion
Omnivore	Shearing; minimal side-to-side motion
Herbivore	No shear; good side-to-side, front-to-back
Human	No shear; good side-to-side, front-to-back

### Teeth (Incisors)

Carnivore	Short and pointed
Omnivore	Short and pointed
Herbivore	Broad, flattened, and spade-shaped
Human	Broad, flattened, and spade-shaped



### Teeth (Canines)

Carnivore	Long, sharp, and curved
Omnivore	Long, sharp, and curved
Herbivore	Dull and short or long (for defense) or none
Human	Short and blunted

### Teeth (Molars)

Carnivore	Sharp, jagged, and blade-shaped
Omnivore	Sharp blades and/or flattened
Herbivore	Flattened with cusps vs. complex surface
Human	Flattened with nodular cusps

### Chewing

Carnivore	None; swallows food whole
Omnivore	Swallows food whole and/or simple crushing
Herbivore	Extensive chewing necessary
Human	Extensive chewing necessary

### Saliva

Carnivore	No digestive enzymes
Omnivore	No digestive enzymes
Herbivore	Carbohydrate-digesting enzymes
Human	Carbohydrate-digesting enzymes

### Stomach Acidity

Carnivore	Less than or equal to pH of 1 with food in stomach
Omnivore	Less than or equal to pH of 1 with food in stomach
Herbivore	pH of 4 to 5 with food in stomach
Human	pH of 4 to 5 with food in stomach

### Length of Small Intestine

Carnivore	3 to 6 times body length
Omnivore	4 to 6 times body length
Herbivore	10 to more than 12 times body length
Human	10 to 11 times body length

### Nails

Carnivore	Sharp claws
Omnivore	Sharp claws
Herbivore	Flattened nails or blunt hooves
Human	Flattened nails

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<sup>2</sup> Milton R. Mills, M.D., "The Comparative Anatomy of Eating".

<sup>3</sup> William C. Roberts, "Facts and Ideas From Anywhere," *Baylor University Medical Center Proceedings*, Oct. 1999.