

# APPENDIX HAS A FUNCTION?

## Seemingly useless organ may produce, protect good germs for your gut

**AP** Associated Press

updated 2:39 p.m. MT, Fri., Oct . 5, 2007

WASHINGTON - Some scientists think they have figured out the real job of the troublesome and seemingly useless appendix: It produces and protects good germs for your gut.

That's the theory from surgeons and immunologists at Duke University Medical School, published online in a scientific journal this week.

For generations the appendix has been dismissed as superfluous. Doctors figured it had no function. Surgeons removed them routinely. People live fine without them.

And when infected the appendix can turn deadly. It gets inflamed quickly and some people die if it isn't removed in time. Two years ago, 321,000 Americans were hospitalized with appendicitis, according to the Centers for Disease Control and Prevention.

The function of the appendix seems related to the massive amount of bacteria populating the human digestive system, according to the study in the *Journal of Theoretical Biology*. There are more bacteria than human cells in the typical body. Most of it is good and helps digest food.

But sometimes the flora of bacteria in the intestines die or are purged. Diseases such as cholera or amoebic dysentery would clear the gut of useful

bacteria. The appendix's job is to reboot the digestive system in that case.

The appendix "acts as a good safe house for bacteria," said Duke surgery professor Bill Parker, a study co-author. The location of the appendix — just below the normal one-way flow of food and germs in the large intestine in a sort of gut cul-de-sac — helps support the theory, he said.

Also, the worm-shaped organ outgrowth acts like a bacteria factory, cultivating the good germs, Parker said.

That use is not needed in a modern industrialized society, Parker said. If a person's gut flora dies, they can usually repopulate it easily with germs they pick up from other people, he said. But before dense populations in modern times and during epidemics of cholera that affected a whole region, it wasn't as easy to grow back that bacteria and the appendix came in handy.

In less developed countries, where the appendix may be still useful, the rate of appendicitis is lower than in the U.S., other studies have shown, Parker said.

The appendix, which is about two to four inches long, may be another case of an overly hygienic society triggering an overreaction by the body's immune system, he said.

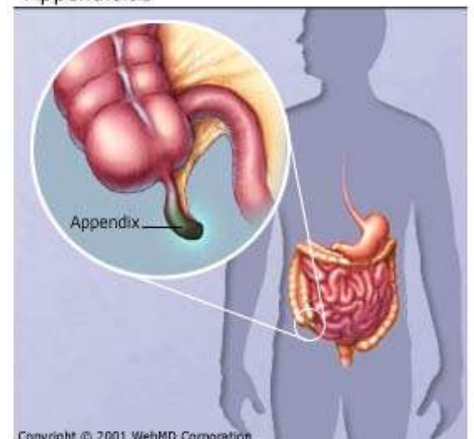
Even though the appendix seems to have a function, people should still have them removed when they are inflamed because it could turn deadly, Parker said. About 300 to 400 Americans die of appendicitis each year, according to the CDC.

Five scientists not connected with the research said that the Duke theory makes sense and raises interesting questions.

The idea "seems by far the most likely" explanation for the function of the appendix, said Brandeis University biochemistry professor Douglas Theobald. "It makes evolutionary sense."

he theory led Gary Huffnagle, a University of Michigan internal medicine and microbiology professor, to wonder about the value of another body part that is often yanked: "I'll bet eventually we'll find the same sort of thing with the tonsils."

Appendicitis



Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_ Score \_\_\_\_\_

## APPENDIX HAS A FUNCTION?

1. What may be a useful function of the appendix? \_\_\_\_\_  
\_\_\_\_\_
2. For generations doctors have believed that the appendix has no \_\_\_\_\_
3. What is appendicitis? \_\_\_\_\_
4. According to the Journal of Theoretical biology there are \_\_\_\_\_ bacteria in our body and human cells. Most are \_\_\_\_\_ and are found in our \_\_\_\_\_ system.
5. **How might the appendix help to “reboot” our digestive system after an illness?** \_\_\_\_\_  
\_\_\_\_\_
6. In modern society, if our good bacteria die out, how are they usually replaced? \_\_\_\_\_  
\_\_\_\_\_
7. How long is the appendix? \_\_\_\_\_
8. Approximately how many Americans die annually from appendicitis? \_\_\_\_\_
9. Name one other organ that is in the same category of questionable value as the appendix: \_\_\_\_\_

