

# BEYOND THE APPENDIX: VESTIGIAL STRUCTURES

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(6) Since the appendix is the most famous vestigial organ, let's give it a closer look. It is often mistakenly thought of as a "junk organ" with no function. However, the appendix stores large populations of beneficial bacteria. When hygiene and sanitation was poorer for early humans, the appendix potentially played an important role in repopulating our intestines with beneficial bacteria after instances of diarrhea. These days, improved cleanliness reduces the importance of the appendix's role in human health. An appendectomy is a procedure that removes an inflamed appendix, and many patients report no significant adverse effects from its absence.

(7) Not only do we have vestigial structures, we also have vestigial body responses and reflexes. Goosebumps, also called piloerection, is one response we have to stress. A band of muscles, called arrector pili muscles, join the hair follicles under your skin to your connective tissues. When these pili muscles contract, they cause the hair to stand away from your body. In our hairier days, the raised hair would have made us look larger and more menacing to scare away the predators in our environment. The response remains, but without an adequate amount of body hair, piloerection is not very intimidating.

## Article Questions

1) What is a vestigial organ?

A vestigial organ is an organ that no longer serves its ancestral function and may only remain as a reduced structure, though this structure may take on new functions.(1)

2) What were wisdom teeth used for and why do they give some modern humans trouble?

Wisdom teeth were used by our ancestors to grind and crush tough and fibrous plant material. In modern humans, the jaw is much smaller so sometimes there isn't enough room in the jaw to accommodate the wisdom teeth. This causes impaction and pain.(3)

3) What is the human vestigial structure for the nictitating membrane and where is it located?

The vestigial nictitating membrane is called the plica semilunaris and it is located in the inner corner of the eye.(4)

4) In what situations would your appendix prove useful and why?

The appendix would be useful if humans lived in less sanitary conditions because the appendix would provide a way of replacing the beneficial bacterial that could be flushed away during intestinal infections that cause diarrhea.(6)

5) Why are goosebumps not very useful to modern humans?

We don't have enough body hair to allow the piloerection to make us appear larger and more intimidating.(7)

6) Match the following statements with the correct term.

### Statements

- E   1) The vestigial structure of the tail.(5)
- A   2) Goosebumps.(7)
- B   3) These help move ears.(2)
- C   4) A transparent membrane that covers the eye(4)
- D   5) The removal of a part of the digestive tract. (6)

### Term

- A) piloerection
- B) auricular muscles
- C) nictitating membrane
- D) appendectomy
- E) coccyx