

## Why Do Dogs Sniff Each Other's Butts?

The chemistry of canine communication

What does Fido gain by sniffing another dog's butt? A chemical greeting card carrying information about that dog's diet, emotional state and gender, all encoded in scent.

Anal sacs on either side of a dog's rear end contain glands that produce the chemicals dogs use to communicate with one another.

The primary compounds involved in this info exchange are trimethylamine and a set of short chain acids, which impart a sharp, powerful aroma. A dog's genetics, diet and immune system function can influence the makeup of this set of chemicals, imparting a unique scent to a dog's anal secretions.

Dog noses are incredibly sensitive, so why aren't they overwhelmed by these pungent chemicals? Dogs have a specialized sensory organ, called Jacobson's organ, in their nasal passage.

This organ is specifically designed for chemical communication, and is in use whenever Fido sniffs another dog's rear end, or spends time smelling pee on a tree. Because Jacobson's organ has a direct line to the brain through its own set of nerves, there's no interference from other odors along the way.

\* How do our noses compare with Fido's?

### Sources:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3203472/>

<https://www.britannica.com/science/Jacobsons-organ>

<http://www.pbs.org/wgbh/nova/nature/dogs-sense-of-smell.html>

<https://www.npr.org/2013/09/03/192798179/the-latest-in-scientific-field-equipment-fidos-nose>

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