

Investigating What's in Pigpen's Dust Cloud

By ACSH Staff — September 23, 2015



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[The microbiome continues to be one of the top buzz words in popular science](#) [1]. The thought that we are outnumbered by bacteria that live in us (and on us) by a 10-to-1 margin is not new, but it has received special attention over the last few years. However, while most of the research and attention has focused on the gut microbiome, [recently it started to shift to the skin](#) [2].

Now, one new potentially significant study shifts our focus of the human microbiome to another dimension: the air.

If this elicits images of Pigpen, the aptly-named character from the famous cartoon strip *Peanuts*, than you are not alone. In short, scientists working at the University of Oregon have concluded that everyone travels around with a bacterial cloud, and that the constituents of this cloud might be unique to each one of us. [Their latest data](#) [3] is published in the journal *PeerJ*.

The researchers used 11 subjects and had them stand, for four straight hours, in a sterile chamber equipped with air filters and petri dishes. The researchers then sequenced the bacteria in the cloud to identify what bacteria were being emitted by each subject. Many common skin flora bacteria were found floating in the microbe cloud, such as various members of the genera *Staphylococcus* and *Corynebacterium*. However, the study also turned up some surprises, including *Lactobacillus*, a commensal of the vagina, and *Citrobacter freundii*, a nitrogen-fixing environmental organism, which also causes many opportunistic infections.

In addition, the researchers found that occupied space has microbial distinct from unoccupied space and that airborne biological particles were more identifiable than settled ones. Interestingly, for 8 of the 11 subjects, the combination of the constituents of each microbial cloud were unique

enough to identify blindly if a particular subject had occupied a space or not.

We have known for some time that each one of us emit about a million biological particles an hour, but the constituents have not been previously studied until now. The study's results and future implications have significance in understanding how we may transmit diseases through our microbial clouds.

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Links

[1] <http://www.geneticliteracyproject.org/contributor/staropoli>

[2] <http://acsh.org/2015/09/skinny-on-probiotic-promoter-12-years-without-showering/>

[3] <https://peerj.com/articles/1258/>