

# New experiments reveal the types of bacteria involved in human decomposition

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The type of bacteria involved in human decomposition can change over time, according to new research published October 30th in the open-access journal *PLOS ONE*, by Aaron Lynne and colleagues at Sam Houston State University and Baylor College of Medicine.

A corpse is far from dead when viewed as an ecosystem for tiny bugs and microorganisms. Bacteria can take some credit for driving the natural process of human decomposition, but we know little about the diversity of [bacterial species](#) involved. Previous studies have been unfortunately limited to the traditional approach of culturing [bacteria](#), whereas the vast majority of bacteria residing in the human body cannot actually be cultured experimentally.

To help address this problem, the authors studied the decomposition of two human cadavers under natural conditions. They assessed bacterial biodiversity using a gene sequencing method of analyzing bacterial DNA, rather than relying on traditional culture methods. This sequencing method allowed them to measure bacterial genes present in any given region of the cadaver, giving them a high-throughput way of mapping out an entire microbial community at two different time points.

They found that these [bacterial communities](#) were different between the two bodies and between regions on the same body, and these communities changed over the time-course of decomposition. The authors suggest that bacterial communities may be following specific, changing patterns as a corpse moves through its natural stages of

decomposition. This gene sequencing approach may be a valuable tool for further dissecting the role of bacteria in human decomposition. Lynne expands, "This study is the first to catalogue bacteria present internally at the onset and end of the bloat stage of human decomposition. Ultimately, we hope to come up with a cumulative systems approach to look at [decomposition](#) in a way that might complement existing forensic models at determining the post-mortem interval (time since death)."

**More information:** Hyde ER, Haarmann DP, Lynne AM, Bucheli SR, Petrosino JF (2013) The Living Dead: Bacterial Community Structure of a Cadaver at the Onset and End of the Bloat Stage of Decomposition. *PLoS ONE* 8(10): e77733. [DOI: 10.1371/journal.pone.0077733](https://doi.org/10.1371/journal.pone.0077733)

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