

How does tobacco smoke affect our MICROBIOME?

Chemicals in first-, second-, and thirdhand smoke can affect the growth of a wide range of bacteria (2)

Corynebacterium

Corynebacterium can cause infection, especially in vulnerable individuals, and levels increase when exposed to tobacco smoke. (1)

Gemella

Gemella is usually harmless but can cause serious illness. Levels increase when exposed to tobacco smoke. (4)

Staphylococcus

Most types of *Staphylococcus* are harmless, but some can cause infections. Depending on the conditions, levels increase or decrease when exposed to tobacco smoke, upsetting a healthy balance of bacteria. (3)

Sources:

1. Bernard K. (2012). The genus *corynebacterium* and other medically relevant coryneform-like bacteria. *Journal of clinical microbiology*. 50(10). 3152–3158. <https://doi.org/10.1128/JCM.00796-12>
2. Kelley, S. T., et al. (2021). Altered microbiomes in thirdhand smoke-exposed children and their home environments. *Pediatric research*. 10.1038/s41390-021-01400-1. Advance online publication.

3. Otto, M. (2020). Staphylococci in the human microbiome: the role of host and interbacterial interactions. *Current Opinion in Microbiology*. 53. 71–77. <https://doi.org/10.1016/j.mib.2020.03.003>
4. Purcell, L. K., Finley, J. P., Chen, R., Lovgren, M., & Halpern, S. A. (2001). *Gemella* species endocarditis in a child. *The Canadian Journal of Infectious Diseases = Journal canadien des maladies infectieuses*, 12(6), 317–320. <https://doi.org/10.1155/2001/960734>