

Biofilm formation may complicate some necrotizing soft tissue infections

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Group A streptococcus (GAS) can cause a life-threatening necrotizing fasciitis, which spreads rapidly and destroys soft tissue. Treatment of these GAS necrotizing soft tissue infections (NSTI) typically requires intensive care along with surgical intervention and often amputation of the affected limb.

A new study in *JCI Insight* provides evidence that formation of biofilm, a collection of bacteria that adhere to a tissue surface, can be a complicating feature of GAS NSTI.

A team led by Anna Norrby-Teglund and Nikolai Siemens of the Karolinska Institute identified a GAS NSTI patient that seemed to respond favorably to antibiotics and surgical cleaning of the wound. Despite a lack of GAS-associated symptoms, reexamination of the wound revealed the presence of a thick layer of biofilm.

Further analysis of NSTI cases revealed the presence of biofilm in a third of those studied.

Moreover, the presence of biofilm was associated with higher bacterial load, extensive inflammation, and more severe tissue damage compared to wound biopsies without biofilm. The results of this study indicate that biofilm should be considered as a complicating factor of NSTI.

As [biofilm formation](#) improves pathogen persistence and responsiveness to antibiotics, further work should evaluate treatment protocols clear

GAS biofilm at the site of infection.

More information: Nikolai Siemens et al, Biofilm in group A streptococcal necrotizing soft tissue infections, *JCI Insight* (2016). [DOI: 10.1172/jci.insight.87882](https://doi.org/10.1172/jci.insight.87882)

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