

Little-known mouth fluid may lead to test for gum disease

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Credit: AI-generated image ([disclaimer](#))

A little-known fluid produced in tiny amounts in the gums, those tough pink tissues that hold the teeth in place, has become a hot topic for scientists trying to develop an early, non-invasive test for gum disease, the No. 1 cause of tooth loss in adults. It's not saliva, a quart of which people produce each day, but gingival crevicular fluid (GCF), produced

at the rate of millionths of a quart per tooth. The study, the most comprehensive analysis of GCF to date, appears in ACS' *Journal of Proteome Research*.

Eric Reynolds and colleagues note that GCF accumulates at sites of [inflammation](#) in the crevice between teeth and gums. Since dental workers can easily collect the fluid from patients, GCF has become a prime candidate for a simple inexpensive test to distinguish mild gum disease from the serious form that leads to tooth loss. But researchers have little information about the [chemical composition](#) of GCF.

The scientists collected GCF samples from 12 patients with a history of gum disease. Using high-tech instruments, they identified 66 proteins, 43 of which they found in the fluid for the first time. The fluid contained proteins from several sources, including bacteria and the breakdown products of gum tissue and bone, they note. They also identified antibacterial substances involved in fighting infection. The findings advance efforts to develop an early test for [gum disease](#), they suggest.

More information: "Mass Spectrometric Analyses of Peptides and Proteins in Human Gingival Crevicular Fluid", *Journal of Proteome Research*.

Provided by American Chemical Society

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