Self-sampling may be a viable sample collection method for SARS-CoV-2 testing

Silvia Würstle
Christoph D. Spinner
Florian Voit
Dieter Hofmann
Svenja Hering
Simon Weidlich
Jochen Schneider
Alexander Zink
Matthias Treiber
Roman Iakoubov
Roland M. Schmid
Ulrike Protzer
Johanna Erber

Video Byte

Keywords: self-sampling, oropharyngeal, swab, SARS-CoV-2, COVID-19, diagnostic testing, PCR, pandemic, coronavirus, hospital, health care professionals, health care providers

Posted Date: October 14th, 2021

DOI: <https://doi.org/10.21203/rs.3.rs-969323/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

The recent outbreak of SARS-CoV-2 infections has strained healthcare systems worldwide and diagnostic testing is a critical part of any pandemic management plan. PCR tests on clinical samples collected by health care professionals (HCPs) is currently the gold standard, but patient self-sampling may facilitate increased testing without adding strain or risk of exposure for HCPs. A recent study tested the sensitivity, feasibility, and acceptance of self-collected oropharyngeal samples. Hospitalized SARS-CoV-2-infected patients collected two self-administered samples and filled out a questionnaire. Researchers also collected HCP-administered samples for comparison. While the HCP-collected samples had the highest estimated sensitivity compared to each of the self-collected samples, at 88%, 78%, and 77% respectively, using both self-collected sample results together increased their estimated sensitivity to 88%, which is comparable to the HCP-collected samples. Most patients indicated willingness to self-sample at home. Negative test results on previously confirmed cases increased with disease duration and the presence of antibodies against the virus, suggesting that self-sampling will be most useful early in the course of infection. These results were limited by sample size and to one healthcare center but suggest that self-sampling is a viable screening method for SARS-CoV-2 infection.