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Comment on “**COVID-19 preparedness within the surgical, obstetric and anesthetic ecosystem in Sub Saharan Africa**”

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To the editor:

In our article providing guidance on preparing the surgical ecosystem in Sub Saharan Africa for the COVID-19 pandemic¹, we noted in the section regarding conserving PPE and consumables that N95 masks could potentially be decontaminated using dry heat at 70°C (160°F) for 30 minutes. The research community is moving quickly to build quality data around COVID-19 inactivation methods and knowledge in this regard is rapidly changing. The technique we put forward has proven to be inadequate for destroying SARS-CoV-19, the virus causing COVID-19.

Recent work by the N95decon group and others has demonstrated a number of promising methods for decontaminating filtering facepiece (FFP) respirators. Heating masks to 70°C (160°F) in a dry autoclave for 60 minutes (rather than 30 minutes as we had originally written) has been shown to destroy the virus under laboratory conditions.^{2,3} Other recent work reported virus inactivation using a steam autoclave cycle at 121°C for 15-30 minutes, although some N95 models were found to subsequently fail fit testing after more than a single cycle.⁴ Several other methods are also being tested, including vaporised hydrogen peroxide and UV-C sterilization³, but these are not widely available currently in many low-resource settings.

The N95decon group has been providing rigorous and thoughtful strategies to decontaminate and reuse N95 masks as well as exploring other locally developed methods, particularly in resource-poor settings around the world. We urge providers and facility leads who are working to cope with limited supplies to seek updated information from this and other reputable groups.

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...on behalf of the authorship.

¹ Ademuyiwa AO, Bekele A, Berhea AB, Borgstein E, Capo-Chichi N, et al. COVID-19 preparedness within the surgical, obstetric and anesthetic ecosystem in Sub Saharan Africa. *Ann Surg* 2020. [epublished ahead of print] 6 April 2020.

² N95decon: <https://www.n95decon.org/publications>, accessed 24 April 2020.

³ Fischer RJ, Morris DH, van Doremalen N, Sarchette S, Matson MJ, Bushmaker T, Yinda CK, Seifert SN, Gamble A, Williamson BN, Judson SD, de Wit E, Lloyd-Smith JO, Munster VJ. Assessment of N95 respirator decontamination and re-use for SARS-CoV-2. medRxiv. (2020). Advanced online publication [not peer reviewed] <https://doi.org/10.1101/2020.04.11.20062018>.

⁴ Kumar A, Kasloff SB, Leung A, Cutts T, Strong JE, Hills K, Vazquez-Grande G, Rush B, Lothar S, Zarychanski R, Krishnan J. N95 Mask Decontamination using Standard Hospital Sterilization Technologies. medRxiv. (2020). Advance online publication [not peer reviewed] <https://doi.org/10.1101/2020.04.05.20049346>.

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