

LETTER


COVID-19 and dermatologic surgery: Hazards of surgical plume

Dear Editor,

We read with interest the article by Yang et al¹ on the safety measures implemented for post COVID-19 resumption of dermatologic surgery services. While we commend the authors for their work and comprehensive actions put in place, there was an omission of a critical factor highly pertinent to dermatologic surgery and potential COVID-19 transmission, namely surgical plume. While ablative lasers are not ubiquitous in dermatologic surgery departments, the use of cautery forms an integral part of the discipline. Numerous studies have shown the hazards of surgical smoke containing toxic gases and metabolites harmful to both the operating dermatologist as well as the patient, in addition to acting as a vector for infectious particles.^{2,3} COVID-19 has exposed new occupational hazards given the highly contagious nature of the virus through aerosolized procedures. The use of surgical masks may offer partial protection to respiratory droplets; however fine aerosolized particles from surgical plume may continue to pose an infectious risk to patient and staff. The use of specialized masks able to filter particles smaller than 5 µm (the threshold size for surgical masks) such as laser-specific masks or N95 masks offer better protection to aerosolized particles.^{4,5} It is recognized that particular diathermic instruments and parameters used can alter the composition of emitted plumes, with lower temperature plumes (such as those produced by ablative lasers) being more likely to harbor infectious material.³ Dermatologists may wish to consider using bipolar cautery, which causes lower concentrations of small aerosolized particles,⁶ than monopolar cautery when operating with lower power settings. Additionally, measures to safely extract generated plume are required such as the use of appropriate plume extractor. Air filtration in the surgical theater should ideally constitute of air-conditioned medical high-efficiency particulate air or ultra-low particulate filter in addition to the above named measures.^{7,8} Given that many dermatologic surgical procedures involve the head and neck area, careful attention to hazards posed by surgical plume and ablative lasers and attempts to mitigate these are essential interventions in the COVID-19 era.

CONFLICT OF INTEREST

None.

Firas Al-Niaimi^{1,2} Faisal R. Ali²¹Department of Dermatology, Aalborg University Hospital, Aalborg, Denmark²Department of Skin Cancer and Laser, Guy's and St. Thomas Hospital, London, UK**Correspondence**

Firas Al-Niaimi, Dermatological Surgery and Laser Unit, Guy's Hospital, Guy's and St Thomas' NHS Foundation Trust, London SE1 9RS, UK.
Email: firas55@hotmail.com

ORCIDFiras Al-Niaimi  <https://orcid.org/0000-0002-0684-4322>**REFERENCES**

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