

Mask Use During the COVID-19 Pandemic Causing Undesirable Post-Operative Complications

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COVID-19 (also known as SARS-CoV2), a novel coronavirus related to the prior SARS and MERS outbreaks, emerged as a worldwide health threat in winter 2019 and throughout 2020. The current COVID-19 pandemic has caused multiple societal adjustments, including the use of facial masks to enhance social distancing efforts. Although masking is beneficial in terms of controlling the spread of COVID-19, dermatologic effects of masking such as “maskne” (acne and rosacea flare secondary to mask wearing), contact dermatitis and facial infections like impetigo are becoming frequent presenting complaints in the outpatient setting.¹ In light of the novelty of this pandemic and masking policies, there are bound to be further unforeseen dermatologic consequences associated with mask wearing. In this regard, we report two cases of compromised wound healing related to the wearing of a mask.

The first is a case of wound dehiscence after Mohs micrographic surgery (MMS) and repair of the right lateral zygomatic arch. The patient's surgery and post-operative course were otherwise uncomplicated. Direct tension by the upper portion of the mask earloop over surgical repair caused delayed partial dehiscence (Figure 1). Given that the surgical site was located on the face, this type of dehiscence could have adversely impacted post-operative scar formation and resulted in an unsatisfactory aesthetic outcome. In practice, prompt intervention resulted in an excellent outcome.

FIGURE 1. An example of surgical wound dehiscence at post-operative day 9, which appeared to be caused by tension applied from the earloop attached to the upper portion of his COVID-19 protection mask.



Ideal surgical closure relies on multiple factors, one of which is limiting wound tension with appropriate undermining and well-placed dermal sutures. Other causes of dehiscence include post-operative infection, hematoma formation and tissue necrosis.² As our patient did not experience any of these latter complications, the dehiscence was deemed to have occurred because of adverse tension with the orientation of the upper ear loop of his COVID-19 protection mask as it lay directly on the area of surgical site that separated. This case of wound dehiscence secondary to tension placed on a healing MMS site due to mask wearing is just one of several experienced by these authors.

The second case relates to impairment of healing after a resurfacing procedure with the fractional ablative laser. A female patient received full-face, fractional carbon dioxide (CO₂) resurfacing. She did not experience adverse events during or after the laser procedure. After 8 weeks, the patient returned to the clinic with reticulated, vascular-appearing patches on both posterior cheeks (Figure 2) where the edge of her mask was chafing the skin. This patient healed satisfactorily after appropriate intervention, but the aesthetic outcome of this cosmetic procedure could have been significantly jeopardized by mask wearing.

FIGURE 2. An example of poor cosmetic outcome 8 weeks post-ablative fractional laser resurfacing, which appeared to be caused by chafing and irritation from the edge of her COVID-19 protection mask.



Dermatologic surgeons should be aware that patients might be in danger of compromised wound healing because of masks that are in constant contact with a healing procedural site. Physicians should educate patients regarding the possibility of poor wound healing due to excessive tension or irritation by masks. Further, masks should be changed daily, particularly if obviously soiled. Should poor healing occur, patients should seek immediate medical attention in an effort to decrease adverse aesthetic outcomes including changing to masks that tie around the scalp rather than loop around the ears. Also, injury can be prevented by adhesive tape strips or non-adherent dressings that can reinforce wounds and protect fragile skin. There are several masks designs available on the market with loops placed around the ears or scalp for security. Based on the location of surgery, patients should be counseled to use a mask that does not interfere with the healing of the procedural site.

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