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Rational hand hygiene during COVID-19 pandemic

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27 The enhanced preventive measures during the SARS-CoV-2 Coronavirus Disease 2019
28 (COVID-19) pandemic include proper hand hygiene. Healthcare workers (HCWs) may perform
29 frequent handwashing with water and soap, leading to the potential complication of skin damage.
30 In Lan et al.'s survey among 526 front-line COVID-19 HCWs, 74.5% reported hand-skin
31 damage by enhanced infection-prevention measures. HCWs that washed their hands over 10
32 times per day reported more hand-skin damage (odds-ratio 2.17).¹ This skin damage creates a
33 route of entry for COVID-19, and basic skincare measures should be taken after handwashing to
34 address this.

35 Notably, the cell receptor for SARS-CoV-2 entry, angiotensin-converting enzyme 2
36 (ACE2), is abundantly present in blood vessels/capillaries of the skin, the basal layer of the
37 epidermis, and hair follicles. ACE2 is also present in eccrine glands.²

38 In "Consensus of Chinese experts on protection of skin and mucous membrane barrier for
39 HCWs fighting against COVID-19," Yan et al.³ mention several measures that can be done to
40 avoid hand eczema, maceration, and erosion due to PPE and handwashing during the pandemic.
41 Qualified sanitizers with ethanol as the main component are prioritized for hand
42 decontamination, and the application of hand cream/moisturizers on intact skin after hand
43 washing is instructed.³ During handwashing, overly-hot water can lead to contact dermatitis and
44 should therefore be avoided.

45 Hypoallergenic moisturizers, gloves, and alcoholic hand sanitizers are vital to prevent
46 hand eczema. Educational intervention about hand-eczema risk factors—such as frequent hand
47 washing, surgical scrubbing, and prolonged glove use—was shown to promote hand-skin health
48 among HCWs.⁴

49 Due to the risk of hand-skin damage, rational hand-hygiene measures respectful of the
50 skin along with proper use of protective gloves and moisturizers must be instructed to HCWs
51 during the fight against COVID-19.

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