

Nail Care for Healthcare Workers during COVID-19 Pandemic

Sir,

Nail is an essential and complex appendage. Besides serving a sensory and protective function to the digits, it also aids in fine manipulation and grasping objects due to its free distal edge.^[1] The unique anatomy of the nail unit makes it susceptible to become a source and carrier of infections. The distal nail groove, nail folds, and undersurface of the nail plate have a potential to harbor particles and infectious agents during daily routine work.^[1-3] This undesired potential is increased in certain onychopathies. Nail psoriasis and onychomycosis, which present with subungual hyperkeratosis and onycholysis, may widen the subungual space. Inflammatory nail disorders like (lichen planus, trachyonychia, and psoriasis) may alter the nail plate morphology by creating splits and pits. Digital eczema and paronychia may disrupt the cuticular system and compromise the barrier protection. These onychopathies make nail difficult to cleanse, increases the carriage of pathogens, and the potential to transmit infections to self and others. This concern holds more importance during COVID-19.

The severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) [Figure 1] has the potential to remain stable on the surface like metal or plastic objects for at least 48-72 hours.^[4,5] Although it's not yet known how long the virus can remain stable on skin and nails, it can still spread during spontaneous self-touch to face with infected hands or nails. The Centre for Disease Control and Prevention (CDC) and World Health Organization (WHO) have set guidelines for hand hygiene in healthcare workers including a brief reference to nail care.^[2,3] However, special attention to nail care is of utmost importance in healthcare workers (HCWs) handling infected patients or infected material of COVID-19.

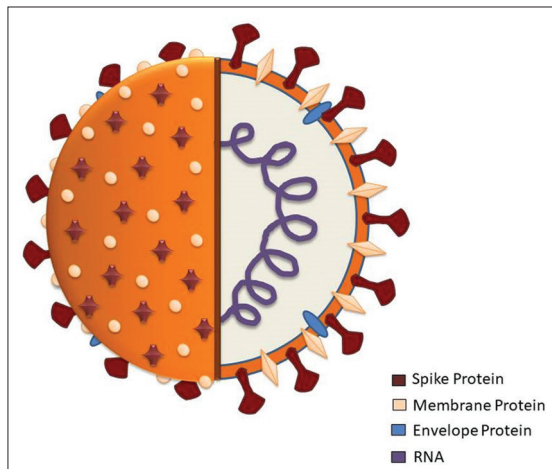


Figure 1: Coronavirus: Virion structure and proteins

Basic Nail Care

The nails should be kept short and well-trimmed (free edge being <0.5 cm or ¼ inch long).^[2] Long nails besides harboring pathogens on the undersurface, can also cause puncture of gloves. Excessive trimming and cuticle cutting should also be avoided as it can disrupt the barrier protection of nail. During hand washing, the undersurface of the nails should not be missed and diligently cleaned with soap or alcohol-based hand rub for 20 seconds.^[2,3] This can be done with the help of scrub or gentle nail cleaner or brush. Single-use or autoclavable nail brush can be used to avoid irritation of the skin.^[2] Lin CM *et al.* found that the maximum clearance of viral particles (calicivirus) is possible when nail brushing is combined with liquid soap and long fingernails and artificial nails have low clearance as compared to standard nails.^[6]

Excessive hand wash and use of sanitizers can cause dryness, thinning of the nail plate, brittle nails, hangnails and may disrupt the skin barrier. Hence, liberal use of a moisturizer should be done at least twice a day. Alcohol-based products containing humectants are at lesser risk of causing dryness and irritation. The entire nail grooming equipment should be cleaned with 60-90% isopropyl alcohol and/or autoclaved before each use.^[2,3] The equipment kit should not be shared as it carries the risk for harboring viral DNA.^[7] Nail-biting and chewing must be avoided.^[2,3] In case of a hangnail, it should not be pulled out or ripped. Rather it should be cut with a clean nail cutter.^[2]

Nail Cosmetics

Manicure, cuticle cutting, and nail filing should be avoided. Artificial and gel nails should be avoided as they are difficult to clean and harbor more pathogens than normal nails. Studies have shown that after cleansing, pathogen clearing was significantly lower in artificial or acrylic nails than healthy nails.^[8] It is recommended to avoid the application of nail polish. If applied, the film should not be cracked or chipped and must be regularly removed. Nail polish worn for more than four days or chipped nail coat has a potential to carry pathogens that resist cleansing by handwashing.^[2,3,8]

Nail Tic Disorders

Nail hygiene is a serious concern in those suffering from nail tic disorders like onychophagia (nail biting), onychotillomania (picking/pulling nail), onychodaknomania (nail-biting/chewing between teeth). Stressful conditions like COVID-19 can further aggravate these disorders. Such cases may require counseling,

cognitive behavioral therapy, and physical measures.^[9] Application of bandaids, micropore dressing, adhesive tape or cyanoacrylate glue, and finger coat can be employed to prevent direct contact of nails with the oral cavity. Severe cases may need medical treatment.^[9]

Nail Disorders

Pathological conditions of the nail, as mentioned above, tend to disrupt the barrier: cuticle (ragged/absent cuticle) or hyponychium (subungual hyperkeratosis/onycholysis) or nail plate (onychoschizia/nail splitting/pitting). These need to be addressed on a priority basis as they can continue to harbor infective agents even after vigorous cleaning.

In conclusion, nail care is an important aspect of maintaining hygiene, more so during COVID-19. HCWs, exposed to the high-risk areas of hospitals, need to give special attention to nail hygiene in addition to hand hygiene.

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Conflicts of interest

There are no conflicts of interest.

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