

Keep your face looking healthy during COVID-19!

The coronavirus disease 2019 (COVID-19) pandemic has led to an increased use of face masks, not only amongst healthcare workers but also now the general public. Prolonged wearing of masks and goggles can cause adverse skin reactions such as acne, contact dermatitis and pressure effects, as well as exacerbating any underlying skin conditions.

Here are some tips from the Australasian College of Dermatologists and the Occupational Dermatology Research and Education Centre, based at the Skin Health Institute in Melbourne, that will help you minimise skin problems and allow you to keep wearing a mask.



1. Before:

Keep your facial skin care regime SIMPLE

- Use a mild skin cleanser (or soap substitute) or micellar water at the beginning and end of the day
- Avoid toners, which can dry out the skin
- Moisturise regularly
 - Simple formulations with least ingredients are best
 - Avoid fragranced products
 - Start with a less greasy lotion before progressing to a greasier cream if tolerated
 - Avoid greasy creams if you are prone to acne
 - Your sunscreen can be your moisturiser!
- Remember, the most important measure for caring for your facial skin is appropriate sun protection. Sunscreens can function as a moisturiser, so you don't need to double up
- Anti-ageing skin care products may help improve your skin appearance, but those containing glycolic acids or retinoids can be irritating, especially when the skin barrier is damaged or compromised
- Dermatologists are increasingly seeing young women who use multiple products daily and develop skin problems - serums, oils, day and night creams, exfoliants, etc. They are rarely all necessary. Keep it simple!

2. During:

Choice of mask

- Take time to fit your mask
- Do not overtighten
- Sanitise your hands before and after putting mask on and taking it off
- Once on, do not touch mask, especially outside without sanitising hands

Reduce friction

- If this is a problem, apply moisturising lotion at least 30 minutes before mask wearing to lubricate and reduce friction between the skin and mask
- Barrier creams can also be used if wearing masks for an extended length of time, however these products tend to be greasy which may aggravate acne. Choose a lighter silicone-based product

Regular breaks

- Try and minimise time wearing mask as much as possible and give your skin a break for five minutes (preferably every few hours).

3. After:

Moisturise, especially at night if your skin feels irritated

Inspect skin for signs of damage

- Regularly inspect your skin for signs of redness/scaling

Cloth masks should be washed daily, and not sprayed with antiseptics or essential oils such as tea tree or lavender. We see many cases of allergic contact dermatitis to fragrances, and essential oils are a common culprit

Management of specific problems:

Contact dermatitis

Increased temperature, moisture and friction cause skin barrier damage and make the skin more susceptible to irritation. This may cause redness and dryness where the mask touches the skin. Allergy from masks is very uncommon. Irritant contact dermatitis is nearly always the cause.

- Change the brand or type of mask if irritant contact dermatitis occurs. Some masks contain harsher fabrics than others - try a 'softer' variety. Just as some woollen jumpers irritate, but cashmere rarely does, there are big differences in fabrics. And different people react differently
- If specific materials cannot be avoided, put two layers of gauze or tissue inside the mask where irritation occurs. It is essential that mask is refitted after this
- Treat mild irritant contact dermatitis with moisturiser, but not too greasy at first, in case this makes acne worse
- Consider using a greasier moisturiser at night
- With more severe irritant contact dermatitis, low strength topical steroids can be used, starting with 0.5-1% hydrocortisone **cream** available over the counter, or 1% hydrocortisone **ointment** if the skin is dry
- If allergy is still suspected, refer to a dermatologist for patch testing. The very few reported allergic reactions to masks include isocyanates in a Chinese N95 mask, allergic contact dermatitis to rubber chemicals in the elastic of a Chinese mask and formaldehyde in a polypropylene facial mask in Belgium. More common causes of facial allergic contact dermatitis include reactions to fragrances and preservatives in skin care products. Less common include reactions to nickel in glasses frames and other jewellery, contact with nail

polish, hair dye, airborne exposures to plants, airborne work chemicals...the list is almost endless!

Acne

Acne can be caused by occlusion from masks blocking oil glands and hair follicles. Sebum (oil) secretion will be enhanced by increased temperature in the facial environment

- Avoid greasy skin care products. In this case, go easy on moisturisers
- Use a mild cleanser. Consider products with salicylic acid or anti-bacterial agents such as benzyl peroxide gel, or azelaic acid. They may be marketed as 'acne cleansing gels'
- While toners may help to dry out the skin in this instance, some experts feel that the drying effect can be excessive and deleterious to the skin barrier
- Avoid comedogenic or occlusive make-up. Powders or mineral based make-up may be preferable.
- There are some over the counter acne gels or creams (gels are often less greasy), which contain ingredients that may help, such as zinc and niacinamide
- In severe cases, prescription products may be needed, such as topical retinoids or topical or oral antibiotics

Pressure injuries

Pressure from the mask can cause skin indentation

- Most indentation will resolve spontaneously
- Use of a hydrocolloid dressing may help protect the skin e.g. Duoderm
- Apply compresses with three to four layers of gauze soaked in cold water/normal saline applied to the skin for around 20 minutes every 2-3 hours
- With severe indentation, compresses with povidone iodine (Betadine) diluted by normal saline at a ratio of 1:9 can be used on the face, with a medical dressing afterwards.
- Moisturisers can be applied to intact skin while prescription topical antibiotic ointments may be required if the skin is broken
- Avoid using hot water or ethanol or other irritants
- If pressure from goggles is the main problem, switch to a visor

Itchy skin

May be caused by various skin conditions or may be simply due to friction from the mask. Itching from longer loose fine fibres on the face side of the mask has occurred in some cases. These can be identified with a magnifier and side light and snipped off. Dry skin is itchy skin

- Treat dry skin
- Oral antihistamines can be trialled

Dry skin

Increased temperature, moisture and friction cause skin barrier damage. This may subsequently lead to dry skin

- Ensure moisturisers are used before and after wearing mask

Pressure urticaria

Rarely, urticaria (hives) may be caused by pressure from masks, particularly in people with underlying dermatographism (where there is histamine release, causing skin whealing, in response to light pressure)

- Avoid tying masks too tight
- Try different types or brands of masks which fit your face better
- Take antihistamines before use, such as fexofenadine, cetirizine or loratidine, all available over the counter

Other skin conditions which may be aggravated by masks:

This is particularly important as skin conditions such as rosacea, seborrheic dermatitis, and atopic eczema can all be aggravated by the heat and sweating which occurs when wearing a mask.

Preventative measures include:

- Limit the time wearing masks and give your skin a break, where possible when they are not required, such as when inside your home
- Use gauze inside masks on areas of irritation
- Consider using moisturisers before and after wearing masks, but be aware that these should not be too greasy if your skin is oily
- Continue your prescribed treatments and consult your doctor if there is further aggravation of the underlying skin condition

If you are also having problems with rashes on your hands, you can also find information about hand care and dermatitis prevention on our website at <https://www.occderm.asn.au/news/>

If you have any questions or require further information please email admin@occderm.asn.au

Related reading and further information

- ◇ Badiri F. Surgical mask contact dermatitis and epidemiology of contact dermatitis in healthcare workers. *Current Allergy and Clinical Immunology*, September 2017, 30 (3); 183-188
- ◇ Donovan, J. Kudlar, I. Holness, L. Skotnicki-Grant S, and Nethercott, J. Skin reactions following use of N95 facial masks. *Dermatitis*, 2007, 18 (2): 104
- ◇ Foo C, Goon A, Leow Y and Goh C. Adverse skin reactions to personal protective equipment against severe acute respiratory syndrome- A descriptive study in Singapore. *Contact Dermatitis*, Dec 2006, 55 (5) 291-294
- ◇ Lan J, Song Z, Miao X, Li H, Li Y, Dong L, Yang J, An X, Zhang Y, Yang L, Zhou N. Skin damage and the risk of infection among healthcare workers managing coronavirus disease-2019. *Journal of the American Academy of Dermatology*. May 2020 82 (5), 1215-1216
- ◇ DermNet www.dermnetnz.org
- ◇ The Australasian College of Dermatologists www.dermcoll.edu.au