

Weathering THE STORM

Global warming and climate change is already having a negative impact on our skin, says **Dr Adam Sheridan**, but its growing impact can be minimised with a few simple strategies.



IF SHE WAS still here today, she would no doubt be quick to add global warming to her prim-and-proper list of conversational no-go areas for the ideal (and very boring!) dinner guest. That said, regardless of your view on causation, there can be little doubt that extreme weather events are a regular fixture on the global calendar. The consequences of these events are far reaching and often dire. I must stress that it is not my intention to in any way diminish the terrible impact and suffering endured by people the world over, by focussing here on the narrow subject of dermatology.

However, the effects of global warming and climate change upon the skin are myriad:

1. The reduced ozone layer allows increased passage of cosmic rays and ultraviolet radiation. This has contributed to dramatically increased skin cancer rates and photo ageing.
2. Altered precipitation patterns lead to drought and flood events. The resulting change in ambient humidity has the potential to alter skin hydration, barrier function and to tip the fine balance of commensal bacterial and yeast residing upon our skin.
3. Weather fronts and cyclonic activity deliver harsh drying winds to the skin and stir up particulate matter to assail the skin as irritants and allergens.
4. Extreme weather events risk further profound effects upon the skin through disruptions in the food supply chain and the compromise of water biosecurity. At the time of writing many major grocery outlets are running short of supply in bananas and other basic fruits and vegetables; owing to a recent severe cyclone in northern Australia. This may seem a trivial First World problem at first glance, but actually represents the tip of the (melting) iceberg in terms of secure and steady access to essential food stuffs. This supply is essential to the development and support of healthy bodies and skin; especially in the most vulnerable in society: children, the elderly and the infirm. Beyond reduced access to healthy foodstuffs, there is the secondary consequence that when a quality first choice food has become less accessible, less healthy second-line options such as processed and preserved foods generally move up the selection matrix, with deleterious consequences; especially if the newly selected inferior food becomes the new habitual mainstay. We are what we eat and climate change tends to impoverish our choices in this regard. In extreme cases the general food and water supply may be completely cut for extended periods, as is the case currently for the poor people battling through the cyclone and aftermath in Queensland
5. Be it through direct physical impacts or the constant flow of media reports, stress may arise from the knowledge or experience of extreme weather events. This has direct negative consequences upon our skin through the heightened release of cortisol and other stress hormones; and through diminishing our ability to focus upon the pursuit of sustained healthy lifestyle thoughts and actions
6. Most extreme of all is the actual physical displacement and injury of people and their lives

So, how may we deal with this dystopian reality? My advice is that whether you believe in climate change or not, it is prudent for individuals to prepare for the worst and hope for the best. Focus on building up a certain resilience within your skin, an insurance buffer so to speak, such that it remains adaptable in the face of a rapidly changing environment; well placed to absorb external shocks and bounce back, rather than being caught lacking the ability to regenerate without resorting to extreme recovery and repair regimes.

An athlete exercises, pre-hydrates and stretches before competition, and so too should you precondition and arm your skin to deal with fast evolving extremes of temperature, humidity, sun and wind. This preparation is best started now for the months and years to come.

Challenging as this may sound, the strategies involved are simple and will no doubt be well known to regular readers of this column:

1. When times are good and the weather is fine, stock up on healthy food both at home and in your actual dietary intake. To build in a level of skin resilience, seek out natural foods and quality supplements containing vitamins A,B3,C,E,D and zinc.
2. Program healthy lifestyle choices into your ongoing daily routine. Most important of these are adequate sleep, mental relaxation, regular exercise and a balanced and varied diet. Small positive actions, repeated often over time, will outperform one off extreme and desperate actions. Much like compound interest, the benefits of regular small health 'deposits' accrue exponentially over time.
3. To keep with financial analogies, as when confronting an unstable stock market, it is best to move away from 'set and forget' skincare regimes. Listen to your skin and make adjustments to suit the prevailing conditions. For instance, a light moisturising lotion is preferable in hot steamy conditions; whereas a cream or ointment-based product is better suited to cold dry conditions; especially where there is a harsh wind at play.
4. Perform a daily stock take. Consider what the environment has taken from (ie, moisture) or added to (ie, pollutants and allergens) your skin and take action to replace or remove these where appropriate. Equally, pay attention to the forecast for the following days and proactively prepare for the conditions to come. If a dry windy period is predicted then be sure to ingest plenty of clear fluid and apply moisturiser over the preceding 12-18 hours. Remember that humid conditions can be paradoxically dehydrating when excessive sweating results.
5. For those with mature or damaged skin, consider active agents to support skin maintenance and to facilitate cellular repair. Retinoids, resveratrol and co-enzyme Q10 are foundational options. Remember that active agents, by their very nature, alter the baseline state of your skin. It is therefore important to monitor your skin's response to these agents and to make adjustments to the mix applied and their potency over time. Your naturopath, dietician and doctor will be among those able to assist with this.
6. At times the environment and your genetics will combine to produce disease states despite your best efforts. Classic examples include skin cancer, acne rosacea, melasma and dermatitis.

a. Skin cancer: Be sure to arrange medical assessment of any new, changing or symptomatic lesion early; especially if this bleeds or is associated with a change in colour. Caught early enough skin cancer is easily managed and may even be amenable to non-surgical management. For more advanced aggressive tumours surgery is usually more appropriate. For lesions on delicate or critical areas of the body such as the face and extremities, careful surgery with Mohs micrographic surgery may be required. Your doctor can advise on active prevention with agents including vitamin A and B3, broad spectrum sunscreen and active field therapies such as photodynamic therapy.

“PERFORM A DAILY STOCK TAKE. CONSIDER WHAT THE ENVIRONMENT HAS TAKEN FROM (IE, MOISTURE) OR ADDED TO (IE, POLLUTANTS AND ALLERGENS) YOUR SKIN AND TAKE ACTION...”

b. Acne rosacea: This condition is often precipitated by climate extremes, UV exposure, dietary and hormonal factors, and stress. This condition usually responds well to appropriate interventions including retinoids, antibiotics, hormonal agents (such as the oral contraceptive pill) and laser therapy. As with most conditions, the earlier that management is initiated, the more complete and lasting is the treatment response.

c. Melasma: This is another condition that is very sensitive to the external environment factors and internal hormonal factors. Prevention through supportive skin care and attention to hormonal changes. Caught early, topical treatments may suffice to contain this condition. Once the genie is out of the bottle this is a very challenging condition to treat and will require a combination approach with topicals; hormonal and other prescribed medications as well as applied laser and related treatments.

d. Dermatitis: quite literally 'skin inflammation', it is no wonder that the various forms of dermatitis are exacerbated by extreme weather. As discussed, aim to build in a skin health 'buffer' through avoidance of irritating cleansers and the regular application of skin-type appropriate moisturisers. Should an acute flare resist initial skin support measures, consult with your doctor early to seek out potential environmental irritants and allergens which may be driving the disease; and to consider the most appropriate treatment.

I hope that the above pointers are of assistance in negotiating our new world, to come out the other side with healthy skin. Act or be acted upon. Also remember that it is never too late for us to take action to reduce our human impact upon the Earth's environment. It is our duty to hand the world to the next generation in a good state. Otherwise I fear the only workable advice for a future version of this article will be 'don't go outside' or 'wear a space suit!' ■



Dr Adam Sheridan is a Fellow of the Australasian Academy of Facial Plastic Surgery (AAFPS). Contact www.aafps.com.au and www.sdsl.com.au