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Beauty

# Can Poor Air Quality And Pollution Damage Skin?

Dermatologists weigh in with some sound strategies for protecting your complexion.



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**SAVE ARTICLE**



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One minute, I was calmly typing away on my laptop, thinking about what I was going to cook for dinner in between keystrokes. The next, I was on edge, watching as my living room became bathed in an eerie orange light. I went to my window; a thick haze had settled along the tree line, obscuring the leaves and transforming my neighborhood into something straight out of a sci-fi movie.

I soon learned that a good portion of the northeastern United States, including my little pocket of Queens, New York, was blanketed by smoke that had drifted down from the more than [400 brush fires burning in nearby Canada](#). The situation seemed dire: New York's Air Quality Index score hit an all-time high, making it the most polluted period in the city's history. [The mayor's office issued a statement](#) recommending that at-risk adults wear [N95 surgical masks](#) when outdoors and [flights across the city were delayed](#) due to poor visibility.

The dangers of being exposed to these conditions seemed obvious—difficulty breathing, stinging eyes, an increased risk of respiratory infections, and headaches to name a few, [according to the Centers for Disease Control and Prevention](#)—but I also wondered, “What could all of this smog be doing to our skin?” Turns out, a lot. In fact, exposure to the pollution created by the California wildfires of 2018 led to an increase in dermatologist visits for patients with eczema and psoriasis, [found one study published in \*JAMA Dermatology\*](#).

I needed to know more, so I turned to three top dermatologists to break down how pollution and poor air quality can wreak havoc on our complexions—and the simple steps you can take to safeguard your skin.

## **How does pollution affect our skin?**

It's all about oxidative stress, [according to research published in the \*Journal of the European Academy of Dermatology and Venereology\*](#), which found that indoor and outdoor pollution may activate inflammatory pathways and lower the levels of antioxidants in skin. “Oxidation damages DNA, causes the breakdown of collagen, and affects the barrier function of skin,” says board-certified dermatologist [Amy Wechsler, MD](#), adjunct clinical professor in psychiatry at Weill Cornell Medical College. “That means premature aging, a potential increased risk of skin cancers, a decrease in the healthy turnover of skin cells, and a loss of moisture.”



**Meet our experts:** [Amy Wechsler, MD](#), a board-certified dermatologist and adjunct clinical professor in psychiatry at Weill Cornell Medical College, [Dennis Gross, MD](#), a renowned skin cancer expert with a practice in New York City and founder of [Dr. Dennis Gross Skincare](#), [Bradley Glodny, MD](#), instructor in cosmetic dermatology at New York-Presbyterian/Columbia University Irving Medical Center

Pollution from these Canadian wildfires is different, though: Everyday urban air pollution is primarily carbon monoxide generated by fossil fuel-powered engines in cars, construction equipment, and boats, explains [Dennis Gross, MD](#), a renowned skin cancer expert with a practice in New York City and founder of [Dr. Dennis Gross Skincare](#). “What we’re experiencing now is a higher concentration of particles in the air, called particulate matter, which comes from the burning of wood and other natural materials. The sedimentation and smoke deposit free radicals directly onto skin, triggering conditions such as redness, dryness, and eczema.”

There’s good news though, says Wechsler: This, too, shall pass. “The air quality issues we’re dealing with now should clear up soon,” she says. That means, in addition to staying indoors as much as possible and wearing a medical mask if you must be outdoors (all our experts are bullish on that), there are few ways you can level up your skincare routine right now or—if you live in an urban environment—all year long to safeguard against pollution.

## **Wash your face thoroughly**

Now is *not* the time to skimp on cleansing—using a high-quality face wash can remove particulate matter and harmful free radicals before they can do their damage. “Most particulate matter is too small to see, but you can still wash it off,” says Wechsler. “So, cleanse the minute you get inside.” And while you may not think of makeup as a protective product, in this case it is: “It’s actually a good time to wear makeup—it can form a protective barrier on skin,” says Gross.

# Layer on the antioxidants

Remember: Most of damage caused by pollution is related to oxidative stress—and that’s *good* news because there are topical ingredients designed to address just this kind of damage. “Antioxidants can be used to neutralize the free radicals generated by pollutants,” says [Bradley Glodny, MD](#), instructor in cosmetic dermatology at New York-Presbyterian/Columbia University Irving Medical Center.

When looking for an antioxidant serum, both Glodny and Gross recommend scanning the ingredient label for the most potent form of vitamin C, called ascorbic acid. “Vitamin C is the most powerful antioxidant in the skincare world,” says Gross. “It will have an affect even after the wildfire smoke has lifted.” Pat it on after cleansing before heading outdoors (honestly, it’s solid skincare advice, wildfires or not).

## Please, wear sunscreen

Looking up at a smoke-obscured sun, you may think that SPF isn’t a priority—but you’d be wrong. Ultra-violet radiation can penetrate pollution, even cloud cover, [according to the Skin Cancer Foundation](#), so slathering on a generous layer of sun protection is non-negotiable right now. “UV rays can get lodged under a layer of smoke, creating a greenhouse-like effect,” says Gross. “And there’s greater exposure to the sun’s rays when they’re insulated and trapped near the Earth’s surface.” And these rays create oxidative stress, potentially compounding the ill effects of pollution, Wechsler adds.

## Your Pollution-Fighting Arsenal



**CeraVe Hydrating Cream-to-Foam Cleanser**  
Now 14% Off



**Dr Dennis Gross Skincare 15% Vitamin C Firm & Bright Serum**



**Neutrogena Ultra Sheer Dry-Touch Sunscreen Broad Spectrum SPF 70**



**First Aid Beauty Ultra Repair Cream**  
Now 15% Off

The American Academy of Dermatology recommends using a product with an SPF of 30 or higher and nowadays you can find moisturizers that combine sun protection with antioxidants, combining two powerful skin shields in one product.

## **Use a rich, nourishing moisturizer**

If you're generally averse to heavy creams, you may want to reconsider during times of high pollution (or if you live in an urban environment year-round). The oxidative damage caused by particulate matter affects the very way skin cells function—how they grow and multiply, for example—compromising your complexion's ability to hang onto moisture, says Glodny. It's a phenomenon known as transepidermal water loss (TEWL), Wechsler explains, and you can mitigate its effects by creating your own moisture-retaining barrier in the form of a thick moisturizer with occlusive ingredients like petrolatum, shea butter, or plant oils.

## **Consider laying off the actives**

If your regimen includes powerful topical ingredients such as prescription retinoids or exfoliating acids and you're experiencing extra irritation right now, talk to your dermatologist about temporarily halting their use.

"Listen to your skin," says Wechsler. "If your complexion is reacting, you might want to back off for a bit. And now is probably not the time to run out and get a chemical peel."

Yes, sometimes, vanity needs to take a back seat to common sense.