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People wear their health on their skin. As the body's largest organ, skin is our first line of defence against infection and injury; it is also crucial for temperature regulation and vitamin production, and its sensory capabilities help us to interact with the environment (see page S84). Skin is also very visible, with its appearance telegraphing vigour or disease — leaving those with certain skin conditions vulnerable to detrimental psychological effects. Therefore, although most skin diseases are not life-threatening, they are a leading cause of disability and researchers are working hard to find ways to help.

Understanding of the factors that affect skin health is improving steadily. Some of skin's stealthiest insults are being traced to the environment: ultraviolet radiation, air pollution and pesticides can be absorbed by skin, where they cause conditions that range from irritation to cancer (S89). A poor diet can also affect skin's health, increasing people's vulnerability to melanoma and other skin conditions (S94). And it is becoming clear that the bacteria, viruses and fungi that live on skin contribute to health, too: some might exacerbate certain conditions whereas others might offer protection (S91). For all of these factors, researchers have only started to translate their findings into specific, therapeutic advice.

Skin's full regenerative potential has yet to be unlocked, but many are searching for better ways of healing burns and deep wounds (S86). Materials scientists are creating electronic skins that could be useful for monitoring patients' vital signs or building improved prosthetic limbs (S96). And fresh treatments are on the horizon for people with vitiligo; however, a small-yet-vocal group who are advocating for acceptance rather than a cure could create a schism in the vitiligo community (S99).

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Lauren Gravitz
Contributing editor

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