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Can Antibacterial Clothing Protect Against COVID-19 and Other Illnesses—or Is It Just Marketing Hype?

The fashion industry—and the trends that come out of it—has always largely been dictated by cultural events. The Great Depression beckoned velvet, fur, and everything luxury. The jazz age brought about fringe and loose silhouettes. When the feminist movement grew in the '60s, mini skirts became a trend and symbol of women's freedom and rights.

This past year has been no different. With the dawn of the coronavirus pandemic came a major switch in our wardrobe. High heels were replaced with [comfortable slippers](#), and [loungewear](#) replaced workwear. Though we expected to see clothing companies shift over to the production of gloves and [face masks](#), we didn't anticipate the rise of stylish, germ-fighting clothes.



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Antibacterial clothing is the newest category that retailers are implementing to appeal to anxious shoppers. From jumpsuits and pants to jackets and outerwear, these clothes are embedded with elements—including silver (the most common element), [copper](#), zinc, bamboo charcoal, and peppermint—that are said to fight bacteria that cling to clothing.

Brands like Diesel and DL1961 recently promoted jeans that claim to kill any traces of SARS-CoV-2 with technology first used during the 2000s SARS epidemic. Italy's Albini Group, which supplies dress

shirts to luxury brands like Armani and Prada, released [Viroformula fabrics](#) that supposedly "inhibit viruses and kill bacteria upon contact on the surface in a few minutes." US Denim Mills, a denim manufacturer, is currently mass producing "[Safe for US](#)," a collection of anti-microbial yarns that utilize Swiss textile technology to attack germs and release ions beneficial to health.

But can a pair of jeans really protect you from getting sick?

Well, maybe. According to experts, it's important to read between the lines, especially when it comes to clothing with hygiene-related claims. "Vocabulary is key here," said Abisola Olulade, MD, a board-certified family medicine physician in San Diego, Calif. "Antibacterial is something that inhibits the growth of bacteria while antimicrobial means inhibiting the growth of bacteria and other microorganisms (a broad term). This does not necessarily mean that they are antiviral, which is directed against specific viruses."

The concept of antimicrobial technology isn't new. Primarily used to eliminate unappealing odor from workout clothing, brands use it to protect your precious leggings and sports bras against sweat-induced bacteria, mold, and mildew. "Microbes like warm, moist environments, so the idea is to make the clothing less friendly to organisms by 'wicking' moisture," says Mary-Premenko Lanier, PhD, a research immunologist and scientist at SRI International in Menlo Park, Calif.

To get scientific: "The antibacterial effect is achieved by inhibiting the cell growth of the pathogen through biostatic or biocidal means. After permanently binding with the pathogen, the material (or chemical that it's coated in) damages the protein, cell membrane, DNA, and internal systems of a microbe, causing it to die," says Dr. Olulade.

Keep in mind that this process doesn't happen instantaneously. According to Sharon Whiteley, founder of TRU47, "Antimicrobial materials won't kill on impact, but they do eliminate the bacteria on these surfaces over time and prevent the bacteria from spreading."

While there isn't sufficient research on the antiviral nature of antibacterial clothing, Lanier warns that these technologies are not particularly effective in preventing the actual spread of the virus, given existing research that indicates the virus is airborne and rarely spread through surface contact.

"They can give consumers a false sense of security," agrees Gan Eng Cern, ENT, a surgeon and ENT specialist in Singapore. "People might put their guards down under the 'safety' and 'protection' of these articles of clothing. Frontline health workers put on layers and layers of medical-grade protective gear, but some still fall prey to the virus. It's a relentless and unforgiving pandemic and wearing antiviral clothing won't guarantee your immunity from it."

There's also the additional worry of chemical-induced skin irritation. "Some of these clothes could also contain harmful toxins depending on what is actually on them," says Dr. Olulade. "Silver—a common antibacterial element—is also known to cause topical reactions for some people."

Bottom line: Without practicing precautionary actions such as social distancing, proper hygienic practices, and crowd avoidance, as recommended by the CDC, no protective gear and clothing (no matter how technologically advanced or medically designed) will stop you from getting sick. "There is no COVID-proof clothing," says Dr. Cern. "Do your part in keeping yourself and the people around you safe by following the practices recommended by medical professionals."

That being said, antibacterial and antimicrobial clothing *in addition* to safety measures won't hurt, given that you're not allergic to the material it's made out of. Here are some of our favorite pieces that are woven with science-backed technology in mind.

Tru47 Silver Mesh Scarf

Made from 99 percent pure ionic silver, this sheer mesh scarf can be wrapped around and pulled up over your face for an additional layer of protection in compromised environments.

\$98, tru47.com