tend to think of the immune system as the body’s “good guys”—the infection-fighting force protecting us against harm from the outside world. That’s a pretty accurate assessment. Yet the role these cells play is not one-dimensional. You see, sometimes it’s the good guys, with the best of intentions, that do the most harm.

Just look at arthritis or inflammatory bowel disease. These are conditions where the body’s good guys get all hot and bothered over a problem that isn’t there. And when they can’t find an outsider to blame, the body’s own cells become the fall guys.

Or sometimes the immune system overreacts to an infection, which can result in sepsis—illness inflammation so pronounced that organs start failing.

The University of Pittsburgh’s Matthew Rosengart, an MD, MPH, and associate professor of surgery and critical care medicine, has found a way to quiet the immune system, when it’s useful for those physiological defenders to lay low. And he does so without using drugs and the side effects that can accompany them. Instead, he uses light.

In a paper published in April 2016 in the Proceedings of the National Academy of Sciences, Rosengart and colleagues showed that mice exposed to 24 hours of blue light prior to surgery (surgery is considered a “sterile injury”) showed fewer signs of damaging inflammation and necrosis afterward. What’s more, the benefits disappeared in mice with optic-nerve degeneration, showing that eyes are more than gateways to the soul—they’re portals we can use to manipulate our own biology.

Exactly how or why this works isn’t yet clear. Yet, “immune responses are energetically expensive, and so it pays to have them poised during times when threats are going to be maximal,” says Rosengart.

The immune systems of humans and other diurnal creatures are more active while the sun is up. After all, we’re much less likely to get injured or come into contact with pathogens while we’re fast asleep. Blue light seems to have the opposite effect on mice, which are nocturnal.

Evolution appears to have selected for an immune system that takes its foot off the gas in response to certain light conditions. Rosengart is showing that the body cycles through states of vigilance and lax security as it perceives the likelihood of threats around it, and he’s envisioning therapies based on those cycles. Light conditions that quiet the immune response in mice are likely to ramp up the immune system in people. And, if controlled properly, augmenting the immune response could be a powerful ally in the clinic, too.

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But why blue light? Rosengart says that of all the spectra of light that help synchronize circadian rhythms, blue and blue-green have the strongest effect. He did not get the same results with white or red light.

Clinical trials are already under way with pairs of cheap, disposable cobalt-colored plastic goggles that mimic the conditions that benefited the mice. (The mice didn’t wear goggles.) Rosengart has some unpublished data that look promising for attenuating inflammation during certain procedures and conditions, but the results are still too preliminary to draw any conclusions.

In any event, don’t be surprised if in a few years a doctor gives you a prescription for a pair of cerulean shades. A little light may go a long way.