

Healthy 18-year-old welder nearly died of anthrax—the 9th such puzzling case

In 2022, CDC researchers found an unexpected pattern. Since 1997, there had been seven cases of infections from *Bacillus* group bacteria producing the anthrax toxin—all in metalworkers. Six of the seven were welders, hence the term “welder’s anthrax,” with the remaining case in a person working in a foundry grinding metal. Of the six cases where a specific *Bacillus* species was identified, *B. tropicus* was the culprit, including in the newly reported case.

Speculating risks

It’s unclear why metalworkers, and welders specifically, are uniquely vulnerable to this infection. In their 2022 report making the connection, CDC experts speculated that it may be a combination of having weakened immune responses in the lungs after inhaling toxic metal fumes and gases created during metalwork, and having increased exposure to the deadly germs in their workplaces.

In the latest case, the teen did welding work four hours a day, four days a week, with limited ventilation, sometimes in confined spaces, and often didn’t use personal protective equipment, like a respirator. Environmental sampling of his workplace found anthrax-toxin-producing *Bacillus* in 28 of 254 spot samples. Other investigations of welder’s anthrax cases have found similar results.

So far, all nine cases have been detected in either Louisiana

or Texas. But the experts note that cases are likely underreported, and modeling suggests these dangerous germs could be thriving in many Southern US states.

The experts also speculated that iron exposure could play a role. *Bacillus* bacteria need iron to live and thrive, and metalworkers can build up excess iron levels in their respiratory system during their work. Iron overload could create the perfect environment for bacterial infection. In the teen's case, he was working with carbon steel and low-hydrogen carbon steel electrodes.

For now, the precise risk factors and why the healthy teen—and not anyone else in his workplace—fell ill remain unknown. CDC and state officials recommended changes to the workplace to protect metalworkers' health, including better use of respirators, ventilation, and dust control.

There is also a vaccine for anthrax that's recommended for those considered at high risk, such as certain military members, lab workers, and livestock handlers. It's unclear if, in the future, metalworkers might also be considered in this high-risk category.

<https://arstechnica.com/health/2026/01/anthrax-nearly-kills-healthy-18-year-old-welder-amid-puzzling-pattern/>