

Adults don't need tetanus, diphtheria boosters if fully vaccinated as children

February 25 2020

Adults do not need tetanus or diphtheria booster shots if they've already completed their childhood vaccination series against these rare, but debilitating diseases, research published in the journal *Clinical Infectious Diseases* indicates.

The conclusion aligns with the World Health Organization's recent recommendations to only routinely give adults tetanus and [diphtheria](#) vaccines if they didn't receive a full series of shots as children. In the U.S., the CDC's Advisory Committee on Immunization Practices still recommends all adults receive booster shots every 10 years.

Mark Slifka, Ph.D., and colleagues found no [significant difference](#) in disease rates between countries that require adults to receive tetanus and diphtheria booster shots and those that don't. The finding is the result of comparing data from millions of people from 31 North American and European countries between 2001 and 2016.

"To be clear, this study is pro-vaccine," says the study's lead researcher, Slifka, a professor at the Oregon Health & Science University School of Medicine and the Oregon National Primate Research Center. "Everyone should get their series of tetanus and diphtheria shots when they're children. But once they have done that, our data indicates they should be protected for life."

Requiring fewer vaccinations for adults could save the U.S. about \$1 billion annually in unnecessary medical costs, the researchers estimate.

The paper follows research Slifka and colleagues published in 2016, which concluded the vaccine produced at least 30 years of immunity for the 546 adults in that study. As a result, the researchers recommended at that time to vaccinate adults against these diseases only every 30 years.

"Based on our new data, it turns out we were probably overly conservative back in 2016," Slifka now says. "Even though it looked like immunity could be maintained for decades, we didn't have direct evidence back then that this would translate into true protection against disease in the real world.

"However, our new data provides the final piece to the puzzle. We now have evidence showing the childhood vaccination series can provide a lifetime of protection against both tetanus and diphtheria."

Tetanus, also known as lockjaw, is a [bacterial infection](#) that causes jaw cramping, painful muscle spasms, trouble swallowing and breathing, seizures, convulsions and, in severe cases, [death](#). It's spread by bacteria commonly found in dirt or feces, or on contaminated objects such as nails or needles. About 30 people in the U.S get tetanus annually, and one or two out of 10 cases can be fatal. Tetanus-associated deaths almost always occur among unvaccinated people, or those with incomplete or unknown vaccination history.

Diphtheria is a bacterial infection that causes a thick covering in the back of the throat, which can lead to difficulty breathing, heart failure, paralysis or death. It's spread by exposure to infected people or in rare cases, infected animals. In the past decade, less than five U.S. cases of diphtheria were reported to the CDC. In an unvaccinated population, about one in 10 cases can be fatal. But more than 99.8 percent of vaccinated people who are diagnosed with diphtheria and receive appropriate care survive.

In the pre-vaccine era, there were about 470 [tetanus](#)-associated deaths and 1,800 diphtheria-associated deaths in the U.S. each year. Tetanus- and diphtheria-related deaths have declined by more than 99% since vaccines became available to prevent them.

More information: Ariel M Slifka et al, Incidence of Tetanus and Diphtheria in Relation to Adult Vaccination Schedules, *Clinical Infectious Diseases* (2020). [DOI: 10.1093/cid/ciaa017](https://doi.org/10.1093/cid/ciaa017)

Provided by Oregon Health & Science University

Citation: Adults don't need tetanus, diphtheria boosters if fully vaccinated as children (2020, February 25) retrieved 26 April 2024 from <https://medicalxpress.com/news/2020-02-adults-dont-tetanus-diphtheria-boosters.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--