

OK to limit pre-dental procedure antibiotics to high risk heart patients

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The incidence of infective endocarditis among dental patients in Olmsted County, Minn. did not increase after new guidelines called for giving preventive antibiotics before dental procedures only to those at greatest risk of complications, according to independent research published in *Circulation*, an American Heart Association journal.

Infective endocarditis is a [bacterial infection](#) of the [heart](#) lining, heart valve or blood vessel. Although rare, it can occur when bacteria enter the bloodstream through breaks in the gums during invasive dental procedures or oral surgery. It can cause death if untreated. A common group of bacteria that cause this infection is viridans group streptococci (VGS).

Patients with a heart weakened by certain [congenital defects](#) and acquired conditions, including those with prosthetic [heart valves](#), can be more susceptible to the infection. People with normal heart valves develop the infection less often.

In 2007, the [American Heart Association](#) changed its guidelines, recommending patients take antibiotics before invasive dental procedures only if they are at risk of complications from [infective endocarditis](#). This includes patients with artificial heart valves, transplanted hearts with abnormal heart valve function, previous infective endocarditis and people born with specific [heart defects](#).

Before 2007, antibiotics were given to many more people, including

those with many types of [congenital heart defect](#) or acquired cardiac condition. Antibiotics also were given for a wider range of procedures, including operations involving the mouth, throat, gastrointestinal, genital or urinary tract.

"We were giving preventive antibiotics like we were treating an entire iceberg, when we only needed to treat the very tip of that iceberg," said Daniel C. DeSimone, M.D., study lead author and an internal medicine resident at the Mayo Clinic in Rochester, Minn. "Millions of people once getting antibiotics now are not."

In the first U.S. study examining VGS-related infective endocarditis rates after the guidelines changed, investigators found a slight decline in the number of patients diagnosed.

To compare infective endocarditis rates, researchers analyzed local hospital discharge records in the Rochester Epidemiology Project and national rates using the Nationwide Inpatient Sample. Olmstead County was used because of its unique medical records-linkage system that encompasses all residents of the county.

From Jan. 1, 1999 to Dec. 31, 2010, 22 patients in Olmsted County, Minn., were diagnosed with the heart infection. These patients represent two to three of every 100,000 people in the United States before updated guidelines, and one of every 100,000 after the updated guidelines.

The percentage of Olmsted county dentists following the new association guidelines represented the percentage of dentists using them nationally, researchers said.

The national annual infective endocarditis diagnosis rates showed no increase, ranging from:

- 15,300-17,400 in 1999-2006 (before the updated guideline)
- 14,700-15,500 in 2007-09 (after the updated guideline)

"These findings are reassuring, but additional studies are needed to further support our findings," DeSimone said.

"There's still a concern among many healthcare providers over whether we are leaving certain people at risk of getting a potentially lethal infection just from a dental cleaning or tooth extraction," he said. "This study should reduce some fears. It will allow dentists to become more comfortable when they tell a patient, 'You've been getting this antibiotic for years. Now, it's not recommended anymore, and here is data showing you why.'"

Among other limitation, the lack of diversity in Olmstead means these results may not hold true for non-Caucasian populations.

More information: [Abstract](#)
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Provided by American Heart Association

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