

Risk of heart attack and stroke following dental treatment outweighed by long-term benefits

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Image credit: Wolfiewolf on Flickr

Research published today suggests that invasive dental treatment, such as extractions, carries a small but statistically significant increase in the risk of stroke and heart attack over the short term. However, the authors of the study, which was funded by the Wellcome Trust and the British Heart Foundation, stress that any increase in risk is likely to be outweighed by the long-term benefits of such treatment.

Inflammation - the process by which the body responds to injury or infection - is known to play a role in cardiovascular events such as heart attack or ischemic [stroke](#) (stroke caused by lack of oxygen to the blood). Such inflammation can arise from a number of causes, such as surgery or bacterial infection.

Epidemiological data also suggest that low-grade dental infection such as

periodontitis (a common chronic infection of the [oral cavity](#) caused by bacteria) may increase the risk of cardiovascular events. However, invasive dental treatment for periodontitis has been shown to cause short-term impairment to blood flow.

To test whether inflammation and impairment to blood flow increased the likelihood of a [cardiovascular event](#), a team of researchers from the London School of Hygiene and Tropical Medicine (LSHTM) and University College London (UCL) looked at whether invasive dental treatment led to an increased risk of [ischemic stroke](#) or heart attack.

In a study published today in the journal [Annals of Internal Medicine](#), the researchers examined data from the claims database of the US Medicaid program for individuals and families with low incomes and resources.

Averaged across the different age groups, the Medicaid records suggest that in the four-week period following invasive dental treatment, the risk of a heart attack or stroke is increased by 50 per cent. The risk then returns to normal over the weeks following this. Because the period of increased risk was short, over a full year this translated into an increased overall risk of less than 4 per cent.

However, the researchers are keen to stress that previous studies have shown that invasive dental treatment is beneficial to vascular health in the long term and that these benefits outweigh any short term risk.

"Although we found a small increase in the risk of heart attack or stroke following dental treatment, all the research suggests that the long-term benefits greatly outweigh this risk," says Professor Liam Smeeth, a Wellcome Trust Senior Research Fellow at the LSHTM. "We would still recommend that people who require dental treatment go ahead."

While the increased risk is small, it is also statistically significant, and therefore the researchers believe it adds further evidence to support the link between acute inflammation and the risk of stroke or heart attack.

More information: Minassian C et al. Invasive dental treatment and risk for vascular events: a self-controlled case series. *Annals of Internal Medicine* 2010.

Provided by Wellcome Trust

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