

# Study shows Vikings in Sweden suffered from tooth decay

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Examination of Viking jaw and teeth. Credit: Carolina Bertilsson, CC-BY 4.0 ([creativecommons.org/licenses/by/4.0/](https://creativecommons.org/licenses/by/4.0/))

Vikings in Sweden suffered from painful dental issues and occasionally tried to treat them, according to a study published December 13, 2023, in the open-access journal *PLOS ONE* by Carolina Bertilsson of the University of Gothenburg, Sweden and colleagues.

In 2005, excavations in Varnhem, Sweden uncovered the remains of a Christian church, near which was a cemetery containing thousands of Viking graves dating to the 10th to 12th century AD. In this study, Bertilsson and colleagues performed clinical and radiographical examination of the dentition of individuals from this site. In total, the team analyzed more than 2,300 teeth from 171 individuals.

More than 60% of the examined adults had signs of [dental caries \(tooth decay\)](#), most often on the root surface, while none of the juvenile individuals had caries. Other pathologies were also observed, including tooth infection and indications of teeth having been lost before death. Several individuals had caries severe enough to have caused tooth pain, and the authors noted a few cases of tooth abrasion that were likely intentional modifications intended to lessen tooth pain. Some teeth also exhibited abrasions consistent with tooth picking, likely to remove bits of food.

The prevalence of dental caries in this [population](#) is similar to what has been noted in other European populations of a similar age, although the authors caution that nearly a quarter of these Varnhem individuals' teeth appear to have been lost before or after death, and this likely skews these results.



On top an X-ray examination, and X-ray image which reveals carious lesions on posterior molars. Credit: Carolina Bertilsson and Henrik Lund.





Viking teeth from Varnhem, Sweden, are clinically examined by Carolina Bertilsson. Credit: Yoichi Ishizuka

For example, the prevalence of caries in this population was observed to decrease with adults' age, an unexpected result that likely reflects

increased tooth loss in older individuals such that the most decayed [teeth](#) were not present. Overall, these data provide insights into the lives of Vikings who suffered from and occasionally attempted to treat dental issues, as well as providing details into the pathology of untreated dental issues.

The authors add, "In a Swedish Viking population, around half of the individuals suffered from dental caries. The Vikings performed both tooth filing, [tooth](#) picking, and other dental treatment, including attempts to treat dental infections."

**More information:** Bertilsson C, Vretemark M, Lund H, Lingström P. Caries prevalence and other dental pathological conditions in Vikings from Varnhem, Sweden, *PLOS ONE* (2023). [DOI: 10.1371/journal.pone.0295282](#)

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