

## Research Project

# Die Zahnzementanalyse: Eine kritische Überprüfung der Methode und ihrer Möglichkeiten zur Erfassung von Schwangerschaften und Krankheiten

### Project funded by own resources

**Project title** Die Zahnzementanalyse: Eine kritische Überprüfung der Methode und ihrer Möglichkeiten zur Erfassung von Schwangerschaften und Krankheiten

**Principal Investigator(s)** [Hotz, Gerhard](#) ;

**Project Members** [Schibler, Jörg](#) ; [Wittwer-Backofen, Ursula](#) ; [Mani, Gabriela](#) ;

### Organisation / Research unit

Departement Umweltwissenschaften / Integrative Prähistorische und Naturwissenschaftliche Archäologie (IPNA)

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**Status** Completed

Tooth cementum annulation (TCA) has been conducted by wildlife biologists since decades and in humans since 1980s to assess age at death or tooth extraction. Cementum is a mineralized tissue covering the tooth root and is deposited lifelong. It has a relatively homogenous pattern and is just interrupted by incremental lines representing phased deposition of cementum (picture below). These incremental lines are visible in the microscopic view in thin histological sections of the tooth cementum due to the difference in optical density (picture below). The tooth cementum analysis has also been used successfully by wild biologists to reconstruct the reproduction history of mammals. Stressful periods such as pregnancy, lactation or diseases can result in an irregular cementum line (stress marker) (picture below). Such abnormal lines have also been described in human studies and could be linked with pregnancies and diseases affecting the calcium metabolism. More research is needed to understand the tooth cementum annulation and the potential mechanism, which is responsible for this continuous apposition and which can lead to stress markers.

**Keywords** Anthropologie, Spitalfriedhof, Strassmarker, Sozialgeschichte, 19. Jahrhundert; Zahnzementannulation

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