



INSIGHTS FROM TWINS RESEARCH AUSTRALIA

TWINS BRUSH UP ON DENTAL HEALTH

Did you know that dental health plays a vital role in your twins' overall health?

Dental problems amongst children, such as toothache, can interfere with eating, sleeping and exercise and can result in them missing school, impacting academic performance.

Nearly half of all 5-6-year-olds now have a history of dental decay affecting their primary teeth. Similarly, nearly half of all 12-year-olds have a history of decay in their permanent teeth.

Researchers are seeking to better understand dental development – and how it impacts our health. Particularly exciting is a world-leading study by the School of Dentistry at the University of South Australia that involves twins and their families.

This study, Teeth Emergence and Oral Health in Twins and Their Families, is looking at the genetic and environmental factors in dental and craniofacial development (the bones of the face and skull). It has made a number of important discoveries including:

- Primary teeth development and emergence are highly heritable.
- Some teeth are emerging later than what is currently thought. The first and last primary teeth emerge, on average, at 8.6 months and 27.9 months respectively.

- Insights into the pattern of tooth emergence, such as the trend for the left tooth to emerge before the right.
- There is also a strong genetic contribution in the process that leads to early colonisation of our mouths with bacteria and subsequent tooth decay.
- Differences in expression of missing or extra teeth are common in identical twins, even though they are genetically identical. This suggests epigenetic factors (or how the environment switches genes on and off) are at play during tooth formation.

Next the researchers are looking further at oral microbes, or our mouth 'flora', to better understand whether oral health and dental decay are influenced more by genetic or environmental factors. Meanwhile, an overseas study has identified several genes that influence specific aspects of dental health such as teeth alignment.

These exciting discoveries are assisting clinicians such as dentists and orthodontists in prevention, early intervention, and treatment of dental and craniofacial problems.

We thank the 500 twins and their families from Twins Research Australia who supported this study. While this study is no longer recruiting, there are many current and upcoming studies needing twins.

Find out more at www.twins.org.au, [Facebook](#), [Instagram](#) and [Twitter](#).

The Australian Dental Association has guidelines for babies' dental health at www.ada.org.au.

