

New drill-less technique may reduce kids' fear of the dentist

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(Medical Xpress)—Children have been shown to significantly prefer a new way of treating tooth decay that doesn't involve needles or drills.

Dr Lyndie Foster Page, head of preventive and restorative dentistry at the University of Otago Dental School, and colleague Ms Dorothy Boyd, a specialist paediatric dentist, trained 10 Hawke's Bay dental therapists to use the new 'Hall technique' as part of a feasibility study funded by the Health Research Council of New Zealand (HRC).

The Hall technique, which was developed by Scottish dentist Dr Norna Hall, involves placing a stainless steel crown over a baby molar tooth to seal the decay in, rather than the conventional method of removing the decay with a drill and then placing a filling. Starved of nutrients, the decay then stops or slows down. The crown stays in place until it falls out naturally with the tooth at about age 10.

Of the nearly 190 [children](#) between 5 and 8 years old who took part in the Hawke's Bay study, just over half were Māori. Nearly 100 children received treatment for their decayed teeth using the Hall technique, while the remainder were treated using conventional methods. Many of the children already had six or seven fillings in their mouth, and two-thirds came from low socio-economic status areas.

Dr Foster Page said the study showed that children treated in the new way (which doesn't require anaesthetic) reported less [dental anxiety](#) than those who had received conventional care. Interestingly, almost all (90

per cent) of those treated with the Hall technique reported enjoying their clinic visit; among those conventionally treated, the figure was 52 per cent.

Dental phobias are generally thought to develop in childhood, and a traumatic experience may leave a person feeling anxious about visiting the dentist. "If children don't fear going to the dentist, we believe they'll be more inclined to go regularly for check-ups when they are adolescents and adults, but there is more work to do to understand exactly why the children said they preferred the new technique."

As well as reducing the fear factor, the Hall technique was, on average, up to 20 minutes quicker than conventional treatment, and it had a much higher success rate.

"After six months, children who had conventional treatment had twice as many dental abscesses and nearly three times as many replacement fillings as those who were treated with the Hall technique," says Dr Foster Page.

"There's a strong shift in dentistry towards not removing all the decay in the tooth. We know that when we drill a tooth, the tooth doesn't like it; you get an inflammatory response. If the decay is close to the nerve then perhaps it's best to leave it."

The study is the first in the world where dental therapists have placed stainless steel crowns using the Hall technique. A five-year randomised control trial in Scotland (where dentists instead of dental therapists carried out the procedure) also showed that parents, children and dentists preferred this method of treatment.

"At first, some parents were concerned that people might judge children who had these crowns because of the way the crowns look. Many people

today want white fillings. However, after the treatment, we found that the overall positive response of children to the treatment, and the fact that children didn't need an injection or to go back for replacement restoration work, seemed to far outweigh this concern."

Crowns cost more than conventional amalgam or white fillings, but Dr Foster Page says they could work out more economically in the long term.

"Replacing a filling two or more times during a tooth's life may actually cost more than a crown in the long term with labour costs included – and then there's the cost to children's well-being."

Dr Foster Page and Ms Boyd will present the findings of this feasibility study to the Hawke's Bay District Health Board in February and at the International Association of Dental Research Conference in Seattle (USA) in March. Subject to funding, they plan to carry out a large randomised control trial of the Hall technique in New Zealand children.

"Many children in New Zealand suffer from poor oral health. [Tooth decay](#) is the most common chronic disease affecting children worldwide," says Dr Foster Page.

Provided by University of Otago

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