

'D3 AT WOCON'

GUEST LECTURE & D3G DESK

A GUIDED TOUR OF
'MOLAR HYPOMIN'
& CHALKY TEETH

OCTOBER 2025

HONOLULU, HAWAII

Hosted by WOCON 2025 Organising Committee



Dr. Fiona Firth

Molar Hypomineralization and Chalky Teeth: A Guided Tour from Clinical Challenges to Science-Driven Prevention and Social Good

SCIENTIFIC LECTURE



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2025

Orthodontists routinely provide specialist advice about "compromised molars", yet for many the finer details – including important differences between "hypoplastic molars", "hypomineralized molars", "MIH" and "MH" – remain fuzzy at best. Fortunately, such confusion has been comprehensively addressed under the new era of "Molar Hypomineralization" (MH) and "Chalky Teeth", which uses a novel translational paradigm embracing stronger science, better practice and social good. These far-reaching advances warrant evolutionary adaptations for the dental profession, including orthodontic practitioners, industry and policymakers [1].

This presentation introduces the so-called "MH-Chalky Teeth Problem" and outlines groundbreaking attacks being conducted by an international translational network for Developmental Dental Defects (DDDs = "D3s") that includes orthodontist associations from "Down Under" (ASO, NZAO). Key implications for orthodontists – including communication, clinical practice, and interprofessional relations – will be highlighted.

Reference

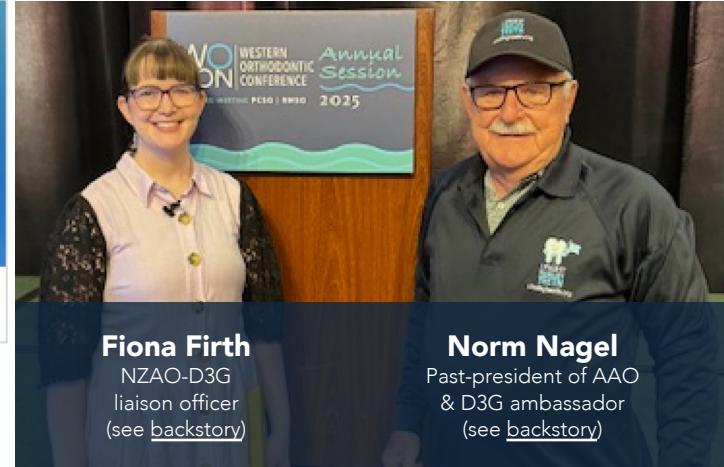
1. Childers NK, Hubbard MJ. Adopting The D3 Group's Translational Paradigm for Molar Hypomineralization and Chalky Teeth. *Pediatr Dent*. 2024;46(5):302-304. Free download at [PMID: 39420495](#).

Learning Objectives:

1. Explain D3 terminology – chalky teeth, D3s, MH, science translation to social good.
2. Articulate the 3-level 'MH-Chalky Teeth Problem' and implications for orthodontics.
3. Correlate today's science-driven translational attack with orthodontic opportunities.



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Fiona Firth

NZAO-D3G
liaison officer
(see [backstory](#))

Norm Nagel

Past-president of AAO
& D3G ambassador
(see [backstory](#))

BIO

Fiona hails from New Zealand (NZ) where she is a practising orthodontist, university academic, and ambassador of The D3 Group (D3G) for developmental dental defects (D3s).

She studied dentistry and orthodontics at NZ's University of Otago, and earned Orthodontics College Memberships in Australasia and the UK (RACDS, RCSEd), Australasian Orthodontics Board Certification, and an Australasian College Fellowship in General Dental Practice. Today Fiona practices orthodontics in her own specialist practice and at Otago Dental Hospital where she manages the craniofacial clinic.

As a senior lecturer at the University of Otago, Fiona teaches postgraduate and undergraduate orthodontics, and conducts research into tooth movement, craniofacial biology and molar hypomineralization. Her academic publications have attracted over 175 citations and elicited multiple speaking engagements in NZ and abroad. Fiona has also supported NZ's Orthodontists' Association (NZAO) as newsletter editor.

Wearing her D3G hat, Fiona serves as liaison officer for NZAO's participation in the 'We Fight Chalky Teeth Network' (a new branch of D3G's 'Chalky Teeth Campaign'). In 2023, she co-led the NZAO-D3G mini-symposium on Molar Hypomineralization and Chalky Teeth. Fiona also contributed a highly-read article on orthodontic considerations to a D3G Special Feature on Molar Hypomineralization and Chalky Teeth published by the NZ Dental Association (available from [D3G's website](#)).

Learn more at:
thed3group.org/events

D3-
CHALKY
TEETH
MOVEMENT