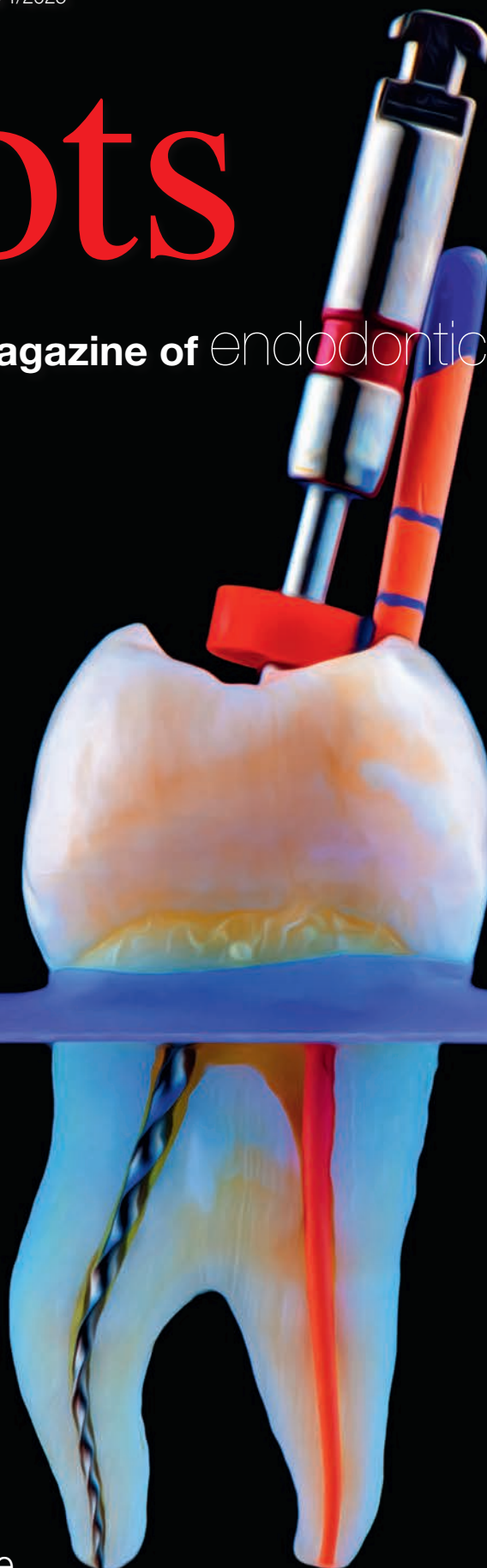


roots

international magazine of endodontics



interview

Dental entrepreneurs:
Should you start your own DSO?

case report

Shaping root canals from Z to A: ZenFlex to Adaptive

technique

Safe and effective 3D endodontic disinfection

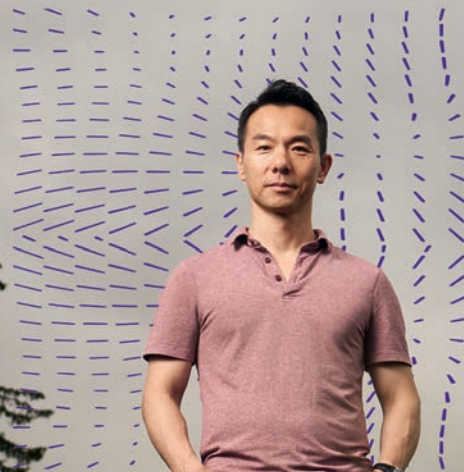
Change the Game

Here for Innovation

Discover how FKG become a leader in innovation.
General Manager Didier Devaud shares his vision and explains
how the Swiss microtech valley is an inspiration.

Discover Didier Devaud's Swiss Tech Idea

fkg.ch/didier



Didier
Devaud

General Manager

Magda Wojtkiewicz

Managing Editor



The new era of innovation: Advancing endodontics for better patient care

It seems that there has never been a more exciting time to be an endodontist. As technology continues to re-shape every aspect of dentistry, endodontics stands at the forefront of innovation aimed at making treatments safer, faster and more predictable. The question on everyone's mind is: will these advances simplify the endodontist's work and improve outcomes for patients? The answer seems clearer with every passing year.

This spring, the International Dental Show once again confirmed its reputation as the most influential dental event in the world. The exhibition halls buzzed with new ideas and groundbreaking solutions. Covering the whole gamut—enhanced imaging, laser-assisted disinfection, advanced file systems—manufacturers and thought leaders showcased developments designed to give endodontists more control and precision than ever before. Walking the aisles, one thing was evident: the future of endodontics is bright, and it is now!

In this issue of **roots magazine**, we explore how this wave of innovation translates into everyday clinical practice. But innovation is not just about tools and techniques; it is also about new ways of thinking and leading. Stanton Kensinger, expert in dental practice transitions, discusses whether starting one's own dental support organisation is the next step for entrepreneurial endodontists. New York endodontist Dr Chanelle Small shares her inspiring journey to drive diversity and community engagement in the dental profession. Both interviews reflect how leadership and innovation go hand in hand.

In another interview, Dr Sabine Remensberger, an established trainer in endodontics from Germany, discusses everything

necessary for good endodontic practice, including advanced training and the best equipment. She also addresses educational possibilities for general dentists and aspirant endodontists.

On the basis of case reports, Dr Philippe Sleiman presents his sequence for preparation using ZenFlex CM files. His article illustrates how combining flexibility and adaptability in instrument and motion selection can overcome even the most complex anatomies.

Finally, at the core of many innovations is the goal of achieving cleaner, safer root canal treatments. Drs Gary Glassman and Fernando J. Meza from Canada delve into the exciting possibilities of laser-assisted endodontic irrigation, presenting a technique that enhances 3D disinfection where traditional methods may fall short. Dr Tomaž Ivanušič from Slovenia offers another possibility with his article on the R-SWEEPS mode, a promising advancement in cleaning protocols that also prioritises patient safety.

As always, our mission at **roots magazine** is to keep our readers informed, inspired and connected to the latest developments shaping the specialty. We believe that, when innovation serves the hands of a skilled clinician, the ultimate winner is the patient.

Thank you for your continued trust in our publication. We invite you to explore this issue and to join us in embracing the exciting journey ahead for endodontics.

Sincerely,

Magda Wojtkiewicz
Managing Editor



page 18

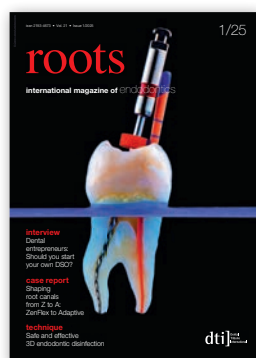


page 20



page 32

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editorial

The new era of innovation:
Advancing endodontics for better patient care 03

news

Global perspectives on oral health:
Collaborative efforts to tackle a worldwide challenge 06

New research explores **sex differences**
in temporomandibular disorder 08

New **expert consensus** offers **comprehensive guide** to apical microsurgery 10

Virtual reality haptics **enhance preclinical endodontic** training 12

Endodontic training: Study calls for standardisation, **modernisation** 14

interview

Dental entrepreneurs: Should you start your own DSO?
An interview with Stanton Kensinger 16

Driving diversity in the dental industry
An interview with Dr Chanelle Small 18

Successful endodontics—how to effectively use
modern endodontic solutions in everyday practice
An interview with Dr Sabine Remensberger 20

case report

Shaping root canals from Z to A: ZenFlex to Adaptive 24

technique

Safe and effective **3D endodontic disinfection:**
Laser-assisted endodontic irrigation 28

R-SWEEPS endodontic treatment 32

feature

Semmelweis University highlights **severe environmental impact of dentistry** 34

industry news

“The COLTENE Group **will continue to drive excellence**” 36

“Our theme this year **is connected dentistry**” 38

Fotona’s **SWEEPS** in action at IDS 2025:
A game changer in endodontics and beyond 40

First Odne Summit marks the successful completion of the
priority access programme for OdneClean 42

manufacturer news 46

meetings

AAE25 brought endodontics to **Boston** 44

International events 48

about the publisher

submission guidelines 49

international imprint 50

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Bodies such as the World Health Organization, FDI World Dental Federation and the European Federation of Periodontology are leading international efforts to prioritise oral health as a critical public health issue.

Global perspectives on oral health: Collaborative efforts to tackle a worldwide challenge

Iveta Ramonaite, Dental Tribune International



Left: FDI President Dr Greg Chadwick says that global efforts to improve oral health are gaining momentum. Right: For EFP past President Prof. Moritz Kebschul, the most important priority is that global oral health strategies focus on reducing disparities in access to care and prioritising prevention.

Although oral health is increasingly recognised as a cornerstone of overall health, significant disparities in access to care and preventive measures persist. In response, global efforts to address these challenges have gained momentum, and organisations such as the World Health Organization (WHO), FDI World Dental Federation and the European Federation of Periodontology (EFP) are leading the charge. This article gives an overview of international initiatives and collaborative policies aimed at combating oral disease.

Oral disease affects nearly half of the world's population, and research indicates that the burden is disproportionately higher in low- and middle-income countries, where preventive dental services are often inaccessible. In Lebanon, for instance, this is exacerbated by a combination of financial constraints, political instability and lack of public awareness about the importance of regular dental visits and the role of oral health in overall well-being. Moreover, conflicts and natural disasters have displaced a significant number of people, many of whom are refugees fleeing developing countries, and they face numerous health challenges, including

untreated dental caries, periodontal disease, oral infections and trauma.

Turning the tide: Advocacy and policy

In recent years, significant progress has been made in elevating oral health as a global public health priority. Greater awareness of the systemic links between oral and general health, research into the economic burden of oral disease and educational campaigns promoting oral hygiene have all contributed to this progress. Innovations such as artificial intelligence, teledentistry, mobile clinics and minimally invasive treatments have further improved accessibility and care delivery, drawing increased attention to oral health.

A defining milestone was reached in 2021 when WHO member states adopted the resolution on oral health. Speaking to Dental Tribune International (DTI), Dr Benoit Varenne, a dental officer with WHO's oral health programme, commented: "The resolution emphasises that the prevention and control of oral disease should be firmly integrated into non-communicable disease programmes and universal health coverage initiatives." Building on this, WHO launched its "Global Strategy on Oral Health" in 2022 and its "Global Strategy and Action Plan on Oral Health 2023–2030", which aligns closely with FDI's "Vision 2030". These initiatives set ambitious goals for reducing oral disease, addressing oral health inequities and promoting prevention.

FDI President Dr Greg Chadwick highlighted the growing momentum around oral health in his remarks to DTI: "We are at a critical stage in the global response to oral health. Decades of advocacy efforts led by multiple stakeholders, including FDI, are paying off, and governments, with support from WHO, are paying unprecedented attention to oral disease."

Additionally, dental organisations continue to play a leading role in advancing best practices in periodontics and implant dentistry. For example, the EFP has developed S3-level clinical practice guidelines for treating periodontitis and peri-implant disease, and additional guidelines on gingival disease and mucogingival surgery are anticipated by 2026. Beyond clinical practice, the EFP has also influenced health policy through collaborations such as its work with global insights and advocacy platform Economist Impact. Their white paper "Time to Put Your Money Where Your Mouth Is: Addressing Inequalities in Oral Health" advocates for increased investment in preventive oral health measures.

Challenges and the road ahead

Despite these advancements, significant challenges remain. Oral disease continues to impose a greater burden



than many other common health conditions, and access to care remains uneven across countries and healthcare systems. Many nations face shortages of dental professionals, insufficient infrastructure and low public awareness of the importance of oral hygiene. Additionally, the high cost of dental treatment remains a significant barrier, particularly in underserved communities.

"Addressing disparities in access to oral healthcare across different countries and healthcare systems and promoting prevention as a primary anchor should be central to global oral health strategies," Prof. Moritz Kebschull, past president of the EFP, shared in a conversation with DTI. He continued: "Dental professionals must continue to advocate for comprehensive oral health education in order to ensure that it becomes a core element of general health awareness."

Although the state of global oral health reflects persistent disparities, collaborative efforts by organisations such as WHO, FDI and the EFP have laid a strong foundation for progress. Cooperation among governments, non-governmental organisations, academia and the private sector is crucial to tackling oral health challenges and fostering innovation. It can help promote oral health as an integral part of overall health and support research, education and public awareness.

To overcome the challenges ahead, it is essential to integrate oral health services into primary care, strengthen healthcare systems and promote public health interventions. Partnerships between governments, international organisations and civil society will be critical in reducing the global burden of oral disease and achieving universal oral health coverage by 2030. Additionally, professional events can contribute meaningfully. International Dental Show 2025 in March provided a valuable platform for knowledge exchange and collaboration, further advancing global oral health, as will upcoming events such as the 2025 FDI World Dental Congress in September.



A recent study has found that women experience the onset of temporomandibular disorder more frequently and recover from pain and jaw catching or locking less often compared with men.

New research explores **sex differences** in temporomandibular disorder

Dental Tribune International

Orofacial pain, including pain associated with temporomandibular disorder (TMD), is a common chronic condition, affecting 10–15% of the global population, and has significant personal and societal consequences. Early diagnosis and evidence-based treatment are crucial to improving long-term outcomes. A recent study examined differences in two common TMD symptoms—pain and jaw catching or locking—among adults, assessing the influence of age and sex. The findings showed that women develop TMD more frequently than men do and have lower recovery rates, particularly for TMD-related pain, underscoring the need for tailored treatment approaches.

According to the study's authors, TMD is more common during adolescence, is most frequent in working-aged adults and is less common in older adults. Women are affected more often than men at all ages. While both sexes experience TMD pain at similar rates, women tend to report more intense pain, exhibit more symptoms and seek treatment more frequently, as well as experience pain for longer durations, which the authors suggest may explain the higher recorded prevalence. Additionally, research by the same authors suggests that orofacial pain is becoming more common in women, though the reasons for this trend remain unclear.



undergone at least two routine dental check-ups with screenings for TMD symptoms. They classified participants based on the absence of TMD symptoms and the presence of TMD pain only, jaw catching or locking only, and TMD pain and jaw catching or locking, and they monitored patients' transitions between these states from year to year.

The study included 94,769 individuals, 49.9% of whom were women. According to the findings, the two most common state transitions were from no TMD to TMD pain only and from TMD pain only to no TMD. This pattern suggests that, while TMD pain commonly emerges in individuals who previously had no symptoms, it also has a notable tendency to resolve over time. Compared with men, women had higher rates of transitions from no TMD to any of the symptomatic states, as well as worsening symptoms.

While TMD pain commonly emerged and resolved over time in some individuals, the study found that the chances of fully recovering from TMD pain or jaw catching or locking were between 10 and 20% for men and women. This underscores the chronic nature of TMD, particularly among women, who tend to recover less frequently from TMD pain.

As they aged, both men and women were more likely to develop TMD symptoms, but women over 30 had a higher risk of developing TMD pain or jaw catching or locking compared with men in the same age group. Both men and women over 50 with TMD pain only were more likely to recover, and those aged 60–72 had a higher chance of recovering from jaw catching or locking only.

The authors pointed out that psychosocial factors, such as negative expectations about pain, can influence the onset and progression of TMD. However, there is limited research on how TMD pain and jaw dysfunction evolve, particularly regarding differences between men and women. This lack of long-term studies in the general population has created a gap in understanding of how TMD symptoms fluctuate over time and whether these variations are influenced by factors such as sex and age.

Since general dentists frequently encounter patients suffering from TMD, they are key in managing the condition, but report feeling uncertain about the best treatment approaches. This underscores the need for improved education and resources to support dentists in delivering effective TMD care. Bridging this knowledge gap is crucial to ensure that patients receive timely and appropriate treatment.

TMD symptom progression

The researchers collected data between 2010 and 2017 from the general population in the northern Swedish province of Västerbotten, including adults who had

Addressing gender disparities in TMD care

The findings highlight the importance of incorporating sex and gender differences into TMD treatment planning for more effective care. According to the researchers, gender influences TMD in both pain perception and clinical management, and women generally report higher pain intensities and experience delays in treatment owing to gender biases. These disparities, influenced by societal norms rather than biological factors, contribute to poorer prognoses in women, highlighting the need for more equitable and timely care.

Given the limited data, further research is essential to identify biopsychosocial factors that influence symptom variations to improve clinical decision-making and reduce the overall burden of TMD.

Editorial note: The study, titled "Women are worse off in developing and recovering from temporomandibular disorder symptoms", was published online on 8 February 2025 in Scientific Reports.