

« Commenting on the news, Preet Kaur Gill, Shadow Minister for Primary Care and Public Health, said: 'It's shocking that after 14 years of Tory mismanagement, vulnerable patients are unable to access the care they desperately need. Eight in ten NHS dentists aren't accepting any new adult NHS patients and in some areas it's 99%.

'Everyone should be able to access NHS care when they need it. It's particularly important for pregnant women and new mothers, due to the risk of poor oral health in pregnancy.

'Labour has a plan to rescue and rebuild NHS dentistry, funded by cracking down on tax dodgers. We will deliver 700,000

additional urgent appointments a year, recruit dentists to areas most in need, and get straight to work on reforming the outdated NHS dental contract.'

\*Debate is a response to this petition: <https://www.change.org/p/free-dental-treatment-for-cancer-patients-change-the-law>.

## Tendency for infection and bacterial flora explain caries

Researchers at Umeå University in Sweden have for the first time been able to show that individual variation in susceptibility to infection and bacterial flora together explain recurrent caries in some and why others are asymptomatic. The results, which are important for the diagnosis and treatment of caries and other diseases, have been published in the journal *eBioMedicine*.<sup>1</sup>

In two previous publications in *eBioMedicine*, a research group at Umeå University identified three basic types of caries disease through a five-year study on adolescents. Individual variation in the genes PRH1 and PRH2 was shown to predict future caries development and identify individuals with immunodeficiency caries and those with lifestyle caries from poor diet and oral hygiene, respectively. In addition, a bacterial caries type was detected where different types of the caries bacterium *Streptococcus mutans* matched the individual caries development.

The same research group now shows that the pattern of PRH1- and PRH2-encoded receptors for bacterial adhesion (adhesion) leads to different microbial profiles for caries development in prone and resistant individuals, respectively. Genetically caries-prone individuals developed caries from a broad profile of bacteria in the normal flora, undesirable individuals from a narrower profile, and resistant individuals from particularly disease-causing types of *S. mutans*. Infection with *S. mutans* was stable over time, and fewer individuals were infected with particularly pathogenic bacterial types.

Chronic infections with pathogens such as *S. mutans* (tooth decay), *S. pneumoniae* (pneumonia), and *S. pyogenes* (tonsillitis) are characterised by some individuals developing symptoms and chronic disease, while other infected individuals do not.

Nongfei Sheng, first author of the article, said: 'The phenomenon of individual variation is now explained by a combination of genetic predisposition and

resistance as well as how infectious the bacteria are.'

Many societies such as the Swedish one are characterised by comparatively high physiological uniformity – for example, up to 90% of children and adolescents brush their teeth morning and evening – which is why genetic differences today play a greater role in caries and other chronic diseases.

Nicklas Strömberg, last author and leader of the research group said: 'This knowledge is important for better prevention and treatment of these diseases. Resistant individuals who are also free of infection with naturally occurring bacteria and clinical symptoms may have been programmed with a microflora of a particularly benign nature. This is important for the development of pre- and probiotics.'

### References

1. Sheng N, Mårell L, Tumkur Sitaram R, Svensäter G, Westerlund A, Strömberg N. Human PRH1, PRH2 susceptibility and resistance and *Streptococcus mutans* virulence phenotypes specify different microbial profiles in caries. *eBioMedicine* 2024; doi: 10.1016/j.ebiom.2024.105001.

## Pushing the boundaries – a conference dedicated to lingual orthodontics



The theme of the European Society of Lingual Orthodontics (ESLO) 2024 meeting is 'Contemporary Lingual Orthodontics in Daily Practice: Pushing the boundaries with lingual'. With the UK's Dr Asif Chatoo (pictured) as President and an exciting line-up of top international speakers, this is a must for any orthodontist interested in the lingual technique.

The four day conference in Amsterdam from 27–30 June is dedicated to advancing lingual orthodontics and fostering excellence in practice. The meeting consists of a scientific programme on 28 and 29 June and a practical pre-congress course on 27 June.

There is a busy social programme in the evenings and activities for family members who attend.

The ESLO team is committed to encouraging younger colleagues. There is a reduced fee for all registered students on MSc orthodontic courses while the pre-congress course is designed to allow delegates at the start of their lingual journey to spend the day working hands-on and learning from established professionals. Called 'From typodont to clinic', the tutors are Dr Chatoo, Dr Guillaume Lecocq, Dr Marie-Pierre Sache and Dr Enrico Albertini.