At this year’s opening session, Dr Nigel Pitts from the UK will focus on dental caries as a public-health issue, as well as the epidemiology and importance of understanding the science behind primary and secondary caries prevention.

today international spoke with him about evidence-based approaches to planning care that can be utilised in dental practice.

Dr Nigel Pitts: Yes, the perception has changed, but in what way, very much depends on which country one is considering. There is a growing awareness in many “developed” countries, where caries has been declining dramatically for decades, but there are still vulnerable groups, particularly young children, with a very high burden of preventable disease.

In other countries, caries in young children is thought to be increasing. In yet other traditionally low-caries “developing” countries, there are real concerns that changes in diet and lifestyle may be accompanied by an increasing caries problem for society and for individuals.

You are one of the developers of a caries classification and management system endorsed by dental organisations like the FDI World Dental Federation. What is the concept behind it and what is its potential for decreasing the burden of tooth decay in the world today?

ICDAS (International Caries Detection and Assessment System) is a simple, logical, evidence-based, detection and assessment system that classifies the stages of the caries process. It is designed for use in dental education, clinical practice, research and public health. It provides a common language for all stakeholders to communicate about caries, and facilitates valid, consistent comparisons of lesions at single and multiple time points.
ICDAS has evolved to comprise a number of approved, compatible formats for different needs and applications, including simplified forms for those wanting to work with fewer stages of caries. The potential for decreasing the burden of caries ranges from helping the transition to a more preventive approach to caries, helping in assessing health needs more realistically for populations and individuals, helping evaluate preventive programmes and helping to deliver more preventive caries control and better future products through research.

Apart from classification, what other advantages does such a system offer?

ICDAS leads to better quality information, derived from the assessment of caries severity and activity, to support decisions about diagnosis, prognosis and clinical management at both the individual and public-health levels. As we know more about the complexities of the caries process, informing sound clinical decisions is increasingly important for providing appropriate and high-quality caries care.

How can these concepts be applied to dental practice?

ICDAS has created the International Caries Classification and Management System (ICCMS), an open system developed specifically to meet the needs of those seeking a preventively orientated framework to support and enable comprehensive clinical caries management in the dental practice situation. This framework will help the dental team secure improved long-term outcomes for their patients.

There are improved means of detecting and assessing risks for early carious lesions. Has technology changed how we look at them?

The clinical visual detection and assessment of early lesions (using ICDAS-style approaches) is the foundation for planning care, but there is a continuing need for detection aids to help identify lesions that are difficult to detect visually and for effective risk assessment tools.

Examples of some of the newer approaches on the market for detection are enhanced electrical, optical and radiographic detection aids. These should be considered prudently as aids to preventive caries care, not just finding more cavities to fill.

There are also developments in risk assessment systems, such as CAMBRA, to accompany older established systems, such as cariogram. All of this information derived from these useful detection and risk assessment tools needs to be integrated into a holistic and person-centred preventive treatment plan for each patient.

Concerning the management of early carious lesions, you promoted a study in 2010 on the best way to manage decay in children’s teeth called FICTION (Filling Children’s Teeth, Indicated or Not?). The study to be finished in 2018 is examining the different approaches (conventional retonation, preventive resin and the Hall technique) to children of ages three to seven. Is there a tendency towards any of these approaches so far?

As you indicated, this exciting study will not be completed for some years. The feasibility stage is finished and the much-needed back-to-back comparison is getting under way—it is too soon to see results yet. The mounting evidence we do have (from multi-year randomised controlled trials in general practice) is that the approach of biological, preventive management with reduced surgical intervention (such as with the Hall technique) is showing results that are better than those achieved by the more conventional methods.

What approaches to primary and secondary caries prevention are the most promising and what evidence do we have with regard to their clinical effectiveness?

The strongest evidence on caries prevention comes from high-quality systematic reviews of fluoride, whether in water, salt, toothpaste, varnish or other forms. In addition, there is strong evidence of the efficacy of sealants. There are also some promising new developments with remineralisation, but it will inevitably take time to accrue further evidence of clinical effectiveness.

There is evidence that a purely restorative approach is not efficient but preventive caries control has been adopted rather slowly in many countries. Do you see a move from an operative towards a more preventive approach?

I do see this move from a purely operative towards a more preventive-based approach gathering pace. It has been a very slow change in some countries, despite the profession talking about it for decades. However, there are a number of countries that have been controlling caries in this way for years and an increasing number of countries that are in transition. Reform of payment systems and changes in patient expectations are important components of this change.

Thank you very much for this interview.