

## GABA Symposium at the PEF IADR Conference

### Pictures from the Symposium



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**Articles from the GABA Symposium “Erosion: New Perspectives on Diagnosis, Risk Assessment and Therapy” held at the PEF IADR Conference in London on September 11, 2008.**

### Speakers



#### **Doctor John Kaidonis: Tooth wear – seen from a different perspective**

Doctor Kaidonis (University of Adelaide) described and compared the different mechanism of tooth wear in human populations: Mechanical action has affected the teeth of human populations living as hunter-gatherers long before the advent of farming, and their teeth have evolved ways of taking advantage of the wear or compensating for it while still remaining functional. Oral protective effects have been able to compensate for dietary acids. Thus, erosion was rare and therefore insignificant. However, the frequent exposure to strong acids within our modern cultures has overwhelmed our oral environment, tipping the balance towards the pathologic breakdown of teeth.

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#### **Professor David Bartlett: Pathological tooth**



### **wear: The disease and its prevalence**

Professor Bartlett (King's College, London) described epidemiological aspects of erosion to illustrate how tooth wear and erosion are modern day dental problems. Although we often hear that tooth wear and erosion are becoming more prevalent, it is less clear what this does exactly mean, and there are some issues around definitions and how different countries interpret them. In addition, it is not absolutely clear how particular teeth are assessed and how the type of tooth wear is classified from the appearance of the lesion. This has important consequences particularly when trying to compare data from different studies. Should dentine exposure and loss of enamel be taken into account? Can indices be converted into one another? These questions are important to clarify, as well as the question if there are different indices for epidemiological and clinical research. And finally, as patients are increasingly concerned about their appearance, it is essential for dentists to diagnose erosive lesions as early as possible.

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### **Professor Adrian Lussi: Diagnosis of erosion**

Professor Lussi (University of Bern) gave detailed information on the diagnosis of erosion, expanded on the clinical picture and risk factors and introduced a new erosion index, the "Basic Erosive Wear Examination" (BEWE) that should be easy to apply routinely in general dental practice. Anamnesis and diagnosis have to try to differentiate between lesions that are primarily due to abrasion, attrition or erosion. In addition, as erosion is not just an effect of a low pH of food and beverages, detailed data on the effects of dietary habits, salivary flow, pH and buffer capacity will be presented. All major anamnestic and diagnostic steps were explained, including dietary protocols, saliva analyses, psychological factors etc., as they are the basis for an adequate prevention and

therapy.

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### **Professor Carolina Ganss: Preventive and therapeutic measures**

Professor Ganss (University of Giessen) gave detailed information on preventive and therapeutic measures including oral hygiene recommendations which may support patients in preventing progression of erosive lesions – and which also take into account that caries is still a major problem. She did not only explain primary preventive steps within individual patient contacts, but also secondary prevention steps, including mainly the early diagnosis of early stages of erosion. Individual preventive and therapeutic measures have to be built on a solid causal analysis. Patients at risk may also benefit from symptomatic measures which are aimed at a modification of the tooth surface in order to make it more resistant to erosive demineralisation. This can be achieved by substances which lead to hardly soluble precipitates on the teeth or lasting coating of the surfaces at risk. Not only fluoride salts, but also other ionic compounds, have been proven to help in strengthening enamel and dentin against erosive challenges.

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## **Chair**



### **Professor June Nunn**

June is Professor of Special Care Dentistry and Pro Dean, School of Dental Science, Trinity College Dublin, Ireland.

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**PEF IADR September 11, 2008 London, 9-11  
a.m.  
GABA Symposium**

The symposium on “new perspectives on Diagnosis, Risk Assessment and Therapy of erosion” obviously met the interests of many of the 1450 congress visitors. More than 200 participants listened to four stimulating presentations, which were followed by a very lively discussion.

A topic of interest was the role of biofilm in erosion development, which Doctor John Kaidonis very nicely documented with his data on tooth wear in Australian aborigines.

Structured tools for diagnosis of erosion turned out to be one of the main needs of the dental profession. A valid index to assess the prevalence of dental erosion, that is simple for the dentist to use, is vital. Structured questionnaires should be designed to facilitate detailed risk assessment, which might have to be accompanied by dietary protocols.

Using a universally accepted index for evaluation of erosive damages is of course central to the assessment of dental erosion as existing publications use different measurements. It is impossible therefore to compare data on prevalence and incidence, as well as severity of the condition, as Professor David Bartlett demonstrated with his analysis of publications on erosion.

So, the BEWE index, presented by Professor Adrian Lussi was acknowledged by the audience as a positive development and there was consensus that it should now “go live”. It should be the goal to implement BEWE in as many studies as possible from now on in order to test its usefulness. By this means, it will be possible to determine whether there will be a need to modify the index according to clinical need.

The incorporation of dentin involvement into the BEWE was controversially discussed. The modification proposed by Professor Nigel Pitts, of incorporating the BEWE into the WHO



Professor  
Bob ten  
Cate



Professor  
Nigel Pitts



Core examination set, as with other assessments on internal medicine, with the possibility of adding a “flag” of dentin involvement, is a possible solution to this dilemma.

All in all, there is an ongoing need to implement this index into dental assessments in order to generate valid epidemiological data on erosion, that are comparable worldwide.

However, Professor June Nunn as a chairperson clearly stated that there is differing needs, not only for the implementation of population-based epidemiological measurements, but also for monitoring longitudinally a person’s lifetime tooth wear. There is evidently a need for ongoing discussions. This also includes – as Professor Lussi elaborated – a discussion on appropriate statistical methods when monitoring progression.

The other main topic of discussion was of course the need for adequate therapeutic measures. As Professor Carolina Ganss impressively showed in case studies, fluoridation alone will not be sufficient for high risk patients. She presented the potential usefulness of metal ions, such as stannous as a possibility of halting further disease progression. However, there is also a need for more research on this. This is complicated by the fact that there is very limited knowledge on the relevance of in vitro and even in situ study data to the clinical situation. Extensive clinical data are still lacking as they are very difficult to collect.

Nevertheless, despite the fact that there are still more questions than answers on erosive damages it was agreed that research on erosion is one of the most challenging topics in modern dentistry.

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