

Is it time for a rethink on the use of antibiotics to treat periodontal disease?

The use of antibiotics, as an adjunct to mechanical debridement, to treat periodontitis is known to be effective, but it remains controversial because of the wider context of the over-prescription of antibiotics and the rise of antimicrobial resistance (AMR). For its first debate on important topics in

periodontology today, *Perio Insight* invited two leading researchers to discuss the issues. Prof Lior Shapira argues for antibiotics to be used only as a "last resort", while Prof Andrea Mombelli calls for a more flexible approach as they reduce the need and extent of surgery and "the evidence for their therapeutic benefit is overwhelming."

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Farewell to one of the 'Perio Greats'

Prof Thorkild Karring, one of the pioneers of European periodontology, passed away on August 22 at the age of 78. He made a major contribution to the development of periodontal science, notably through his work on tissue regeneration.

He spent most of his professional career at the department of periodontology of the Royal Dental College in Aarhus, Denmark (now the department of dentistry at Aarhus University), where he was the professor and chairman from 1983 until his retirement in 2007, and also served as dean for several terms.

His work ranged from basic studies on soft-tissue

wound healing in the 1970s to pre-clinical *in vivo* and clinical studies on periodontal hard- and soft-tissue wound healing and regeneration, and implant dentistry in later years.

Together Jan Lindh and Niklaus Lang, Prof Karring initiated the concept of the European Workshop in Periodontology (now the EFP Perio Workshop), which has contributed immensely to the consolidation of global knowledge about periodontology and implant dentistry.

Perio Insight invited some of the people who worked with him – as students and later as colleagues – to offer their personal reflections on one of Europe's "Perio Greats."

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Perio Insight: the EFP magazine

Perio Insight is the new "magazine" section of the EFP website which offers in-depth interviews, opinion and analysis about perio science, clinical practice, and the activities of the EFP and its 29 affiliated societies.

Perio Insight is edited by Joanna Kamma and supervised by the External Affairs Committee, the Scientific Affairs Committee, and the Secretary General.

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Is it time for a rethink on the use of antibiotics to treat periodontitis? The pros and cons

The use of antibiotics, as an adjunct to mechanical debridement, to treat periodontitis is known to be effective, writes **Phoebus Madianos, Chairman, EFP Scientific Affairs Committee.**

But it remains controversial because of the wider context of the over-prescription of antibiotics and the rise of antimicrobial resistance (AMR).

In May 2016, Dame Sally Davies, the chief medical officer for England, warned that the threat to humanity from AMR was on a par to that from terrorism and climate change, noting that there are already 50,000 deaths per year in Europe and the USA as the result of antibiotic-resistant infections.

Moreover, according to World Health Organization, in the USA alone the calculated cost of hospitalisation because of AMR is up to \$20 billion (€18 billion) per year.

The consensus report of the sixth European Workshop in Periodontology in 2008 was that, in this context, antibiotics

should be restricted for use with specific patient groups and conditions, such as in aggressive and severe forms of periodontitis.

Some clinicians have questioned the extent to which the use of antibiotics in periodontal therapy might contribute to the increase in antibiotic resistance.

It is therefore still debatable how the potential added benefits of antibiotic use in periodontics rivals the potential hazards and increased costs stemming from AMR.

Prof Lior Shapira, chairman of the Department of Periodontology in the Dental Faculty of the Hebrew University-Hadassah in Jerusalem and **Prof Andrea Mombelli**, chair of the Division of Periodontology at the University of Geneva School of Dental Medicine, debate the issues.



Phoebus Madianos

Lior Shapira: 'Broad-spectrum antibiotics should be a weapon of last resort to be used in extreme cases only'

The scientific evidence today shows that the use of broad-spectrum antibiotics, in addition to mechanical anti-infection therapy (scaling and root planing), in chronic periodontitis patients achieves superior and significant clinical improvement compared to mechanical therapy alone (comprehensively reviewed by Jepsen & Jepsen, *Periodontology* 2000, 2016).

However, in modern medicine we have to consider the pros and cons of every treatment and to evaluate its relevance to each specific patient. Therefore, we have to ask ourselves: do the results justify the use of antibiotics in our patients?

When evaluating the results of the adjunctive use of antibiotics, we need to take into account that studies are based on a single use and that the follow-up is only short-term. In two systematic reviews, Sgolastra *et al* (2012) showed that the beneficial effect on full-mouth pocket depth is approximately 0.5 mm. In addition, the use of the broad-spectrum antibiotics, such as amoxicillin and metronidazole, have no specific microbiological target and only a small part of the intake dose reaches the target organ. The remaining dose reaches all the other organs and systems in the body, with no beneficial effect and only side-effects.

So what are the long-term benefits of the adjunctive use of antibiotics? The benefit of anti-malignant medication is calculated by "benefit in survival", which we can translate in periodontal medicine as "the survival of an affected tooth over and above standard treatment methods." However, such data is not available and I have my doubts that we will be able to find any differences between these treatments in the long term.

The "price" we are paying as a society for the wide use of antibiotics is well-known.

The increase in antibiotic resistance may sometimes be life-threatening. Is this a price worth paying?

All health organisations across the globe are calling for a reduction in the worldwide use of antibiotics, urging clinicians to prescribe them only in cases that cannot be resolved by other treatments. "Antimicrobial resistance poses 'catastrophic threat'," says the Chief Medical Officer of the UK in her 2011 report. Paul Cosford, the Director for Health Protection and Medical Director at Public Health England, said in March 2016: "Tackling antimicrobial resistance is rightly a national and international priority. One key action in work to slow resistance is ensuring all antibiotics are appropriately prescribed and that these prescriptions are regularly reviewed."

Lior Shapira



Prof Lior Shapira is the Chairman of the Department of Periodontology in the Hebrew University-Hadassah Faculty of Dental Medicine, Jerusalem, Israel. He is also the Vice Dean, a full professor in Periodontology, and the "Betty and D. Walter Cohen Chair for Clinical Periodontal Research." Prof Shapira has published over 100 scientific and clinical papers, and he is serving today at the editorial boards of the *Journal of Clinical Periodontology* and the *Journal of Periodontology*. Several international awards, including the Teva award (1996), the Rizzo award (1999), the "Sunstar Award" (2003), and the "Distinguished Scientist Award in Periodontal Research" of the IADR (2009) have acknowledged the impact of his research work.

Maybe we should listen to this and consider carefully when to use adjunctive antibiotics – and restrict this weapon to a very limited group of our patients.

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DEBATE

Andrea Mombelli: 'There is increasing evidence that systemic antibiotics in the non-surgical treatment phase reduce the need and extent of surgery'

The clinical benefit of antibiotics in the treatment of periodontal diseases – especially the combination of amoxicillin and metronidazole as an adjunct to scaling and root planing (SRP) – is well established (Zandbergen *et al*, 2016). Indeed, no properly designed clinical trial has demonstrated a superior performance by any alternative approach. There is increasing evidence that systemic antibiotics in the non-surgical treatment phase reduce the need and extent of surgery, and that minimally invasive secondary therapy – carried out in tissues free of infection – has better outcomes (Cortellini 2012; Griffiths *et al*, 2011; Kaner *et al*, 2007; Mombelli *et al*, 2015). It nevertheless remains a matter of controversy whether this treatment should be restricted to certain individuals, for example those with a specific microbiological profile. Critics warn that the inclusion of antibiotics in routine periodontal protocols may contribute considerably to the development of bacterial antibiotic resistance. However, little evidence supports microbiological testing as a means to obtain better clinical outcomes (Mombelli *et al*, 2013), and the true impact of antimicrobial periodontal treatments on the development of bacterial antibiotic resistance has yet to be determined.

Such a contribution may be very minor in comparison to the effects of frequent antibiotic prescriptions by doctors for other reasons, whether therapeutic or prophylactic. A recent study found that the use of amoxicillin plus

metronidazole in periodontal therapy did not significantly affect the resistance pattern of the viridans group streptococci to penicillin or erythromycin (Mombelli *et al*, 2016). While other studies have shown a connection between antibiotic use and resistance, these are often confounded by various factors or do not analyse antibiotic exposure and outcome individually for each patient. As a result, these studies at best indicate association, but not causality. To limit their overuse, we recommend abstinence from using antibiotics whenever it is reasonable to assume that thorough non-surgical mechanical debridement alone can resolve the problem – and this is the case for uncomplicated and moderately advanced periodontitis. In patients with advanced defects, especially with lesions on molar teeth, systemic amoxicillin plus metronidazole significantly enhances the effects of SRP, thereby diminishing the need for costlier surgical interventions (Mombelli *et al*, 2013). Too many periodontally compromised teeth are extracted today because of a lack of trust in non-surgical cause-related periodontal therapy. Many of these teeth could be saved with a very efficient and efficacious treatment: SRP plus amoxicillin and metronidazole. Ironically, when clinicians subsequently place implants to replace the extracted teeth, they will give their patients antibiotics without hesitation. Rather than using antibiotics according to their main purpose – to fight a disease caused by bacteria – they are prescribed empirically, in the hope

that they will prevent a secondary infection. But the evidence to support antibiotics as prophylaxis is minimal, while the evidence for their therapeutic benefit is overwhelming. While non-surgical periodontal therapy with adjunctive antibiotics meets a lot of scepticism, practitioners nonetheless prescribe antibiotics when half-finished cause-related therapy needs to be completed surgically, when regenerative procedures are carried out to reconstruct tissues, and whenever peri-implantitis needs to be treated. Much of this can be avoided if the bacteria causing the disease are rigorously suppressed in the first place.

Andrea Mombelli



Professor and Chair, Division of Periodontology, and director of the post-graduate programme in periodontology at the University of Geneva School of Dental Medicine, Switzerland. He graduated from the University of Bern School of Dental Medicine and completed his post-graduate studies reaching the status of Private Docent in 1992. He has a Swiss Federal diploma in dentistry (D.D.S.), a Doctorate in dentistry (Dr. med. dent.) and is a Swiss board certified periodontist.

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Shapira: 'We need to consider alternatives to antibiotics'



If we look at the accumulated evidence (Jespen & Jespen 2016), we can conclude that the main benefit of the use of adjunctive antibiotics can be found in very severe patients (in which the majority of the pockets are 7 mm or more), with limited to no response to non-surgical intervention, and in young patients with aggressive forms of periodontitis. This is a very small group of our patients, and the long-term effect of the treatment is still questionable. Are there alternatives with similar effects? During the course of periodontal disease, a dysbiosis of the normal oral flora triggers an

inflammatory response, which in turn results in periodontal tissue damage. Since antibiotics change the oral flora in a non-specific manner, alternatives should be considered. One recently explored approach is the use of probiotics after non-surgical mechanical periodontal therapy. The idea is to restore the positive bacterial population and to prevent the establishment of pathogens. [Martin-Cabezas *et al* \(2016\)](#), in a detailed systematic review, found that the adjunctive use of probiotics can restore the microbial flora and improve the clinical parameters of patients with periodontitis – without the collateral damage caused by antibiotics. In a short-term controlled study, Teughels *et al* (2013) showed that the use

of adjunctive probiotics can reduce by 50% the "need for surgery", similar to the results shown previously for adjunctive antibiotics, but without the risks involved. In addition, probiotics is not a drug and can be adopted for long-term use.

In most of our patients, the majority of the pockets are moderate, and only a limited number of them are deep (7 mm and above). These deep pockets are the ones that are putting the teeth at risk, and are the main challenge to our treatment. In these cases, local sustained-released delivery systems with antimicrobials can be used. They release their anti-bacterial substance for up to ten days in the target site only, and this treatment can be

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(...) repeated during supportive periodontal therapy when indicated (Soskolne *et al* 2003). Periodontitis is *not* an infectious disease. It is an inflammatory disease which is considered to be initiated by bacteria that are normal habitants of the oral flora. The tissue damage is caused by the uncontrolled inflammatory response. The use of host-modulating drugs to control periodontitis might be the future, and clinical data is starting to accumulate which support this novel approach. Researchers have recently shown in several studies that the use of combination of low-dose aspirin with omega-3 derivatives together with non-surgical periodontal therapy is able to improve the results of the mechanical anti-infective treatment, and the results are

comparable to the use of adjunctive antibiotics (El Khouli *et al* 2011; Naqvi *et al*, 2014; Deore *et al*, 2014; Elwakeel *et al*, 2015). This is a unique anti-inflammatory approach to the treatment of periodontitis, and the promising pilot results need to be established by wider studies and more research centres. This combination lacks the hazards of antibiotic use and can be administered for lifetime. Resolvins are a new class of "inflammation-resolving" drugs from the lipid mediator family. These natural compounds have been found to induce resolution of uncontrolled inflammation in many experimental models of different diseases. Their positive effect on periodontitis was proven in several animal studies of experimental periodontitis, and they are already

being used today in human clinical trials (Gyurko & Van Dyke, 2014, Chun-Teh Lee *et al*, 2016). In summary, it may be possible at present to justify the use of adjunctive antibiotics with a very small number of patients – those with many uncontrolled risk factors (such as uncontrolled diabetes) and those who are not responding favourably to other treatment approaches, in spite of their good compliance. The treatment of those patients should be limited to dentists with adequate training in periodontology, which will allow better control of antibiotic use. We are still in the process of looking for a host-modulating approach, directed towards controlling inflammation that will be complementary to the conventional anti-plaque approach. But this approach is very much the future.

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Mombelli: 'Costs and benefits of alternative methods are not clear'



With regards to alternative methods, too many patients are submitted to treatments with a poor or unclear cost-benefit ratio. As long as comprehensive evaluations of benefits, risks, and economic aspects are lacking, it does not help our patients to prematurely promote potential novel approaches as an alternative to thoroughly scrutinised protocols. Nobody supports the routine prescription of systemic antibiotics in all cases of periodontitis.

We all agree that simple and moderate cases of periodontitis can, and should, be treated with non-surgical mechanical means only. But in advanced cases – i.e. those where big-flap surgery seems to be indicated – we should consider thorough full-mouth scaling and root planing assisted by amoxicillin and metronidazole as a first treatment. Hopefully, our patients will be protected from the later use of "prophylactic" antibiotics. Finally, when you eat your next beef steak, you might like to consider the following. The European Medicines Agency reported

that 8,421 tonnes of antibiotics were sold as veterinary antimicrobial agents, applicable mainly to food-producing animals, in 25 EU/EEA countries in 2011. The 1,947 tonnes of penicillin fed to these animals in one year – principally as a growth-promoter rather than for treating infection! – corresponds to the total dose necessary to treat 247 million human cases of periodontitis (375 mg t.i.d. for seven days is the equivalent of 7,875 g amoxicillin), which is about half the entire population of these 25 countries.

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In memoriam Thorkild Karring (1937-2016)

Prof Thorkild Karring, one of the pioneers of European periodontology, passed away on August 22 at the age of 78. He made a major contribution to the development of periodontal science, notably through his work on tissue regeneration. Here, the people who knew Prof Thorkild Karring well and who worked closely with him offer their tributes to one of the 'Perio Greats'.

It was with great sadness we received the news that Prof Thorkild Karring – one of the great names of periodontology – had passed away on August 22, after a short period of illness.

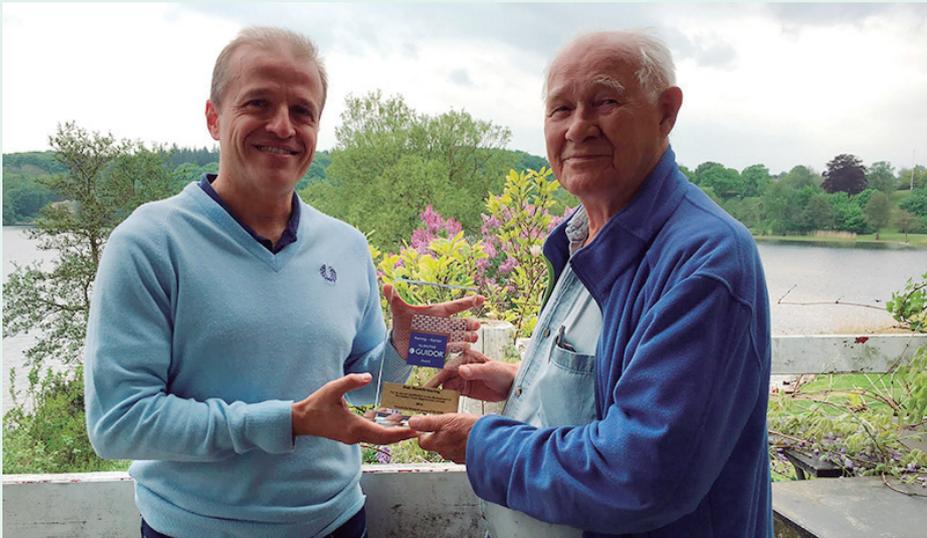
Prof Karring spent most of his professional career at the department of periodontology of the Royal Dental College in Aarhus, Denmark (now the department of dentistry at Aarhus University), where he was the professor and chairman from 1983 until his retirement in 2007 and also served as dean for several terms. His work ranged from basic studies on soft-tissue wound healing in the 1970s to pre-clinical *in vivo* and clinical studies on periodontal hard- and soft-tissue wound healing and regeneration, and implant dentistry in later years. Thorkild – he always preferred to be called by his first name – started his career under the mentorship of

Prof Harald Løe, both in Aarhus and later at the University of Michigan in Ann Arbor. At that time, his main focus was gingival and connective-tissue graft wound healing. He contributed substantially to our understanding of the

epithelial-connective tissue interactions in oral mucosal tissues.

Thorkild had a close relationship with Switzerland, dating back to the early 1970s, when Prof Niklaus Lang spent some time in Aarhus, working in the research group with Prof Løe. After that, these two disciples of Harald Løe continued to collaborate closely and Thorkild was a frequent speaker at meetings of the Swiss Society of Periodontology and at the legendary annual continuing-education weeks at Les Diableret, in the Swiss Alps. He also had a close relationship with Sweden, dating back to the early 1980s, when he spent some years at the department of periodontology at

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Thorikild Karring (right), holding the commemorative plaque of the Karring–Nyman Sunstar Guidor Award, with Andreas Stavropoulos

the University of Gothenburg, together with Prof Jan Lindhe and Prof Sture Nyman. During that period, he focused on periodontal wound healing and developed (with Lindhe and Nyman) the biological principles of guided tissue regeneration (GTR). This principle represents without any doubt the only revolutionary treatment of periodontal disease in the twentieth century, and it is still applied today worldwide, forming the basis of all regenerative efforts in the oral cavity. In 1993, this trio of professors – Karring, Lindhe, and Lang – initiated the concept of the European Workshops in Periodontology (now the EFP Perio Workshop), which soon became a tradition within the EFP. These workshops contribute immensely to the consolidation of global knowledge about periodontology and implant dentistry and the strengthening of collaboration and relationships between EFP member countries. Through these efforts, European periodontology has been promoted and has also gained worldwide respect.

Thorikild Karring also participated in the editorship of the widely accepted textbook *Clinical Periodontology and Implant Dentistry*, now in its sixth edition. During his career, Thorikild was the president of several academic periodontology societies, including the Danish Society of Periodontology, the Periodontal Research Group (PRG) of the International Association of Dental Research (IADR), and the Scandinavian Society of Periodontology (ScSP). His academic achievements were well recognised by his peers. In 1992, he received the most prestigious award in periodontal diseases issued by the International Association for Dental Research (IADR). In 2015, he received the EFP Distinguished Scientist Award for his contribution to the field.

In June 2016, the PRG announced the creation of an annual competitive award, the Karring–Nyman Sunstar Guidor Award, supporting studies on oral-tissue regeneration, to honour his and Prof Nyman’s contribution to this field. Thorikild was very happy to see this award established and also to receive a commemorative plaque bearing his name.

Thorikild retired in 2007, but was happy during the recent years to see several of his postgraduate students holding esteemed academic positions around the world, including Sweden, Switzerland, and the UK. They carry the torch of Thorikild Karring’s fire and enthusiasm for periodontal research and hence will ensure that his memory is honoured. In these difficult times, our thoughts are with Thorikild’s wife Eva and his children Ann, Jakob, Gitte and Henrik. We all have lost a great human being.

Anton Sculean, Andreas Stavropoulos, Jan Lindhe, Niklaus P. Lang, Nikos Donos, and Nikos Mardas

Anton Sculean: ‘Thorikild, the genius of periodontology’



Anton Sculean

I recall the day that I started my postgraduate training in periodontology at the Royal Dental College in Aarhus, Denmark and was introduced to Professor Karring. Having an educational

background from a German university, I addressed him as “Professor Karring”, which he immediately corrected by asking me to call him “Thorikild”, according to the Scandinavian way. After a short chat, he asked me directly about the topic of the research project that I would like to carry out for my master’s degree thesis.

This question surprised me, as I was used to the “Professor” telling us what research we had to do without being asked about our ideas.

Thorikild was just the opposite of what I had known until then, as he expected his students to come up with their own novel ideas. And this was not easy for a beginner, because he always asked for the biological and/or clinical rationale to perform a certain project. This way of interacting with us was very demanding and one needed to have a thorough literature background on the topic before starting any discussion with him.

“Toni”, he said, “Before starting any new project, go and read carefully the available literature since there may also be other clever guys who have published a similar study.” These words are still in my mind whenever I am thinking about any new project. Thorikild had a unique capacity to explain the most complicated things in a very simple and

understandable way. He taught us that it does not make sense to perform any study if the question addressed lacks a potential clinical relevance and to try to express our thoughts concisely and clearly. He once told me, “Toni, you are writing the paper for the reader and not for yourself. Thus, the message has to be as short and clear as possible.”

In fact, this is true of the papers he authored: all of them are of clinical relevance, all of them are easy to read, and all of them are innovative. His studies have provided pivotal findings explaining the role of the various cell compartments in determining the healing of periodontal hard and soft tissues and alveolar bone defects, and they represent the basis of our current treatment concepts in regenerative and plastic aesthetic periodontal surgery. For me, Thorikild was the genius of modern periodontology, a giant in dentistry, and a great human being who decisively influenced my professional future.

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Andreas Stavropoulos: 'A special way to approach questions'

I worked together with Thorkild for 11 years, from 1996 until 2007 when he retired. First as a postgraduate and PhD student, and later as a post-doc and staff member of the department. I was the last of a series of international – and especially Greek – people that went in Aarhus to work with him, and the one that stayed with him longest.

Thorkild gave one – at least, this was my personal experience – complete freedom in pursuing a scientific question, provided that this question was governed by common sense. He liked simple straightforward questions, and he generally used to give straightforward answers (and occasionally the answers could also be unpleasant). Sometimes he liked to answer with another question or a metaphor – then one knew that he

did not necessarily like the original question! Thorkild had a special way to approach a scientific question – often unconventional and full of fantasy – that was based on his unique charisma to sort the important from the irrelevant, even in cases involving complicated issues.

When writing an article, he used to say that it had to be written as a film: with a start, a story, and an end. Also he used to say: "Write exactly what you want to say – do not write anything more complicated!" He enjoyed correcting our articles, while drinking tons of thick, black coffee, which had been standing on his coffee machine for hours – when the articles were handed back, the pages were full not only of red marks but also of brown spots. However, the text was always

smoother and easier to read.

Thorkild enjoyed drinking a beer or two, cigarettes, and discussions on non-scientific topics; he was very interested in politics, both national and international. He also liked to hear the gossip, but very seldom spread it. Thorkild had a strong belief that the world is becoming a better place to live and that good – and not evil – always wins in the end.



Andreas Stavropoulos

Nikos Donos: 'A kind and very supportive mentor'



Nikos Donos

It was back in September 1992 when I arrived in Aarhus, Denmark to be part of the first cohort of the formal graduate programme in periodontology at the Royal Dental College. At

that time, GTR was at its height and Professor Thorkild Karring and his research in the field of periodontal regeneration was the main reason that I decided to do my postgraduate studies in Aarhus.

I was at the department studying and working under Professor Karring for seven years, a period

that I regard as one of the most influential in my professional life. Thorkild (as he always wished to be called) and his deep knowledge and understanding of wound healing, as well as his clarity of how biological phenomena were applied clinically, had a great impact in the field of periodontology and implant dentistry as we apply it and continue investigating it today. His systematic approach in pre-clinical and clinical research and his unique way of interpreting the data led to scientific breakthroughs which are taught on postgraduate programmes today and which many clinicians continue to apply. Thorkild was a pure researcher, constantly asking questions and developing new knowledge in new areas. One needs only to look at his research achievements and the areas that he investigated over the years. From (classic) studies on the basic anatomy of the periodontium, to periodontal wound healing and to his significant contribution to the development of GTR – which

also continued into guided bone regeneration (GBR) – Thorkild was always among the pioneers in our field.

As a mentor, Thorkild was kind, very supportive, and provided positive feedback that promoted reflection, allowing his graduates to develop as individual researchers. Thorkild was always there when you needed guidance or scientific debate, and the available evidence and "common sense" were prominent items.

Thorkild was an inspiration for all of us, his graduates, and the fact that he continued to support us and follow our careers when many of us left Aarhus is a testament to his kind personality as a mentor and teacher. On a personal level, it was a privilege and honour to study and work under his guidance and to consider him as my professional mentor. Thorkild was one the "legends" of periodontology and the field has lost one of its brightest minds and teachers.

Nikos Mardas: 'A brilliant, innovative, and pioneering mind'

I first met Professor Karring in 1992 when I started my specialist training in periodontics at the Royal Dental College, University of Aarhus. At this time, Thorkild Karring was the professor and chairman in periodontology and also dean of the dental school. I was lucky enough to spend six full years working in his department as a specialist trainee and later as a PhD candidate and research/clinical associate.

I vividly remember his first words when I introduced myself during the initiation day of my studies: "Please call me Thorkild – in this country we prefer to call each other by our first names." His "hard" face softened and, as we briefly talked, my stress and worries about all the years ahead of me as a trainee faded and I discovered maybe the biggest influence in my academic and professional career.

Thorkild was a pioneer in redefining the goals of periodontal treatment. He was able to simplify the mysteries of wound healing and to pair common sense and clinical relevance

with biology. His extensive research work is just an example of these qualities. As a mentor, he guided us in acquiring a "thinking clinician" philosophy besides technical competence, always emphasising the importance of adopting a researcher way of thinking during our everyday clinical practice. His mind was always open to new thoughts and new ideas that he was able to push further and exploit to the maximum.

All of my peers during this period (many of whom now hold distinguished academic positions around the world) will remember being able to start a "debate" with him over one subject and enjoy his focus and depth of knowledge in the field but also his unconventional and sometimes "provocative" views. If he didn't know much about a subject, he would graciously accept this and inquire about it, inspiring us to do the same.

Thorkild was not always easy and pleasant but he was always true, honest, and direct. He had

a good sense of humour that was coupled with his critical but polite and friendly approach towards his colleagues and collaborators. His way of motivating and engaging

people to produce and create clinical and scientific work was unique. Maybe, in the end, I learned more about the "man Thorkild" than about "Prof Karring".

On 22 August 2016, the world of perio lost a brilliant, innovative, and pioneering mind. All of us – "his old students" – lost a teacher and a mentor, but most of all an inspiration for life.



Nikos Mardas

PEOPLE

EFP president Juan Blanco highlights his priorities

Juan Blanco Carrión, who became president of the EFP after the federation's general assembly in Berlin in April, highlights three priorities for his year in office. First, he believes that it is "mandatory" to create a professional structure for running the federation. Second, the number of EFP-accredited postgraduate programmes in periodontology needs to increase. Third, there is a "fundamental need for a media campaign to help us communicate our vision and knowledge." Prof Blanco also said that EFP

needed to involve all the national societies and help those that are less developed.

FULL ARTICLE: <http://www.efp.org/newsupdate/insight/the-priorities-of-new-efp-president-juan/>



Juan Blanco

FOCUS

How top advertising agency helped British perio society launch powerful gum-health awareness campaign



The British Society of Periodontology (BSP) made a big impact on May 12, the European Day of Periodontology, thanks to a hard-hitting media campaign drawn up by one of the world's leading advertising agencies. The campaign combined "shock videos" that were screened at a busy shopping centre with an informative – and humorous – social-media campaign reached more than two million people. *Perio Insight* tells the story of the campaign.

FULL ARTICLE: <http://www.efp.org/newsupdate/insight/focus-how-top-advertising-agency-helped/>

PEOPLE

Stefan Renvert looks back on six years as EFP secretary general and praises 'EFP spirit'

Stefan Renvert stood down as the EFP's secretary general at last April's general assembly in Berlin after six years in the post. Looking back on his time in office, he highlights the EFP's increasing professionalisation but adds that the federation should not become an organisation run by professionals and that the volunteers "need to stay in control of the business." Prof Renvert says that a priority

for the EFP is to improve the way it engages with the national societies that the federation must continue on the basis of "one society, one vote – no matter the size." He praises the "EFP spirit" and highlights the federation's great achievements as including EuroPerio, the Perio Master Clinic, and the *JCP Digest*.

FULL ARTICLE: <http://www.efp.org/newsupdate/insight/people-stefan-renvert-looks-back-on-six/>

FOCUS

EuroPerio, JCP and work in education head list of EFP achievements of the last 25 years

To mark the EFP's 25th anniversary, *Perio Insight* asked the presidents of the national societies and the members of the EFP committees to talk about the changes over the last quarter century, about what the EFP has achieved, and about the federation's priorities for the future. The second of three articles focuses on the question: "What have been the EFP's main

achievements over the last 25 years?" The three areas most highlighted in the responses were the triennial EuroPerio congress, the *Journal of Clinical Periodontology*, and the EFP's work in education.

FULL ARTICLE: <http://www.efp.org/newsupdate/insight/europerio-jcp-and-work-in-education-head/>

EFP full member societies

- Austria** Österreichische Gesellschaft für Parodontologie
- Belgium** Société Belge de Parodontologie / Belgische Vereniging voor Parodontologie
- Croatia** Hrvatsko Parodontološko Društvo
- Czech Republic** Česká Parodontologická Společnost
- Denmark** Dansk Parodontologisk Selskab
- Finland** Suomen Hammaslääkäriseura Apollonia
- France** Société Française de Parodontologie et d'Implantologie Orale
- Germany** Deutsche Gesellschaft für Parodontologie
- Greece** Ελληνική Περιοδοντολογική Εταιρεία
- Hungary** Magyar Parodontológiai Társaság
- Ireland** Irish Society of Periodontology
- Israel** Israeli Society of Periodontology and Osseointegration
- Italy** Società Italiana di Parodontologia e Implantologia
- Netherlands** Nederlandse Vereniging voor Parodontologie
- Norway** Norsk periodontist forening
- Poland** Polskie Towarzystwo Parodontologiczne
- Portugal** Sociedade Portuguesa de Parodontologia e Implantologia
- Serbia** Udruzenje Parodontologa Srbije
- Slovenia** Združenje za ustne bolezni, parodontologijo in stomatološko implantologijo
- Spain** Sociedad Española de Periodoncia y Osteointegración
- Sweden** Svenska Parodontolog föreningen
- Switzerland** Société Suisse de Parodontologie / Schweizerisch Gesellschaft für Parodontologie / Società Svizzera di Parodontologia
- Turkey** Türk Periodontoloji Derneği
- United Kingdom** British Society of Periodontology

EFP associate member societies

- Lithuania** Lietuvos Periodontologų Draugija
- Morocco** Société Marocaine de Parodontologie et d'Implantologie
- Romania** Societatea de Parodontologie din Romania
- Russia** Российской Пародонтологической Ассоциации
- Ukraine** Асоціація лікарів-пародонтологів України



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