

am pleased to see that the executive officers of the BDA are actively attempting to hold the GDC to account.

As an individual dentist who has lost all confidence in the GDC and is disgusted by recent events, I call for the Chief Executive, the Chair of Council and those responsible for approving the unlawful action to resign.

J. Wilson, Cardiff

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ORTHODONTICS

Causes of malocclusion

Sir, in response to the letter from S. Rudge¹ (representative of the British Orthodontic Society – BOS), my concerns are that:

1. The orthodontic profession does not yet know the causes of the malocclusion
2. Whilst the profession provides orthodontic therapy for approximately 30% of the population, including in some cases major surgery, and many with long-term retention consequences, certain orthodontic therapies may not be evidence-based
3. In not doing everything we can to further the debate on the aetiology which underlies the work we undertake for our patients, we fail to honour our patients and our privileged, self-governing status of the profession.

S. Rudge helpfully notes five events in recent times at which the BOS has supported discussion on other subjects. I commend it for this, its continued support for these exchanges and evidence-based medicine, and experience which should be made available to the general dental profession; those practitioners who in good faith refer their patients to our specialism.

The GDC describes its role as *inter alia* ‘...to regulate in the interests of patient protection, not to review scientific evidence or bodies of scientific opinion

outside the context of a specific complaint of the kind set out above’. Whilst it is appropriate that a regulatory body does not become involved with clinical arguments, the GDC did sponsor a debate on the aetiology of malocclusion in 1936. Therefore, it may be apposite to debate the subject again through their auspices. We could then reflect on the considerable experience, research and advancement in our profession and test whether these give new light to our current, relatively limited, understanding. To support this I make available copies of this and other discussions through an open forum (www.orthotropics.com/debate). I hope that this is considered a constructive contribution to the debate and would welcome contributions from all.

Given the gravity of this situation, could the GDC give an opinion as to whether a debate on this issue would be in the interests of the profession and public at large?

M. Mew, by email

1. Rudge S. Engaging fully. *Br Dent J* 2013; **214**: 430.

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Orthodontosis and orthodontitis

Sir, there is now a significant body of literature that questions the basis of current orthodontic diagnosis and treatment goals and I propose the diagnostic terms of ‘orthodontosis’ and ‘orthodontitis’ to address these deficiencies. Emerging literature exposes the lack of evidence for the Angle’s classification of Class I (ideal), II or III since there is no verifiable scientific validity that ideal occlusion provides significant benefits in oral or general health.¹⁻⁴

Clinical observations after two decades of orthodontics practice lead to proposing the establishment of a new classification for malpositioned teeth based on the clinical morphology and appearance of the alveolar bone and ridge.⁵ Orthodontosis, defined as the non-inflammatory

deficiency of the alveolar bone caused by the displaced root(s) of the tooth resulting in marginal chronic soft tissue inflammation called orthodontitis. This classification is disease-based and follows accepted diagnostic criteria found, for example, in periodontics. Our proposed classification is consistent with differences in the microbial composition of subgingival plaque of malpositioned *vs.* non-malpositioned teeth.

If orthodontic disease presents as a deficiency of alveolar bone around malpositioned roots, treatment should mimic the continuation of natural eruption thereby restoring the architecture of alveolar bone and eliminating soft tissue inflammation. This new technology of orthodontic tooth movement (Fastbraces) contemplates that light forces may possibly stimulate bone remodelling around the area of displaced roots. Consequently, non-extraction therapy is almost always achieved through this bone ‘growth’ remodelling as the alveolar bone reacts to a tooth erupting in its correct place in the arch and follows accordingly.

Furthermore, orthodontic diagnosis based on the morphology of the alveolar bone accepts the patient’s natural dentition within its own hard tissue and soft tissue substrate. Therefore, patients are diagnosed and treated accordingly based on their own individual genetic and morphologic appearance and not based on arbitrary ideals. As a result of the proposed new concept, people’s faces are accepted *de facto* and would not be subject to alteration from extractions that would mutilate the natural facial and alveolar morphology.

T. C. Pagonis, Boston, MA

1. Rinchuse D J, Rinchuse D J. Ambiguities of Angle’s classification. *Angle Orthod* 1989; **59**: 295–298.
2. Gravely J F, Johnson D B. Angle’s classification of malocclusion: an assessment of reliability. *Br J Orthod* 1974; **1**: 79–86.
3. Siegel N A. A matter of class: interpreting subdivision in a malocclusion. *Am J Orthod Dentofacial*

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- Viazis A, Viazis E, Pagonis T. The concept of a new dental disease: orthodontosis and orthodontitis. *J Dent Health Oral Disord Ther* 2014; 1: 00030.

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Filling the vacuum

Sir, in response to correspondence on GDP-delivered orthodontics, I fully agree that orthodontic treatment needs 'The right person, doing the right thing, for the right patient'. But instead of castigating GDPs for undertaking orthodontics, maybe we should be asking why this situation has occurred? And what is the solution? In the early 2000s orthodontic undergraduate education was vibrant and engaged students in learning the necessary clinical skills.¹ In addition, many consultants in the hospital orthodontic services ran 'extended attachments' which gave the opportunity for GDPs to learn orthodontics in a supportive educational environment. In the past ten years the amount of undergraduate orthodontic teaching has been reduced by the GDC undergraduate educational 'outcomes' in combination with pressures on dental schools. This has been compounded by VT and DF1 trainees having less orthodontic education than ever before. These opportunities have now fallen into the realms of history particularly with the increased access to primary care orthodontic specialists. Consequently, it is not surprising that GDPs can be easily misled by wild non evidence-based claims, more about advertising than dental science. The short term orthodontics (STO)/fast brace courses have arisen to fill that vacuum, and hence the marketing men have become involved.

We hear hyperbolic claims about 'fast braces' delivering 'fast (or STO)', although unfortunately osteoclasts and osteoblasts have not read the accompanying publicity. Any orthodontic appliance can deliver a quick fix as long as the problem is minor with small tooth movement required or the treatment plan accepts a compromise involving minor tooth movements. However, it is wrong to say these treatments are always inappropriate. Providing that the dentist and patient understand the compromises, limitations and informed consent obtained, and the need for lifelong retention (required with all forms of orthodontics), then that may be an acceptable treatment for a particular patient.

However, to achieve 'The right person...' approach requires orthodontic education now missing from undergraduate and immediate postgraduate education curricula. Thankfully a few enlightened orthodontic specialists are now working to educate GDPs in the necessary skills eg IAS Academy (I am the Training Director); Derrick Wilmot; Jonathon Sandler/Straight Forward, Straight Wire. Demand for orthodontics is increasing and without proper orthodontic education more GDPs will find that orthodontics is not just a quick fix.

R. S. Hobson,
by email

- Hobson R S, Carter N E, Gordon P H, Mattick C R. Undergraduate orthodontic teaching in the new millennium - the Newcastle model. *Br Dent J* 2004; 197: 269–271.

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PHARMACEUTICALS

Private prescription

Sir, with new medications being constantly licensed and prescribed for patients, I was delighted to read the paper on dabigatran (*BDJ* 2014; 217: 623–626). The post-operative measures to minimise the risk of haemorrhage for these patients following routine extractions in general dental practice are logical. However, I would like to highlight to readers that tranexamic acid is not part of the Dental Practitioners' Formulary and patients would require a private prescription from general dental practitioners.

C. G. Warner,
by email

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PERIODONTOLOGY

A vaccine for periodontopathogens

Sir, we were delighted by the paper by Cerajewska *et al.*,¹ which matches exactly our point of view presented briefly previously in this Journal² describing the potential role of periopathogens in the development of cognitive impairment among elderly people.

The most recent, and perhaps the most methodologically sophisticated study³ published in *PLoS One* elucidated how IgG immunoglobulins response levels to common periodontal microbiota are associated with risk for developing incident of Alzheimer disease (AD) and play a role as a predictor of AD. This longitudinal research implemented the Washington Heights-Inwood Columbia Aging Project, a case-cohort study including 110 individuals with an incident of AD, northern Manhattan residents aged >65 years.

For the first time the analysis included a vast majority of causative periopathogens (seven genospecies) responsible for common inflammatory conditions of periodontal tissues. However, the serum level of antibodies to periopathogens alone may not reflect sufficiently the multidirectional interactions between infected periodontium and host response, potentially leading to AD. Therefore, further validation is required.

However, the newest publication⁴ (January 2015) gives the results of a retrospective analysis of a 37-year cohort study in Sweden, and does not indicate that decreased numbers of teeth were associated with dementia. Although, it is well-known that tooth loss is likely to be caused by advanced periodontitis, there are numerous other potential causes of reduced dentition. Hence, an association between periodontitis and Alzheimer disease cannot be reasonably concluded from such studies as stated in the article provided by Cerajewska.¹ Undoubtedly, a local chronic inflammation may trigger a systemic inflammatory host response within different parts of the human body (brain, heart, vessels, joints).

Interestingly, the project of Birmingham Community Healthcare NHS Trust 'Outcomes of periodontal therapy in rheumatoid arthritis'⁵ explores the hypothesis that periodontal therapy aimed at eliminating gum infection can reduce joint and systemic inflammation in patients with rheumatoid arthritis.

The development of a novel vaccine for periodontopathogens, but not against single species alone, would be a great achievement contributing significantly to preventative strategies of systemic illnesses and public health.

A. Dziedzic, R. D. Wojtyczka,
by email

- Cerajewska T L, Davies M, West N X. Periodontitis: a potential risk factor for Alzheimer's disease. *Br Dent J* 2015; 218: 29–34.
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