Back to the Egg; Part I

Kenneth Serota continues his look at the Endodontic Implant Algorithm

Four thousand years ago, a number of Babylonian legal decisions were compiled in what came to be known as the Code of Hammurabi. The one referencing the construction of dwellings and the responsibility for their safety begins; if a builder engineers a house for a man and does not make it firm, and the structure collapses and causes the death of the owner, the builder shall be put to death.

We are all builders or engineers of sorts; we calculate the path of our arms and legs with the computer of our brain and we catch baseballs and footballs with greater dependability than the most advanced weapons system intercepts missiles. In our professional lives however, in contradistinction to the paradigm of evidence-based dentistry, our efforts as builders often rely solely upon personal experience, intuitive cognition and anecdotal accounts of successful strategies.

Vigilant interaction

The challenges posed by implant-driven treatment planning mandate vigilance of the interaction between those involved in research and development, manufacturing and distribution and the leaders of ideologically diverse disciplines. Temporal shifts and trends in the service mix are part of the evolution of the art and science of dentistry; to some degree, the implant-driven vector has captured the heart and minds of those who seek to nullify preservation of natural tooth structure in the oral ecosystem and deify orthobiologic replacement. The corporate entities from which we derive our tools too often fail to distinguish the point where science ends and policy begins.

Is it responsible therapeutics or irresponsible expediency that justifies the removal and restoration of such teeth from the outset with an implant-supported restoration? Can one ethically argue that extraction is warranted as the financial cost of orthodontic extrusion/soft tissue surgery, endodontic retreatment and post/core/crown fabrication is greater than extraction with an implant-buttressed restoration, and in all likelihood, more predictable?

Jokstad et al identified over 220 implant brands in the dental marketplace. With variability in surface, shape, length, width and form, there are potentially more than 2000 implants for any given treatment situation. A systematic review by Berglundh et al assessed the reporting of biologic...
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- Plaque inhibition
- Gingivitis
- Maintenance of oral hygiene
- Post periodontal surgery or treatment
- Aphthous ulceration
- Oral candida.

Dosage & Administration:
- Adults and children 12 years and over: 10ml rinse for 1 minute twice daily or pre-surgery. Soak dentures for 15 minutes twice daily. Treatment length: gingivitis 1 month; ulcers, oral candida 48 hours after clinical resolution. Children under 12 on healthcare professional advice only.

Contraindications:
- Hypersensitivity to chlorhexidine or excipients.

Precautions:
- Keep out of eyes and ears, do not swallow, separate use from conventional dentifrices (e.g. rinse mouth between applications). In case of soreness, swelling or irritation of the mouth cease use of the product.

Side effects:
- Superficial discolouration of tongue, teeth and tooth-coloured restorations, usually reversible; transient taste disturbances and burning sensation of tongue on initial use; oral desquamation; parotid swelling; irritative skin reactions; extremely rare, generalised allergic reactions, hypersensitivity and anaphylaxis.

Legal category: GSL.

Plastics and RSP excl. VAT:
- Mint Mouthwash: PL 00079/0312 300ml £3.99, 600ml £7.82. Alcohol-free PL 00079/0608 300ml £4.08.


References:

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**Product Information:** Corsodyl Mint Mouthwash (clear, chlorhexidine digluconate 0.2%), Corsodyl Original Mouthwash, (pink, chlorhexidine digluconate 0.2%) Corsodyl 0.2% Mouthwash (alcohol free) (clear, chlorhexidine digluconate 0.2%)

**Indications:** Plaque inhibition; gingivitis; maintenance of oral hygiene; post periodontal surgery or treatment; aphthous ulceration; oral candida.

**Dosage & Administration:** Adults and children 12 years and over: 10ml rinse for 1 minute twice daily or pre-surgery. Soak dentures for 15 minutes twice daily. Treatment length: Gingivitis 1 month; ulcers, oral candida 48 hours after clinical resolution. Children under 12 on healthcare professional advice only.

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**Legal category:** GSL. PL Numbers and RSP excl. VAT: Mint, Original: PL 00079/0312 & 0313 300ml £3.99, 600ml £7.92 (mint only) Alcohol-free PL 00079/0608 300ml £4.08.

**Licence Holder:** GlaxoSmithKline Consumer Healthcare, Brentford, TW8 9DS, U.K.

**Date of preparation:** March 2010.

**References:**
1. A C Nielsen52 w/e MAT 17.04.10 Corsodyl treatment mouthwashes unit share, medicated mouthwash market.
and technical complications in prospective implant studies.

Their findings indicated that while implant survival and loss were reported in all studies, biologic difficulties such as sensory disturbance, soft tissue complications, peri-implantitis/ mucositis and crestal bone loss were considered in only 40 to 60 per cent of studies. Technical complications such as component/con- nection and superstructure failure were addressed in only 60 to 80 per cent of the studies. Are we as a profession standing idly by and watching marketing pressures force treatment decisions to be made empiri- cally, with untested materials and technologies? There is an un- settling similarity between these events and the early days of implant development 16.

Favouring endodontics

The endodontic pundits argue that major studies published
to date suggest there is no dif- ference in long-term prognosis between single-tooth implants and restored root-canal-treated that in the comprehensive care decision making process.

Salvaging teeth

Whenever possible, the treat- ment choice should be an at- tempt to salvage a tooth us- ing a multidisciplinary team approach, putting aside pre- conceived notions and biases. Finances should not dictate the advice professed. Further- more, it is advisable to forego being clinically "conservative". Treatment should not be initi- alized in the absence of a critical evaluation of the potential for all contributing factors to equeate with a positive outcome.

When needed, care must be taken to carry out every diag- nostic procedure available, even those of a more invasive nature (see Fig 1). Before arriving at a definitive diagnosis and treat- ment plan, the clinician should obtain consent from the patient to remove any restoration in order to analyse the residual tooth structure and assess the potential to carry out reliably predictable treatment. The pa- tient must understand in detail, the feasibility of and margin for success of each treatment option presented 16.

There are few studies in the endodontic literature ana- lysing the reasons for extraction of endodontically treated teeth. Root-filled teeth are invariably prone to extraction due to non- restorable carious destruction and fracture of unprotected cusps. Tamse et al found that mandible first molars were extracted with greater frequen- cy than maxillary first molars; the most significant causal dif- ference was the incidence of vertical root fracture (VRF = 1.8 per cent maxillary molar, 9.8 per cent mandibular molar) 16.

‘Whenever possible, the treatment choice should be an attempt to salvage a tooth using a multidisciplinary team approach, putting aside preconceived notions and biases.’

The endodontic pundits argue that major studies published to date suggest there is no difference in long-term prognosis between single-tooth implants and restored root-canal-treated that in the comprehensive care decision making process.

‘Teeth not crowned after obtura- tion are lost with six times the frequency of those restored with full coverage restorations 16. Procedure failure, iatro- genic perforation or stripping, idiopathic resorption, trauma, and periodontal disease all contribute to a lesser degree. The major biologic factor influ- encing endodontic treatment outcome failure with the pos- sibility of extraction appears to be the extent of microbi- ological insult to the pulp and periapical tissue, as reflected by the periapical diagnosis and the magnitude of periapical patho- sis 16. (See Table I and Fig 2a, 2b and 2c).’

References


17. Zadik Y, DMD, Sandler V, Bechor R. Analysis of factors influencing endodontic treatment outcome failure with the pos- sibility of extraction appears to be the extent of microbi- ological insult to the pulp and periapical tissue, as reflected by the periapical diagnosis and the magnitude of periapical patho- sis 16. (See Table I and Fig 2a, 2b and 2c).

About the author

Kenneth S Serota, DDS, MSc graduated from the University of Toronto, Faculty of Dentistry in 1985 and was awarded the George W. Hunter Memorial Key for excellence in Postgraduate training. He re- ceived his Certificate in Endodontics and Master of Medical Sci- ences degree from the Harvard-Forsyth Dental Center in Boston, MA. A recipient of the recipient of the American Association of En- dodontics Memorial Research Award for his work in nuclear medi- cine screening procedures related to dental pathology, his passion is education and most recently e-learning and rich media. Ken has cre- ated an interactive-endodontic program for the Ontario Dental Association from 1985 to 1997 and was awarded the ODA award of Merit for his efforts in the promotion of continuing education. He was selected for Fellowship in the Pierre Fauchard Academy and is a Fellow of the Academy of Dentistry International. The author of over sixty publications, he has lectured on Endodontics internationally. He is on the editorial board of Endodontic Practice, Endodontic Tribune and Implant Tribune. The founder of ROOTS - an online educational forum for dentists from around the world who wish to learn cutting edge endodontic therapy, he recently launched IMPLANTS (www. rximplants.com) and www.ImplantDental.org in order to provide a clear understanding of the endodontic/implant algorithm in foundational dentistry. As well, he lectures on the empowerment digital technologies provide to the sophistication of the dental team and its propagation of comprehensive care.