

# LETTERS TO THE EDITOR

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## DENTAL RADIOGRAPHY

### Gold thread therapy

Sir, a 58-year-old woman presented for prosthodontic treatment. Her medical history revealed only previous breast and head and neck cancers.

Extraoral and intraoral examination revealed no unusual findings apart from her partially edentulous state and extensive restorations but, in the course of investigation, multiple unusual linear radio-opacities were evident over a wide area on pantomography (Fig. 1). On further questioning the patient revealed she had undergone 'gold thread therapy' for facial 'rejuvenation'.

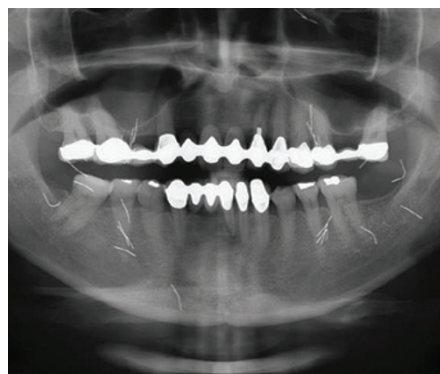


Fig. 1 Pantomography revealed multiple unusual linear radio-opacities

It is recognised that some 'cosmetic' procedures can be demonstrated radiographically<sup>1,2</sup> but we are unaware of other reports on gold thread.

The technique (Gold Filament, Gold Lift; Remaillage; Gold Reinforcement; Gold Silk) involves the implantation of a 99.99% pure gold thread of diameter 0.1 mm to 0.5 mm into the sub-dermal skin, the concept being that gold promotes angiogenesis, as the immediate area surrounding the thread is richer in blood vessels, and the mast cells numbers around the gold thread increase over time,<sup>3</sup> which, it is suggested, may result in skin 'rejuvenation'. The latest Gold Thread Implantation™ is performed with 0.1 mm gold thread and purportedly requires no anaesthesia, and is associated with no pain, no haemorrhage, and no scars – and

lasts 8–15 years.<sup>4</sup> It is occasionally used in chronic diseases (eg sinusitis, arthritis, rheumatism)<sup>5</sup> and in acupuncture.

The evidence base for any therapeutic efficacy, however, is slender.<sup>6</sup>

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By email

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## DENTAL INSTRUMENTS

### Operating otoscope

Sir, oral examination for patients with limited oral opening presents considerable technical challenges to the examiner and can be an uncomfortable process for both examiner and patient. Most overhead or floor lights do not permit adequate examination, and headlights and mirrors, while offering more positioning flexibility and preserving hands-free feature, do not accommodate patients with more challenging oral features. Penlights can be helpful, but most are too dim and do not direct light well enough for considerable clinical use. Some clinicians have seen the benefits of using diagnostic otoscopes, which solve many of the above technical problems of examination and have the added benefit of magnification (Fenton S A. Personal communication. July 2009). Use of diagnostic otoscopes, which have a closed head not that does not permit bi-directional airflow, is limited by fogging of the lens.

Use of an operating otoscope, which has an open head and is less prone to fogging,

eliminates all of the above challenges. Operating otoscopes may be used for oral examination with or without speculum attached (Figs 1 and 2). If hands-free use is required and the patient is to remain in one position for a prolonged period, a vice clamp and c-arm extension could also be used, but we have not found this necessary. Use of an operating otoscope for oral examination is the standard technique employed for all patients in our group, irrespective of oral opening.

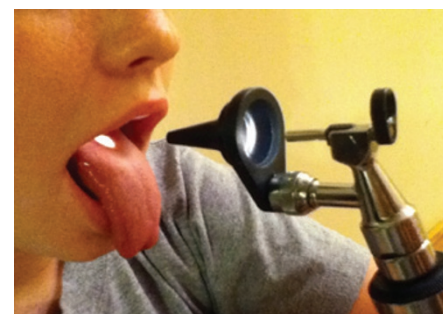


Fig. 1 Operating otoscope with speculum attached. While the light distribution is narrow, light is sufficient when using the magnification lens and if doing ear examination, there is no interruption of the examination process to remove the speculum



Fig. 2 Operating otoscope without speculum attached. Without the speculum attached, the entire oral cavity is easily illuminated

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## EVIDENCE-BASED DENTISTRY

### More than just P values

Sir, as dental clinicians, we should be all aware of the increased effort to incorporate an evidence-based approach

## RISK TO FISH-EATING VERTEBRATES

Sir, the European Commission Scientific Committee on Health and Environmental Risks (SCHER) has published an updated opinion on the environmental risks and indirect health effects of mercury from dental amalgam at [http://ec.europa.eu/health/scientific\\_committees/environmental\\_risks/docs/scher\\_o\\_165.pdf](http://ec.europa.eu/health/scientific_committees/environmental_risks/docs/scher_o_165.pdf). The opinion seeks to cover three areas: Are mercury releases from amalgam a risk to the environment? Does mercury from amalgam which is then released into the environment harm human health? How does environmental risk from mercury in amalgam compare with risks from alternative restorative materials?

The report paints pictures of best to worst case scenarios and concludes that in the local extreme examples of its worst case scenario: maximal dentist density, maximal mercury use and absence of separator devices, the risk of mercury poisoning to fish-eating vertebrates cannot be excluded. Similarly in the extreme worst cases they conclude that mitigation measures might be needed to protect humans from eating contaminated fish. Looking at alternative restorative materials they acknowledge

that more information is needed to inform assessments of risk to both environments and to humans. So, until we get a true replacement for amalgam, how as a profession do we respond to this report which acknowledges some risk of harm and some uncertainty?

There are some clinical circumstances where amalgam is still the only appropriate restorative material. If we wish to continue having access to the most appropriate material for those who really need it then we must place ourselves outside the worst case scenario. Amalgam separation is here to stay and we must accept that it is part of the price of using or removing old amalgam. We should also regard amalgam as a restorative material to be avoided unless there is no alternative, yet at the same time we should argue for continued ability to use amalgam when it is the only realistic treatment option. Not perhaps the message we wanted to hear, but a response which gives us a fighting chance of keeping amalgam until a true replacement is developed.

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to enable best decisions about patient care. However, there has been little discussion in dentistry of the limits of P values in interpreting the results of published studies. This is despite a growing consensus in medicine that the simple use of P values to determine whether the results of a study are valid are insufficient or misleading.<sup>1,2</sup>

Discussion of the limitations of P values are beyond the scope of this letter but there is a growing movement in medicine to include alternative approaches including Bayesian methods. The P value is the probability of observing events as extreme or more extreme than the observed data if the null hypothesis is true.<sup>3</sup> One of the most common concerns described in the medical literature is that students and clinicians simply end up with an incorrect interpretation of what P values mean. As described by Goodman, when presenting the results of a study to physicians that the study results had a P value of 0.05, the majority will state that there is a 95% or greater chance that the null hypothesis is incorrect.<sup>2</sup> This is the wrong interpretation because the P value is calculated on the assumption

that the null hypothesis is true and it is not a direct measure of the probability that the null hypothesis is false.

Other limitations of the P value are that it: does not take into consideration the clinical magnitude of the observed association; does not consider biologic plausibility; overstates the evidence against the null hypothesis.<sup>4</sup> I encourage readers to explore some of the recent published literature in medicine that describe alternative approaches to the analysis of data besides only looking at P values including greater consideration of confidence intervals and the observed clinical magnitude of the associations.

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