

Summary of: Investigation of inhalational conscious sedation as a tool for reducing anxiety in adults undergoing exodontia

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VERIFIABLE CPD PAPER

FULL PAPER DETAILS

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Aim To determine whether adult patients' dental anxiety levels decrease following exodontia carried out under inhalational conscious sedation with nitrous oxide and oxygen (IHS) and local anaesthetic (LA). **Design** Retrospective analysis of pre- and post-operative modified dental anxiety score (MDAS) questionnaires completed by patients treated in a primary care oral surgery service between 21 July 2010 and 17 December 2010. **Methodology** 138 patients who had undergone exodontia were divided into three groups: moderate to severe anxiety (MDAS scores 11–25) treated under IHS and LA (n = 60), mild anxiety (MDAS scores 5–10) treated under IHS and LA (n = 43) and mixed anxiety (MDAS scores 5–15) treated under LA only (n = 35). The mean pre- and post-operative MDAS scores were analysed by means of one-tailed, paired t-tests. **Results** The moderate to severely anxious group treated under IHS and LA showed a statistically significant decrease of 3.68 between the mean pre- and post-operative MDAS scores (p = 0.000). The IHS mildly anxious group showed a decrease of 0.07 (p = 0.392) and the LA group showed a decrease of 0.23 (p = 0.227). Neither of these results were statistically significant. **Conclusion** These results support the use of IHS, to reduce anxiety of exodontia, in moderate to severely anxious adults undergoing minor oral surgery (MOS) procedures under LA in primary care oral surgery.

EDITOR'S SUMMARY

As a young dentist, at the equivalent stage to a Foundation dentist today, I volunteered to undergo nitrous oxide inhalation sedation (no treatment was given) so that the rest of the group could see the effects and so that I could report on my experience once I had recovered. I remember it well as a very pleasant sensation which I likened to the feeling after a good meal and several glasses of wine while relaxing in front of a log fire in an easy chair.

I recount this because I think an important clue to the potential value of this study lies in the comment in the discussion section that, 'Possibly, the lack of amnesic effect of nitrous oxide helps patients to remember the sense of wellbeing it gives them which decreases anxiety and increases cooperation for future procedures.' Certainly I experienced

a sense of profound wellbeing that I have never forgotten (and never repeated, sadly, other than following an actual good dinner etc) which effectively reinforces the authors' point.

That, following nitrous oxide inhalation sedation anxious patients were less anxious, even after a minor oral surgical procedure, and possibly would continue to be less anxious in future bodes well for this treatment modality. This is especially encouraging as previous research has indicated that the provision of general anaesthetics for anxious patients has very little if any lasting effect in terms of reduced anxiety or future dental attendance other than for relief of further pain.

A trap that we all fall into is that of compartmentalising. The usual reflex is to suggest intravenous sedation for adults and inhalation for children. How-

ever, by inverting the standard response the authors of this paper have possibly pointed the way to the use of the latter for adults in more situations than previously considered. As they report, further work needs to be undertaken but the early signs from this work suggest that a useful additional route to anxiety reduction present and future may have been uncovered.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 213 issue 6.

Stephen Hancocks
Editor-in-Chief

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IN BRIEF

- Illustrates the use of the modified dental anxiety scale (MDAS) in a primary care oral surgery service.
- Highlights the value of nitrous oxide inhalational sedation as a sedative tool in the treatment of adults undergoing routine and surgical exodontia.
- Demonstrates the effectiveness of a primary care adult oral surgery service in treating anxious patients.

COMMENTARY

Managing patient anxiety can be one of the most challenging aspects of providing dental care. Seeing a patient leave the surgery happy after having had a positive experience is one of the most rewarding aspects of dentistry.

There are many techniques available to help manage anxious patients. The one at the focus of this study, inhalation sedation with nitrous oxide and oxygen (IHS), is more commonly thought of for use in children. However, as the authors discuss, there are many times when it may also be useful in adults. In this study they seek to investigate whether IHS is indeed useful for anxious adult patients requiring exodontia.

This retrospective study of 138 patients looked at dental anxiety scores before and after exodontia. Patients treated with LA alone were compared to those who had IHS in addition to LA. The more severely anxious patient group was found to have higher anxiety reduction post-operatively. The authors acknowledge that their results should be interpreted with caution as they were unable to randomise their comparison groups due to ethical constraints. However, the results add weight to IHS being a useful technique in the management of dentally anxious adults.

Another interesting aspect of this paper was that it reminds us of the importance of reflecting on our own practice and service outcomes. As the GDC are considering introducing revalidation, so formal monitoring of patient

satisfaction is likely to become a more routine aspect of all of our practice. The lead author in this study routinely collects anxiety scores on all patients, an excellent tool for monitoring this aspect of patient care and something we could all easily introduce. In this case results showed that patients in all groups, having undergone what can be considered an unpleasant procedure, were not more anxious after treatment than before. This suggests the patients were receiving a good service from this point of view.

Overall this study helps inform our evidence-based practice on the effectiveness of a well known technique. Ultimately this will help us offer our patients an informed choice when making decisions about their treatment.

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AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?
This research was undertaken at Newcastle University as part of a dissertation by the primary author for the Postgraduate Diploma in Conscious Dental Sedation.

In our working as a team at Queensway Oral Surgery Services, we frequently use IHS on our adult patients to very good effect but were aware there was little published evidence on this (compared with the plethora of literature on IHS in children).

We decided, therefore, to try and formally study the effect of whether the use of IHS in oral surgical procedures would reduce dental anxiety for subsequent dental care. We deliberately kept the inclusion criteria tight to limit confounding factors and were really excited to note a statistically significant drop in MDAS scores in the moderate-to-severely anxious group who had their treatment carried out under IHS.

2. What would you like to do next in this area to follow on from this work?

There are several possible areas of follow-up. We would like to repeat this study with a larger patient sample size and preferably with the same number of patients in each group to try and improve reliability of the results.

We would also like to repeat this exercise in one of our other units or other oral surgery services involving a different operating surgeon to determine whether these results are reliable and reproducible.

We believe that IHS is currently under-used to support anxious adult patients and could be a useful resource for the treatment of this large patient group.