Summary of: Retrospective audit of the efficacy and safety of the combined intranasal/intravenous midazolam sedation technique for the dental treatment of adults with learning disability

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FULL PAPER DETAILS

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Introduction The provision of dental care for adults with severe learning disability presents problems. The approach to treatment has often been provided under general anaesthesia tending to result in exodontia rather than restorative care. This paper presents an alternative to this option using conscious sedation. **Methods** A multi-centred retrospective audit was reported on using data from Canterbury, Warwick, Dorset and Cardiff. Patients included adults with varying degrees of disability for whom treatment using local anaesthesia, inhalation sedation, and the acceptance of intravenous cannulation was not possible. Sedation was provided by midazolam first administered by the intranasal followed by the intravenous route. **Results** From a total of 222 episodes of sedation 128 (57.65%) accepted treatment well and 75 (33.78%) presented slight problems which did not compromise treatment. In 19 cases (8.55%) treatment with sedation was not possible and a referral was made for general anaesthesia. **Conclusions** Results showed that a range of different treatments were carried out including advanced restorative care. This paper proposes that the technique described is safe and effective in providing a good standard of dental care for adults with severe learning disability.

EDITOR'S SUMMARY

In terms of moving our practice forwards in pragmatic ways the difference between audit and research is arguably of small relevance. What is important is that knowledge gained can then be applied to the benefit of patients' oral health and indeed general health and quality of life.

Quality of treatment in special care dentistry is often a difficult issue because the patient's behaviour at worst prevents, or at least seriously compromises, the ability of the practitioner to undertake what might otherwise be fairly routine procedures and therapies.

Modifying that behaviour by pharmacological means through sedation or general anaesthesia is equally often a realistic if somewhat regrettable need. But how best to measure effectiveness and innovation?

In this field of dentistry the opportunities to undertake what might be termed

'pure' research are severely limited. The number of patients, such as adults with learning disabilities who require specific types of care, care environments and attention from specialised dental and medical professionals is by definition, small. Similarly and necessarily the individuals tend to be seen and treated at many smaller and geographically disparate centres, making large scale studies the more difficult.

This carefully planned and constructed audit, given exemplary justification and description of its implementation in the authors' questions and answers section, provides an excellent example of how the gathering of information, its collation and comparison can then be utilised to positively influence further development of services. That the use of intranasally-mediated conscious sedation can reduce the need for general anaesthetics, create the conditions under which routine dentistry can be more effectively

provided more frequently and improve the quality of life of the patients is wholly to be encouraged within the parameters described. To have been able to achieve the wider acceptance of the technique and to have refined it further through the methods presented in this paper is not only encouraging it is positively inspiring.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 205 issue 2.

Stephen Hancocks,
Editor-in-Chief

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IN BRIEF

- This technique can be safely and effectively used in primary care and to treat adults with learning disability.
- The option of providing repeat review examinations and a continuing course of treatment, for example endodontics or periodontal therapy, is possible using this technique.
- The technique allows for an oral exam and diagnosis within primary care rather than immediate referral for general anaesthetic.

COMMENT

So how do you examine and provide dental care for people with learning disabilities who are unable to cooperate due to their challenging behaviour? This paper describes the authors' answer: intranasal (IN) midazolam. Data from four geographically separate and different centres was gathered: of 222 episodes of sedation only 8.55% (19) were unsuccessful. IN sedation has improved access to dental care for large numbers of people with special needs and reduced the requirement for general anaesthesia (GA) in this often neglected population. The advantages for patients, carers and clinicians are described. These include the provision of regular dental care and a greater range of care than that which can be provided under occasional GAs.

As the authors are careful to make clear IN midazolam, although easy to administer, is not titrated against the patient's response and so it is inappropriate for the inexperienced practitioner. The IN route is not classed as an alternative technique in the recent report from the Standing Committee on Sedation for Dentistry (SCSD)¹ but the report does specify the training required to administer sedation by this route:

'Oral and intranasal sedation must only be administered by those:

- who are trained and experienced in intravenous sedation
- who are competent at intravenous cannulation
- who are competent in the management of sedation related complications

- who have evidence of training in these techniques.'

It is to be hoped that more practitioners working in services which provide care for this challenging group will seek training in conscious sedation. As the authors conclude it is hard to envisage how a service for people with disabilities can provide full dental care without offering a range of sedation techniques including the intranasal route.

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1. Standards for conscious sedation in dentistry: alternative techniques. A report from the Standing Committee on Sedation in Dentistry. Faculty of Dental Surgery the Royal College of Surgeons of England, the Royal College of Anaesthetists. August 2007.

AUTHOR QUESTIONS AND ANSWERS**1. Why did you undertake this research?**

The technique described is becoming increasingly used in dentistry. Experimental evidence from a number of clinicians has been accumulating over the past ten years with favourable results. The reported positive use of the technique has been presented at meetings, conferences but to a very limited extent in the dental literature. This is somewhat regrettable since the evidence from individual clinicians strongly supports its value in reducing the need for general anaesthesia and improving the quality of care for people with disability. The objective of this audit was to begin to redress this deficiency and to demonstrate that the technique which was reported on from five centres is both effective and safe. It was also considered important that the technique could be shown to be of value in providing the whole range on dental care and not limited to a few simple procedures.

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

At the initial planning stage of this research it was the clear intention of all the centres involved that the study would consist of a two stage audit cycle and this is stated in the publication. The first stage retrospective audit would be followed by a second stage prospective audit. The second stage is already in progress with the intention to increase patient numbers by including further centres. It is expected that the prospective audit will provide improved quality data which will further support, and encourage the use of the technique.