



Conscious Sedation in Dentistry

STANDARDS FOR POSTGRADUATE EDUCATION

August 2008

The Dental Sedation Teachers Group

DENTAL SEDATION TEACHERS GROUP

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1. INTRODUCTION

The Dental Sedation Teachers Group (DSTG) convened a small working group to consider postgraduate training standards for dentists who practice conscious sedation. The aim was to develop a DSTG standard for postgraduate training in conscious sedation. This focuses particularly on 'assessment' which has not been described so explicitly in previous publications. We hope that this will ultimately be of use to practitioners wishing to demonstrate evidence of their experience and competence in providing conscious sedation for dental patients.

2. WORKING PARTY MEMBERSHIP

The membership of this group is shown in Annex 3.

3. BACKGROUND

- Undergraduate education in conscious sedation for dentistry in the UK has been encouraged by the Dental Sedation Teachers Group and other bodies such as the General Dental Council. Two particular documents produced by the DSTG have been instrumental in raising the standard of undergraduate sedation education. These are 'Sedation in Dentistry: Undergraduate Training, Guidelines for Teachers' (1999)¹, and 'Conscious Sedation in Dentistry: The Competent Graduate' (2000)². A further document, 'Standards in Conscious Sedation for Dentistry' (2000)³ referred to the need for supervised hands-on experience as a prerequisite for independent sedation practice.
- A discussion document about the particular training needs for those techniques that are used to produce conscious sedation, but are considered beyond the scope of the basic sedation courses was produced by the DSTG, 'Training for Safe Practice in Advanced Sedation Techniques for Adult Patients' (2003)⁴. The DSTG document 'Training in Conscious Sedation for Dentistry' (2005)⁵ brought together and updated previous documents emphasising the undergraduate curriculum but also including postgraduate training guidance for those wishing to use advanced conscious sedation techniques.
- Postgraduate training in Conscious Sedation for dentistry in the UK is provided by Universities, Royal Colleges, Hospital Trusts, Primary Care Trusts, Societies and Charities, and individuals. The courses offered range from those with short didactic format to those offering long programmes of study incorporating comprehensive clinical experience.
- Both short courses and update courses are available in the UK and are in great demand. There is a large variability between courses in the learning and teaching processes used and the curriculum content. There was an attempt in the past to describe a 'UK Standard Sedation Course'⁶ but the standardisation criteria were quite liberal. Some courses include assessment and some do not. Frequently the course only provides certification of attendance. Many 'UK Standard Sedation Courses' did not include any assessment and could therefore only offer evidence of course attendance.
- There are a range of more advanced training programmes that are beyond the requirements for usual practice of conscious sedation in dentistry. Universities offer credit based taught programmes such as Postgraduate Certificate (60 credits), Diplomas (120 credits) and Masters Degrees (180 credits). One unit of credit typically equates to 10 hours of student effort spent on

learning activities, including all forms of study, preparation of assignments, revision and assessment. These programmes would be considered excessive for usual clinical practice but appropriate for those with a clinical interest in conscious sedation perhaps who wish to pursue teaching or develop an interest in research. They can only offer training to a relatively small number.

- There is an increasing need in dental and medical clinical practice for practitioners to provide evidence of experience and competence. The General Dental Council (GDC) requires that Dentists and in the future, Dental Care Professionals, provide evidence of Continuing Professional Development⁷. The GDC are working to introduce 'revalidation' and will require dental professionals to regularly show that they are fit to practice, that is, competent in their area of practice and that their behaviour meets the standards required by the GDC⁸.
- Currently there is insufficient provision of postgraduate courses to meet the demand by dentists. One cross-sectional study with 423 responders of 603 randomly selected UK dentists (70% response rate) reported some use of conscious sedation techniques as part of clinical practice by 30% with intravenous being the most commonly used (10.4%)⁹. However only 6% held a postgraduate qualification of any sort and 21% wished to pursue a postgraduate qualification. One primary provider of courses in the UK, SAAD, has had courses oversubscribed for many years.

4. DENTAL SEDATION TEACHERS GROUP

- The DSTG has extensive experience of teaching and learning curricula design and one of its fundamental aims is to further develop standards of teaching of conscious sedation in dentistry. The views of delegates at the DSTG 2007 Symposium were therefore sought regarding postgraduate conscious sedation education.¹⁰ Questionnaires were returned by 112 of the 140 Symposium delegates. The majority of delegates believed that more educational opportunities should be available particularly for supervised clinical training. A majority (81% dentists and 100% nurses) were in favour of a standardised training pathway leading to national certification in conscious sedation in a similar way to that provided by the Resuscitation Council (UK) for Advanced Life Support, or the National Examining Board for Dental Nurses for Dental Sedation Nursing. A majority (94% dentists and 100% nurses) were in favour of logged supervised clinical experience as a component of training and a majority (78% dentists and 96% nurses) were in favour of inclusion of assessment by examination. There was disagreement about whether it would be preferable to have a reduced range of postgraduate training as currently offered in favour of a more standardised training programme. This may have been because whilst delegates were in favour of standardised 'core' training, they also appreciated the value of diversity in educational opportunities. It may also have been because delegates understood that course providers are free to exploit the market.
- For routine provision of conscious sedation there is a need for recognised postgraduate training and assessment for dentists using 'standard' conscious sedation techniques. These techniques are defined¹¹ as:
 - Intravenous sedation using midazolam alone
 - Inhalational sedation using nitrous oxide / oxygen
 - Oral / transmucosal sedation using benzodiazepines provided adequate competence in intravenous techniques has been demonstrated
- The DSTG as the primary academic stakeholder is well placed to recommend curricula and assessment and provide a programme specification for such a certification programme. It may in the future wish to be involved as a provider of teaching and learning and/or assessment.

5. RECOMMENDATIONS

1. There should be a core postgraduate programme, the 'Standard Sedation Certificate', for dentists and doctors using standard conscious sedation techniques.
2. This core programme may be delivered by a number of providers as determined by market forces. Some postgraduate programmes, including some currently available in the UK, may include this core programme within the framework of a broader or more advanced programme.
3. A programme should enable practitioners to satisfy the requirements of 'The Standard Sedation Certificate' assessment.
4. Assessment should be modular in nature for those wishing assessment in 'inhalational sedation' alone or 'intravenous and oral / transmucosal sedation' alone. However whilst some of the assessments would be module specific, the knowledge assessments would be common to all standard sedation techniques. Practitioners may wish to practice only one particular conscious sedation technique. However their knowledge should be broader than this single technique as they are responsible for selection of the type of sedation from a broad range, and the selection of type of pain and anxiety control more generally.
5. The 'Standard Sedation Certificate' assessment is delivered in a standardised and managed way with quality control such that it provides assurance of a standard.
6. Practitioners who satisfy the assessment examiners and become holders of the 'Standard Sedation Certificate' will have demonstrated that they have achieved a standard defined by this document.
7. Dentists and nurses are encouraged to train together but the assessment would be for dentists and doctors. Dental nurses already have a well established examination organised by the National Examining Board for Dental Nurses.

6. THE PROGRAMME SPECIFICATION

AIMS OF THE PROGRAMME

The programme should aim to:

Provide practitioners with the postgraduate educational experience, including the appropriate knowledge, critical understanding, intellectual skills, practical skills and attitude to enable them to provide effective standard conscious sedation for their dental patients.

INTENDED LEARNING OUTCOMES

Knowledge and Understanding

On successful completion of the programme, practitioners should be able to:

- Demonstrate an understanding of the role of standard conscious sedation techniques in dentistry.
- Understand the range of control of pain and anxiety techniques.
- Understand the importance and influence that the patients' general health may have on the use of standard sedation techniques.
- Demonstrate the knowledge to practice effective standard conscious sedation.
- Demonstrate a critical understanding of the issues involved in the scientific basis of the standard conscious sedation technique practice.

Intellectual skills

On successful completion of the programme, practitioners should be able to:

- Understand limitations, benefits and risks of standard conscious sedation techniques.
- Recognise own limitations, reflect on experiences and appreciate the need to continuing education.
- Appreciate the concept of multidisciplinary care of patients and teamwork.

Practical skills

On successful completion of the programme, practitioners should be able to:

- Assess patients who require standard conscious sedation for dentistry.
- Practice effective standard conscious sedation.
- Be able to assess recovery of patients from standard conscious sedation.
- Remain calm, decisive and purposeful whilst handling difficulties or complications.

Transferable skills and Personal qualities

On successful completion of the programme, practitioners should be able to:

- Empathise with patients and demonstrate the ability to communicate effectively with patients and colleagues.

LEARNING AND TEACHING PROCESSES

The programme is likely to include a range of learning and teaching processes appropriate to achieving the aims and learning outcomes. These may include the following:

- Seminars and lectures
- Practical Skill Sessions
- Formative assessment
- Summative assessment
- Self directed learning

The programme should include the following academic content:

- Anxiety management
- Pain management
- Applied anatomy and physiology
- Pharmacology, properties and pharmacodynamics of standard conscious sedation agents
- Patient evaluation
- Patient selection including those with special needs
- Inhalation sedation technique and apparatus preparation and maintenance
- Intravenous sedation technique
- Oral / transmucosal sedation techniques
- Health and safety implications of standard sedation techniques
- Patient assessment, preparation, monitoring and safe discharge
- Recognition and management of complications
- Guidelines, consent and medico-legal issues

7. THE ASSESSMENT

The 'Standard Sedation Certificate' assessment will include a range of assessment methods appropriate to achieving the aims and learning outcomes. These methods should include the following and a map of assessment against intended learning outcomes is presented in Annex 1.

1. A Multiple Choice Type Question paper.
Intended learning outcomes assessed: knowledge and understanding, and intellectual skills.
- 2A An Oral Assessment of the presentation of two patient cases where standard sedation techniques were used. The cases should focus on the sedation rather than other aspects of dentistry. Oral presentation with slides using a presentation programme such as Microsoft Office PowerPoint or other.
Intended learning outcomes assessed: intellectual skills, practical skills, transferable skills and personal qualities.
- 2B An Oral Assessment of the Practice Profile Document submitted prior the assessment. A template for the Practice Profile Document is appended at Annex 2.
Intended learning outcomes assessed: assessment of knowledge and understanding.

8. ELIGIBILITY REQUIREMENTS FOR ASSESSMENT

Practitioners registering for the assessment should satisfy the following:

ESSENTIAL QUALIFICATION AND TRAINING

To be verified by written self certification:

- Primary registrable dental qualification or primary registrable medical qualification. Candidates are required to have full registration with the GDC or GMC.
- Training in standard conscious sedation techniques as referred to in this document.
- Compliance with GDC/GMC recommendations for conscious sedation
- Compliance with contemporary standards
- Annual team training in medical complications and life support

EXPERIENCE

To be verified by portfolio of experience :

To be eligible for the assessment practitioners must have:

- Documented experience of the relevant intravenous or inhalational standard technique
- A mean average of at least 50 cases per annum over a minimum of two years – 100 cases total minimum

The portfolio of sedation experience (log book) to be submitted it to the assessment panel by the specified date prior to the assessment. Candidates for the assessment will be required to bring their portfolio of sedation experience (log book) with them to the oral examination. Details of the log book may be discussed with the candidate in the oral assessment.

ANNEX 1

MAP OF ASSESSMENT AGAINST INTENDED LEARNING OUTCOMES

Intended Learning Outcome	Assessment		
	Multiple Choice Type Question Paper	Oral Presentation of Patient Cases	Oral Presentation of Practice Profile
Demonstrate an understanding of the role of standard conscious sedation techniques in dentistry.	X		X
Understand the range of control of pain and anxiety techniques.	X		X
Understand the importance and influence that the patients' general health may have on the use of standard sedation techniques.	X		X
Demonstrate the knowledge to practice effective standard conscious sedation.	X		X
Demonstrate a critical understanding of the issues involved in the scientific basis of the standard conscious sedation technique practice.	X		X
Understand limitations, benefits and risks of standard conscious sedation techniques.	X		
Recognise own limitations, reflect on experiences and appreciate the need to continuing education.	X		
Appreciate the concept of multidisciplinary care of patients and teamwork.	X		
Assess patients who require standard conscious sedation for dentistry.		X	
Practice effective standard conscious sedation.		X	
Be able to assess recovery of patients from standard conscious sedation.		X	
Remain calm, decisive and purposeful whilst handling difficulties or complications.		X	
Empathise with patients and demonstrate the ability to communicate effectively with patients and colleagues.		X	

ANNEX 2

EXAMPLE PRACTICE PROFILE

Aim

The aim of the practice profile is to permit the candidate to demonstrate critical review of the environment in which they work in terms of its suitability for practice of standard conscious sedation techniques.

The Environment

- Describe the location (including address) and catchment area of the practice/clinic/hospital unit.
- Describe the surgery and recovery area.
- Provide examples of written patient information sheets.
- Outline the types of sedation provided, the number of dentists providing sedation and details of their postgraduate training in sedation.

Patients

- Provide the average number of patients treated using conscious sedation per month.
- Describe the patient population with respect to age and ASA classification.

Inhalational sedation

- Describe the method of administering inhalational sedation including the type of delivery system.
- Describe the safety features of the delivery system?
- Describe the scavenging systems.
- Describe the servicing arrangements.

Intravenous sedation

- Describe the techniques used.
- Describe all drugs and equipment used.
- Describe servicing arrangements for pulse oximeter.
- Describe all drugs and equipment used.

Oral / transmucosal

- Describe the techniques used.

Staff Training

Describe the training received by DCPs including details of qualifications and any “in-house” training. Include training in medical emergencies and Basic Life Support.

Emergencies

Surgeries

- Is there enough room for emergency access?
- Will the dental chair permit CPR?
- Is there enough room on the floor for CPR?

Drugs

- List the emergency drugs available.
- Describe the system for checking drug expiry dates.

Equipment

- Give the size of oxygen cylinders and their location.
- Describe the airway adjuncts and other emergency items present

ANNEX 3

MEMBERS OF THE WORKING GROUP

Paul Coulthard (Chair)	DSTG Chairman, and Professor of Oral and Maxillofacial Surgery, The University of Manchester
Carole Boyle	DSTG Committee Member, and Associate Specialist in Sedation and Special Care Dentistry, King's College London Dental Institute
Kevin Fairbrother	DSTG Committee Member, Consultant in Restorative Dentistry, Birmingham University Dental Hospital and School of Dentistry
Chris Holden	DSTG Committee Member, General Dental Practitioner, Chesterfield
Lesley Longman	DSTG Honorary Secretary, Consultant and Honorary Senior Lecturer in Restorative Dentistry, Liverpool University Dental Hospital and School of Dentistry

ANNEX 4

REFERENCE DOCUMENTS

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Further copies of this publication are available by downloading from the DSTG Website or by contacting the DSTG Honorary Secretary

DSTG Website

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