

Programme Specification

DIPLOMA IN CONSCIOUS SEDATION IN DENTISTRY

1	Awarding Institution University of Newcastle upon Tyne
2	Teaching Institution University of Newcastle upon Tyne
3	Final Award Diploma in Conscious Sedation in Dentistry
4	Programme title Diploma in Conscious Sedation in Dentistry
5	Programme Accredited by: N/A
6	UCAS Code N/A
7	QAA Subject Benchmarking Group(s) N/A
8	Date of production/revision May 2004
9	Programme Aims: This programme has been designed to provide dental practitioners with postgraduate education and training in the theoretical principles and clinical practice of conscious sedation to enable them to undertake the safe independent practice of conscious sedation for dentistry. The programme aims to provide: <ol style="list-style-type: none">1. A comprehensive training in the theoretical principles of conscious sedation and anxiety management in dentistry.2. A sound foundation in practical and clinical skills required for the practice of intravenous and inhalational conscious sedation, as applicable to current UK practice.3. Appropriate training in conscious sedation to enable dentists to practice conscious sedation safely and independently.

10(a) Programme Intended Learning Outcomes:

A Knowledge and understanding

The programme provides opportunities for students to develop and demonstrate:

- A1 Knowledge of the aetiology and patho-physiology of dental anxiety
- A2 Knowledge of the pharmacology of drugs used for conscious sedation
- A3 Understanding of the selection and assessment of patients for conscious sedation
- A4 Understanding of the clinical techniques used for conscious sedation in dentistry
- A5 Understanding of the peri-operative care of sedation patients
- A6 Understanding of the management of sedation-related and medical emergencies
- A7 Mastery of a body of knowledge and guidelines which underpin and regulate the practice of conscious sedation in the UK
- A8 Knowledge of the principles of clinical research and audit appropriate to the investigation of an area of conscious sedation or anxiety control

B Subject-specific/professional skills

The programme provides opportunities for students to develop and demonstrate the ability to:

- B1 Assess the suitability of patients for conscious sedation
- B2 Undertake the peri-operative care of sedated patients
- B3 Sedate adult dental patients using intravenous midazolam sedation
- B4 Sedate paediatric dental patients using inhalational nitrous oxide/oxygen sedation
- B5 Monitor the clinical condition of sedated patients
- B6 Manage sedation-related emergencies
- B7 Apply knowledge and skills to provide a high quality sedation service for dental patients
- B8 Use appropriate research/audit procedures to investigate an area of relevance to the practice of conscious sedation or anxiety control

C Cognitive skills

The programme provides opportunities for students to develop and demonstrate the ability to:

- C1 Critically evaluate the current evidence base on clinical techniques used for adult and paediatric conscious sedation
- C2 Appraise literature and guidelines on conscious sedation and apply these to clinical practice

C3 Evaluate their own clinical management of patients undergoing sedation for dental procedures.

C4 Critically evaluate their own clinical research or audit

D Key (transferable) skills

The programme provides opportunities for students to develop and demonstrate the ability to:

D1 Communicate effectively in writing by means of well-prepared and presented concise, grammatical written documents

D2 Use library and other information sources skilfully and appropriately

D3 Plan, organise and prioritise work activities in order to meet deadlines

D4 Work independently and solve problems

D5 Undertake effective oral communication with patients, nursing staff, supervisors and peers

D6 Perform practical skills relating to clinical sedation care

D7 Complete a portfolio of clinical training and achievement

10(b) Programme Intended Learning Outcomes:

Teaching and Learning Methods and Strategies

A Knowledge and understanding

A1-A8 are addressed through a mixture of lectures and small group discussion, augmented by independent study and directed by the provision of reading lists and support by an individual supervisor. They are further developed by written assignments based on the topics of each module and exposure to clinical material during clinical sessions.

B Subject-specific/professional skills

B1-B7 are sedation-related skills which are developed through practical and clinical sessions which involve the hands on treatment of patients at hospitals across the North East. Practical and clinical teaching is overseen by a clinical supervisor and reinforced by individual feedback at the end of each session. B8 is addressed through lectures and small group discussion plus individual statistical and supervisor support.

C Cognitive skills

C1-C2 are developed through the teaching and learning strategies as described above. Independent study and completion of written assignments requiring critical evaluation are particularly important. C3 is developed during the hands-on clinical attachments with support from the clinical supervisor. C4 is addressed during the production of the dissertation.

D Key (transferable) skills

D1-D4 are developed with the requirement to research and produce written assignments for each module. Feedback on assignments reinforces learning in this area. D5-D7 are addressed through practical and clinical attachment sessions, with debriefing after each session by the clinical supervisor, plus an oral presentation to the peer group.

10(c) Programme Intended Learning Outcomes:

Assessment Strategy and Methods

A Knowledge and understanding

Formative assessment of knowledge and understanding occurs during classroom activities and during clinical sessions. Knowledge and understanding are assessed summatively during the course by the completion of 5 written assignments relating to specific modules, by 3 multiple choice question papers, and by the production of a dissertation.

B Subject-specific/professional skills

Practical and clinical skills are assessed formatively through observed practical and clinical sessions with feedback from a clinical supervisor. Summative assessment is undertaken by the completion of a clinical portfolio.

C Cognitive skills

These are assessed formatively by the completion of written assignments and a dissertation.

D Key (transferable) skills

Transferable skills are formatively assessed from the completion of written assignments, an oral presentation, a clinical portfolio and a dissertation.

11 Programme Curriculum, Structure, and Features:

The programme, which is part time, extends over one academic year and has a value of 120 credits. It consists of a formal taught component, directed self study, clinical practice and a project. The curriculum consists of 12 modules (10 credits per module) which are taught using a range of methods including lectures, seminars, clinical instruction and a substantial amount of self-directed learning. All modules are compulsory.

Module 1 Basic Sciences and Pharmacology

The aim of this module is to provide the scientific background to techniques of conscious sedation and the control of anxiety and pain in dentistry

By the end of this module students should:-

1. Have a sound knowledge of applied cardiovascular and respiratory anatomy and physiology relevant to conscious sedation
2. Have a good understanding of the pharmacology of intravenous, inhalational and oral sedation agents
3. Appreciate the impact of sedation agents on cardio-respiratory physiology and how their effects are influenced by systemic disease
4. Understand the actions of agents used for analgesia, anxiety control and general anaesthesia in dentistry

Module 2 Anxiety and Pain

The aim of this module is to provide the physiological and psychological foundation for dental anxiety and pain and to outline the range of techniques that are used in dental anxiety and pain control.

By the end of this module students should:-

1. Have a good understanding of the psychological basis for dental anxiety and phobia
2. Have a sound knowledge of behavioural methods available to manage anxiety and phobia in dentistry
3. Understand the physiology and mechanism of pain perception
4. Develop an appreciation of the strategies available to control pain in the oro-facial region
5. Have an understanding of the role of local anaesthesia and systemic analgesics in pain control
6. Understand the range of sedation techniques available for the provision of dental care in anxious adult and paediatric patients
7. Appreciate the role of general anaesthesia in the management of anxious dental patients

Modules 3-4 Intravenous Sedation

The aim of this module is to provide comprehensive training in the principles of intravenous sedation and in the practical and clinical skills of intravenous sedation technique as applicable to current UK sedation practice

By the end of this module students should:-

1. Have a sound knowledge of the principles of intravenous sedation
2. Have a good understanding of the function and use of equipment for intravenous sedation
3. Be able to undertake venous cannulation
4. Be able to correctly prescribe and safely administer the intravenous sedation drug midazolam
5. Have a clear understanding of how to safely sedate a patient with midazolam to an appropriate end-point
6. Know how to effectively monitor the clinical condition of a sedated patient
7. Be able to manage sedation-related problems and emergencies
8. Be able to undertake operative dentistry on sedated patients
9. Be able to assess the fitness of a patient for discharge following sedation
10. Understand the limitations and risks of intravenous sedation

Each student will undergo supervised clinical attachments in intravenous sedation. These provide the opportunity to gain experience in intravenous sedation skills using midazolam and in operating on sedated patients. A clinical portfolio of patients treated will be maintained during the course.

Modules 5-6 Inhalational Sedation

The aim of this module is to provide training in the principles of inhalational sedation and clinical experience in relative analgesia (nitrous oxide/oxygen) sedation technique.

By the end of this module students should:-

1. Have a good understanding of the principles of inhalational sedation
2. Have a clear understanding of the types of machine used to administer relative analgesia (nitrous oxide/oxygen) sedation and their correct and safe functioning
3. Understand the health and safety regulations regarding anaesthetic gas scavenging
4. Be able to use relative analgesia sedation as part of an overall behaviour management strategy for children
5. Be able to prepare paediatric dental patients for relative analgesia sedation
6. Be able to safely administer relative analgesia sedation to paediatric dental patients
7. Be able to undertake operative dentistry on children undergoing relative analgesia sedation
8. Be able to terminate the administration of sedation and discharge the patient safely
9. Be able to recognise and manage sedation-related complications and emergencies

Each student will undergo supervised clinical attachments in relative analgesia (nitrous oxide/oxygen) sedation. These provide the opportunity to gain experience in inhalational sedation skills and in operating on sedated patients. A clinical portfolio of cases treated will be maintained during the course.

Modules 7-8 Sedation Patient Care

The aim of this module is to provide training on the selection, suitability and assessment of patients for sedation, the management of clinical care and safety of the patient during sedation and in the peri-operative period and to consider guidelines on sedation and medico-legal implications that can arise from sedation practice.

By the end of this module students should:-

1. Understand the importance of patient assessment prior to sedation
2. Appreciate the importance of medical status and drug therapy on sedation practice
3. Be able to determine the suitability of patients for out-patient and day-case/in-patient sedation
4. Be able to select the most appropriate sedation technique based on patient assessment, qualification and experience of sedationist and nature of clinical facility
5. Be able to monitor vital signs both clinically and electro-mechanically
6. Understand the function of monitoring equipment
7. Be able to recover the sedated patient and determine fitness for discharge
8. Appreciate the medico-legal implications of using sedation
9. Be aware of national guidelines regulating sedation practice
10. Understand the importance of informed consent
11. Appreciate the rules regarding consent in children and handicapped patients
12. Understand the principles of risk management in sedation practice

Each student will attend a sedation assessment clinic which will provide the opportunity to assess the suitability of patients for sedation and undertake treatment planning. Students will also attend an anaesthetist-led day-case/in-patient sedation session to observe the management of more complex sedation cases, including those which are unsuitable for out-patient sedation and to learn about more advanced techniques.

Module 9 Emergencies and Life Support

The aim of this module is to provide theoretical and practical training in the recognition and management of medical emergencies and in the delivery of immediate life support.

By the end of this module students should:-

1. Be able to diagnose the cause of collapse of a patient

2. Be competent to provide initial emergency care including adult and paediatric basic life support
3. Understand how to maintain a patient's airway using basic and advanced techniques
4. Understand the pharmacology and indications for the use of emergency drugs
5. Be able to administer parenteral emergency drugs safely
6. Have an understanding of the principles and practice of immediate life support
7. Understand the importance of early defibrillation in cardiac arrest
8. Appreciate the role of emergency drugs in immediate life support
9. Be familiar with cardiac arrest treatment algorithms
10. Appreciate how to work effectively as part of an emergency team
11. Be capable of reviewing and changing the protocols for emergency care used in a clinical environment

Modules 10-12 Project and Dissertation

The aim of these modules is to enable the student to develop skills in the design and implementation of project (research or audit) to investigate a specific aspect of conscious sedation or anxiety control in dentistry, leading to the production of a written dissertation.

By the end of these modules students should:-

1. Have an understanding of the principles of designing a clinical research or audit project
2. Have a knowledge of the regulatory procedures required to perform clinical research or audit
3. Have an understanding of methods used for clinical research and audit
4. Be able to effectively search the background literature on a specific topic and critically review published work
5. Be able to create a clinical research or audit question
6. Be able to design, organise and undertake a pilot research project or substantive clinical audit study
7. Be able to undertake simple data analysis and interpretation
8. Be able to draw accurate conclusions and recognise the limitations of an investigation
9. Be able to write an original piece of literature in the form of a comprehensive and structured dissertation
10. Have developed an appreciation of the difficulties of undertaking original research

The main component of self-directed study is the design and implementation of a project (this may be a pilot research project or a clinical audit project) on a topic relating to conscious sedation or anxiety control in dentistry, to culminate in the production of a dissertation.

12 Criteria for Admission:*Entrance Criteria*

This part-time programme is open to registered dental practitioners who have an interest in or experience of practising conscious sedation. Applicants must:-

- a) Hold a primary dental qualification which is recognised by the (UK) General Dental Council
- b) Hold full registration with the (UK) General Dental Council by the commencement of the programme
- c) Have obtained their primary dental qualification at least two years prior to commencement of the programme

Admissions policy

Prospective students must submit a completed application form with an associated proforma statement detailing their prior qualifications and experience, together with two references. Selection is by short-listing against specific criteria and interview. Candidates should be able to demonstrate the necessary academic and clinical ability to be able to cope with the course. They should also show evidence of previous core training or experience in sedation and a demonstrable need for the use of sedation in their own working environment.

13 Support for Students and their Learning:*Induction*

As all of the students on this programme will be studying on a part-time basis with full-time professional responsibilities elsewhere, the usual University pattern of induction is not practical. Information is given in the Diploma Programme Handbook to introduce students to the sources of information/advice available. The students attend a Library introduction session. Any students who need help or guidance with any aspect of becoming/being a postgraduate student are advised to contact the Programme Co-ordinator in the first instance.

Study skills support

Students are provided with details of how to search the medical literature using on-line facilities. They have access to the Library, Journal and interlibrary loan facilities. Students can use the University computing and IT facilities although many live at a distance from the University and prefer to access local libraries and IT facilities. Further individual support is provided by supervisors as necessary.

Academic support

Each student is provided with a project supervisor who provides general advice and guidance with the project work. The network of supervisors is overseen by the Programme Director who provides Tutor support for students as required.

Pastoral support

Students are informed of appropriate sources of support in the Degree Programme Handbook. In practice, students usually consult the Programme Co-ordinator in the first instance. If necessary the Programme Co-ordinator will consult with the Degree Programme Director or individual supervisors for specific support for the student.

Support for Special Needs

Students with special needs can call upon the services of the Disability Unit. In practice this is rarely needed as all students are practising health professionals.

Learning resources

The Robinson and Walton libraries provide a wide range of relevant books, journals and interlibrary loan facilities. Off-campus access to library resources is provided through the University Computing Service. Study guides provide comprehensive and prioritised self-study material/reading lists. Enthusiastic and committed staff provide a staff/student ratio of 1:10 for taught components, 1:5 for practical components and 1:2 for clinical teaching. Lecturers provide hard copy handouts as well as details of web resources.

14 Methods for evaluating and improving the quality and standards of teaching and learning:

Module reviews

Modules are reviewed annually by the Degree Programme Director using students' evaluations, staff reflection on practice and the external examiners report. Changes in clinical practice are also taken into account to ensure that the content remains fit for purpose.

Programme reviews

The programme is reviewed regularly by the Curriculum Committee which includes course teachers and representation from the Postgraduate Institute for Medicine and Dentistry. The aim is to enhance the programme by regular feedback and review. The Curriculum Committee also takes into account the comments from the Board of

Examiners. The Board of Examiners deals with issues of assessment structure, format and grading and is composed of course teachers plus an external examiner.

External examiner reports

The external examiner's reports are considered by the Curriculum Committee and acted upon as appropriate.

Student evaluations

All study days are evaluated with a written questionnaire, gathering opinion on lectures, course teachers and at what level learning outcomes for the day have been achieved. Students are also advised that they can provide feedback directly to the Degree Programme Director and course teachers, either verbally or in writing. On completion of the Diploma programme overall student feedback is assessed by a course evaluation questionnaire.

Feedback Mechanisms

Student evaluations are summarised by the Programme Co-ordinator and discussed at the Curriculum Committee.

Faculty and University Review Mechanisms

The Curriculum Committee reports and is accountable to the Board of Studies (Graduate School Committee) for all taught programmes in the Faculty of Medical Sciences. The Board of Studies is responsible for monitoring and evaluating quality and standards and reports to the Faculty Teaching and Learning Committee and through them to the University Teaching and Learning Committee.

15 Regulation of Assessment

The Diploma in Conscious Sedation is awarded after satisfactory completion of a two-part assessment:

Part I: In-Course Assessment

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| 1. Written/oral assessment | Five written assignments
Three multiple choice question papers
One oral seminar presentation |
| 2. Portfolio of clinical practice and skills | 14 supervised clinical attachments |

Satisfactory completion of Part I is required before the student will be permitted to sit Part II (the Final Examination). An equal weighting of marks is given to the 9 component written/oral assessments and students must obtain an overall mark of 50% to pass the written part I assessment. Students must complete all 14 clinical attachments and obtain a satisfactory grade for each to pass the clinical component of the part I assessment.

Part II: Final Examination

The Final Examination consists of:

1. Written multiple choice and short answer question papers (90 minutes)
2. Sedation viva voce (30 minutes)
3. Resuscitation viva voce (30 minutes)
4. Dissertation viva voce (30 minutes)

Each section of the Final Examination carries an equal weighting of marks. A candidate must pass every section (50%) to pass the Final Examination.

Role of the External Examiner

The external examiner is selected as a senior academic/clinician with expertise in sedation for dentistry. He/she is appointed by the Faculty Teaching and Learning Committee. The external examiner's role is that of moderator. In order to do this the external examiner:-

1. Samples assignments and portfolios from across the range of grades and comments upon standards of marking
2. Moderates marking where there has been any discrepancy between internal markers
3. Scrutinises all provisional fail or borderline dissertations
4. Attends Board of Examiners meetings
5. Reports to the University regarding standards and comparability of standards

16 Indicators of Quality and Standards:

Professional Accreditation Reports

This course is inspected by the main accreditation body for dentistry, the General Dental Council. At the present time the Diploma is not a GDC registerable qualification.

Internal Review Reports

The programme is subject to periodic internal subject reviews by the Postgraduate Institute for Medicine & Dentistry.

This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.

In addition, information relating to the course is provided in:

The University Prospectus

The Departmental Prospectus

The University and Degree Programme Regulations

The Diploma Programme Guide

QAA Subject Review Report