


<b>PROGRAMME SPECIFICATION</b>	
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<b>1</b>	<b>Awarding Institution</b>	Newcastle University
<b>2</b>	<b>Teaching Institution</b>	Newcastle University
<b>3</b>	<b>Final Award</b>	Diploma Sedation in Dentistry
<b>4</b>	<b>Programme Title</b>	Postgraduate Diploma in Conscious Sedation in Dentistry
<b>5</b>	<b>Programme Code</b>	3493P/3491P
<b>6</b>	<b>Programme Accreditation</b>	N/A
<b>7</b>	<b>QAA Subject Benchmark(s)</b>	
<b>8</b>	<b>FHEQ Level</b>	7
<b>9</b>	<b>Last updated</b>	July 2021

<b>10</b>	<b>Programme Aims</b>
<p>The aim of the programme is to provide:</p> <ol style="list-style-type: none"> <li>1. A systematic understanding of the theoretical principles which underpin conscious sedation and anxiety management in dentistry</li> <li>2. A comprehensive practical understanding of clinical skills in techniques of intravenous and inhalational conscious sedation, as applicable to current UK practice in dentistry</li> <li>3. An ability to critically evaluate the evidence-base and clinical issues involved in the safe independent practice of conscious sedation to the highest standard</li> </ol>	

<b>11</b>	<b>Learning Outcomes</b>
<p>The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.</p>	
<b>Knowledge and Understanding</b>	
<p>On completing the Diploma students should have:</p> <ol style="list-style-type: none"> <li>A1 Knowledge of the aetiology and patho-physiology of anxiety in the management of anxious dental patients</li> <li>A2 Systematic understanding of the pharmacology of drugs used for conscious sedation</li> <li>A3 Practical understanding of the selection and assessment of patients for conscious sedation</li> <li>A4 Practical understanding of the clinical skills and techniques used for conscious sedation in dentistry</li> <li>A5 Comprehensive understanding of the peri-operative care of sedation patients</li> <li>A6 Critical knowledge of the of sedation-related and medical emergencies</li> <li>A7 Critical awareness of current guidelines and literature which underpin and regulate the practice of conscious sedation in the UK</li> </ol>	

<b>Teaching and Learning Methods</b>
A1-A7 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 academic staff. They are further developed by written assignments based on the topics of each section, exposure to clinical material during clinical sessions and analysis clinical cases.
<b>Assessment Strategy</b>
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 written assignments, oral presentation, multiple choice question paper, and by the production of a clinical case dissertation.
<b>Intellectual Skills</b>
On completing the Diploma students should be able to:  B1 Critically evaluate the current evidence base on clinical techniques used for adult and paediatric conscious sedation B2 Critically appraise literature and guidelines on conscious sedation and apply these to clinical practice B3 Critically evaluate their own clinical management of patients undergoing sedation for dental procedures
<b>Teaching and Learning Methods</b>
B1-B2 are developed though the teaching and learning strategies as described above. Independent study and completion of written assignments and the clinical case dissertation requiring critical evaluation are particularly important. B3 is developed during the hands-on clinical attachments, with support from the clinical supervisors, and through the analysis of students' own clinical cases.
<b>Assessment Strategy</b>
These are assessed formatively by the completion of written assignments and a clinical case dissertation.
<b>Practical Skills</b>
On completing the Diploma students should be able to:  C1 Assess the suitability of patients for conscious sedation C2 Apply knowledge and skills to managing the peri-operative care of sedated patients C3 Apply clinical skills to manage anxious adult dental patients using intravenous midazolam C4 Apply clinical skills to manage paediatric dental patients using inhalational nitrous oxide/oxygen C5 Evaluate, monitor and manage the clinical condition of sedated patients C6 Develop management strategies to manage sedation-related emergencies C7 Demonstrate application of knowledge and skills in providing a high quality sedation service for dental patients

<b>Teaching and Learning Methods</b>
C1-C7 are sedation-related skills which are developed through practical and clinical sessions which involve the hands on treatment of patients. Practical and clinical teaching is overseen by a clinical supervisor and reinforced by individual feedback at the end of each session.
<b>Assessment Strategy</b>
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 2 Structured Clinical Operative Tests, by developing a reflective clinical portfolio and by compiling a clinical case dissertation.

<b>Transferable/Key Skills</b>
On completing the Diploma students should be able to:  D1 Communicate effectively in writing by means of well-prepared and presented grammatically correct written documents D2 Utilise paper and electronic information resources skilfully and appropriately D3 Plan, organise and prioritise work activities in order to meet deadlines D4 Learn how to solve problems independently D5 Undertake effective oral communication with patients, nursing staff, supervisors and peers D6 Perform practical skills relating to clinical sedation care D7 Maintain a reflective portfolio of clinical training and achievement
<b>Teaching and Learning Methods</b>
D1-D4 are developed with the requirement to research and produce written assignments for each section and to compile a clinical case dissertation underpinned with relevant literature. 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.
<b>Assessment Strategy</b>
Transferable skills are formatively assessed from the completion of written assignments, an oral presentation, a clinical portfolio and a clinical case dissertation.

<b>12 Programme Curriculum, Structure and Features</b>
<b>Basic structure of the programme</b>
The programme, which is part time, extends over one academic year (12 months) and although not modular has a value equivalent to 120 credits. It consists of a formal taught component, directed self-study, clinical practice and preparation of a clinical case dissertation. The curriculum consists of 12 sections which are taught using a range of methods including lectures, seminars, clinical instruction and a substantial amount of self-directed learning.

## **Section 1 Basic Sciences and Pharmacology**

The aim of this section is to provide a systematic understanding of the scientific principles which underpin techniques of conscious sedation and the control of anxiety and pain in dentistry

By the end of this section students will:-

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

## **Section 2 Anxiety and Pain**

The aim of this section is to provide a systematic knowledge of the physiological and psychological foundation for dental anxiety and pain and to critically evaluate the range of techniques that are used in dental anxiety and pain control.

By the end of this section students will:-

1. Have a comprehensive understanding of the psychological basis for dental anxiety and phobia
2. Have a systematic knowledge of behavioural methods available to manage anxiety and phobia in dentistry
3. Be able to apply the physiology and mechanism of pain perception to clinical scenarios
4. Be able to develop management strategies to control pain in the oro-facial region
5. Have a comprehensive understanding of the role of local anaesthesia and systemic analgesics in pain control
6. Be able to critically evaluate the range of sedation techniques available for the provision of dental care in anxious adult and paediatric patients
7. Be able to evaluate the complex issues required in considering referral for general anaesthesia in the management of anxious dental patients

## **Sections 3-4 Intravenous Sedation**

The aim of this section is to provide a comprehensive practical understanding of the principles of intravenous sedation and the practical skills of intravenous sedation technique as applicable to current UK sedation practice

By the end of this section students will:-

1. Have a comprehensive understanding of the principles of intravenous sedation
2. Have a practical understanding of the safe function and use of equipment for intravenous sedation
3. Be able to independently undertake the skill of venous cannulation
4. Be able to safely prescribe and administer the intravenous sedation drug midazolam
5. Have a systematic understanding of how to safely sedate a patient with midazolam to an appropriate end-point
6. Be able to critically evaluate and monitor the clinical condition of a sedated patient

7. Be able to recognise and manage sedation-related problems and emergencies
8. Be able to perform the complex role of operator-sedationist and undertake operative dentistry safely on sedated patients
9. Be able to determine the fitness of a patient for discharge following sedation
10. Be able to critically evaluate 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 reflective clinical portfolio of patients treated will be maintained during the course.

### **Sections 5-6 Inhalational Sedation**

The aim of this section is to provide a comprehensive understanding of the principles of inhalational sedation and practical experience in relative analgesia (nitrous oxide/oxygen) sedation technique.

By the end of this section students will:-

1. Have a systematic understanding of the principles of inhalational sedation
2. Have a comprehensive knowledge of the correct and safe functioning of machines used to administer relative analgesia (nitrous oxide/oxygen) sedation
3. Be able to critically evaluate the health and safety recommendations regarding anaesthetic gas scavenging
4. Be able to apply the principles of relative analgesia sedation to paediatric behaviour management strategy
5. Be able to undertake pre-operative preparation of dental patients for relative analgesia sedation
6. Be able to apply knowledge to safely administer relative analgesia sedation to dental patients
7. Be able to demonstrate the complex role of operator-sedationist and undertake operative dentistry on patients undergoing relative analgesia sedation
8. Be able to terminate the administration of sedation and discharge the patient safely
9. Be able to evaluate 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 reflective clinical portfolio of cases treated will be maintained during the course.

### **Sections 7-8 Sedation Patient Care**

The aim of this section is to provide a systematic understanding of the complex issues involved in the selection and assessment of patients for sedation, the management of clinical care and safety of the patient during sedation and in the peri-operative period. This section also aims to provide a critical evaluation of guidelines on sedation and medico-legal implications that can arise from sedation practice.

By the end of this section students will:-

1. Have a critical awareness of the importance of patient assessment prior to sedation

2. Be able to critically evaluate the complex issues of medical status and drug therapy in assessing patients for sedation
3. Be able to apply knowledge on patient assessment to evaluate the suitability of patients for out-patient and day-case/in-patient sedation
4. Be able to undertake practical monitoring of vital signs both clinically and electro-mechanically
5. Be able to evaluate the safe and correct function of monitoring equipment
6. Be able to manage the recovery of sedated patients and determine fitness for discharge
7. Have a systematic understanding of the medico-legal implications of using sedation
8. Be able to critically evaluate national guidelines on sedation practice
9. Be able to manage the complex issues required in obtaining consent
10. Have a comprehensive understanding of the rules of consent in children and patients with disabilities
11. Understand the pivotal role of the sedation team in providing safe patient care

Each student will attend a sedation assessment clinic which will provide the opportunity to assess the suitability of patients for sedation and undertake decision-making during treatment planning.

### **Section 9 Emergencies and Life Support**

The aim of this section is to provide a systemic theoretical understanding and practical application of knowledge in the recognition and management of medical emergencies and in the delivery of immediate life support. The training will provide Immediate Life Support certified by the Resuscitation Council of the UK.

By the end of this section students will:-

1. Be able to critically evaluate and diagnose the cause of collapse
2. Be able to competently provide practical emergency care including adult and paediatric basic life support
3. Have a comprehensive understanding of how to maintain a patient's airway using basic and advanced techniques
4. Be able to critically evaluate the indications for the use of emergency drugs
5. Be skilled in the safe practical administration of parenteral emergency drugs
6. Have an systematic understanding of the principles and practice of immediate life support
7. Be able to recognise and apply cardiac arrest treatment algorithms
8. Be able to play an effective role as part of an emergency team
9. Be capable of critically evaluating and change protocols for emergency care used in a clinical environment

### **Sections 10-12 Clinical Case Dissertation**

The aim of this section is to provide an evidence-based, reflective analysis of the clinical care of patients undergoing conscious sedation for dental treatment. It will enable students to apply their sedation clinical skills and knowledge in a work-based environment and will lead to the production of a comprehensive account of patients that they have personally managed, underpinned by application of knowledge of current sedation literature and guidelines.

By the end of these sections students will:-

1. Be able to give a comprehensive, chronological account and a reflective, critical analysis of the management of adult and paediatric patients who have undergone sedation for dental care
2. Be able to explain how the facilities, equipment and staffing enable the safe provision of sedation and the importance of a team approach to patient care
3. Be able to undertake comprehensive assessment of sedation patients and demonstrate sound decision-making in treatment planning, taking into account the patients demands, expectations, social and medical context
4. Be able to explain how to safely prescribe and administer sedation drugs and give an account of how to safely sedate patients
5. Be able to monitor and evaluate the clinical condition of a sedated patient, including the safe and correct functioning of monitoring equipment and be able to explain how to prevent, identify and manage sedation-related problems and emergencies
6. Be able to recover a sedated patient and determine the parameters and fitness of a patient for discharge following sedation
7. Be able to critically evaluate the limitations and risks of sedation according to best evidence-based practice and have a systematic understanding of the medico-legal implications of sedation care including the complex issues required in obtaining consent
8. Be able to critically evaluate the relevant literature and interpret clinical guidelines applicable to sedation care
9. Be able to reflect on the outcome of treatment and demonstrate a sound understanding of evidence-based practice.
10. Be able to communicate effectively in writing by means of a well-prepared and presented clinical case dissertation

<b>Key features of the programme (including what makes the programme distinctive)</b>
The programme is one of the few in the UK that provides dentists with Masters level Diploma postgraduate training in sedation. The External Examiner for the Diploma endorsed the programme as “gold standard in the UK”. The Diploma provides students with the key knowledge base and skills in conscious sedation that are required to practice conscious sedation safely as an independent practitioner. Students develop the ability to critically evaluate the evidence-base so that they can provide sedation to the highest standard and apply these skills in their continuing professional development.
<b>Programme regulations (link to on-line version)</b>
<a href="https://teaching.ncl.ac.uk/docs/regsdocs2021/documents/-R3493P,%203491P_vFinal.pdf">https://teaching.ncl.ac.uk/docs/regsdocs2021/documents/-R3493P,%203491P_vFinal.pdf</a>
<b>13 Support for Student Learning</b>
For information on support for student learning please see link below:  <a href="https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf">https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf</a>

<b>14    Methods for evaluating and improving the quality and standards of teaching and learning</b>
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For information on methods for evaluating and improving the quality and standards of teaching and learning please select link below:
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<a href="https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf">https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf</a>
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<b>15    Regulation of assessment</b>
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For information on regulation of assessment please select link below:
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<a href="https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf">https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf</a>
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The University Prospectus: <a href="http://www.ncl.ac.uk/postgraduate/courses/">http://www.ncl.ac.uk/postgraduate/courses/</a>
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Degree Programme and University Regulations: <a href="http://www.ncl.ac.uk/regulations/docs/">http://www.ncl.ac.uk/regulations/docs/</a>
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Please note. 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.
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