Standards for Conscious Sedation in the Provision of Dental Care

Report of the Intercollegiate Advisory Committee for Sedation in Dentistry

2015

The dental faculties of the royal colleges of surgeons and the Royal College of Anaesthetists

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

RCS ADVANCING SURGICAL STANDARDS

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Executive summary

1. This report creates a national standard for the use of conscious sedation in the delivery of dental care. The standards apply to all who practise conscious sedation techniques, whether they are dentists, doctors, nurses or dental care professionals.

2. Conscious sedation is an important modality that forms one strand of the delivery of dental care to patients who have significant anxiety. This document describes the clinical techniques that are available for conscious sedation in dentistry and the appropriate environments for their delivery.

3. The report defines the age of a child as being an individual of under 12 years in respect of the delivery of conscious sedation. It is recognised that a numerical definition has limitations when considering both physical and mental maturity. The clinical team and facilities required for the dental treatment of younger patients under conscious sedation are defined in this report. It is recognised that significant development and investment will be required to meet these requirements.

4. Dental care is provided for the benefit of our patients. This report makes recommendations about ensuring that they receive the best care, which requires that the healthcare team makes available both verbal and written information of high quality in a form that is easily assimilated by patients, their parents or carers.

5. Patients have the right to expect a high quality service to meet their dental needs. This can only be achieved through robust, validated education and training of the entire dental team. Educational or training courses that teach clinical techniques preparing individuals for independent practice must include supervised clinical practice. The requirement for high quality education underpins the report.

6. The requirements for high quality education, which include supervised clinical practice, may limit the number of providers that are able to provide training courses.

7. Sedation services must demonstrate a high level of safety and a continuing improvement in quality. The use of appropriate audit tools to review clinical outcomes is an essential component of good clinical practice. Careful and reflective use of such data will enhance patient safety and improve the quality of care.

8. It is recommended that a system for reporting adverse events in the delivery of conscious sedation in dentistry be developed for those working in independent practice. This should parallel systems currently used in National Health Service (NHS) institutions.

9. The report recognises the need for healthcare professionals not only to gain knowledge and skills but also to maintain and further develop them. Individuals who wish to practise conscious sedation must undergo regular continuing education in the techniques that they use. Those using a technique of conscious sedation infrequently should consider whether it is in the best interests of patients for them to continue to use it.

10. All centres providing conscious sedation for the delivery of dental care should be inspected to determine that the necessary standards are in place. This is currently the responsibility of the relevant agencies in each country in the UK.

11. It is recognised that some of the recommendations of this report will have far-reaching consequences. Implementation may have significant implications for providers and for those who commission dental clinical services but safety of patients is our priority.

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Foreword

The Intercollegiate Advisory Committee for Sedation in Dentistry (IACSD)[1] defines standards for the provision of conscious sedation in dentistry in the UK.

This publication creates a national standard for conscious sedation in dentistry and replaces the previous documents *Conscious Sedation in the Provision of Dental Care* (2003),[2] *Standards for Conscious Sedation in Dentistry* (2007)[3] and *Conscious Sedation in Dentistry* (2012).[4]

It is to be read in conjunction with *Safe Sedation Practice for Healthcare Procedures* published by the Academy of Medical Royal Colleges in October 2013[5] and *Sedation in Children And Young People* published by the National Institute for Health and Care Excellence (NICE) in December 2010.[6] There are differences in laws, regulations, ethical guidance and governance between different countries in the UK and Ireland; this report describes best practice but it is incumbent on individuals to be aware of the laws and regulations as they pertain in the country in which they work.

Where conscious sedation is used to facilitate dental treatment, it is essential that it is provided to the highest possible standards. Quality standards coupled with the specific needs of the patient have correctly received increased emphasis and there is an imperative for the best possible quality of care. This can only be achieved through education and training of the workforce to defined standards and by ensuring that the environment in which care is delivered meets similarly defined standards. Clinical skills can only be maintained through rigorous and ongoing review of the care that has been provided as well as the continual pursuit of knowledge and skills. Robust education and training underpins safe and effective dental care for patients requiring dental sedation, and this therefore forms a significant element of this report.

Optimal care is patient-centred and focuses on the needs of the individual. For techniques of conscious sedation in dentistry, this document describes the methods available and the appropriate environment for their delivery. The foundation for this report is high quality training and robust assessment of outcomes. High quality care recognises the need for audit and reflection together with the requirement that skills once gained are subject to interval re-assessment and evaluation.

The implementation of this report is essential for the provision of clinical services that ensure appropriate management and patient safety. The first part of the report provides core information. Each heading is then expanded into the later sections to give essential details covering the delivery of dental care using conscious sedation. The clinical standards, training and assessments described in this document apply to all dentists, doctors and healthcare professionals who provide or directly support sedation for the delivery of dental care.

Introduction

The effective management of anxiety and pain is an essential part of the delivery of dental care. Behavioural management, the use of local analgesia and methods of conscious sedation are all central components of care for patients who are frequently anxious about receiving dental treatment. Conscious sedation, provided when appropriate, in a skilled manner and in the correct environment, is widely used, valuable and effective.

There is a continuum from the fully conscious state to the unconscious when all protective reflexes have been lost. The publication from the Academy of Medical Royal Colleges, *Safe Sedation Practicce for Healthcare Procedures*,[5] gives the definitions of sedation and describes clearly this continuum from minimal sedation through to general anaesthesia, which is accompanied by increasing depression of the physiological systems. This increases the likelihood of adverse events and an increasing depth of sedation is accompanied by an escalation in the competency required to ensure safe sedation practice.

This document addresses conscious sedation, which is defined as:

… a technique in which the use of a drug or drugs produces a state of depression of the central nervous system enabling treatment to be carried out, but during which verbal contact with the patient is maintained throughout the period of sedation. The drugs and techniques used to provide conscious sedation for dental treatment should carry a margin of safety wide enough to render loss of consciousness unlikely.[4–7]

The level of sedation must be such that the patient remains conscious and is able to both understand and respond to verbal commands either alone or accompanied by a light tactile stimulus.

In the case of individuals who are unable to respond to verbal contact even when fully conscious, the normal method used for communicating with them must be maintained.

Options for care

There is a range of modalities that can assist in the management of anxiety to facilitate the provision of high quality dental care. Conscious sedation is just one option for the control of anxiety, and it is essential that all options are considered and explained to the patient (and, where appropriate, the carer) before a decision is reached.

This is based on establishing the best patient management and involves provision of information, counselling and reassurance as primary measures of anxiety control.

When pain control is required for a dental procedure to be carried out under conscious sedation, appropriate use of local analgesia is also required. Conscious sedation is not a substitute for effective behaviour management and local analgesia.

Behaviour management, local analgesia or general anaesthesia may each have a role in facilitating patient care. A practitioner must therefore make a careful, thorough assessment of the patient and his or her needs before deciding that the use of conscious sedation is indicated. The decision to use a particular approach must be based on a full assessment in respect of healthcare history, psychological needs and overall management. The use of conscious sedation may be indicated for special care patients, certain medical indications or difficult clinical situations.[8]

However, conscious sedation is designed only to facilitate the delivery of dental care. It is essential that patients who are to be managed using conscious sedation are assessed carefully and also receive a dental assessment. The treatment plan must be agreed with the patient and any carer; ideally, this should be done in advance of the procedure.

The patient should receive the treatment most appropriate for his or her oral condition and circumstances. Care pathways are seen as encouraging good practice and, where available, should be followed.

The age when an individual ceases to be a child in respect of the provision of dental care under sedation cannot be defined numerically. In relation to conscious sedation, the description of the Resuscitation Council (UK) is pertinent where a child is defined as being between 1 year of age and puberty.[9] The lower end of the range for the onset of puberty is considered to be 12 years but may be earlier or later when physical maturity is considered.[10]

Patients who have not reached puberty are physiologically immature and will require a sedation team member with paediatric resuscitation skills. Providers and commissioners will need to consider this when planning services for this group of patients.

Any child under 12 years of age with complex oral needs or any child under 12 years who cannot be managed with either:

a) behavioural management techniques/local analgesia
or
b) local analgesia plus inhalation sedation

with the responsible dental practitioner having received appropriate training should be referred to a team having skills equivalent to those expected of a specialist/consultant in paediatric dentistry and a consultant in anaesthesia competent in sedation for dentistry for assessment and treatment in

a facility equivalent to an NHS Acute Trust in England.* This would include care provided by a managed clinical network or a recognised care pathway.

Any young person aged 12–16 years with complex oral needs or any young person aged 12–16 years who cannot be managed with *either*:

a) behavioural management techniques/local analgesia

or
b) local analgesia plus inhalation sedation

or
c) local analgesia plus midazolam (all routes)

with the responsible dental practitioner having received appropriate training should be referred to a team having skills equivalent to those expected of a specialist/consultant in paediatric dentistry and a consultant in anaesthesia competent in sedation for dentistry for assessment and treatment in a facility equivalent to an NHS Acute Trust in England.* This would include care provided by a managed clinical network or a recognised care pathway.

This report focuses on conscious sedation in dentistry, which is an adjunct to the delivery of oral healthcare for patients. Appropriate assessment and proper dental treatment planning for each patient are mandatory. This is important for all patients and symptomatic dental care is not in any patient's long-term best interests. In particular, where dental needs are complex, the involvement of colleagues with additional skills is always likely to be beneficial and is sometimes essential.

There is a range of options available to support clinicians and patients in deciding on the best management and care of patients who are unable to receive routine care. Selection of the most appropriate pathway must be decided by patient need and some of these may be time-specific.

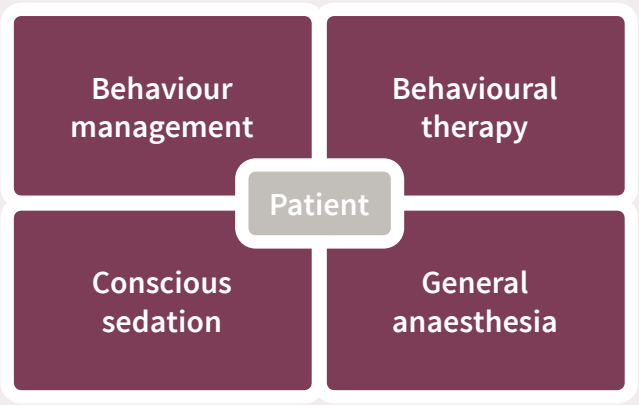

Figure 1
The options for managing dental anxiety.

Some of the issues involved are anxiety, a pronounced gag reflex, a traumatic procedure, the level of patient co-operation, the nature of the clinical care required and the time needed to deliver treatment.

The options should be considered carefully and the selection at any one point in time will depend on a range of factors relating to the patient, for example the nature and urgency of care. The chosen option must be justified in the clinical records.

Figure 1 shows the major options for managing anxiety. Patients may require different support services at different points in their dental care, which are also dependent on the complexity of the treatment. Consideration should therefore also be given to the most appropriate modality for the patient next time dental treatment is to be carried out and whether this will require a different provider.

Where there are particular patient needs for the management of anxiety or other aspects that affect the individual's ability to receive dental treatment (e.g. a pronounced gag reflex), referral to another provider may be in the patient's best interests. When referring a patient, clear referrals must be made, the guidance described by the Dental Sedation Teachers Group should be followed[8] and the responsibilities described by the General Dental Council (GDC) in the UK must be met.[11]

*Scotland: an NHS Board; Wales: a Health Board; Northern Ireland: a Health and Social Care Trust

Preparation for sedation

Consent for treatment

The patient requires clear and comprehensive information regarding the proposed treatment as part of the process of gaining valid consent. Valid consent is necessary for all patients receiving dental care under conscious sedation and this must be confirmed in writing. Consent should follow the principles set out in the GDC's *Standards for the Dental Team*.[11] Consent is a complex process, and different laws and regulations apply at different ages in different countries in the UK. Practitioners must be aware of the laws that apply in their own country.

Patients and, when appropriate, those with parental responsibility and carers require information to be provided in a way that can be understood before the process of valid consent can be completed.[6,12] Patients who are already sedated cannot be regarded as competent to take valid decisions regarding consent for treatment. Consent for dental treatment attempted under these circumstances is not valid.

Consent obtained on the day of treatment is not appropriate except when immediate treatment is in the best interests of the patient. Consent obtained prior to the day of treatment must also be re-confirmed on the actual day of treatment.

The capacity to consent depends on a person's ability to understand and voluntarily weigh up options rather than age.[12] A person is unable to make a decision if they cannot do one or more of the following:

- understand the information given to them that is relevant to the decision
- retain that information long enough to be able to make the decision
- use or weigh up the information as part of the decision-making process
- communicate their decision – this could be by talking or using sign language and includes simple muscle movements such as blinking an eye or squeezing a hand.[13]

The *Mental Capacity Act 2005*[12] states that if a person lacks mental capacity to make a particular decision, then whoever is making that decision or taking any action on that person's behalf must do this in the person's best interests. For the purposes of consent, 'children' refers to people aged below 16 years and 'young people' refers to people aged 16–17 years. All people aged 16 years of age and over are presumed in law to have the capacity to consent to treatment unless there is evidence to the contrary.

Children aged under 16 can be legally competent if they have sufficient understanding and maturity to enable them to understand fully what is proposed. If the child is deemed not legally competent, consent will need to be obtained from someone with parental responsibility, unless it is an emergency.

Families of children under the age of 16 years should be involved in decisions about their care unless there is a very good reason for not doing so. However, if a competent child under 16 is insistent that their family should not be involved, their right to confidentiality must be respected, unless such an approach would put the child at serious risk of harm.[14]

Patient information

Written information for adult and child patients, those with parental responsibility, carers and escorts must be supplied. This is to be used in conjunction with the clinical pre-operative assessment and face-to-face discussions and explanation. It must include the range of techniques appropriate for both the relief of anxiety and the behaviour management appropriate for the dental treatment needs of the individual.

Adult patients will receive written information at the pre-operative visit. For child patients receiving sedation, information in written form for both the child and those with parental responsibility and carers will be supplied at the time of the clinical assessment.

Written information about the sedation procedures available and the specific technique planned for the adult or child patient will need to conform to the local health provider's patient information policy. This will be subject to local stakeholder consultation and audit. Written patient information must be provided sufficiently in advance of the procedure to allow patients and carers time to absorb the information and comply with the instructions given.

Information regarding the sedation technique should contain a description of the sedation procedure that has been suggested and recommended as the most appropriate management technique for the individual patient, including its benefits, risks and alternatives.8 It should take into account the subjective feelings expected to be experienced by the patient during and after the sedation. The information must also include relevant contact details of the care provider as well as the out-of-hours contact details for emergency advice and services.

Instructions for the pre- and post-operative periods must be suitable for each age group of patients and their escorts and carers.

Adults and young people

For adult patients and young people, clear instructions must be provided regarding the practical arrangements to be followed pre- and post-operatively. These will include the responsibilities of the escort pre- and post-operatively. The patient must also receive a separate information sheet describing the responsibilities of the escort, which the patient must give to the escort. Practitioners should bear in mind the limitations of patients and escorts in following such instructions.

Children

For those with parental responsibility for patients under 16 years of age, the information must include preparation of the child prior to the appointment as well as post-operative instructions for the sedation provided and the dental treatment performed.

For children, separate age appropriate information regarding the sedation procedure should also be provided. For very young children, it should be remembered that this may need to be in a very simplified form, and that written information must be used in conjunction with (and not instead of) a face-to-face explanation and discussion of the sedation technique with the child or young person involved.

Written information forms only a part of the overall psychological preparation of an adult or child who is to receive dental care in combination with sedation. Psychological preparation in the form of cognitive behavioural therapy, distraction, guided imagery, hypnosis, demonstration play therapy and music therapy may form part of the preparation.[15] The techniques used to reduce fear and anxiety will need to match the needs of the individual patient to facilitate a successful treatment outcome.

Further documents providing examples of intercollegiate guidance on content and style are presented in *Section 4: Patient information* and in Appendix 3.

The information provided should reflect the guidance given to the patient. There is a requirement for clear and accurate information to be provided for patients, those with parental responsibility, carers and escorts. Written patient information should be prepared in line with NHS guidance reflecting the needs of the different patient groups using the service, for example patients with learning disabilities or where English is not the first language.[15]

Fasting

The need for fasting prior to dental treatment under conscious sedation continues to be the subject of significant discussion. The Academy of Medical Royal Colleges publication *Safe Sedation Practice for Healthcare Procedures,*[5] with which this report is aligned, devotes a section to fasting, which is quoted in full:

'Pre-operative fasting for sedation is controversial and considered unnecessary by some authorities within dentistry and emergency medicine for conscious sedation.[2,16] *Airway reflexes are assumed to be maintained during moderate and minimal sedation, and lost during general anaesthesia. It is not clear where the point of loss of reflexes lies, or if such a point exists. The argument is that using minimal and moderate sedation, airway reflexes are maintained but this does not consider the potential for inadvertent over-sedation and the loss of protective airway reflexes.*[17] *In the United Kingdom the loss of verbal communication/ deep sedation is deemed to require the same level of care as general anaesthesia,*[7] *and many practitioners therefore follow accepted fasting guidance.*[18,19]

Guidance from NICE on sedation of children[6] *recommends fasting before sedation unless the sedation is limited to:*

- *minimal sedation*
- *sedation with nitrous oxide (in oxygen)*
- *moderate sedation during which the child or young person will maintain verbal contact with the healthcare professional*

For elective procedures using any sedation other than the above (and specifically for deep sedation and moderate sedation during which the child or young person might not maintain verbal contact with the healthcare professional) the 2-4-6 fasting rule applies (that is, two hours for clear fluids, four hours for breast milk and six hours for solids).

For an emergency procedure in a child or young person who has not fasted, the decision to proceed with sedation should be based on the urgency of the procedure and the target depth of sedation.

Careful consideration on a case-by-case basis of the patient's presenting condition, co-morbidities, the nature of the procedure and the limitations of the environment, is important to evaluate the risks of aspiration.

Clinicians who choose to sedate patients without fasting should be prepared to justify this choice.'

Advice on eating and drinking prior to the appointment for treatment under any form of conscious sedation should be given to the patient verbally and in writing at the assessment visit. This must be recorded in the patient's clinical records.

Clinical environment for sedation

The physical environment, supporting facilities and equipment must be appropriate for the delivery of dental care under sedation.[2] All providers of conscious sedation services are responsible for ensuring that the environment in which care is delivered is appropriate for the needs and safety of patients, carers and staff. All centres providing conscious sedation for the delivery of dental care should be inspected to determine that the necessary standards are in place.

The correct equipment and facilities for the delivery of the type of care required must be used, and must conform to accepted standards for health and safety. All appropriate equipment must be available in working order when sedation is being provided and during recovery. Equipment must be maintained in accordance with the schedule described by the manufacturers. Records of the maintenance of equipment must be retained and made available for subsequent formal inspections.

The clinical setting must permit access for the emergency services and the transfer of the patient.

Further information on the requirements for the premises and the equipment required together with a patient pathway may be referenced in the form of a checklist. An example of this will be found at http://www.saad.org.uk/safepractice2015/.[20]

Nature of the clinical team for sedation

Table 1 in *Section 2: Clinical sedation techniques* describes the clinical team required for each conscious sedation technique. All members of the care team must have the relevant knowledge and skills for the technique being used, as defined by their scope of practice and competencies.

Clinical skills are underpinned by validated education and training while knowledge and continuing competence must be maintained through appropriate continuing professional development.

Techniques of sedation

There is a range of techniques of conscious sedation available. The selection of a technique must be appropriate for the individual patient and not chosen simply for operator or sedationist convenience or at the insistence of a third party. The practitioner providing the sedation must be trained and competent in the technique used, and each individual in the team caring for the patient must also have the necessary validated skills.

Essential principles of safe sedation practice

1. The use of sedative drugs does not negate the need for good communication skills and a sympathetic manner.

2. No one technique is suitable for all patients. However, adopting the principle of minimum intervention, the simplest and safest technique that is likely to be effective, based on robust patient assessment and clinical need, should be used.

3. Titrating a drug/drugs to effect is critical to safely achieving a recognised sedation endpoint (i.e. conscious sedation) and avoiding inadvertent over-sedation. The initial dose must have taken full effect before an additional dose is given. Safe sedation demands knowledge for each drug of time of onset, peak effect and duration of action.

4. While over-sedation must be avoided, under-sedation will have an adverse effect on the patient and the delivery of effective treatment.

5. As a general rule, single drugs are easier to titrate to effect and safer than sequential administration of two or more drugs. Drugs used in combination may produce synergistic effects, have differing times to onset and peak effect, and may be unpredictable or difficult to titrate to effect. Safety margins may be narrowed, increasing the likelihood of overdose, loss of consciousness, respiratory depression and the need for airway interventions. Benzodiazepines may be up to eight times more potent after prior administration of opioid and so must be titrated with care.[21]

6. Anaesthetic drugs and infusions (e.g. propofol) used as sedative agents have narrower therapeutic indices and reduced margins of safety, potentially increasing the likelihood of adverse events.

7. Multiple/anaesthetic drug techniques should only be considered by those skilled in their use, where there is clear clinical justification, after having excluded simple techniques, and must only be used in an approved setting where team skills are sufficient to resuscitate and stabilise a patient until the arrival of the emergency services.

Specific techniques

The essential aspects of each technique are listed below and more detailed information is provided in *Section 2: Clinical sedation techniques*. For all conscious sedation techniques other than inhalation sedation with nitrous oxide/oxygen, competence in cannulation is mandatory.

Oral pre-medication and oral sedation
There is a difference between pre-medication and oral sedation. Oral pre-medication involves the self-administration of a small dose of an oral sedative to alleviate anxiety. This usually takes place outwith the dental practice. Subsequent doses of sedative drugs may need to be reduced accordingly. Oral sedation involves the administration of a much larger dose of an oral sedative at the dental practice. The monitoring and discharge requirements for oral sedation are the same as for intravenous sedation. Oral sedation must only be administered in the place where the dental treatment is provided and must only be carried out by practitioners who are already competent in intravenous sedation.

Nitrous oxide/oxygen sedation (inhalation sedation): A titrated dose of nitrous oxide in oxygen is the first choice inhalation sedation technique.

Midazolam (intravenous sedation): A titrated intravenous dose of midazolam is usually the first choice intravenous sedation technique.

Midazolam (oral sedation):
Midazolam is now considered the first choice agent for oral sedation. Oral techniques are not titratable and should only be used when titratable sedation techniques are inappropriate.

Temazepam (oral sedation):
Historically, temazepam was the first choice oral sedative for use in dentistry. Its use has been largely superseded by midazolam. Oral techniques are not titratable and should only be used when titratable sedation techniques are inappropriate.

Midazolam (intranasal sedation):
Intranasal sedation is one of a group of routes of administration referred to as transmucosal sedation. These techniques have become more popular in recent years, especially in special care dentistry. As with oral sedation, these techniques are not titratable and should only be used when titratable sedation techniques are inappropriate.

Opioid and midazolam (intravenous sedation): This is an intravenous technique where a single small dose of an opioid (usually fentanyl) is followed by a titrated dose of midazolam. It is used for patients for whom midazolam alone does not produce adequate anxiolysis.
Ketamine (oral/intravenous sedation): Ketamine is increasingly being used for paediatric dental conscious sedation. However, until more evidence on its use and safety is published, it is difficult to offer detailed guidance.

Midazolam (patient-controlled sedation): The IACSD is unaware of anyone currently using patient-controlled midazolam for conscious sedation in dentistry in the UK but it is included here for completeness.

Propofol (patient-controlled sedation): There have been a number of studies published in which patient-controlled propofol conscious sedation has been examined. The availability of safe and reliable, licensed delivery systems needs to be investigated.

Propofol (target-controlled infusion sedation): Target-controlled infusions of propofol are widely used for sedation in many medical and dental fields. These techniques require the presence of a dedicated sedationist. They are particularly useful for both very long and very short procedures as well as for patients who have developed a tolerance to benzodiazepines.

Midazolam and propofol (intravenous sedation): This technique is particularly useful for longer dental procedures. The sedation is induced with a titrated dose of midazolam and then maintained with a continuous infusion of propofol. As with propofol administered alone, this technique requires a dedicated sedationist.

Sevoflurane (inhalation sedation): Techniques involving the use of a titrated dose of sevoflurane in oxygen or in nitrous oxide and oxygen have been studied in paediatric dental patients. These techniques appear to be more effective than a titrated dose of nitrous oxide in oxygen but have yet to achieve widespread acceptance. A dedicated sedationist is required for these techniques owing to the lack of availability of a simple delivery system suitable for use in a dental environment.

Peri-operative care

Monitoring

The principles of monitoring are described in ***Safe Sedation Practice for Healthcare Procedures***.[5] During conscious sedation the patient responds to verbal commands. Cognitive function and physical co-ordination may be impaired but airway reflexes, ventilatory and cardiovascular functions are usually unaffected. The sedationist or another appropriate person who has capability within his or her scope of practice must monitor the patient throughout the procedure and will wish to confirm at regular intervals that the patient is conscious. If this level of sedation is exceeded, the team caring for the patient must have the appropriate skills to manage the situation.

As well as monitoring the depth of sedation and patient comfort, it is vital to provide clinical monitoring and electronic and mechanical monitoring appropriate to the technique and the medical status of the patient. There must be a written contemporaneous record of the monitoring of the patient that is in accordance with the clinical sedation technique used.

Clinical and instrumental monitoring relevant to the patient's medical status and the clinical setting must be used. For inhalation sedation with nitrous oxide, clinical monitoring will usually suffice. As a minimum for all other techniques, monitoring should include pulse oximetry as well as non-invasive blood pressure monitoring pre-operatively, at appropriate intervals during the procedure and post-operatively.[5] All members of the clinical team must be capable of monitoring the condition of the patient.[2] The monitoring requirements specific to each technique are recorded in Table 2 in *Section 3: Peri-operative care.*

Complications

Conscious sedation delivered appropriately by trained, competent individuals in a suitable environment can deliver benefits for patients. However, there can be risks, of which the patient should be made aware, and complications that the clinical team needs to manage.

'Rescue' is the term used to describe the management of adverse events that may occur during the delivery of dental treatment under conscious sedation. It is essential that the team delivering care is able to recognise such adverse events and manage them appropriately and safely. These events may be medical, dental or related to the sedation.

The dentist's responsibility is to manage complications resultant from medical or dental emergencies. The sedationist, who may be a dentist, doctor or dental hygienist and therapist, must be able to manage any complication arising from the sedation itself and from medical emergencies.

The dentist, dental hygienist and therapist, sedationist and dental nurse must be competent

in life support. The role of each of member of the team must be clearly defined and the procedures to be followed known and rehearsed at regular intervals. There must be evidence of regular scenario-based team training in the management of potential complications associated with conscious sedation. The provider of dental care and the provider of the sedation service must be able to maintain life support for a patient until such time as the emergency services are able to attend.

Recovery, discharge and aftercare

The presence of a suitable third party to take responsibility for the patient at the time of discharge is an essential requirement for sedation using anything other than inhalation sedation with nitrous oxide/oxygen in adults. Children under 16 years of age require an escort for inhalation sedation.

For all other forms of sedation for adults and children, an escort is required. If the attendance of an escort cannot be assured, treatment under sedation must not be provided.

Recovery from sedation remains the responsibility of the care team until the patient can be discharged into the care of the responsible adult escort. Recovery is a progression from the peak effects of the sedation.

During recovery, the patient must be supervised; a trained member of the dental team must be responsible for the patient and monitor the individual throughout this period. See Table 2 in *Section 2: Clinical sedation techniques*. All necessary equipment and drugs must be available to support recovery and to manage any complications that may arise.

The decision to discharge the patient is the responsibility of the sedationist, with each patient being assessed on an individual basis. Verbal and written instructions for the post-operative period must be provided for both the patient and the responsible adult escort. Examples of the written instructions are provided in *Section 4: Patient information* and in Appendix 3. They must include the post-operative risks, pain control and possible post-operative complications together with the aftercare arrangements and emergency contacts.

Patients should be formally assessed for suitability for discharge from the clinical area where sedation has taken place. Discharge criteria include:

1. The patient is orientated in time, place and person.
2. Vital signs are stable and within normal limits for the patient. Respiratory status is not compromised.
3. Pain and discomfort have been addressed.
4. Where relevant, haemostasis has been observed.
5. The cannula, where inserted, has been removed.
6. The responsible escort is present and arrangements have been made for supervision as advised by the sedationist.
7. Written and verbal post-operative instructions appropriate for both the sedation and the dental treatment have been given to the patient and escort/carer.
8. Advice has been given regarding precautions in the post-sedation period. This must be related to the dental treatment and the use of any local analgesia, the type of sedation and their duration. The precautions should include not drinking alcohol, operating machinery, driving or making important decisions for a specified period of time.
9. Arrangements for post-operative analgesia have been made where appropriate.
10. Arrangements are in place for out-of-hours advice.

Clinical governance and audit

Conscious sedation procedures must be the subject of robust and regular audit in which all members of the team take part. The focus must be an ongoing review of procedures and processes with analysis of outcomes and modifications made to procedures and techniques as necessary.

Records of the audit process and outcomes from them must be maintained and be available for inspection. Regular high quality audit is an essential component of a service and is considered to be a core requirement for those delivering conscious sedation for patients.

In addition, clinical governance, clinical effectiveness and regular audit form a central part of risk management. In NHS institutions there are computerised reporting systems where clinical incidents must be recorded. Independent practitioners should parallel these processes to investigate all adverse events. Sedation teams must maintain high quality full clinical records and a written or electronic clinical log. Each clinical team must maintain continuous and contemporaneous records of the number and types of sedation cases performed as well as the rate of any complications that may have arisen.

Safe Sedation Practice for Healthcare Procedures[5] describes a number of critical incidents that should be reported and investigated locally. Midazolam over-sedation and failure to monitor oxygen saturation during sedation (other than during inhalation sedation with nitrous oxide/oxygen) are defined as 'never events' by the Department of Health in England.[22] These must be reported centrally in England and Wales to the National Reporting and Learning System[23] and, if applicable, to the body commissioning the care.

This report recommends the use of a national system for recording adverse clinical incidents by all dentists, doctors and healthcare professionals who provide or directly support sedation for the delivery of dental care. This should be used both in NHS services and in the independent sector. The Safe Anaesthesia Liaison Group (SALG)[24] aims to highlight potential or existing patient safety issues that fall in the anaesthesia care pathway. Part of the remit of SALG is to encourage incident reporting for the purpose of learning, which is facilitated by the confidential nature of the reports.

It is recommended that the use of this well-established mechanism by all those engaged in the delivery of conscious sedation in dentistry is explored.

Education and training

This report defines the standards for education and training in conscious sedation in the UK, the details of which are provided in *Section 5: Education and training* and in Appendix 1. All members of the delivery and care team must have undertaken appropriate validated education and training and demonstrated an acceptable level of competence by means of a robust assessment process. Courses that are solely didactic and skills-based without supervised clinical practice, assessment and external quality assurance do not constitute sufficient training for unsupervised practice in those clinical techniques.

Both knowledge and clinical skills must be maintained. It is the responsibility of individual team members to ensure that relevant continuing professional development to maintain knowledge, skills and competence is undertaken at appropriate intervals.[25]

For revalidation in a sedation technique, a practitioner must undergo a minimum of 12 hours of continuing professional development every 5 years that are relevant to the techniques practised. This applies to dentists, medical practitioners, recovery nurses, dental care professionals and all members of the team providing conscious sedation. Practitioners not regularly practising a technique must consider either the need for mentoring and/or retraining or discontinuing its use.

Educational courses intended to provide training in clinical delivery of conscious sedation and to prepare the team for independent practice must be assessed, be externally quality assured and incorporate supervised clinical practice. The IACSD through the dental faculties of the UK surgical royal colleges will accredit all courses in conscious sedation for dentistry other than those run by UK universities, Health Education England, NHS Education for Scotland, the Wales Deanery, the Northern Ireland Medical and Dental Training Agency, and Schools of Anaesthesia where quality assurance mechanisms including supervised clinical practice are in place. The Certificate in Dental Sedation Nursing of the National Examining Board for Dental Nurses (or any equivalent qualification from other accredited awarding bodies) is the recognised pathway for dental nurses wishing to train in the care of patients being treated under conscious sedation.[26]

Furthermore, through the dental faculties of the UK surgical royal colleges, the IACSD will form a sub-committee to accredit other providers of clinical courses for conscious sedation in dentistry. The membership of this sub-committee will contain appropriate experience and clinical expertise in dental sedation techniques as well as the assessment and quality assurance of education and training. Accreditation for a course can be retained for three years assuming there are no substantive changes to the programme. Appendix 2 sets out the requirements for course accreditation.

The content to be covered in the education and training of the dental team is described in the syllabuses in Appendix 1. These are derived from current documents produced by specialist societies,[27–29] expert groups[4,26,29–32] and royal colleges.[33] There is a further separate syllabus for

anaesthetists published by the Royal College of Anaesthetists.[34] The syllabuses are preceded by a table of generic learning outcomes for training in conscious sedation in dentistry. Each of the five syllabuses is a standalone element.

Syllabus 1: Dentists: Basic conscious sedation techniques for children, young people and adults

Syllabus 2: Dentists: Advanced conscious sedation for young people and adults

Syllabus 3: Dentists: Advanced conscious sedation for children

Syllabus 4: Dental hygienists and therapists: Inhalation sedation

Syllabus 5: Dental nurses: Assisting during conscious sedation

The generic learning outcomes and the five syllabuses are contained in Appendix 1.

Sections

The further details of the report are provided in five sections:

1. Care pathways
2. Sedation techniques
3. Peri-operative care
4. Patient information
5. Education and training

Section 1: Care pathways

Primary dental care provides the majority of NHS dentistry across the UK, with community/salaried and hospital dental services providing additional care when required because of patient need and complexity. The data on sedation delivered to support care in hospitals are combined with those for general anaesthesia and information on the level of sedation services is not obtainable separately. Sedation services are also available in conjunction with private dental care and these data are not accessible. A report in Northern Ireland, however, suggests that just over half of sedation services are provided in the private sector.[35]

The data from England indicate that there is currently a static overall volume of sedation services provided each year in primary dental care under the present system of commissioned NHS care. In 2013–2014, there were circa 136,000 courses of treatment involving the use of conscious sedation.[36]

In-depth analysis reveals that there is marked variation, suggesting inequalities in access to NHS sedation services. There is variation in the rate of provision by region, age and socio-economic status. There is evidence of children and adults from all age groups having sedation as an adjunct to care with the peak age-band being children aged 6–12 years. Across almost all age groups, children and adults from more deprived areas make greater use of NHS sedation services. This indicates a clear social gradient that mirrors poor oral health and less frequent uptake of dental care. In Wales, the majority of sedation services are provided by the community dental service, with adults making up the majority of patients, which reflects the role of the community dental service in providing special care dentistry.

Research suggests that the need for sedation services may be higher than the level of current provision and that while most patients receiving sedation services do require this support, a minority may not.[37–40]

Patients should receive the appropriate support for care at the right time and in the right place. This report highlights the importance of having access to a range of supportive approaches to enable good 'behaviour management' through access to 'behavioural therapies' such as cognitive behavioural therapy[41] as well as conscious sedation and general anaesthesia services. The provision of dental care in the NHS in the UK is moving towards the establishment of appropriate care pathways.[42] The definition of care pathways describes a methodology for the mutual decision-making and organisation of care for a well-defined group of patients during a well-defined period.

A 'whole systems approach'[43] should be taken to examine the level of need nationally (and locally) across service providers, with a care pathway approach being used to ensure that dental professionals have access to the necessary support services for their patients across healthcare organisations. This will ensure that patients receive

appropriate care at each stage of their dental journey. In support of this, planners and commissioners of services should audit the provision of these adjuncts to care, by assessing access, quality and capacity to meet need. The systems approach would examine the need of the people in the system and prioritise provision of services for those in greatest need. Information on local access to the full range of adjuncts should be clearly available for patients and dental care providers, with the needs of the patients being paramount in a patient-centred healthcare system.[43]

By way of an example, a generic care pathway for child patients is shown in Figure 2. This provides guidance on the most appropriate management of anxiety to facilitate optimal dental care and to determine the environment in which such care should be delivered. In respect of the dental care of children, additional clinical guidance for dentists is available.[44–49]

The use of this type of guidance provided by expert clinical groups is to be encouraged. It is anticipated that care pathways will become increasingly common in dentistry and that they will facilitate the commissioning of government-funded dental services, including those for conscious sedation in the provision of dental care.

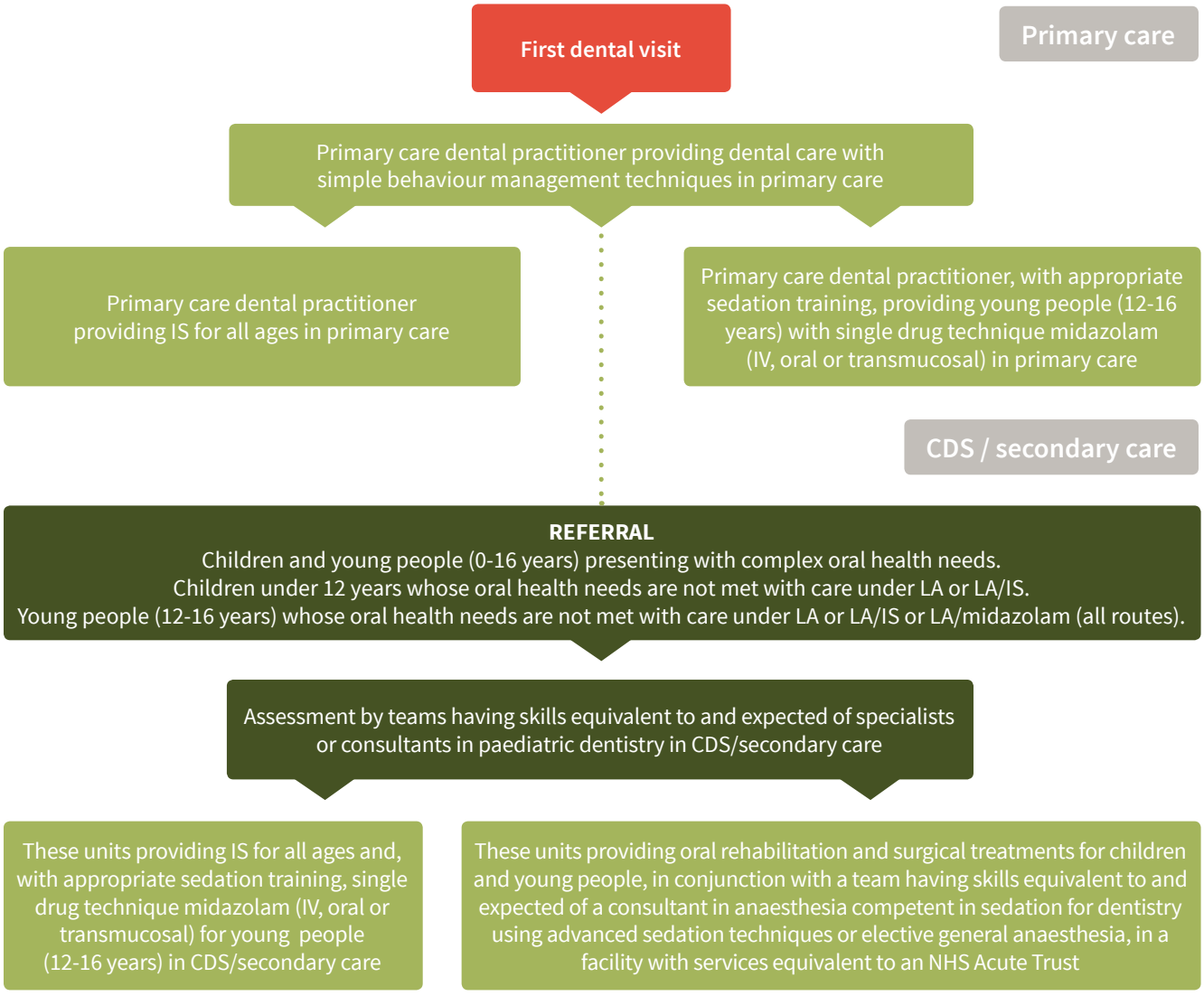

Figure 2
A care pathway for children and young people aged 0–16 years
CDS = community dental services (formerly: salaried dental services) – in Scotland: public dental service;
IS = inhalation sedation; IV = intravenous; LA = local analgesia

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Section 2: Clinical sedation techniques

The techniques available for conscious sedation in dentistry are tabulated below. The contents should be read in conjunction with the notes that follow the table. Table 1 specifies:

- the level of education and training required of the practitioner and quantifies the supervised clinical practice required to demonstrate competence
- the necessary life support skills for all team members
- the minimal monitoring requirements
- the nature of the clinical team required to deliver each modality
- the setting where the modality may be provided

Further details of the skills and knowledge required by the operator-sedationist and/or the sedationist and the other members of the team may be found in Appendix 1.

Table 1
Requirements for clinical sedation techniques

	Initial theory and skills training	Additional theory and skills training	Recommended minimum clinical experience in monitored practice to achieve competency (number of cases appropriate to age group)	Life support training for all team members	Other rescue measures (vi)	Monitoring (in addition to clinical)*	Operator-sedationist (with second appropriate person)	Dental nurse training (viii)	Environment (primary = 1; secondary = 2) (ix)
Nitrous oxide / oxygen (i)(ii)	Y	N	10	ILS PILS	Resp dep Airway		Y	CDSN / equivalent	1/2
Midazolam, intravenous (i)(ii)	Y	Adults: N Paeds: Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry	Y	CDSN / equivalent	1/2
Temazepam, oral (i)(ii)	Y	Adults: N Paeds: Y	10	ILS PILS	Resp dep Airway	NIBP Pulse oximetry	Adults: Y Paeds: N/A	CDSN / equivalent	1/2
Midazolam, oral (i)(ii)	Y	Adults: N Paeds: Y	10	ILS PILS	Resp dep Airway	NIBP Pulse oximetry	Y	CDSN / equivalent	1/2
Midazolam, intranasal (i)(ii)	Y	Adults: N Paeds: Y	10	ILS PILS	Resp dep Airway	NIBP Pulse oximetry	Y	CDSN / equivalent	1/2
Opioid + midazolam (i)(ii)(iii)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	Adults: Y Paeds: N	CDSN +	Adult: 1/2 Paeds: 2
Ketamine (all routes) (i)(ii)(iv)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	N	CDSN +	Adult: 1/2 Paeds: 2
Midazolam, PCS (i)(ii)(v)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	Adults: Y Paeds: N/A	CDSN +	1/2
Propofol, PCS (i)(ii)(v)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	Adults: Y Paeds: N/A	CDSN +	1/2
Propofol, TCI (i)(ii)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vi)	N	–	2
Midazolam + propofol (i)(ii)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	N	–	2
Sevoflurane (i)(ii)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	N	–	2
Sevoflurane + nitrous oxide / oxygen (i)(ii)	Y	Y	20	ILS PILS	Resp dep Airway	NIBP Pulse oximetry (Cap) (vii)	N	–	2

Cap = capnography; CDSN = Certificate in Dental Sedation Nursing; ILS = Immediate Life Support; N/A = not applicable; NIBP = non-invasive blood pressure monitoring; PCS = patient-controlled sedation; PILS = Paediatric Immediate Life Support; Resp dep = respiratory depression; TCI = target-controlled infusion
*See also Section 3: Peri-operative care

Notes:

i) Age

Patients who have not reached puberty are physiologically immature and will require a sedation team member having paediatric resuscitation skills. Providers and commissioners will need to consider this when planning services for this group of patients.

Any child under 12 years of age with complex oral needs *or* any child under 12 years who cannot be managed with *either*:

a) behavioural management techniques/local analgesia

or

b) local analgesia plus inhalation sedation

with the responsible dental practitioner having received appropriate training should be referred to a team having skills equivalent to those expected of a specialist/consultant in paediatric dentistry and a consultant in anaesthesia competent in sedation for dentistry for assessment and treatment in a facility equivalent to an NHS Acute Trust in England.* This would include care provided by a managed clinical network or a recognised care pathway.

Any young person aged 12–16 years with complex oral needs *or* any young person aged 12–16 years who cannot be managed with *either*:

a) behavioural management techniques/local analgesia

or

b) local analgesia plus inhalation sedation

or

c) local analgesia plus midazolam (all routes)

with the responsible dental practitioner having received appropriate training should be referred to a team having skills equivalent to those expected of a specialist/consultant in paediatric dentistry and a consultant in anaesthesia competent in sedation for dentistry for assessment and treatment in a facility equivalent to an NHS Acute Trust in England.* This would include care provided by a managed clinical network or a recognised care pathway.

ii) Terminology

Over the last decade, the terms 'standard'/'alternative' and 'basic'/'advanced' have been used to differentiate the most commonly employed sedation techniques from those used to manage the small number of patients for whom the simpler techniques do not provide appropriate anxiolysis. For adults, the first five techniques in Table 1 are 'standard' or 'basic' (but note that competency in intravenous sedation is mandatory for oral and intranasal sedation). For children under 12 years of age, only nitrous oxide/oxygen is considered to be 'basic'. The 'basic' techniques all have an excellent safety record and are of proven efficacy for a wide range of patients.

The vast majority of patients (probably >95%) may be managed using one of these simple and cost-effective techniques, which are suitable for use by an appropriately trained and experienced operator-sedationist. However, it is essential that both training and experience are relevant to the age group being managed. It should also be borne

*Scotland: an NHS Board; Wales: a Health Board; Northern Ireland: a Health and Social Care Trust

in mind that what are normally considered to be operator-sedationist techniques may sometimes be more effective and/or safer when the sedation is provided by a dedicated sedationist and a separate operator, for example when:

- the patient is medically compromised, has a physical disability or is emotionally challenging
- either the operator or the sedationist is relatively inexperienced
- the patient has a history of being particularly difficult to manage
- the dental procedure is complex or prolonged
- patients are at the extremes of age

iii) Opioid + midazolam

The use of a small single dose of an opioid (most commonly fentanyl) followed by titrated midazolam (intravenous) is considered suitable for the operator-sedationist working in a primary care setting on condition that the dentist and second appropriate person have successfully completed recognised training programmes, have an appropriate level of experience, and that only American Society of Anesthesiologists (ASA) grade I and II adults (>16 years of age) are treated.

iv) Ketamine

Ketamine is increasingly being used for paediatric conscious sedation in the UK, either alone or in combination with midazolam. Evidence that paediatric patients may be better managed using ketamine alone is accumulating but until this is published, it is impossible to offer detailed guidance. It should therefore currently only be used by an appropriately trained and experienced dedicated sedationist who is not also carrying out the dental treatment. This applies to all age groups.

v) Patient-controlled sedation

The IACSD is unaware of anyone currently providing patient-controlled sedation for paediatric dental sedation. The availability of licensed delivery systems and further dentistry-specific research might clarify the safety and efficacy of this technique.

vi) Management of complications

The term 'rescue' derives from anaesthetic practice and means the ability to respond appropriately to correct the adverse physiological consequences that can sometimes accompany inadvertent over-sedation (i.e. hypoventilation, loss of airway and hypoxia), for example if the patient unintentionally becomes deeply sedated, overshooting the intended target state of conscious sedation. As applied to conscious sedation for dentistry, it is taken to mean that a dentist using conscious sedation must be able to manage deep sedation and its attendant risks.

Anyone providing conscious sedation must be able to manage any event that might reasonably arise. The changing requirements from the GDC and the Resuscitation Council (UK) are reflected in this report.[50–53] All the IACSD syllabuses (Appendix 1) state that practitioners must be able to perform Immediate Life Support/Paediatric Immediate Life Support, depending on the patient's age, and that they must be able to recognise and manage sedation-related complications (including over-sedation, respiratory depression/apnoea, unconscious patient, airway obstruction, vomiting, idiosyncratic responses, delayed recovery, failure of conscious sedation). 'Deployable' airway competencies (including basic airway manoeuvres, the use of airway adjuncts and the ability to administer positive pressure ventilation) are mandatory. The widespread establishment of high-fidelity clinical skill and resuscitation teaching centres has facilitated the acquisition of these mandatory skills.

vii) Capnography

Sampled exhaled gas or transcutaneous capnography may be appropriate for some 'at risk' ASA grade III/IV dental patients, particularly those receiving supplemental oxygen during sedation. However, despite the growing pressure for it to be used universally in the UK, until the results of dentistry-specific research are available, its routine use for ASA grade I and II dental patients lacks high level scientific validation and cannot be recommended.

viii) Dental nurse training

Dental sedation nurses (referred to historically as 'the second appropriate person') must be trained and experienced in the sedation technique being used. The National Examining Board for Dental Nurses (NEBDN) offers a qualification in dental sedation nursing (the Certificate in Dental Sedation Nursing [CDSN]) but, at present, less than 10% of sedation nurses have gained this award. Employers should encourage all sedation nurses to work towards this or an equivalent qualification. The CDSN is based on the relevant IACSD education and training syllabus contained in this report. 'CDSN +' indicates that additional drug/technique-specific training is required in addition to the CDSN.

ix) Environment

Irrespective of the clinical setting, where multiple drugs (e.g. fentanyl/midazolam) or anaesthetic drugs (propofol, sevoflurane) are used to provide conscious sedation, the sedation team must have immediate access to the equivalent range of skills and facilities to be found in an NHS Acute Trust* for the prompt recognition and immediate management of adverse events. The classification of the environment as 'primary' and 'secondary' in Table 1 is convenient but must be interpreted sensibly as the facilities available in some primary care settings exceed those of some hospitals.

*Scotland: an NHS Board; Wales: a Health Board; Northern Ireland: a Health and Social Care Trust

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Section 3: Peri-operative care

During conscious sedation the patient responds to verbal commands. Cognitive function and physical co-ordination may be impaired but airway reflexes, ventilatory and cardiovascular functions are little affected. The sedationist or other person who has capability within his or her scope of practice must monitor the patient throughout the procedure. As well as monitoring the depth of sedation and the patient's comfort, there must be a written contemporaneous record of the clinical and electro-mechanical monitoring of physiological systems required for specific sedation techniques.

The recommendations in Table 2 apply to ASA grade I/II patients receiving conscious sedation for dental treatment. Clinical monitoring involves checking the level of consciousness/depth of sedation, airway patency, respiration (rate and depth), skin colour, capillary refill, pulse rate, rhythm and volume while non-invasive blood pressure (NIBP) monitoring also records heart rate. NIBP is not essential in children. Intra-operative measurements may be useful in longer cases. Pulse oximetry provides a visual display and audible indication of arterial oxygen saturation as well as heart rate and rhythm. Audible alarms must not be silenced. Additional monitoring (e.g. end-tidal or transcutaneous capnography, electrocardiography) may be appropriate for ASA grade III/IV patients, particularly those with chronic lung disease.

Table 2

Intra-operative care and monitoring

	Pre-operatively ('Baseline')	Intra-operatively	Post-operatively (Stage 1: unable to walk to recovery)	Post-operatively (Stage 2: ambulant with escort)
Nitrous oxide / oxygen	Clinical	Clinical	Clinical	Clinical
Midazolam, intravenous	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Temazepam, oral	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Midazolam, oral	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Midazolam, intranasal	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Opioid + midazolam	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Ketamine (all routes)	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Midazolam, PCS	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Propofol, PCS	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Propofol, TCI	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Midazolam + propofol	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP
Sevoflurane + nitrous oxide / oxygen	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP Pulse oximetry	Clinical NIBP

NIBP = non-invasive blood pressure; PCS = patient-controlled sedation; TCI = target-controlled infusion

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Section 4: Patient information

The report has emphasised the importance of full and comprehensive information being provided for patients, parents and carers. Examples of information for patients, those with parental responsibility and carers are provided both in this section and in Appendix 3. It is intended that these will form helpful guidance for dentists in the drafting of locally developed patient information, which must be given to patients in both verbal and written form. The issuing of correct and comprehensive patient information forms one essential aspect of valid consent.

Clear information must be provided that prepares patients for dental treatment under sedation. This information should explain the procedure, the pharmacological process, and the benefits and risks associated with the selected form of sedation.

It should be imparted as part of a face-to-face explanation to the patient at the time of clinical pre-operative assessment and must then be supported by the provision of written information. Best practice in the process of consent dictates that this information should be provided prior to the day of the procedure. In addition, information must be provided for patient escorts. For paediatric dentistry, information for those with parental responsibility and carers is also required, together with age appropriate information for the child or older adolescent.

Examples for children, young people, adults, parents and those with parental responsibility are given in Appendix 3. All the examples have been reviewed by both clinicians and lay representatives.

The examples meet the requirements of plain English and have been approved by the dental faculties of the surgical royal colleges and the Royal College of Anaesthetists. They can be reproduced *in their entirety* with this acknowledgement. The examples may also be amended to meet the specific requirements of the clinician, in which case their approval by the royal colleges is no longer valid.

In Wales, there must be compliance with the Welsh Language Act.

The following core information must be included in any locally developed patient information:

What is conscious sedation?

This information must:

- explain the need for a robust medical assessment to ascertain a full medical, dental and social history prior to treatment
- give advice on other options and alternatives
- explain the fact that consciousness is maintained, and the difference between the effect of sedation and general anaesthesia
- explain the consent process
- give clear guidance on fasting
- explain what to expect during the recovery period
- explain clearly the requirement for a competent escort at discharge home
- describe the risks and benefits of the proposed type of sedation

What is inhalation sedation?

This information should:

- describe the use and administration of nitrous oxide/oxygen through a nosepiece
- explain the likelihood of any particular effects this might have and the need for care on discharge
- describe clearly the associated risks and the consent process

For paediatric patients, under the age of 16 years, information should be provided for parents or those with parental responsibility.

What is intravenous sedation?

This information should:

- give the reasons for the use of intravenous sedation
- explain its method of administration
- describe the process and the specific drug(s) to be used
- describe clearly the associated risks and the consent process
- confirm the need for a patient escort

In addition to information for adults, age appropriate information should be provided for older adolescents. Information must also be provided for parents or those with parental responsibility.

For intravenous sedation with multiple agents, there must be (in addition to the previously stated information) a clear explanation of the rationale for the technique. Explicit information regarding heightened risk to enable valid consent must be included.

What is oral sedation?

The information should:

- explain the nature of oral sedation to include the unpredictability of effect
- clarify that the sedative drug is given under the direct supervision of the sedationist, and reinforce the distinction between oral sedation and pre-medication
- confirm the need for intravenous access during the procedure
- describe clearly the associated risks and the consent process
- confirm the need for a patient escort

In addition to information for adults, information must also be provided for parents or those with parental responsibility.

What is transmucosal sedation?

The information should:

- explain the administration of the drugs via a nasal spray
- explain the time to effect of the sedation and confirm the need for intravenous access during treatment
- describe clearly the risks and benefits as well as the consent process, with consideration being given to the specific requirements regarding consent and limited capacity
- confirm the need for a patient escort

The information provided to patients must reflect the clinical guidance in relation to risk, consent, fasting and age appropriate sedation as stated in this report .

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Section 5: Education and training

The following generic learning outcomes and syllabuses have been produced as a guide for both those currently practising or planning to practise conscious sedation for dentistry as well as those who provide or plan to provide education and training in conscious sedation for dentistry. These apply not only to the dental team but also to medical practitioners wishing to provide conscious sedation for dental procedures. Anaesthetists will follow the syllabus of the Royal College of Anaesthetists. It is envisaged that practitioners will map their education and training to the generic learning outcomes, knowledge, skills and attitudes described in the relevant syllabus, and that course providers (both existing and prospective) will use the information for the development, evaluation and review of their curricula.

The generic learning outcomes provide a high level description of the knowledge, skills and attitudes applicable to all members of the multi-disciplinary team, and encapsulate the broader context in which conscious sedation is delivered in clinical dental practice. As such, these learning outcomes apply to all five syllabuses.

Each syllabus describes the detailed knowledge, skills and attitudes required of specific members of the multi-disciplinary team providing care for dental patients requiring conscious sedation and may relate to a particular area of practice. They contain the following sections:

1. General professional conduct
   1.1 Maintaining good clinical practice
   1.2 Relationships with patients, parents and carers
2. Sedation-related content

Courses should be provided by nationally recognised institutions and bodies, and teachers should be appropriately experienced dental sedationists in the techniques that are being taught. Courses designed to lead to independent clinical practice require accreditation, the requirements for which are described in Appendix 2.

Training providers must ensure that all trainees understand the importance of complying with contemporary guidance relating to the environment, facilities and equipment required for each sedation technique.

Different legal and regulatory frameworks in the devolved authorities may necessitate amendments to some sections of the syllabuses (e.g. consent).

The learning outcomes are specific to the particular drugs listed. The development in the future of new treatment modalities and the regular review of existing ones will necessitate revision of the existing syllabuses as well as provision of specific education and training courses.

It is not envisaged that one course will offer training in the use of all drugs/drug combinations.

Although written for dental professionals, the principles in this document apply to all who administer conscious sedation for dentistry. The syllabuses define the knowledge, skills, attitudes and behaviours required of dental and medical practitioners wishing to train in the administration of conscious sedation for dentistry. This includes those anaesthetists not in possession of a Certificate of Completion of Training and documented evidence of satisfactory completion of equivalent training in conscious sedation for dentistry under the auspices of a Royal College of Anaesthetists approved training programme.

Appendix 1 contains:

- the generic learning outcomes
- Syllabus 1: Dentists: Basic conscious sedation techniques for children, young people and adults
- Syllabus 2: Dentists: Advanced conscious sedation for young people and adults
- Syllabus 3: Dentists: Advanced conscious sedation for children
- Syllabus 4: Dental therapists and dental hygienists: Inhalation sedation
- Syllabus 5: Dental nurses: Assisting during conscious sedation

Appendix 1:
Training in conscious sedation: Generic learning outcomes

The following table describes the generic learning outcomes that should apply to all members of the multi-professional team involved in providing care for dental patients requiring conscious sedation, commensurate with their scope and level of practice.

Domains of practice	Generic learning outcomes On successful completion of the programme, practitioners should, in keeping with their scope and level of practice, be able to:	Suggested teaching and learning method(s)	Suggested assessment method(s)
Knowledge and critical understanding	Demonstrate an understanding of the role of conscious sedation techniques in dentistry Understand the range of control of pain and anxiety techniques Understand the importance and influence that the patient's general health may have on the use of conscious sedation Demonstrate the knowledge to practise effective conscious sedation Understand the importance of complying with contemporary guidance relating to the environment, facilities and equipment required for conscious sedation Demonstrate a critical understanding of the issues involved in the scientific basis of conscious sedation	CBL SDL ST	FA MSF PDP WBA
Intellectual skills	Understand limitations, benefits and risks of conscious sedation techniques Recognise own limitations, reflect on experiences and appreciate the need for continuing education Explain the concept of multi-disciplinary care of patients and teamwork	CBL SDL ST	FA MSF PDP WBA
Practical skills	Assess patients who require conscious sedation for dentistry Practise effective and safe conscious sedation Assess recovery of patients from conscious sedation Remain calm, decisive and purposeful while handling difficulties or complications	ACI CA CBL SDL ST	FA MSF PDP WBA
Personal attitude	Empathise with patients and demonstrate the ability to communicate effectively with patients, parents, carers and colleagues	CA CBL SDL ST	MSF PDP WBA

Key: *Teaching and learning methods*

ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

The syllabuses that follow are designed to provide dentists, dental therapists/hygienists and dental nurses with the educational experience (including the knowledge, critical understanding, intellectual skills, practical skills and personal attitude) to enable them to provide effective, high quality conscious sedation for dental patients.

Appendix 1:

Syllabus 1: Dentists: Basic conscious sedation techniques for children, young people and adults

1. General professional content

1.1 *Maintaining good clinical practice*

Each learning outcome should be prefaced by: *'On completion of training, the trainee in basic conscious sedation techniques for children, young people and adults…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Professional approach	the requirements of an effective dental sedationist the different models of working as part of a team	provide basic conscious sedation techniques	behave in a professional manner	CBL	MSF PDP
Life-long learning	the requirements for continuing professional development	recognise and take advantage of learning opportunities for all members of the team providing basic conscious sedation maintain a personal development portfolio and assist others in doing so monitor own performance through audit and feedback	comply with General Dental Council requirements for revalidation	CBL SDL ST	PDP WBA
Evidence	the principles of evidence-based practice	critically appraise evidence provide constructive feedback	use evidence in support of patient care and to defend decisions taken	ST	WBA
Written records	the principles and guidelines for good clinical note keeping the reasons for confidentiality	communicate effectively through written records apply the principles of confidentiality in the context of written records	take account of confidentiality requirements and legal requirements relating to written, electronic and digital records, and their transport and storage	CBL ST	WBA
Use of information technology	the principles of retrieval and utilisation of data recorded in clinical systems	apply the principles of confidentiality in the context of information technology	take account of the legal aspects relating to holding electronic and digital records demonstrate a positive and proactive attitude to new technology	ACI ST	WBA
Organisational framework for clinical governance and its application in practice	the elements of clinical governance the principles of clinical governance, in particular related to infection control	participate actively in clinical governance participate in audit report serious untoward incidents	recognise the importance of teamwork in implementing a clinical governance framework recognise and take account of the learning from serious untoward incidents	ACI SDL ST	PDP WBA
Risk assessment and risk management	the principles of risk assessment	carry out risk assessments develop and apply relevant procedures develop and monitor action plans to obviate further risk	recognise the value of risk assessments	ACI CBL	WBA
Audit (general)	the principles of internal and external quality assurance the audit process	initiate and complete audit projects demonstrate improvement as the result of audit	recognise the benefit of audit to patient care and individual performance	ACI ST	PDP WBA
Guidelines	the content of guidelines applicable to the practice and delivery of basic conscious sedation techniques	interpret and apply guidelines applicable to the practice and delivery of basic conscious sedation techniques	show regard for individual patient needs when utilising guidelines	ACI CBL ST	PDP WBA

Patient safety	the principles of Immediate Life Support the management of medical emergencies in the dental surgery the principles of management of fitness to practise cases the role of organisations charged with ensuring patient safety	perform Immediate Life Support instigate management of medical emergencies in the dental surgery	show regard for patient safety recognise the importance of team training in the management of medical emergencies in the dental surgery	CBL ST	WBA
Relevance of outside bodies	the role of: -General Dental Council -Department of Health -royal colleges -specialist societies -defence societies -patient advocacy groups	communicate with and involve these bodies in appropriate situations	demonstrate acceptance of professional regulation share best practice participate in peer review	SDL ST	PDP WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

1.2 *Relationships with patients, parents and carers*

Each learning outcome should be prefaced by: *'On completion of training, the trainee in basic conscious sedation techniques for children, young people and adults…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Informed consent	the principles of valid consent the principles of the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] the process for gaining valid consent	obtain valid consent in relation to young people and adults having basic conscious sedation techniques assess capacity and obtain assent where appropriate work with other agencies to obtain a best interest decision and agreement to treat in circumstances where there is lack of capacity share information appropriately when necessary to safeguard vulnerable adults	respect patients' and parents'/ carers' autonomy and wishes, including their right to refuse treatment even when treatment would be in their best interests	CBL SDL ST	WBA
Confidentiality	relevant strategies to ensure confidentiality the situations when confidentiality might be broken	apply the principles of confidentiality in relation to clinical care	respect the right to confidentiality	CBL SDL ST	WBA
Legal issues	the legal issues relating to the practice and delivery of basic conscious sedation techniques	work within relevant legal frameworks	demonstrate empathy while acting in the patient's/family's best interests	CBL SDL ST	WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

2. Sedation-related content

Each learning outcome should be prefaced by: *'On completion of training, the trainee in basic conscious sedation techniques for children, young people and adults…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Dental anxiety	the history of pain and anxiety control in dentistry the causes, signs and symptoms of dental anxiety and phobia the spectrum of anxiety management techniques, including behavioural/non-pharmacological methods, conscious sedation and general anaesthesia the distinction between conscious sedation and general anaesthesia techniques for communicating with people of all ages and abilities	recognise advances in pain and anxiety control in dentistry recognise the causes, signs and symptoms of dental anxiety and phobia apply their knowledge of the spectrum of anxiety management techniques, including behavioural/non-pharmacological methods, conscious sedation and general anaesthesia communicate with people of all ages and abilities	recognise the value of effective pain and anxiety control in dentistry demonstrate a caring attitude to anxious patients demonstrate a willingness to employ the most appropriate anxiety management technique for individual patients	SDL ST	FA PDP WBA
Anatomy and physiology	anatomy and physiology relevant to the use of conscious sedation for dentistry, particularly: - cardiovascular - respiratory - neurological the anatomical and physiological differences between children, young people and adults as well as how these relate to the use of conscious sedation assessment of previous and current airway problems to anticipate potential difficulties during sedation or if ventilation is required	apply their knowledge of anatomical structures and physiological responses in planning and providing conscious sedation apply their knowledge of the anatomical and physiological differences between children, young people and adults in planning and providing conscious sedation carry out airway assessment and anticipate potential difficulties during sedation or if ventilation is required		SDL ST	FA PDP WBA
Pharmacology	the applied pharmacology of drugs used in basic conscious sedation for children, young people and adults, for example: - nitrous oxide/oxygen - benzodiazepines the terminology describing levels of sedation (minimal, conscious, moderate, deep) and general anaesthesia important drug interactions: - between sedation drugs - of sedation drugs with other prescribed medication differences in the pharmacokinetic and pharmacodynamic effects when drugs are administered by different routes	apply their knowledge of pharmacology of the drugs used in sedation to the practical situation in such a way as to select drugs that are safe and appropriate for the individual patient apply their knowledge of sedation drugs and prescribed medication to avoid drug interactions in the clinical setting	demonstrate a willingness to use this knowledge in treatment planning as well as in the provision of basic conscious sedation techniques in adults, adolescents and children	SDL ST	FA PDP WBA

Patient assessment	how to obtain accurate and detailed information about past and current medical/surgical conditions (e.g. current and previous medication, allergies)	take a detailed medical, family, social and dental history to identify medical and surgical conditions that impact on safe delivery of conscious sedation	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of conscious sedation	SDL ST CA	FA PDP WBA
	when to ask for specialist medical advice or clarification of the patient's medical history and when to liaise with personnel from other disciplines	seek specialist medical advice or clarification of the patient's medical history and liaise with personnel from other disciplines identify serious problems that might impact on safe delivery of conscious sedation and know when to ask for clarification	be willing to seek specialist medical advice or clarification of the patient's medical history and to liaise with personnel from other disciplines		
	how information about medical problems associated with previous conscious sedation or anaesthesia may influence future management				
	the relevance of the patient's ASA status potential problems relating to the administration of conscious sedation for younger and older patients	assess potential problems relating to the administration of conscious sedation for younger and older patients			
	the use of weight and height data, growth charts and normal ranges to estimate a child's stage of physical development the significance of the maturity of airway development and any problems that might arise due to airway abnormalities how the patient's psychological and developmental status may influence management	carry out a physical examination to identify children: - with serious problems that might impact on the safe delivery of conscious sedation - who are not in the normal range			
	how the planned dental procedure may influence the choice of conscious sedation technique	select the most appropriate conscious sedation technique for the planned dental procedure			
	the assessment of the suitability of peripheral veins for cannulation	assess the suitability of peripheral veins for cannulation			
	consideration of the evidence and guidance relating to fasting	recognise when fasting is desirable			
	the provision of pre- and post-sedation instructions for patients and escorts in an age appropriate format	provide pre- and post-sedation instructions for patients and escorts in an age appropriate format			
	appropriate communication techniques for children, young people and adults	communicate effectively with children, young people and adults			

Sedation drug selection	the process of selecting a safe, effective and appropriate sedation technique in terms of both the drug selection and the route of administration	choose a safe, effective and appropriate sedation technique in terms of both the drug selection and the route of administration	take account of the indications and contraindications for conscious sedation as well as the various agents and routes of administration when planning individual patient care	ACI CA CBL SDL ST	FA MSF PDP WBA
	the indications and contraindications for conscious sedation using: - benzodiazepines - nitrous oxide/oxygen	recognise the indications and contraindications for conscious sedation using: - benzodiazepines - nitrous oxide/oxygen			
	the selection of the most appropriate agents for each patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience	select the most appropriate agents for each patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience			
	the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)	administer sedation according to the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)			

Administration of sedation	the physical signs of both conscious (moderate) and deep sedation as well as how to recognise the conscious sedation endpoint	clinically monitor the patient, including the depth of sedation	show continuous regard for patient safety	ACI CA CBL SDL ST	FA MSF PDP WBA
	the equipment required for administration of intravenous and inhalation sedation	select the equipment required for administration of intravenous and inhalation sedation			
	local anaesthetic drugs and techniques	select the most appropriate local anaesthetic drug and technique for individual patients			
	the selection of a peripheral vein for cannulation, the signs and symptoms of extravascular injection, and the safe removal and disposal of an intravenous cannula	select a suitable peripheral vein for cannulation, demonstrate the signs and symptoms of extravascular injection as well as the safe removal and disposal of an intravenous cannula			
	how to check an inhalation sedation machine and scavenging system	check the functioning and safety features of an inhalation sedation machine and scavenging system			
	how to connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine	connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine			
	how to clinically monitor a patient to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and how to respond appropriately to changes	clinically monitor patients to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and respond appropriately to changes			
	the use of appropriate electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS) and how to respond to changes	select and demonstrate the use of appropriate electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS) and respond to changes			
	common electrical monitoring artefacts and malfunctions	recognise common electrical monitoring artefacts and malfunctions			
	appropriate drug dosage(s)	select and demonstrate use of appropriate drug dosage(s)			
	appropriate administration techniques	select and demonstrate use of appropriate sedation agent administration techniques			
	how to recognise the conscious sedation endpoint	demonstrate recognition of the conscious sedation endpoint and avoid going beyond it			
	conscious sedation techniques, including: - inhalation - intravenous - oral - transmucosal (intranasal, buccal)	demonstrate safe use of conscious sedation, including: - inhalation - intravenous - oral - transmucosal (intranasal, buccal)			
	indications, advantages and disadvantages of administering intra- and post-operative supplemental oxygen using nasal cannulas	administer intra- and post-operative supplemental oxygen			
	the effectiveness of conscious sedation	assess the effectiveness of conscious sedation			

Good practice / medico-legal requirements	the medico-legal requirements relating to administering sedation drugs	act in accordance with the medico-legal requirements relating to administering sedation drugs	consult and collaborate with colleagues in other specialties where necessary	ACI CA CBL SDL ST	FA MSF PDP WBA
	the operator's legal requirements when there is a separate operator and sedationist	act in accordance with the operator's legal requirements when there is a separate operator and sedationist	recognise the role of the operator and other members of the dental sedation team in the management of patients		
	the training and responsibilities of the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist	act in accordance with the requirements relating to the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist	show regard for individual patient, family and/or carer needs		
	the situations in which a separate operator and sedationist are appropriate	recognise the situations in which a separate operator and sedationist are required, and act accordingly			
	the knowledge and experience another practitioner must have to be able to provide safe conscious sedation for a dentist without training in conscious sedation	select an appropriate individual to provide conscious sedation that is outside the operator's competence			
	when it is safe to discharge a patient and when other actions might be required	recognise when it is safe to discharge a patient and when other actions might be required			
	post-operative and aftercare instructions appropriate to each individual, taking into account their social circumstances	provide patients with appropriate discharge and post-operative instructions in a format that they can understand			
	sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise the importance of team training in the management of sedation/medical emergencies in the dental surgery		
	the management of sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	manage sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation			
	current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	apply current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	show regard for individual patient needs when utilising guidelines		

Training and continuing professional development (CPD)	the training required so that the dental team can safely provide basic conscious sedation	demonstrate through safe practice that the training required so that the dental team can safely provide basic conscious sedation is contemporaneous		ACI CA CBL SDL ST	FA MSF PDP WBA
	the requirements for CPD to keep up to date with developments in conscious sedation techniques and their application to dentistry	demonstrate through debate, safe practice and leadership that CPD is up to date with developments in conscious sedation techniques as well as their application to dentistry	keep up to date with developments in conscious sedation techniques and their application to dentistry		
	current Immediate Life Support	perform Immediate Life Support			
	how to critically evaluate the literature on conscious sedation drugs and techniques	critically evaluate the literature on conscious sedation drugs and techniques to reach a decision on its validity	be prepared to critically evaluate the literature on sedation drugs and techniques, and take account of this evidence in the provision of conscious sedation		
	the importance of relevant clinical audit	be actively involved in relevant clinical audit			

Key:

Teaching and learning methods
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Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

Appendix 1:
Syllabus 2: Dentists: Advanced conscious sedation for young people and adults

1. General professional content

1.1 Maintaining good clinical practice

Each learning outcome should be prefaced by: 'On completion of training, the trainee in advanced conscious sedation techniques for young people and adults…'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Professional approach	the requirements of an effective leader the different models of leadership	provide specialist leadership in the provision of advanced conscious sedation techniques	behave in a professional manner	CBL	MSF PDP
Life-long learning	the requirements for continuing professional development	recognise learning opportunities and identify them for members of the advanced conscious sedation team maintain a personal development portfolio and assist others in doing so monitor own performance through audit and feedback	comply with General Dental Council/ General Medical Council requirements for revalidation	CBL SDL ST	PDP WBA
Evidence	the principles of evidence-based practice	critically appraise evidence provide constructive feedback	use evidence in support of patient care and to defend decisions taken	ST	WBA
Written records	the principles and guidelines for good clinical note keeping the reasons for confidentiality	communicate effectively through written records apply the principles of confidentiality in the context of written records	take account of confidentiality requirements and legal requirements relating to written, electronic and digital records, and their transport and storage	CBL ST	WBA
Use of information technology	the principles of retrieval and utilisation of data recorded in clinical systems	apply the principles of confidentiality in the context of information technology	take account of the legal aspects relating to holding electronic and digital records demonstrate a positive and proactive attitude to new technology	ACI ST	WBA
Organisational framework for clinical governance and its application in practice	the elements of clinical governance the principles of clinical governance, in particular related to infection control	participate actively in clinical governance participate in audit report serious untoward incidents	recognise the importance of teamwork in implementing a clinical governance framework recognise and take account of the learning from serious untoward incidents	ACI SDL ST	PDP WBA
Risk assessment and risk management	the principles of risk assessment	carry out risk assessments develop and apply relevant procedures develop and monitor action plans to obviate further risk	recognise the value of risk assessments	ACI CBL	WBA
Audit (general)	the principles of internal and external quality assurance the audit process	initiate and complete audit projects demonstrate improvement as the result of audit	recognise the benefit of audit to patient care and individual performance	ACI ST	PDP WBA

Guidelines	the content of guidelines applicable to the practice and delivery of basic as well as advanced conscious sedation techniques	interpret and apply guidelines applicable to the practice and delivery of basic as well as advanced conscious sedation techniques	show regard for individual patient needs when utilising guidelines	ACI CBL ST	PDP WBA
Patient safety	the principles of Immediate Life Support the management of medical emergencies in the dental surgery the principles of management of fitness to practise cases the role of organisations charged with ensuring patient safety	perform Immediate Life Support instigate management of medical emergencies in the dental surgery	show regard for patient safety recognise the importance of team training in the management of medical emergencies in the dental surgery	CBL ST	WBA
Relevance of outside bodies	the role of: - General Dental Council - Department of Health - royal colleges - specialist societies - defence societies - patient advocacy groups	communicate with and involve these bodies in appropriate situations	demonstrate acceptance of professional regulation share best practice participate in peer review	SDL ST	PDP WBA

Key:

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Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

1.2 *Relationships with patients, parents and carers*

Each learning outcome should be prefaced by: *'On completion of training, the trainee in advanced conscious sedation techniques for young people and adults…'*

Subject	Knowledge … should be able to describe:	Skills … should be able to:	Attitudes and behaviours … should:	Teaching and learning method(s)	Assessment method(s)
Informed consent	the principles of valid consent the principles of the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] the process for gaining valid consent	obtain valid consent in relation to young people and adults having advanced conscious sedation techniques assess capacity and obtain assent where appropriate work with other agencies to obtain a best interest decision and agreement to treat in circumstances where there is lack of capacity share information appropriately when necessary to safeguard vulnerable adults	respect patients' and parents'/carers' autonomy and wishes, including their right to refuse treatment even when treatment would be in their best interests	CBL SDL ST	WBA
Confidentiality	relevant strategies to ensure confidentiality the situations when confidentiality might be broken	apply the principles of confidentiality in relation to clinical care	respect the right to confidentiality	CBL SDL ST	WBA
Legal issues	the legal issues relating to the practice and delivery of basic as well as advanced conscious sedation techniques	work within relevant legal frameworks	demonstrate empathy while acting in the patient's/family's best interests	CBL SDL ST	WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

2. Sedation-related content

Each learning outcome should be prefaced by: '*On completion of training, the trainee in advanced conscious sedation techniques for young people and adults…*'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Pharmacology	the applied pharmacology of drugs used in sedation for adults and adolescents, in particular: - nitrous oxide/oxygen - benzodiazepines - propofol - opioids - ketamine - sevoflurane	apply their knowledge of the pharmacology of drugs used in sedation to the practical situation in such a way as to select drugs that are safe and appropriate for the individual patient	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of advanced conscious sedation techniques in adults and adolescents	SDL ST	FA PDP WBA
	important drug interactions: - between sedation drugs - of sedation drugs with other prescribed medication the pharmacokinetics of infusions differences in the pharmacokinetic and pharmacodynamic effects when sedation drugs are co-administered	apply their knowledge of sedation drugs and prescribed medication to avoid drug interactions in the clinical setting			
Patient assessment	how to obtain accurate and detailed information about past and current medical/surgical conditions (e.g. current and previous medication, allergies) the use of weight and height data to identify patients who are outside the normal ranges how information about medical problems associated with previous conscious sedation or anaesthesia may influence future management the relevance of the patient's ASA status the significance of the maturity of airway development and any problems that might arise due to airway abnormalities how the patient's psychological and developmental status may influence management	take a detailed medical, family, social and dental history to identify serious medical and surgical conditions that impact on safe delivery of sedation carry out a physical examination to identify patients: - with serious problems that might impact on the safe delivery of conscious sedation - who are not in the normal range know when to ask for specialist medical advice or clarification of the patient's medical history identify serious problems that might impact on safe delivery of conscious sedation and know when to ask for clarification	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of advanced conscious sedation techniques in adults and adolescents	SDL ST CA	FA PDP WBA
	consideration of the evidence and guidance relating to fasting	recognise when fasting is desirable			
	the provision of pre- and post-sedation instructions for patients and carers in an age appropriate format	provide pre- and post-sedation instructions for patients and carers in an age appropriate format			
	appropriate communication techniques	communicate effectively			

Sedation drug selection	the indications and contraindications for conscious sedation in young people and adults using: - benzodiazepines - propofol - opioids the selection of the most appropriate agents for each patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)	recognise the indications and contraindications for conscious sedation in young people and adults using: - benzodiazepines - propofol - opioids select the most appropriate agents for each patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience administer sedation according to the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)	take account of the indications and contraindications for conscious sedation in young people and adults as well as the various agents and routes of administration when planning individual patient care	ACI CA CBL SDL ST	FA MSF PDP WBA
Administration of sedation	appropriate clinical and electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS) appropriate drug dosage(s) appropriate administration techniques (in the correct order) of advanced sedation drugs how to recognise the conscious sedation endpoint the safe administration of propofol by one or more of the following techniques: - manual titration - patient-controlled infusion - target-controlled infusion - the operation of infusion devices indications, advantages and disadvantages of administering intra- and post-operative supplemental oxygen using nasal cannulas the effectiveness of conscious sedation	select and demonstrate use of appropriate clinical and electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS) select and demonstrate use of appropriate drug dosage(s) select and demonstrate use of appropriate administration techniques (in the correct order) of advanced sedation drugs demonstrate recognition of the conscious sedation endpoint and avoid going beyond it demonstrate the safe administration of propofol by one or more of the following techniques: - manual titration - patient-controlled infusion - target-controlled infusion - operate infusion devices administer intra- and post-operative supplemental oxygen assess the effectiveness of conscious sedation	show continuous regard for patient safety	ACI CA CBL SDL ST	FA MSF PDP WBA

Good practice / medico-legal requirements	the medico-legal requirements relating to administering more than one intravenous agent and/or propofol infusions	act in accordance with the medico-legal requirements relating to administering more than one intravenous agent and/or propofol infusions	consult and collaborate with colleagues in other specialties where necessary	ACI CA CBL SDL ST	FA MSF PDP WBA
	the operator's legal requirements when there is a separate operator and sedationist	act in accordance with the operator's legal requirements when there is a separate operator and sedationist	recognise the role of the operator and other members of the dental sedation team in the management of patients		
	the situations in which there is a requirement for a separate operator and sedationist	recognise the situations in which there is a requirement for a separate operator and sedationist, and act accordingly	show regard for individual patient, family and/or carer needs		
	the person specification for an individual to provide conscious sedation that is outside the operator's competence	select an appropriate individual to provide conscious sedation that is outside the operator's competence	recognise the importance of team training in the management of sedation/ medical emergencies in the dental surgery		
		recognise when it is safe to discharge a patient and when other actions might be required			
	patient discharge and post-operative instructions	provide patients with appropriate discharge and post-operative instructions in a format that they can understand			
	sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation			
	the management of sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	manage sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation			
	current guidelines on: - gaining valid consent teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keepinge	apply current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping	show regard for individual patient needs when utilising guidelines		

Training and continuing professional development (CPD)	the training required so that the dental team can safely provide advanced conscious sedation techniques for young people and adults	demonstrate through safe practice that the training required so that the dental team can safely provide advanced conscious sedation techniques for young people and adults is contemporaneous	keep up to date with developments in conscious sedation techniques and their application to dentistry	ACI CA CBL SDL ST	FA MSF PDP WBA
	the requirements for CPD to keep up to date with developments in conscious sedation techniques and their application to dentistry	demonstrate through debate, safe practice and leadership that CPD is up to date with developments in conscious sedation techniques as well as their application to dentistry			
	how to critically evaluate the literature on conscious sedation drugs and techniques	critically evaluate the literature on conscious sedation drugs and techniques to reach a decision on its validity	be prepared to critically evaluate the literature on sedation drugs and techniques, and take account of this evidence in the provision of conscious sedation		
	the importance of relevant clinical audit	be actively involved in relevant clinical audit			

Key:

Teaching and learning methods
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

Appendix 1:
Syllabus 3: Dentists: Advanced conscious sedation for children

1. General professional content

1.1 Maintaining good clinical practice

Each learning outcome should be prefaced by: 'On completion of training, the trainee in advanced conscious sedation techniques for children…'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Professional approach	the requirements of an effective leader the different models of leadership	provide specialist leadership in the provision of advanced conscious sedation techniques for children	behave in a professional manner	CBL	MSF PDP
Life-long learning	the requirements for continuing professional development	recognise learning opportunities and identify them for members of the advanced conscious sedation team maintain a personal development portfolio and assist others in doing so monitor own performance through audit and feedback	comply with General Dental Council/ General Medical Council requirements for revalidation	CBL SDL ST	PDP WBA
Evidence	the principles of evidence-based practice	critically appraise evidence provide constructive feedback	use evidence in support of patient care and to defend decisions taken	ST	WBA
Written records	the principles and guidelines for good clinical note keeping the reasons for confidentiality	communicate effectively through written records apply the principles of confidentiality in the context of written records	take account of confidentiality requirements and legal requirements relating to written, electronic and digital records, and their transport and storage	CBL ST	WBA
Use of information technology	the principles of retrieval and utilisation of data recorded in clinical systems	apply the principles of confidentiality in the context of information technology	take account of the legal aspects relating to holding electronic and digital records demonstrate a positive and proactive attitude to new technology	ACI ST	WBA
Organisational framework for clinical governance and its application in practice	the elements of clinical governance the principles of clinical governance, in particular related to infection control	participate actively in clinical governance participate in audit report serious untoward incidents	recognise the importance of teamwork in implementing a clinical governance framework recognise and take account of the learning from serious untoward incidents	ACI SDL ST	PDP WBA
Risk assessment and risk management	the principles of risk assessment	carry out risk assessments develop and apply relevant procedures develop and monitor action plans to obviate further risk	recognise the value of risk assessments	ACI CBL	WBA
Audit (general)	the principles of internal and external quality assurance the audit process	initiate and complete audit projects demonstrate improvement as the result of audit	recognise the benefit of audit to patient care and individual performance	ACI ST	PDP WBA

Guidelines	the content of guidelines applicable to the practice and delivery of basic as well as advanced conscious sedation techniques	interpret and apply guidelines applicable to the practice and delivery of basic as well as advanced conscious sedation techniques	show regard for individual patient needs when utilising guidelines	ACI CBL ST	PDP WBA
Patient safety	the principles of Paediatric Immediate Life Support the management of medical emergencies in the dental surgery the principles of management of fitness to practise cases the role of organisations charged with ensuring patient safety	perform Paediatric Immediate Life Support instigate management of medical emergencies in the dental surgery	show regard for patient safety recognise the importance of team training in the management of medical emergencies in the dental surgery	CBL ST	WBA
Relevance of outside bodies	the role of: - General Dental Council - Department of Health - royal colleges - specialist societies - defence societies - patient advocacy groups	communicate with and involve these bodies in appropriate situations	demonstrate acceptance of professional regulation share best practice participate in peer review	SDL ST	PDP WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

1.2 *Relationships with patients, parents and carers*

Each learning outcome should be prefaced by: *'On completion of training, the trainee in advanced conscious sedation techniques for children…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Informed consent	the principles of valid consent the principles of the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] the process for gaining valid consent	obtain valid consent in relation to children and young people having advanced conscious sedation techniques assess capacity and obtain assent where appropriate work with other agencies to obtain a best interest decision and agreement to treat in circumstances where there is lack of capacity share information appropriately when necessary to safeguard vulnerable children and young people	respect patients' and parents'/carers' autonomy and wishes, including their right to refuse treatment even when treatment would be in their best interests	CBL SDL ST	WBA
Confidentiality	relevant strategies to ensure confidentiality the situations when confidentiality might be broken	apply the principles of confidentiality in relation to clinical care	respect the right to confidentiality	CBL SDL ST	WBA
Legal issues	the legal issues relating to the practice and delivery of basic as well as advanced conscious sedation techniques	work within relevant legal frameworks	demonstrate empathy while acting in the patient's/family's best interests	CBL SDL ST	WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

2. Sedation-related content

Each learning outcome should be prefaced by: *'On completion of training, the trainee in advanced conscious sedation techniques for children…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Anatomy and physiology	the anatomical and physiological differences between children and adults as well as how this relates to the use of advanced conscious sedation techniques	apply their knowledge of the anatomical and physiological differences between children and adults in planning and providing advanced conscious sedation techniques in children		SDL ST	FA PDP WBA
	assessment of previous and current airway problems to anticipate potential difficulties during sedation or if ventilation is required	carry out airway assessment and anticipate potential breathing difficulties during sedation or if ventilation is required			
Pharmacology	the applied pharmacology of drugs used in sedation for children, for example: - nitrous oxide/oxygen - benzodiazepines - propofol - opioids - ketamine - sevoflurane	apply their knowledge of the pharmacology of drugs used in sedation to the practical situation in such a way as to select sedation drugs that are safe and appropriate for the individual child	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of advanced conscious sedation techniques in children	SDL ST CA	FA PDP WBA
	the terminology describing levels of sedation (minimal, conscious, moderate, deep) and general anaesthesia				
	important drug interactions: - between sedation drugs - of sedation drugs with other prescribed medication - of sedation and recreational drugs	apply their knowledge of sedation drugs, prescribed medication and recreational drugs to avoid interactions in the clinical setting			
	differences in the pharmacokinetic and pharmacodynamic effects when drugs are administered by different routes, infusion and/or in combination				
	safe maximum doses of local anaesthetics for children	demonstrate the safe and effective use of local anaesthetics in children			

Patient assessment	how to obtain accurate and detailed information about past and current medical/surgical conditions (e.g. current and previous medication, allergies)	take a detailed medical, family, social and dental history to identify serious medical and surgical conditions that impact on safe delivery of sedation	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of advanced conscious sedation techniques in children	SDL ST CA	FA PDP WBA
	the use of weight and height data, growth charts and normal ranges to estimate a child's stage of physical development	carry out a physical examination to identify children: - with serious problems that might impact on the safe delivery of conscious sedation - who are not in the normal range			
	how children change as they approach adulthood	know when to ask for specialist medical advice or clarification of the patient's medical history			
	how information about medical problems associated with previous conscious sedation or anaesthesia may influence future management				
	the relevance of the patient's ASA status				
	the significance of the maturity of airway development and any problems that might arise due to airway abnormalities				
	how the patient's psychological and developmental status may influence management	identify serious problems that might impact on safe delivery of conscious sedation and know when to ask for clarification			
	consideration of the evidence and guidance relating to fasting	recognise when fasting is desirable			
	the provision of pre- and post-sedation instructions for parents and children in an age appropriate format	provide pre- and post-sedation instructions for parents and children in an age appropriate format			
	appropriate communication techniques for children	communicate effectively with children			

Sedation drug selection	the process of selecting a safe, effective and appropriate sedation technique for the child in terms of both the drug selection and the route of administration	choose a safe, effective and appropriate sedation technique for the child in terms of both the drug selection and the route of administration	take account of the indications and contraindications for conscious sedation in children as well as the various agents and routes of administration when planning individual patient care	ACI CA CBL SDL ST	FA MSF PDP WBA
	the indications and contraindications for conscious sedation drugs in children, including: - nitrous oxide/oxygen - benzodiazepines - propofol - opioids - ketamine - sevoflurane	recognise the indications and contraindications for conscious sedation drugs in children, including: - nitrous oxide/oxygen - benzodiazepines - propofol - opioids - ketamine - sevoflurane			
	the indications and contraindications for conscious sedation in children using different routes of administration, including: - inhalation - intravenous - oral - transmucosal - intramuscular	recognise the indications and contraindications for conscious sedation in children using different routes of administration, including: - inhalation - intravenous - oral - transmucosal - intramuscular			
	the selection of the most appropriate agents for each child patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience	select the most appropriate agents for each patient taking into account: - proposed dental treatment - age and body weight - degree of anxiety - medical history - physical examination - social history - healthcare environment - healthcare team sedation training and experience			
	the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)	administer sedation according to the principle of 'minimum intervention' (the use of the smallest amount of a single drug or the least number of drugs that is likely to produce clinically effective, safe conscious sedation)			

Administration of sedation	the physical signs of both conscious (moderate) and deep sedation as well as how to recognise the conscious sedation endpoint	clinically monitor the patient, including the depth of sedation	show continuous regard for patient safety	ACI CA CBL SDL ST	FA MSF PDP WBA
	the use of appropriate clinical and electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS)	select and demonstrate use of appropriate clinical and electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS)			
	a method of assessing appropriate drug dosage(s)	select and demonstrate use of appropriate drug dosage(s)			
	an appropriate method of administering drug(s) to produce conscious sedation	select and demonstrate use of appropriate method of drug administration			
	appropriate combinations of drugs, including the correct sequence of administration	demonstrate recognition of the conscious sedation endpoint and avoid going beyond it			
	the techniques for administering propofol by: - manual titration - patient-controlled infusion - target-controlled infusion	demonstrate safe use of the techniques for administering propofol by: - manual titration - patient-controlled infusion - target-controlled infusion			
	the operation of infusion devices	operate infusion devices			
	indications, advantages and disadvantages of administering intra- and post-operative supplemental oxygen using nasal cannulas	administer intra- and post-operative supplemental oxygen			
	the effectiveness of conscious sedation	assess the effectiveness of conscious sedation			

Good practice / medico-legal requirements	the medico-legal requirements relating to paediatric sedation using drugs other than nitrous oxide/oxygen	act in accordance with the medico-legal requirements relating to paediatric sedation using drugs other than nitrous oxide/oxygen	consult and collaborate with colleagues in other specialties where necessary	ACI CA CBL SDL ST	FA MSF PDP WBA
	the operator's legal requirements when there is a separate operator and sedationist	act in accordance with the operator's legal requirements when there is a separate operator and sedationist	recognise the role of the operator and other members of the dental sedation team in the management of patients		
	the situations in which there is a requirement for a separate operator and sedationist	recognise the situations in which there is a requirement for a separate operator and sedationist, and act accordingly			
	the knowledge and experience another practitioner must have to be able to provide safe conscious sedation for a dentist without training in conscious sedation	select an appropriate individual to provide conscious sedation that is beyond the operator's competence			
	patient discharge, post-operative and aftercare instructions appropriate to each individual, taking into account their social circumstances	recognise when a patient is fit for discharge, taking into account their social circumstances and whether other arrangements for post-operative care are require			
		provide patients, families and/or carers with appropriate discharge and post-operative instructions in a format that they can understand	show regard for individual patient, family and/or carer needs		
	sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation			
	the management of sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	manage sedation-related complications using appropriate procedures in a stepwise manner, including: - over-sedation - respiratory depression - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise the importance of team training in the recognition and management of sedation/medical emergencies in the dental surgery (including recovery areas)		
	current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	apply current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	show regard for individual patient needs when utilising guidelines		

Training and continuing professional development (CPD)	the training required by the dental team (dentist, doctor, dental care professional) so that the sedationist can safely provide advanced conscious sedation techniques for children	demonstrate through safe practice that the training required by the dental team (dentist, doctor, dental care professional) so that the sedationist can safely provide advanced conscious sedation techniques for children is contemporaneous	keep up to date with developments in conscious sedation techniques and their application to dentistry	ACI CA CBL SDL ST	FA MSF PDP WBA
	current Paediatric Immediate Life Support	perform Paediatric Immediate Life Support			
	the requirements for CPD to keep up to date with recent developments in conscious sedation techniques and their application to dentistry	demonstrate through debate, safe practice and leadership that CPD is up to date with developments in conscious sedation techniques as well as their application to dentistry			
	how to critically evaluate the literature on conscious sedation drugs and techniques	critically evaluate the literature on conscious sedation drugs and techniques to reach a decision on its validity	be prepared to critically evaluate the literature on sedation drugs and techniques, and take account of this evidence in the provision of conscious sedation in children and adolescents		
	the importance of relevant clinical audit	be actively involved in relevant clinical audit			

Key:

Teaching and learning methods
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

Appendix 1:
Syllabus 4: Dental therapists and dental hygienists: Inhalation sedation

1. General professional content

1.1 Maintaining good clinical practice

Each learning outcome should be prefaced by: '*On completion of training, the trainee in inhalation sedation for children, young people and adults…*'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Professional approach	the requirements for an effective dental sedationist the different models of working as part of a team	provide inhalation sedation	behave in a professional manner	CBL	MSF PDP
Life-long learning	the requirements for continuing professional development	recognise and take advantage of learning opportunities for all members of the team providing inhalation sedation maintain a personal development portfolio and assist others in doing so monitor own performance through audit and feedback	comply with General Dental Council requirements for revalidation	CBL SDL ST	PDP WBA
Evidence	the principles of evidence-based practice	critically appraise evidence provide constructive feedback	use evidence in support of patient care and to defend decisions taken	ST	WBA
Written records	the principles and guidelines for good clinical note keeping the reasons for confidentiality	communicate effectively through written records apply the principles of confidentiality in the context of written records	take account of confidentiality requirements and legal requirements relating to written, electronic and digital records, and their transport and storage	CBL ST	WBA
Use of information technology	the principles of retrieval and utilisation of data recorded in clinical systems	apply the principles of confidentiality in the context of information technology	take account of the legal aspects relating to holding electronic and digital records demonstrate a positive and proactive attitude to new technology	ACI ST	WBA
Organisational framework for clinical governance and its application in practice	the elements of clinical governance the principles of clinical governance, in particular related to infection control	participate actively in clinical governance participate in audit report serious untoward incidents	recognise the importance of teamwork in implementing a clinical governance framework recognise and take account of the learning from serious untoward incidents	ACI SDL ST	PDP WBA
Risk assessment and risk management	the principles of risk assessment	carry out risk assessments apply relevant procedures monitor action plans to obviate further risk	recognise the value of risk assessments	ACI CBL	WBA
Audit (general)	the principles of internal and external quality assurance the audit process	have involvement in the completion of audit projects demonstrate improvement as the result of audit	recognise the benefit of audit to patient care and individual performance	ACI ST	PDP WBA
Guidelines	the content of guidelines applicable to the practice and delivery of inhalation sedation techniques	apply guidelines applicable to the practice and delivery of inhalation sedation techniques	show regard for individual patient needs when utilising guidelines	ACI CBL ST	PDP WBA

Patient safety	the principles of Immediate Life Support and/or Paediatric Immediate Life Support the management of medical emergencies in the dental surgery the principles of management of fitness to practise cases the role of organisations charged with ensuring patient safety	perform Immediate Life Support and/or Paediatric Immediate Life Support instigate management of medical emergencies in the dental surgery	show regard for patient safety recognise the importance of team training in the management of medical emergencies in the dental surgery	CBL ST	WBA
Relevance of outside bodies	the role of: - General Dental Council - Department of Health - royal colleges - specialist societies - defence societies - patient advocacy groups	communicate with and involve these bodies in appropriate situations	demonstrate acceptance of professional regulation share best practice participate in peer review	SDL ST	PDP WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

1.2 *Relationships with patients, parents and carers*

Each learning outcome should be prefaced by: *'On completion of training, the trainee in inhalation sedation for children, young people and adults…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Informed consent	the principles of valid consent the principles of the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] the process for gaining valid consent	obtain valid consent in relation to children, young people and adults having inhalation sedation techniques assess capacity and obtain assent where appropriate work with other agencies to obtain a best interest decision and agreement to treat in circumstances where there is lack of capacity share information appropriately when necessary to safeguard vulnerable patients	respect patients' and parents'/carers' autonomy and wishes, including their right to refuse treatment even when treatment would be in their best interests	CBL SDL ST	WBA
Confidentiality	relevant strategies to ensure confidentiality the situations when confidentiality might be broken	apply the principles of confidentiality in relation to clinical care	respect the right to confidentiality demonstrate empathy while acting in the patient's/family's best interests	CBL SDL ST	WBA
Legal issues	the legal issues relating to the practice and delivery of inhalation sedation techniques	work within relevant legal frameworks		CBL SDL ST	WBA

Key:

Teaching and learning methods
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

2. Sedation-related content

Each learning outcome should be prefaced by: '*On completion of training, the trainee in inhalation sedation for children, young people and adults…*'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Dental anxiety	the history of pain and anxiety control in dentistry the causes, signs and symptoms of dental anxiety and phobia the spectrum of anxiety management techniques, including behavioural/non-pharmacological methods, conscious sedation and general anaesthesia the distinction between conscious sedation and general anaesthesia techniques for communicating with people of all ages and abilities	recognise advances in pain and anxiety control in dentistry recognise the causes, signs and symptoms of dental anxiety and phobia apply their knowledge of the spectrum of anxiety management techniques, including behavioural/non-pharmacological methods, conscious sedation and general anaesthesia communicate with people of all ages and abilities	recognise the value of effective pain and anxiety control in dentistry demonstrate a caring attitude to anxious patients demonstrate a willingness to employ the most appropriate anxiety management technique for individual patients	SDL ST	FA PDP WBA
Anatomy and physiology	anatomy and physiology relevant to the use of conscious sedation for dentistry, particularly: - cardiovascular - respiratory - neurological the anatomical and physiological differences between children, young people and adults as well as how these relate to the use of conscious sedation assessment of previous and current airway problems to anticipate potential difficulties during sedation or if ventilation is required	apply their knowledge of anatomical structures and physiological responses in planning and providing conscious sedation apply their knowledge of the anatomical and physiological differences between children, young people and adults in planning and providing conscious sedation carry out airway assessment and anticipate potential difficulties during sedation or if ventilation is required		SDL ST	FA PDP WBA
Pharmacology	the applied pharmacology of drugs used in basic conscious sedation for children, young people and adults, for example: - nitrous oxide/oxygen the terminology describing levels of sedation (minimal, conscious, moderate, deep) and general anaesthesia important drug interactions: - between sedation drugs - of sedation drugs with other prescribed medication	apply their knowledge of the pharmacology of drugs used in inhalation sedation to the practical situation in such a way as to use this technique when it is safe and appropriate for the individual patient apply their knowledge of sedation drugs and prescribed medication to avoid drug interactions in the clinical setting	demonstrate a willingness to use this knowledge in treatment planning as well as in the provision of inhalation sedation in children, young people and adults	SDL ST	FA PDP WBA

Patient assessment	how to obtain accurate and detailed information about past and current medical/surgical conditions (e.g. current and previous medication, allergies)	take a detailed medical, family, social and dental history to identify serious medical and surgical conditions that impact on safe delivery of Inhalation sedation	demonstrate a willingness to use this knowledge in diagnosis and treatment planning as well as in the provision of inhalation sedation be willing to seek advice or clarification of the patient's medical history and to liaise with the referring dentist	SDL ST CA	FA PDP WBA
	when to ask for advice or clarification of the patient's medical history and when to liaise with personnel from the referring dentist	seek advice or clarification of the patient's medical history and liaise with the referring dentist			
	how information about medical problems associated with previous conscious sedation or anaesthesia may influence future management	identify serious problems that might impact on safe delivery of inhalation sedation and know when to ask for clarification			
	the relevance of the patient's ASA status	assess potential problems relating to the administration of inhalation sedation for younger and older patients			
	potential problems relating to the administration of inhalation sedation for younger and older patients	identify children with serious problems that might impact on the safe delivery of conscious sedation who are not in the normal range			
	the use of weight and height data, growth charts and normal ranges to estimate a child's stage of physical development				
	the significance of the maturity of airway development as well as any problems that might arise due to airway abnormalities				
	how the patient's psychological and developmental status may influence management				
	consideration of the evidence and guidance relating to fasting	recognise when fasting is desirable			
	the provision of pre- and post-sedation instructions for patients and escorts in an age appropriate format	provide pre- and post-sedation instructions for patients and escorts in an age appropriate format			
	appropriate communication techniques for children, young people and adults	communicate effectively with children, young people and adults			

Administration of sedation	the physical signs of both conscious (moderate) and deep sedation as well as how to recognise the conscious sedation endpoint	clinically monitoring the patient, including the depth of sedation	show continuous regard for patient safety	ACI CA CBL SDL ST	FA MSF PDP WBA
	the equipment required for administration of inhalation sedation	select the equipment required for administration of inhalation sedation			
	local anaesthetic drugs and techniques	safely administer a prescribed local anaesthetic			
	how to check an inhalation sedation machine and scavenging system	check the functioning and safety features of an inhalation sedation machine and scavenging system			
	how to connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine	connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine			
	how to clinically monitor a patient to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and how to respond appropriately to changes	clinically monitor patients to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and respond appropriately to changes			
	appropriate drug dosage(s)	select and demonstrate use of appropriate drug dosage(s)			
	appropriate administration techniques	demonstrate the use of an appropriate inhalation sedation administration technique			
	how to recognise the conscious sedation endpoint	demonstrate recognition of the conscious sedation endpoint and avoid going beyond it			
	techniques for administering sedation drugs by inhalation	demonstrate safe use of sedation drugs administered by inhalation			
	the effectiveness of conscious sedation	assess the effectiveness of conscious sedation			

Good practice / medico-legal requirements	the medico-legal requirements relating to administering inhalation sedation	act in accordance with the medico-legal requirements relating to administering inhalation sedation	consult and collaborate with colleagues in other specialties where necessary	ACI CA CBL SDL ST	FA MSF PDP WBA
	the operator's legal requirements when there is a separate operator and sedationist	act in accordance with the operator's legal requirements when there is a separate operator and sedationist	recognise the role of the operator and other members of the dental sedation team in the management of patients		
	the training and responsibilities of the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist	act in accordance with the requirements relating to the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist	show regard for individual patient, family and/or carer needs		
	the situations in which a separate operator and sedationist are appropriate	recognise the situations in which a separate operator and sedationist are required, and act accordingly			
	the knowledge and experience another practitioner must have to be able to provide safe conscious sedation for a dentist without training in conscious sedation				
	when it is safe to discharge a patient and when other actions might be required	recognise when it is safe to discharge a patient and when other actions might be required			
	post-operative and aftercare instructions appropriate to each individual, taking into account their social circumstances	provide patients with appropriate discharge and post-operative instructions in a format that they can understand			
	the recognition and management of sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise and manage sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation	recognise the importance of team training in the management of sedation/ medical emergencies in the dental surgery		
	current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs	apply current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs	show regard for individual patient needs when utilising guidelines		

Training and continuing professional development (CPD)	the training required so that the dental team can safely provide inhalation sedation	demonstrate through safe practice that the training required so that the dental team can safely provide inhalation sedation is contemporaneous	keep up to date with developments in inhalation sedation and their application to dentistry	ACI CA CBL SDL ST	FA MSF PDP WBA
	the requirements for CPD to keep up to date with developments in inhalation sedation and their application to dentistry	demonstrate through debate, safe practice and leadership that CPD is up to date with developments in conscious sedation techniques as well as their application to dentistry			
	current Immediate Life Support and/or Paediatric Immediate Life Support	perform Immediate Life Support and/or Paediatric Immediate Life Support			
	the current literature on inhalation sedation drugs and techniques		be prepared to read and act on current literature on inhalation sedation		
	the importance of relevant clinical audit	be actively involved in relevant clinical audit			

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

Appendix 1:
Syllabus 5: Dental nurses: Assisting during conscious sedation

1. General professional content

1.1 Maintaining good clinical practice

Each learning outcome should be prefaced by: *'On completion of training, the trainee in dental sedation nursing…'*

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Professional approach	the requirements of an effective dental sedation nurse the different models of working as part of a team	assist with the provision of conscious sedation techniques for dentistry	behave in a professional manner	CBL	MSF PDP
Life-long learning	the requirements for continuing professional development	recognise and take advantage of learning opportunities for all members of the team providing conscious sedation for dentistry maintain a personal development portfolio monitor own performance through team audit and feedback	comply with General Dental Council requirements for revalidation	CBL SDL ST	PDP WBA
Evidence	the principles of evidence-based practice	apply within the team evidence and recommendations of best practice provide constructive feedback within the dental sedation team	use evidence in support of patient care and to defend decisions taken	ST	WBA
Written records	the principles and guidelines for good clinical note keeping the reasons for confidentiality	communicate effectively through written records apply the principles of confidentiality in the context of written records	take account of confidentiality requirements and legal requirements relating to written, electronic and digital records, and their transport and storage	CBL ST	WBA
Use of information technology	the principles of retrieval and utilisation of data recorded in clinical systems	apply the principles of confidentiality in the context of information technology	take account of the legal aspects relating to holding electronic and digital records demonstrate a positive and proactive attitude to new technology	ACI ST	WBA
Organisational framework for clinical governance and its application in practice	the elements of clinical governance the principles of clinical governance, in particular related to infection control	participate actively in clinical governance participate in audit report serious untoward incidents	recognise the importance of teamwork in implementing a clinical governance framework recognise and take account of the learning from serious untoward incidents	ACI SDL ST	PDP WBA
Risk assessment and risk management	the principles of risk assessment	carry out risk assessments apply relevant procedures monitor action plans to obviate further risk	recognise the value of risk assessments	ACI CBL	WBA

Audit (general)	the principles of internal and external quality assurance the audit process	have involvement in the completion of audit projects demonstrate improvement as the result of audit	recognise the benefit of audit to patient care and individual performance	ACI ST	PDP WBA
Guidelines	the content of guidelines applicable to the practice and delivery of conscious sedation techniques in dentistry	apply guidelines applicable to the practice and delivery of conscious sedation techniques in dentistry	show regard for individual patient needs when utilising guidelines	ACI CBL ST	PDP WBA
Patient safety	the principles of Immediate Life Support and/or Paediatric Immediate Life Support the management of medical emergencies in the dental surgery the principles of management of fitness to practise cases the role of organisations charged with ensuring patient safety	perform Immediate Life Support and/or Paediatric Immediate Life Support participate in the management of medical emergencies in the dental surgery	show regard for patient safety recognise the importance of team training in the management of medical emergencies in the dental surgery	CBL ST	WBA
Relevance of outside bodies	the role of: - General Dental Council - Department of Health - National Examining Board for Dental Nurses - royal colleges - specialist societies - defence societies - patient advisory groups	communicate with and involve these bodies in appropriate situations	demonstrate acceptance of professional regulation share best practice participate in peer review	SDL ST	PDP WBA

Key: *Teaching and learning methods*
ACI = audit/critical incident analysis; CA = clinical attachment; CBL = case-based learning; SDL = self-directed learning; ST = structured teaching

Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

1.2 *Relationships with patients, parents and carers*

Each learning outcome should be prefaced by: '*On completion of training, the trainee in dental sedation nursing..*'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Informed consent	the principles of valid consent the principles of the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] the process for gaining valid consent	play an active role in applying the principles of obtaining consent for patients who fall under the Mental Capacity Act 2005[12] and the Deprivation of Liberty Safeguards[54] (Scotland: Adults with Incapacity (Scotland) Act 2000[55] and Adults with Incapacity (Scotland) Amendment Regulations 2012)[56] work with other agencies to obtain a best interest decision and agreement to treat in circumstances where there is lack of capacity play an active role in obtaining valid consent	respect patients' and parents'/carers' autonomy and wishes, including their right to refuse treatment even when it would be in their best interests	CBL SDL ST	WBA
Confidentiality	relevant strategies to ensure confidentiality the situations when confidentiality might be broken	apply the principles of confidentiality in relation to clinical care	respect the right to confidentiality	CBL SDL ST	WBA
Legal issues	the legal issues relating to the practice and delivery of conscious sedation techniques in dentistry	work within relevant legal frameworks	demonstrate empathy while acting in the patient's/family's best interests	CBL SDL ST	WBA

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Assessment methods
FA = formal assessment; MSF = multi-source feedback; PDP = personal development portfolio; WBA = workplace-based assessment

2. Sedation-related content

Each learning outcome should be prefaced by: '*On completion of training, the trainee in dental sedation nursing…*'

Subject	Knowledge *… should be able to describe:*	Skills *… should be able to:*	Attitudes and behaviours *… should:*	Teaching and learning method(s)	Assessment method(s)
Dental anxiety	the history of pain and anxiety control in dentistry	recognise advances in pain and anxiety control in dentistry	recognise the value of effective pain and anxiety control in dentistry	SDL ST	FA PDP WBA
	the causes, signs and symptoms of dental anxiety and phobia	recognise the causes, signs and symptoms of dental anxiety and phobia	demonstrate a caring attitude to anxious patients		
	the spectrum of anxiety management techniques, including behavioural/non-pharmacological methods, conscious sedation and general anaesthesia	apply their knowledge of the spectrum of anxiety management techniques, including behavioural/ non-pharmacological methods, conscious sedation and general anaesthesia	demonstrate a willingness to employ the most appropriate anxiety management technique for individual patients		
	the distinction between conscious sedation and general anaesthesia as well as give the definitions of each				
	techniques for communicating with people of all ages and abilities	communicate with people of all ages and abilities			
Anatomy and physiology	anatomy and physiology relevant to the use of conscious sedation for dentistry, particularly: - cardiovascular - respiratory - neurological - potential cannulation sites	apply their knowledge of anatomical structures and physiological responses in planning and providing conscious sedation		SDL ST	FA PDP WBA
	the anatomical and physiological differences between children, young people and adults as well as how these relate to the use of conscious sedation	apply their knowledge of the anatomical and physiological differences between children, young people and adults			
	the impact of previous and current airway problems to anticipate potential difficulties during sedation or if ventilation is required				

Pharmacology	the applied pharmacology of drugs used in basic conscious sedation for children, young people and adults, for example: - nitrous oxide/oxygen - benzodiazepines - propofol - opioids - ketamine - sevoflurane the terminology describing levels of sedation (minimal, conscious, moderate, deep) and general anaesthesia important drug interactions: - between sedation drugs - of sedation drugs with other prescribed medication differences in the pharmacokinetic and pharmacodynamic effects when drugs are administered by different routes	apply their knowledge of the pharmacology of drugs used in conscious sedation to the practical situation to ensure safe, effective and appropriate for the individual patient apply their knowledge of sedation drugs and prescribed medication to avoid drug interactions in the clinical setting	demonstrate a willingness to use this knowledge in the provision of conscious sedation techniques for dentistry in children, young people and adults	SDL ST	FA PDP WBA

Patient assessment	the importance of obtaining accurate and detailed information about past and current medical/ surgical conditions (e.g. current and previous medication, allergies)	assist in taking a detailed medical, family, social and dental history to identify serious medical and surgical conditions that impact on safe delivery of conscious sedation	demonstrate a willingness to use this knowledge in the provision of conscious sedation	CA SDL ST	FA PDP WBA
	the need to ask for specialist medical advice or clarification of the patient's medical history and to liaise with personnel from other disciplines when required		appreciate the need to seek specialist medical advice or clarification of the patient's medical history and to liaise with personnel from other disciplines		
	how information about medical problems associated with previous conscious sedation or anaesthesia may influence future management				
	the relevance of the patient's ASA status				
	potential problems relating to the administration of conscious sedation for younger and older patients				
	the use of weight and height data, growth charts and normal ranges to estimate a child's stage of physical development				
	how the patient's psychological and developmental status may influence management				
	how the planned dental procedure may influence the choice of conscious sedation technique				
	the assessment of the suitability of peripheral veins for cannulation				
	the evidence and guidance relating to fasting				
	the provision of pre- and post-sedation instructions for patients and escorts in an age appropriate format	provide pre- and post-sedation instructions for patients and escorts in an age appropriate format			
	appropriate communication techniques for children, young people and adults	communicate effectively with children, young people and adults			

Assisting with the administration of sedation	the preparation of the patient prior to the administration of conscious sedation	demonstrate the patient checks required prior to the administration of conscious sedation	show a caring attitude to the safety of the patient and understand the importance of preparation prior to the administration of conscious sedation show continuous regard for patient safety	ACI CA CBL SDL ST	FA MSF PDP WBA
	the preparation of the treatment area prior to the administration of conscious sedation	demonstrate the preparation of the notes, equipment and treatment area required prior to the administration of conscious sedation			
	the physical signs of both conscious (moderate) and deep sedation as well as how to recognise the conscious sedation endpoint				
	the equipment required for administration of intravenous, inhalational, oral and intranasal sedation	select the equipment required for administration of intravenous, inhalational, oral and intranasal sedation			
		prepare and assist in the safe delivery of sedation drugs			
	the selection of a peripheral vein for cannulation, the signs and symptoms of extravascular injection, and the safe removal and disposal of an intravenous cannula	demonstrate how to assist with safe cannulation, including disposal of sharps, and cannulate patients if required			
	how to check an inhalation sedation machine and scavenging system	check the functioning and safety features of an inhalation sedation machine and scavenging system			
	how to connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine	connect a breathing system, select an appropriate nasal mask, and adjust the gas flow rate and mixture on an inhalation sedation machine			
	how to clinically monitor a patient to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and how to respond appropriately to changes	clinically monitor patients to determine the level of consciousness, co-operation, respiration, heart rate and skin colour, and respond appropriately to changes			
	the use of appropriate electrical monitoring techniques (SaO_2, NIBP, ECG, end-tidal CO_2, BIS) and how to respond to changes	select and demonstrate the use of appropriate electrical monitoring techniques, and respond to changes			
	common electrical monitoring artefacts and malfunctions	recognise common electrical monitoring artefacts and malfunctions draw up drugs safely and with regard to infection control and health and safety procedures			
	appropriate drug dosage(s)				
	appropriate drug administration techniques				
	how to recognise the conscious sedation endpoint	demonstrate recognition of the conscious sedation endpoint and support the sedationist so as to avoid going beyond it			
	conscious sedation techniques, including: - inhalation - intravenous - oral - transmucosal (intranasal, buccal)	demonstrate how to assist in the safe use of conscious sedation, including: - inhalation - intravenous - oral - transmucosal (intranasal, buccal)			
	indications, advantages and disadvantages of administering intra- and post-operative supplemental oxygen using nasal cannulas	administer intra- and post-operative supplementary oxygen as prescribed			
	the effectiveness of conscious sedation	assess the effectiveness of conscious sedation			
	the approved procedure for clearing and disinfecting the treatment area between patients, including the safe disposal of sedation equipment and unused drugs	demonstrate the approved procedure for clearing and disinfecting the treatment area between patients, including the safe disposal of sedation equipment and unused drugs	appreciate the importance of adequate clearing of the treatment room as well as safe disposal of sedation equipment and unused drugs		

Good practice / medico-legal requirements	the medico-legal requirements relating to administering sedation drugs the legal requirements of the members of the dental team both when there is an operator-sedationist or a separate operator and sedationist the training and responsibilities of the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist the situations in which a separate operator and sedationist are appropriate when it is safe to discharge a patient and when other actions might be required post-operative and aftercare instructions appropriate to each individual, taking into account their social circumstances the recognition and management of sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	act in accordance with the medico-legal requirements relating to administering sedation drugs act in accordance with the legal requirements for dental nurses and recognise those for other members of the team act in accordance with the requirements relating to the person (usually an appropriately trained and experienced dental nurse) who assists an operator-sedationist recognise the situations in which a separate operator and sedationist are required, and act accordingly recognise when it is safe to discharge a patient and when other actions might be required provide patients with appropriate discharge and post-operative instructions in a format that they can understand recognise and manage sedation-related complications, including: - over-sedation - respiratory depression - unconscious patient - airway obstruction - vomiting - anaphylaxis - delayed recovery - failure of conscious sedation apply current guidelines on: - gaining valid consent - teamwork - clinical holding/restraint - ending holding/restraint if required - appropriate record keeping - controlled drugs - 'off-licence' use of drugs	recognise the role of all the members of the dental sedation team in the management of patients show regard for individual patient, family and/or carer needs recognise the importance of regular team training in the management of sedation/medical emergencies show regard for individual patient needs when utilising guidelines	ACI CA CBL SDL ST	FA MSF PDP WBA

Training and continuing professional development (CPD)	the training required so that the dental team can safely provide conscious sedation for dentistry the requirements for CPD to keep up to date with developments in conscious sedation techniques and their application to dentistry current Immediate Life Support and/or Paediatric Immediate Life Support the current literature on conscious sedation drugs and techniques the importance of relevant clinical audit	demonstrate through safe practice that the training required so that the dental team can safely provide conscious sedation for dentistry is contemporaneous demonstrate through debate and safe practice that CPD is up to date with developments in conscious sedation techniques as well as their application to dentistry perform Immediate Life Support and/or Paediatric Immediate Life Support be actively involved in relevant clinical audit	keep up to date with developments in conscious sedation techniques and their application to dentistry be prepared to read and act on current literature on conscious sedation in dentistry	ACI CA CBL SDL ST	FA MSF PDP WBA

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Appendix 2:
Course accreditation

1. Applications for accreditation of courses leading to independent practice must include the submission of a curriculum that complies with the checklist below:

    - Purpose of the course
    - Aims and objectives of the course
    - Learning outcomes mapped against the syllabus: knowledge, skills, attitudes and behaviours
    - Course content mapped against the syllabus: knowledge, skills, attitudes and behaviours
    - Proposed course programme
    - Course providers: qualifications and relevant experience
    - Methods of learning, assessment and evaluation
    - Details of supervised clinical practice
    - Selection criteria for candidates
    - Venue for course and/or clinical skills training (outlining suitability)
    - Submission of a draft course certificate to record trainee attendance, continuing professional development hours – This must incorporate an explicit statement itemising the knowledge and/or skills and/or competencies gained by the trainee on successful completion. The certificate must include the names and GDC numbers of the trainee and course provider(s).
    - Internal and external quality control and assurance processes

2. Accreditation for a course may be retained for three years provided that there have been no substantive changes to the course/training programme.

3. Records of training and assessment for every course should be retained by trainees as part of their log of continuing experience. The lead course provider should also retain all the records of training as well as the course evaluations and attendance sheets. Records of training should be retained by the course provider for a minimum of five years.

4. In addition, a summary of the course evaluation should be submitted to the IACSD, which will reserve the right to inspect all the records relating to a course.

5. With revalidation in prospect, all trainers should be working towards collecting and maintaining documented evidence of clinical practice (e.g. log records). Trainers should conform to equality and diversity legislation.

6. Supervised clinical practice should contain workplace-based assessments (WBAs) and patient feedback questionnaires. The WBAs should sample the organisational aspects of conscious sedation and the whole patient experience from assessment to discharge. They should cover a wide a range of patient care. One WBA should assess the management and provision of an entire patient episode of care. This evaluation must be made by an external assessor competent in the relevant sedation technique.

7. For revalidation in a sedation technique, the practitioner should undergo a minimum of 12 hours of verifiable continuing professional development every five years in the technique(s) being practised. However, practitioners not regularly practising a technique must consider the need for mentoring and/or retraining.

Transitional arrangements

From the time of publication of this report (first edition 2015), no healthcare professional should commence the provision of conscious sedation for dental patients without the training described in this report having been satisfactorily completed. However, it is appreciated that there are experienced practitioners currently providing conscious sedation for dentistry who have not received the formal postgraduate training as described in this report. In order to maintain a service for patients, it is appropriate to have 'grandfathering' arrangements in place so that such practitioners can continue to provide conscious sedation services, assuming that they comply with the guidance laid down in this document.

There is also an understanding that it is appropriate to ensure a robust process of continuing education and monitoring of all healthcare practitioners providing sedation for dentistry, not all of whom will have benefitted from the initial competency-based training described in this document. For clinicians initially trained prior to the publication of this report, the following transitional arrangements are recommended:

1. Sedation practitioners should maintain a log in either written or electronic form of all sedation cases undertaken, with comprehensive details of patient type, baseline vital signs, sedation agent used/route/dose/reversals/ untoward incidents etc.

2. Sedation practitioners and their clinical teams must undertake the similar, validated continuing professional development required for those following the pathway of training recommended in this report.

3. Sedation practitioners must undertake sedation-based audit and reflection frequently and regularly in each location sedation is provided.

4. Sedation practitioners and their clinical teams must be competent in the appropriate 'rescue' skills described in this report for the techniques of conscious sedation that are practised.

5. Sedation practitioners must meet the requirements for the environment and equipment and the patient pathway checklist described in *Section 1: Care pathways*.

6. Sedation practitioners in primary care should ensure that appropriate clinical governance is in place to comply with the standards set in this report.

The records for points 1–6 above should be available to those who commission or carry responsibility for NHS provision of conscious sedation for dentistry. These requirements also apply to those practising conscious sedation for dentistry outwith the NHS.

Appendix 3:
Examples of patient information

This appendix contains examples of patient information to be used for patients, those with parental responsibility and carers. Their use is subject to the conditions described in *Section 4: Patient information.*

Contents

Example 1:

What is conscious sedation?

(An introduction for adult patients, to be used in conjunction with sedation-specific information)

Your dentist has recommended that you have your dental treatment with the help of sedation. Sedation is when drugs are used to make you feel less anxious and more relaxed. It will make you drowsy, less aware of what is happening and with few memories of what has happened to you during your treatment. It does not make you unconscious and you will be aware of what is happening.

Once you are sedated, the dentist may use local anaesthetic around the site of the dental treatment. Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections you need will then be given through this numbed area to minimise any discomfort.

Sedative drugs (medicines) can be given in a number of ways. Your dentist will decide, with you, which type is the best for your planned dental treatment.

There are different levels of sedation and several methods can be used. You may have sedation:

- by breathing in gas through a nosepiece (inhalation)
- by injection into a vein in your hand or arm (intravenous)
- by swallowing a medicine (oral)
- by placing a medicine under your tongue or into the nose (transmucosal)

Your dentist will discuss the best method to use for you and your treatment. The dentist will give you some information about the type of sedation you will be having for your treatment.

The dentist who agrees with you the plan for your treatment with sedation will give you some instructions to follow. These are important for your safe and comfortable care. For most types of sedation, you will need someone to come with you on the day of your treatment so that he or she can look after you when you go home. The dentist will confirm with you if you will need someone to act as an escort in this way. Your escort will also be given some important information about how best to look after you following your treatment under sedation.

This information is a general guide for patients having dental treatment with sedation. As part of the face-to-face discussions with your dentist, you may be given advice that is specific to your treatment plan. This may differ in some areas to the general principles outlined here.

Before any treatment is started, the dentist will ask you to confirm your consent. This means that you understand the planned treatment and how you will receive the sedation.

If you have any questions or are unclear about having your sedation, then do not hesitate to ask your dentist.

Example 2:
Inhalation sedation

Inhalation sedation means that the sedation is given as a gas. Anxiety is reduced by breathing nitrous oxide with oxygen, given as a mixed gas. The dentist will give you the gas through a nosepiece. This will not cover your mouth.

What to expect

It is usual to have two appointments. The first appointment will be for an assessment when your dental treatment under sedation will be planned and discussed with you. The dental treatment under sedation will take place at the second and subsequent appointments. If the treatment is needed as an emergency, it may be possible to have some treatment under sedation at the first appointment.

It is important that you let the dentist know your medical history and any medicines that you are taking.

If you think you may be pregnant, you need to let the dentist know. You may need to come back to have your treatment at another time. You should let your dentist know if you are breastfeeding.

The dentist will confirm whether you need to restrict what you eat or drink on the day of treatment. If you have any questions or are unclear about having your sedation, then do not hesitate to ask your dentist.

As you receive the gas via a nosepiece, you may get a feeling of warmth throughout your body as well as some mild tingling and light-headedness. You will stay awake and in control of all your reflexes, such as coughing.

Once you are sedated with the gas, the dentist may use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injection that you may need can then be given through this numbed area to reduce the chance of any discomfort.

After the treatment

You are unlikely to have any side effects, such as feeling sick or headache. At the end of the procedure, the dentist will give you some extra oxygen to make you feel more alert. This will speed up your recovery from the effects of the sedation.

You will spend time in the recovery area after the treatment is over. You will be checked by the dentist or an appropriate member of the dental team before you go home. It is not always necessary to have someone with you following this type of simple inhalation sedation. You may be advised not to drive a car, ride a bicycle or operate machinery for up to 2 hours following your treatment.

You will be given information relating to any local analgesia and the dental treatment you have received. The dental team will also advise you about any medicines you may need while recovering from the treatment. You will be given a telephone number of who to contact if you have any problems as a result of the treatment.

Example 3:
Intravenous sedation

Your dentist has recommended that you have intravenous sedation. This means that a sedative drug (medicine) is given to you by injection into a vein. The sedation makes you drowsy and helps reduce anxiety.

Intravenous sedation is usually given by using a single drug called midazolam. A dose of the drug is chosen for you individually. It is given by injection. This is usually into a vein in the back of your hand or in your arm through a cannula.

A cannula is a thin flexible tube. A needle is used to put the cannula in but is then removed immediately. It is normal to feel a sharp scratch when the cannula is inserted. A local anaesthetic paste or liquid can be used first to reduce the pain of the injection. Once the cannula is in the vein, the sedation drug can be given without using any more needles. The cannula remains in until the dentist has checked that you have recovered from the sedation but it will be removed before you go home.

It is usual to have at least two appointments. The first appointment will be an assessment when your dental treatment under sedation will be planned and discussed with you. The dental treatment under sedation will take place at the second and subsequent appointments. If the treatment is needed as an emergency, it may be possible to have some treatment under sedation at the first appointment.

Your dentist and members of the dental team are trained to give sedation. They watch you closely and treat any problems that may develop. They are also required to use appropriate monitoring equipment during sedation. There will be a recovery area where you will be observed until you have made a full recovery from the sedation.

As with the administration of any medicines, there are risks associated with intravenous sedation. These might include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. You may be asked by your dentist/sedationist to take deep breaths to correct this. Your breathing and oxygen levels will be monitored throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks include allergic reactions to the sedative drugs that you have been given or vomiting during the procedure. Your dentist/sedationist will discuss any concerns that you may have prior to the procedure taking place. It is important that you let the dentist know your medical history, including any medicines that you are taking. The dentist will need to know if you have ever had any problems with having either sedation or a general anaesthetic.

If you think you may be pregnant, you need to let the dentist know. You may need to come back to have your treatment at another time. You should let the dentist know if you are breastfeeding.

Your dentist will discuss with you and explain what you are able to eat and drink prior to your appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

The information provided here is a general guide for patients having dental treatment with sedation. As part of the face-to-face discussions with your dentist, you may be given advice that is specific to your treatment plan. This may differ in some areas to the general principles outlined here.

Before any treatment is started, the dentist will ask you to confirm

consent. This means that you understand the planned treatment and how you will receive the sedation.

What to expect

You will remain conscious during this kind of sedation.

You may experience a temporary loss of memory during the time that you are sedated. Many patients have no memory of the procedure at all. You may feel unsteady on your feet for some hours after the procedure. Your ability to think clearly and make judgements may be affected for the next 24 hours. You may experience some forgetfulness.

Once you are sedated, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that you may need can be given through this numbed area to reduce the chance of any discomfort.

You will spend some time in the recovery area following your treatment. You will be checked by the dentist or the person giving you the sedation before you can go home. You *must* be accompanied by an able-bodied adult who can take responsibility for you following your treatment. This person may need to stay with you overnight. If arrangements have not been made for someone to accompany you after treatment, you will not be able to have the sedation.

If you have any questions or are unclear about having your sedation, then do not hesitate to ask your dentist.

After the treatment

Your judgement will be affected by the drugs. This is similar to the effects of consuming alcohol. You should not drive a car, ride a bicycle or operate machinery until the following day. In some cases, this may be for as long as 24 hours. You should also not take responsibility for the care of others, use sharp implements or cook. It would be unwise to make any irreversible decisions for up to 24 hours following your treatment. Owing to the after effects of the drugs used, care should be taken when using the internet for personal communication.

Before you are discharged, the dentist or dental nurse will give you and the adult accompanying you (escort) important information about your care. You will be given information relating to any local analgesia and the treatment you have received. The dentist will also provide details of pain relief as well as how and when to take other prescription medicines.

You will be given a telephone number of who to contact if you have any problems as a result of your treatment.

Example 4:
Intravenous sedation with more than one drug

More than one sedative medicine can be used for people having more complicated dental procedures or those with severe anxiety. Your dentist will tell you if this applies to you.

A dose of the sedative drugs will be chosen for you individually and given by injection. This is usually into a vein in the back of your hand or in your arm through a cannula.

A cannula is a thin flexible tube. A needle is used to put the cannula in but is then removed immediately. It is normal to feel a sharp scratch when the cannula is inserted. A local anaesthetic paste or liquid can be used first to reduce the pain of the injection. Once the cannula is in the vein, the sedation drugs can be given without using any more needles. The cannula remains in until the dentist has checked that you have recovered from the sedation but it will be removed before you go home.

It is usual to have at least two appointments. The first appointment will be an assessment when your dental treatment under sedation will be planned and discussed with you. The dental treatment under sedation will take place at the second and subsequent appointments. If the treatment is needed as an emergency, it may be possible to have some treatment under sedation at the first appointment.

Your dentist and members of the dental team are trained to give sedation. They watch you closely and treat any problems that may develop. They are also required to use appropriate monitoring equipment during sedation. There will be a recovery area where you will be observed until you have made a full recovery from the sedation.

As with the administration of any medicines, there are risks associated with intravenous sedation. Sedation with more than one drug can increase the risk of complications. Risks include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. You may be asked by your dentist/sedationist to take deep breaths to correct this. Your breathing and oxygen levels will be monitored throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs that you have been given or vomiting during the procedure. There is a small risk of you becoming more deeply sedated than intended when having more than one sedative drug. Your dentist/sedationist will discuss any concerns that you may have prior to the procedure taking place.

It is important that you let the dentist know your medical history and any medicines that you are taking. The dentist will need to know if you have ever had any problems with having either sedation or a general anaesthetic.

If you think you may be pregnant, you should let the dentist know. You may need to come back to have your treatment at another time. You should let your dentist know if you are breastfeeding.

Your dentist will discuss with you and explain what you are able to eat and drink prior to your appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

The information provided here is a general guide for patients having dental treatment with sedation. As part of the face-to-face discussions with your dentist, you may be given advice that is specific to your treatment plan. This may

differ in some areas to the general principles outlined here.

Before any treatment is started, the dentist will ask you to confirm consent. This means that you understand the planned treatment and how you will receive the sedation.

What to expect

You will remain conscious during this kind of sedation.

You may experience a temporary loss of memory during the time that you are sedated. Many patients have no memory of the procedure at all. You may feel unsteady on your feet for some hours after the procedure. Your ability to think clearly and make judgements may be affected for the next 24 hours. You may experience some forgetfulness.

Once you are sedated, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment.

Any injections that you may need can be given through this numbed area to reduce the chance of any discomfort.

You will spend some time in the recovery area following your treatment. You will be checked by the dentist or the person giving you the sedation before you can go home.

You *must* be accompanied by an able-bodied adult who can take responsibility for you following your treatment. This person *must* be able to stay with you overnight. If arrangements have not been made for someone to accompany you after treatment, you will not be able to have the sedation.

If you have any questions or are unclear about having your sedation, then do not hesitate to ask the dentist.

After the treatment

Your judgement may be affected by the drugs. This is similar to the effects of consuming alcohol. You should not drive a car, ride a bicycle or operate machinery until the following day. In some cases, this may be for as long as 24 hours. You should also not take responsibility for the care of others, use sharp implements or cook. It would be unwise to make any irreversible decisions for 24 hours following your treatment. Owing to the effects of the drugs used, care should be taken when using the internet for personal communication.

Before you are discharged, the dentist or dental nurse will give you and the adult accompanying you (escort) important information about your care. You will be given information relating to any local analgesia and the treatment you have received. The dentist will also provide details of pain relief as well as how and when to take other prescription medicines.

You will be given a telephone number of who to contact if you have any problems as a result of your treatment.

Example 5:
Oral sedation

Oral sedation means that the sedation drugs are swallowed as a tablet or liquid. It takes about 10 minutes for the effects of the drug to work.

Once you are sedated, you will usually have a small cannula placed in the back of your hand or in your arm.

A cannula is a thin flexible tube. A needle is used to put the cannula in but is then removed immediately. It is normal to feel a sharp scratch when the cannula is inserted. A local anaesthetic paste or liquid can be used first to reduce the pain of the injection. Once the cannula is in the vein, the sedation drug can be given without using any more needles. The cannula remains in until the dentist has checked that you have recovered from the sedation but it will be removed before you go home.

It is usual to have at least two appointments. The first appointment will be an assessment when your dental treatment under sedation will be planned and discussed with you. The dental treatment under sedation will take place at the second and subsequent appointments. If the treatment is needed as an emergency, it may be possible to have some treatment under sedation at the first appointment.

Your dentist and members of the dental team are trained to give sedation. They watch you closely and treat any problems that may develop. They are also required to use appropriate monitoring equipment during sedation. There will be a recovery area where you will be observed until you have made a full recovery from the sedation.

As with the administration of any medicines, there are risks associated with oral sedation. Risks include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. You may be asked by your dentist/ sedationist to take deep breaths to correct this. Your breathing and oxygen levels will be monitored throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs that you have been given or vomiting during the procedure. Your dentist/ sedationist will discuss any concerns that you may have prior to the procedure taking place.

It is important that you let the dentist know your medical history and any medicines that you are taking. The dentist will need to know if you have ever had any problems with having either sedation or a general anaesthetic.

If you think you may be pregnant, you should let the dentist know. You may need to come back to have your treatment at another time. You should let your dentist know if you are breastfeeding.

Your dentist will discuss with you and explain what you are able to eat and drink prior to your appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

The information provided here is a general guide for patients having dental treatment with sedation. As part of the face-to-face discussions with your dentist, you may be given advice that is specific to your treatment plan. This may differ in some areas to the general principles outlined here.

Before any treatment is started, the dentist will ask you to confirm consent. This means that you understand the planned treatment and how you will receive the sedation.

What to expect

You will remain conscious during this kind of sedation. You may experience a temporary loss of memory during the time that you are sedated. Many patients have no memory of the procedure at all. You may also feel unsteady on your feet for some hours after the procedure. Your ability to think clearly and make judgements may be affected for the next 24 hours. You may experience some forgetfulness.

Once you are sedated, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that you may need can be given through this numbed area to reduce the chance of any discomfort.

You will spend some time in the recovery area following your treatment. You will be checked by the dentist or the person giving you the sedation before you can go home. You *must* be accompanied by an able-bodied adult who can take responsibility for you following your treatment. This person may need to be able to stay with you overnight. If arrangements have not been made for someone to accompany you after treatment, you will not be able to have the sedation.

If you have any questions or are unclear about having your sedation, then do not hesitate to ask your dentist.

After the treatment

Your judgement may be affected by the drugs. This is similar to the effects of consuming alcohol. You should not drive a car, ride a bicycle or operate machinery until the following day. In some cases, this may be for as long as 24 hours. You should also not take responsibility for the care of others, use sharp implements or cook. It would be unwise to make any irreversible decisions for 24 hours following your treatment.

Owing to the effects of the drugs used, care should be taken when using the itnernet for personal communication.

Before you are discharged, the dentist or dental nurse will give you and the adult accompanying you (escort) important information about your care. You will be given information relating to any local analgesia and treatment you have received. The dentist will also provide details of pain relief as well as how and when to take other prescription medicines.

You will be given a telephone number of who to contact if you have any problems as a result of your treatment.

Example 6:

Transmucosal sedation: Information for parents or carers

What is transmucosal sedation?

The child or adult in your care may require dental treatment under sedation. Anxiety can be reduced by sedative drugs (medicines), which also make the patient drowsy. The dentist will be able to explain why the patient might benefit from having sedation.

Transmucosal sedation is generally given through a fine spray, which is squirted into the nose. The sedation drugs are absorbed through the lining of the nose and enter the bloodstream. It can take 5–10 minutes for the effects of the drug to work.

Once the sedation medicine has taken effect, for the patient's safety, a needle is used to place a cannula (small plastic tube) in a vein in the back of the hand or in the arm. The dentist will use the cannula to reverse the effects of the sedation if necessary. A cream containing local anaesthetic may be used to make the injection site numb before the cannula is inserted.

Benefits and risks of transmucosal sedation

Transmucosal sedation reduces anxiety and fear of dental treatment. This is particularly helpful if the patient is having a long, uncomfortable or more complicated procedure.

The dentist and members of the dental team are trained to give sedation. They watch the patient closely and treat any problems that may develop. An oxygen supply will be available and oxygen will be given by mask if necessary. They are also required to use appropriate monitoring equipment during sedation. There will be a recovery area where the patient will be observed until he or she has made a full recovery from the sedation.

It is a widely used technique but, as with the administration of any medicines, there are risks associated with intranasal sedation. These risks include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. The patient may be asked by the dentist/sedationist to take deep breaths to correct this. The dentist/sedationist will continually monitor the patient's breathing and oxygen levels throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs the patient has been given or vomiting during the procedure. The dentist/sedationist will discuss any concerns that you may have about the patient prior to the procedure taking place.

What to expect

The method of dental treatment planned for the patient in your care will be discussed with you at a separate assessment appointment. The dental treatment will take place at second and subsequent appointments. In exceptional circumstances, treatment may be carried out on the same day as assessment. It is important that the dentist knows of any recent changes in the patient's medical history and of any medicines being taken.

If you think the patient may be pregnant or breastfeeding, you need to let the dentist know. The patient may need to come back to have the treatment at another time.

Before the treatment is started, the dentist will need to take a full medical history and, if necessary, contact the patient's general medical practitioner or specialist. The patient will need to have their blood pressure taken with a cuff on their arm and the level of oxygen in their blood measured with a clip on their finger.

How to prepare the patient

The information provided here is to help parents or carers understand the process of sedation. It is a general guide. As part of the face-to-face discussions with the dentist, the patient in your care may be given specific advice that may differ from the general principles outlined here.

There are complicated rules regarding consent for patients with limited capacity. The dentist will explain to you and the patient what steps need to be taken to ensure that consent is properly obtained. No treatment can be started without consent.

Additional information, with pictures, has been developed to be used with this information. The pictures help explain the procedures and effects of sedation. The treatment pictures appear at the end of this leaflet.

The dentist will discuss with you and explain what the patient is able to eat and drink prior to the appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

If the patient is unwell on the day with cold/flu symptoms or any contagious illness, please contact the dentist for advice. The appointment may need to be rearranged.

What will happen during the sedation?

The patient will remain conscious during the sedation but may experience some temporary loss of memory during the time that he or she is sedated. Many patients have no memory of the procedure at all. Patients may feel unsteady on their feet for some hours after the procedure. They may be affected for the rest of the day. They may experience some forgetfulness.

The patient will be monitored by the dentist and the dental team during the procedure. This will include measurements of blood pressure, heart rate and oxygen levels at regular intervals.

Once the patient is sedated, and feels drowsy and relaxed, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that the patient may need can then be given through this numbed area to reduce the chance of any discomfort.

The patient will spend some time in the recovery area following the treatment. He or she will be checked by the dentist or the person giving the sedation and will not be allowed to go home until alert and responsive. The patient will need to be accompanied home by an able-bodied adult who can take responsibility for him or her for the rest of the day. Escorts should not bring other children with them on the day of the treatment.

Children may not return to school and should not participate in active sports for the rest of the day. You may wish to make plans about how best to travel home with the patient following treatment.

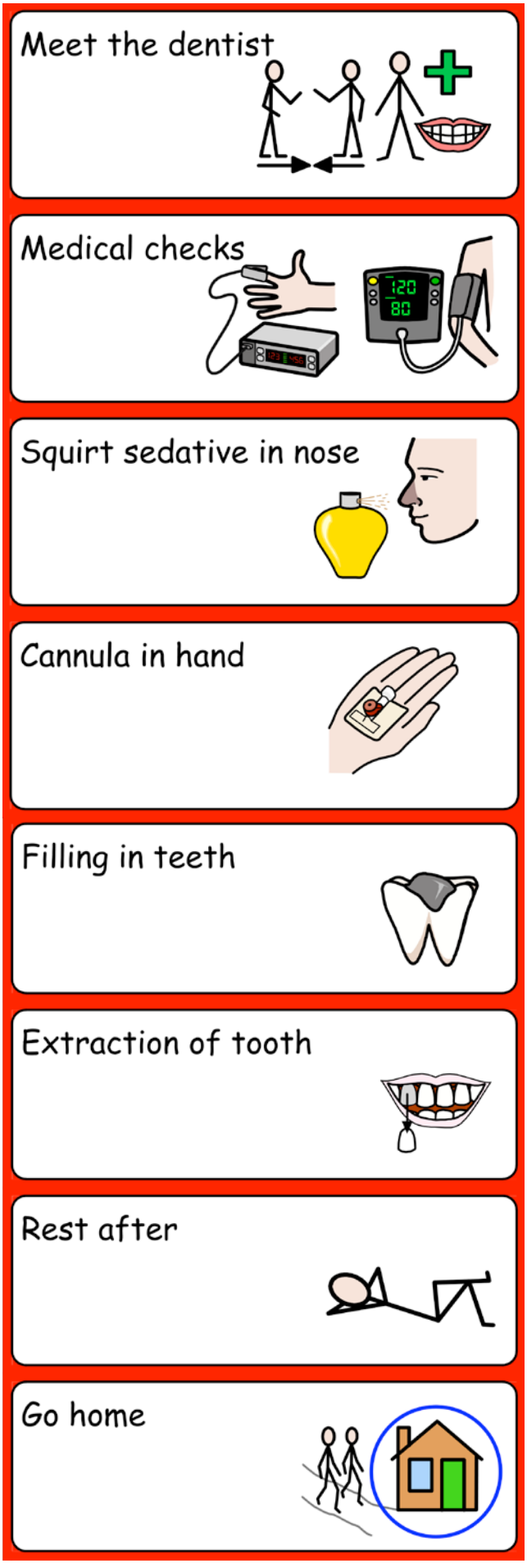
All patients need to be supervised by a responsible adult for the remainder of the day. The parent/carer may need to make arrangements for the care of other children or elderly dependent relatives during this time.

Adult patients should be aware that their judgement may be affected and care should be taken for the next 24 hours if the patient is using the internet for personal communication. They are advised not to drive, ride a bicycle or operate machinery until the following day or, in some cases, for 24 hours.

You will be given information relating to any local anaesthetic or treatment that the patient has received. The dental team will give you advice about any medicines the patient will need while recovering from the treatment. You will be given a telephone number of who to contact if you have any concerns.

Example 7:
Transmucosal sedation: Pictorial sequence

The design and artwork of Dr Charlotte Curl are gratefully acknowledged.



Example 8:
The day of your dental procedure

Please arrive promptly for your appointment.

Do not bring children with you.

Make sure that you have followed any advice that you have been given by your dentist about eating and drinking before your appointment.

Bring with you a list of any medicines that you are currently taking. You should take your routine medicines on the day of the procedure. Please let the dentist know if your medical history has changed since you last saw the dentist.

If you think you may be pregnant, you need to let the dentist know. You may need to come back to have your treatment at another time. You should let the dentist know if you are breastfeeding.

It is sensible to wear loose, comfortable clothing and flat shoes. You may need to remove any contact lenses so remember to take your glasses or a replacement pair of lenses for use once the treatment is finished.

The dentist will need to monitor you carefully while you are sedated. To help with this, please remove nail varnish and do not wear excessive make up or jewellery.

Do not bring valuables with you.

If you feel unwell on the day of the procedure, please telephone the number provided.

If you have been asked to arrange for someone to go home with you, it is *essential* that this person is available. If you do not have an escort, you will not be able to have your procedure under sedation.

After your treatment, you will be given a telephone number of who to contact if there are any problems.

Example 9:

Patient escort information

Important information for adults accompanying patients having dental treatment with sedation

You have been asked to accompany someone who is having dental treatment under sedation.

Patients can feel less anxious if they receive a sedative drug (medicine) before or during their dental treatment. The drugs used can cause some patients to feel a little disorientated or confused for a short time after the treatment. It is important that someone will be responsible for them and take care of them for the remainder of the day. Occasionally, it may be necessary for someone to stay with them overnight.

It is important that you follow these instructions. The patient will have been given a telephone number of who to contact if you have any concerns.

The patient will not be allowed to go home until the dentist is satisfied that the patient is in the care of a responsible adult (over 18 years of age). The escort must be present with the patient as they leave the dental surgery. Some patients take a little longer than others to be ready to go home so please be aware that a precise time cannot always be given.

The patient's judgement (ability to think clearly) is likely to be affected. Patients should not make any irreversible decisions for up to 24 hours following their treatment.

Patients should be encouraged to rest for a while once they are home. It is not recommended for them to be in charge of others until the next day. Care should be taken when cooking or using domestic appliances.

Patients should not drive a vehicle, ride a bicycle, operate machinery or drink alcohol until the following day and, in some cases, for up to 24 hours. The dentist will advise the patient on the day of treatment. Owing to the after effects of the drugs used, care should be taken when using the internet for personal communication.
The dentist will explain to the patient which pain relief medicines he or she may take. Patients should take their usual prescribed medicines unless directed otherwise by their doctor or dentist.

Example 10:

Inhalation sedation: Parents or those with parental responsibility for children and young people aged under 16 years

What is inhalation sedation?

The child in your care may require dental treatment under inhalation sedation. This will help the child feel less anxious, slightly drowsy and more relaxed for the dental treatment. Inhalation sedation does not make the child unconscious. The child remains awake but may feel warm and detached. The child's memory of the treatment afterwards may be slightly reduced.

Inhalation sedation means that the child will breathe a mixture of nitrous oxide and oxygen from a nosepiece placed on the nose. This will have a relaxing effect.

Benefits and risks of inhalation sedation

Inhalation sedation is used to reduce anxiety and fear of dental treatment. This makes the child more co-operative. This is particularly helpful if the child is having a longer, uncomfortable or more complicated procedure. It is a widely used technique.

The dentist and members of the dental team are trained to give sedation. They watch the child closely and treat any problems that may develop. The nitrous oxide is completely breathed out of the body within 30 minutes of the end of the treatment. This means that the child can recover very quickly from this type of sedation.

The dentist will give the child some oxygen at the end of the sedation to help prevent the child feeling a bit sick or having a headache.

The child will be asked to wait until the dentist has checked that he or she has fully recovered from the sedation. The child will not be allowed to go home with you until the dentist has checked this.

What to expect

It is usual to have two or more appointments. At the first appointment (assessment), the dentist will take a full dental history of the child. Various methods of providing the dental treatment with or without sedation will be explained. Other than in an emergency, the treatment will take place at the second or subsequent appointments.

If it is agreed that dental treatment with inhalation sedation is the best way to treat the child, then the dentist will confirm the child's medical history. If further information is required, the child's general medical practitioner or specialist will be contacted.

How to prepare your child

Before the treatment, the child in your care can eat normally but with only a light meal being taken up to 2 hours before the treatment. Please give the child any routine medicines as normal. Any medicines or inhalers that the child may need should be brought to the dental treatment appointment.

Written consent will be required from the parent/carer before any treatment can be given to the child. If you have agreed and signed the consent form at the assessment appointment, and you are then unable to attend on the day of the treatment, the child must be accompanied by a responsible adult (over 18 years of age).

The child should wear loose, comfortable clothing. No valuables should be brought to the appointment.

If the child is unwell on the day with cold/flu symptoms or any contagious illness, please contact the dentist for advice. The appointment may need to be rearranged.

Please avoid bringing other children with you on the day of treatment.

What will happen during the sedation?

During the procedure, the child will breathe the nitrous oxide and oxygen through a nosepiece on the nose. The child may feel warm with tingly fingers and toes.

Once the child is sedated, and feels drowsy and relaxed, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that the child may need can then be given through this numbed area to reduce the chance of any discomfort.

When the dental treatment is completed, the nitrous oxide mixture will be stopped and replaced with oxygen. The nosepiece will be taken off, and the child will be sat up in the dentist's chair and will continue to recover fully for a few minutes. The dentist or a member of the dental team will monitor the child during recovery.

The child will be able to leave the surgery/dental practice once he or she has fully recovered, is alert and is not feeling dizzy. This usually takes about 30 minutes after the treatment has ended. The child will be checked by the dentist before being allowed to go home.

The child may not participate in organised or active sports for the rest of the day but may be able to return to school. The dentist will discuss this with you.

The child can eat and drink normally after the treatment but care should be taken if areas of the mouth are still numb to avoid lip, cheek or tongue biting. You will be given information relating to any local analgesia and the treatment the child has received. The dentist will explain which pain relief medicines the child may have while recovering and the local analgesia wears off.

You will be given a telephone number of who to contact in case of any concerns.

Example 11:
Inhalation sedation: Young children

Hello! I am Fluffy the Bear.

Last week I had magic air sedation and had my tooth fixed at the dentist.

The dentist is someone who helps look after my teeth. I see them in a dental surgery.

Magic air helps make fixing my teeth easy.

Getting ready

When I saw my dentist, I sat in a chair and the dentist looked at my teeth with a small mirror. My tooth had a hole in it and the dentist took a photograph (called an x-ray) of it to see it better.

The dentist said that I needed the hole to be fixed or my tooth would start to hurt. To make fixing it easy, I could have magic air.

The day I had my tooth fixed

Before I had magic air, I had breakfast but I did not eat too much.

I sat in the dentist chair, and the dentist and the dentist's nurse showed me a mask to wear on my nose. The mask looked like an airline pilot's mask and I could hold it on my nose.

So that it didn't fall off my nose, the dentist laid the back of the chair down so I was lying flat. Tubes were attached to the nosepiece to let the magic air go through them.

The design and artwork of 'Fluffy the Bear' by John Holroyd is gratefully acknowledged.

I practised breathing through my nose with fresh air first. It didn't smell of anything. The dentist counted my teeth with the mirror.

Before I knew it, I felt warm and my fingers and toes felt all tingly. I felt a bit like I was flying. The dentist and the nurse talked to me while I had the magic air.

Having my tooth fixed

The dentist dried my tooth with cotton wool and washed my tooth with numbing liquid. My tooth felt all tingly, fuzzy and numb.

The dentist cleaned my tooth with an electric toothbrush that squirted water and made a buzzy sound. I had a filling put in the hole. The dentist and nurse held a light over my tooth to make the filling hard and strong.

I breathed the magic air through my nosepiece. I felt nice while my tooth was fixed.

When my tooth was mended, I started to feel less tingly and the floaty feeling began to go away.

Afterwards

The dentist sat the chair up gently and took off the nosepiece. My head felt a bit dizzy but it was alright.

After 5 minutes, the dizzy feeling had gone, and I sat in the waiting room and played for a little while. My tooth still felt tingly and numb, and the dentist told me not to bite my lip while it still felt funny. I then went home and played quietly.

My tooth stopped feeling tingly after I left the dentist and now it feels good because I don't have a hole anymore.

The design and artwork of 'Fluffy the Bear' by John Holroyd is gratefully acknowledged.

Example 12:

Intravenous sedation: Parents or those with parental responsibility for children and young people aged under 16 years

What is intravenous sedation?

The child in your care may require intravenous sedation for dental treatment. The use of a sedative drug (medicine) makes the child drowsy and relaxed and less aware of the treatment. The patient will often have few memories of what has happened during the treatment. Intravenous sedation does not make your child unconscious.

Intravenous sedation is usually given by using a single drug called midazolam. A dose, determined for your child individually, will be given into a vein in the back of the hand or arm using a cannula (a thin flexible tube). A needle is used to put the cannula into the vein and the needle is then removed straight away. Once the cannula is in the vein, the sedation drug can be given without using any more needles. The cannula remains in until the dentist has checked that you child has recovered but it will be removed before going home.

A cream containing local anaesthetic may be used to make the injection site numb before the cannula is inserted. You may be asked to put this cream on the child's hand or arm before you leave home. This allows enough time for it to work properly before having the sedation medicine.

Benefits and risks of intravenous sedation

Intravenous sedation is used to reduce anxiety and fear of dental treatment. This makes children more co-operative when having dental treatment. It is particularly helpful if children are having a long, uncomfortable or more complicated procedure.

The dentist and members of the dental team are trained to give sedation. They watch the child closely and treat any problems that may develop. They are required to use appropriate monitoring equipment during sedation. The child will go to a recovery area after the treatment where he or she will be observed until having made a full recovery from the sedation.

It is a widely used technique but, as with the administration of any medicines, there are risks associated with intravenous sedation. Risks include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. The child may be asked by the dentist/sedationist to take deep breaths to correct this. The dentist/sedationist will continually monitor the child's breathing and oxygen levels throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs your child has been given or vomiting during the procedure. The dentist/sedationist will discuss any concerns that you may have about the child prior to the procedure taking place.

What to expect

The various methods of dental treatment planned for the child will be discussed with you at an assessment appointment following a full dental examination. The dental treatment planned will then take place at a second or subsequent appointment. In an emergency, the treatment may be carried out on the same day as assessment.

If it is agreed that intravenous sedation is the best way to treat the child, then the dentist will confirm:

- The child's height and weight
- The child's blood pressure – taken with a cuff on the child's arm. This may not happen for young children.
- The level of oxygen in the blood – taken with a simple clip on

the child's finger
- The child's medical history. If further information is required at this stage, the child's general medical practitioner or specialist will be contacted.

If you have any questions or are unsure about the sedation planned for the child, do not hesitate to ask the dentist.

How to prepare your child

The dentist will discuss with you and explain what the child is able to eat and drink prior to the appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

Written consent will be required from the parent/carer before any treatment can be given to the child. If you have agreed and signed the consent form at the assessment appointment and you are then unable to attend with the child on the day of treatment, the child must be accompanied by a responsible adult (over 18 years of age).

Please give any routine medicines as normal. Any medicines or inhalers that the child may need should be brought with you to the appointment.

Dress your child in loose, comfortable clothing. No valuables should be brought to the appointment.

If the child is unwell on the day of treatment with cold/flu symptoms or any contagious illness, please contact the dentist for advice. The appointment may need to be rearranged.

Please avoid bringing other children with you on the day of treatment.

What will happen?

The child will be monitored during the procedure. This will include measurements of blood pressure, heart rate and oxygen levels at regular intervals.

Once the child is sedated, and feels drowsy and relaxed, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that the child may need can then be given through this numbed area to reduce the chance of any discomfort.

After the treatment has finished, the child will spend some time in the recovery area and will not be allowed to go home until alert and responsive. The dentist will check the patient before he or she is allowed to go home.

The child may not return to school and should not participate in active sports for the rest of the day. You may wish to make plans about how best to travel home with the child following the treatment.

The child must be supervised by a responsible adult for the rest of the day. Arrangements may need to be made for the care of other children or elderly dependent relatives during this time.

Children can be sleepy, upset or agitated for up to 3 hours after the treatment. They will, however, have little memory of the procedure. Occasionally, children feel a bit sick or may get hiccups. There may be some bruising on the hand or arm where the sedative medicine was given. You will be given information relating to any local analgesia and the treatment the child has received. The dental team will advise you about any medicines the child may need while recovering from the treatment. You will be given a telephone number of who to contact in case of any concerns.

Example 13:

Intravenous sedation: Young people aged 12–16 years

What is intravenous sedation?
This is when you receive a drug to sedate you while you have your dental treatment. The drug makes you feel sleepy and relaxed but you will not be unconscious. It is given by your dentist, or by another dentist or a doctor.

Why should I have intravenous sedation?
Having sedation this way helps reduce any worry or anxiety you have about having your teeth treated. It can also help if you need a very long procedure or a painful procedure, such as having a tooth out.

Consent
The information provided here is a general guide for all patients having intravenous sedation. Your dentist will discuss with you your specific treatment plan and some of the advice described might not be relevant to the treatment you are going to have.

Nothing will happen until you and your parent or guardian understand and agree what has been planned for you. You will be able to discuss the treatment with your dentist. Your parent or guardian will need to be with you on the day of the treatment to sign the consent form, even if it was signed at an assessment visit.

Getting ready for your sedation
Before you have intravenous sedation, the dentist will ask you about your general health. If you have any long-term medical problems, the dentist will discuss these with you and your parent or guardian. The dentist will have also checked your height, weight, blood pressure (taken with a cuff that wraps around your arm) and oxygen levels in your blood, using a clip that attaches to your finger.

On the day of the treatment, you should take any regular medicines and bring your medicines or inhalers with you.

If you have a cold or feel unwell, you or your parent/guardian will need to tell the dentist as you need to be as healthy as possible on the day of treatment.

If you think you may be pregnant, you need to let the dentist know. You may need to come back to have your treatment at another time.

Leave all jewellery and valuables at home. Do not wear excessive make up or any nail polish to the appointment. These can interfere with the monitoring equipment that is used while you are sedated.

Your dentist will discuss with you and explain what you are able to eat and drink prior to your appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

You will be asked to turn off your mobile phone during the appointment.

Clothing
Wear loose, comfortable clothing and flat shoes. If you wear contact lenses, you may need to remove them. You may need to bring your glasses or spare lenses to wear after the appointment.

Having the intravenous sedation
Your dentist or a member of the dental team may put an anaesthetic cream on the back of your hand or on your arm about 45–60 minutes before the appointment. You may be asked to do this at home, before you come to the dental surgery.

The cream makes the skin on your hand or arm go numb. The dentist (or doctor who will be helping with the sedation) will then place a cannula in a vein in your hand or arm. A cannula is a thin flexible tube. A needle is used to put the cannula in. The needle is then removed straight away but

the cannula stays inside the vein. The anaesthetic cream placed on the hand or arm helps reduce the discomfort of having the cannula inserted.

Once the cannula is in the vein, the sedation drug can be injected through it without using any more needles. The cannula is left in until the dentist (or doctor) allows you to go home. He or she will check that you have recovered properly from the sedation before letting you leave the dental surgery.

Your parent or guardian will be with you until the sedative drug is given and will then usually wait for you outside the surgery while your teeth are treated.

While you are sedated and having your dental treatment

Once you are sedated, and feel drowsy and relaxed, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that you may need can then be given through this numbed area to reduce the chance of any discomfort.

A small clip will be put on your finger to measure your heart rate and the level of oxygen in your blood. Your blood pressure will be taken while you are sedated.

How will I feel?

You will feel drowsy and sleepy during the treatment. Afterwards you may not remember very much about the treatment.

Afterwards

You may be moved to another area to recover fully. The dental team will decide when it is safe for you go home. You will need to rest at home. You cannot go home on your own – your parent, guardian or other responsible adult will need to stay with you for the rest of the day.

You may feel sick or drowsy. You may have a bruise where the cannula was. Your mouth may still feel numb or tingly for up to 3 hours. You will need to be careful not to bite your lip or cheek while it is numb.

You will need to avoid any strenuous exercise like riding a bike, driving a car or motorbike, playing active sports or training until at least the following day. Sometimes you may need to avoid these things for 24 hours but your dentist will advise you.

You should be careful about what you write or text on social media after your treatment as you may be a bit muddled and lack judgement.

Are there any risks to intravenous sedation I should know about?

Intravenous sedation is widely used but, as with taking any medicines, there are risks. Your dentist and members of the dental team are trained to give sedation. They watch you closely and treat any problems that may develop.

The key risks are:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. You may be asked by the dentist/sedationist to take deep breaths to correct this. Your breathing and oxygen levels will be monitored throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs that you have been given or vomiting during the procedure. Your dentist/sedationist will discuss any concerns that you may have prior to the procedure taking place.

Before you are discharged, you will be given information about pain relief as well as how and when to take any prescription medicines. You will be given information relating to any local analgesia and the treatment you have received. You or your parent/guardian will be given a telephone number of who to contact if you have any concerns.

Example 14:

Oral sedation: Parents or those with parental responsibility for children and young people aged under 16 years

What is oral sedation?

The child in your care may require oral sedation for dental treatment. The use of a sedative drug (medicine) makes the child drowsy, less aware of what is happening and with few memories of what has happened during the treatment. Oral sedation does not make your child unconscious.

Oral sedation is usually given as a single drug called midazolam. A dose, chosen for your child individually, will be given as a drink or as a syrup. The sedation usually takes 20 minutes to take effect.

Once the child is sedated (drowsy), a needle is used to place a cannula (small plastic tube) into a vein in the back of the hand or in the arm. This allows a drug to be given that reverses the effect of the sedation, if necessary. A cream containing local anaesthetic will be used on the back of the hand to numb the area, before this cannula is placed. You may be asked to apply this cream to the child before coming to the dental surgery.

Benefits and risks of oral sedation

Oral sedation is used to reduce anxiety and fear of dental treatment. This usually makes children more co-operative when having treatment. It is particularly helpful if children are having a long, uncomfortable or more complicated procedure.

The dentist and members of the dental team are trained to give sedation. They watch the child closely and treat any problems that may develop. They are required to use appropriate monitoring equipment during sedation. The child will go to a recovery area after the treatment where he or she will be observed until a full recovery from the sedation has been made.

It is a widely used technique but, as with the administration of any medicines, there are risks associated with oral sedation. Risks include:

- A reduction of oxygen in the blood stream due to poor breathing during sedation. The child may be asked by the dentist/sedationist to take deep breaths to correct this. The dentist/sedationist will continually monitor the child's breathing and oxygen levels throughout the procedure.
- Bruising at the site of the cannula. This may take several days to fade completely.

Very rare risks are allergic reactions to the sedative drugs that your child has been given or vomiting during the procedure. Your dentist/sedationist will discuss any concerns that you may have about the child prior to the procedure taking place.

An oxygen supply will be available and oxygen will be given if necessary. There is also a risk that the child may not like the feeling of sedation and become tearful, in which case the sedation may be stopped.

What to expect

The various methods of dental treatment planned for the child will be discussed with you at a separate assessment appointment following a full dental examination. In exceptional circumstances, treatment may be carried out on the same day as assessment.

Before the sedation can be given, the dentist will confirm:

- The child's height and weight
- The child's blood pressure – taken with a cuff on the child's arm. This may not happen for young children.
- The level of oxygen in the

blood – taken with a simple clip on the child's finger
- The child's medical history. If further information is required at this stage, the child's general medical practitioner or specialist will be contacted.

If you have any questions or are unclear about the sedation planned for the child, do not hesitate to ask your dentist.

How to prepare your child

The dentist will discuss with you and explain what the patient is able to eat and drink prior to the appointment. You will also be given this information in writing. It is important that these instructions are followed carefully.

Written consent will be required from the person with parental responsibility/carer before any treatment can be given to the child. If you have agreed and signed the consent form at the assessment appointment and you are then unable to attend with the child on the day of treatment, the child must be accompanied by a responsible adult (over 18 years of age).

Please give routine medicines as normal. Any medicines or inhalers that the child may need should be brought with you to the appointment.

Dress your child in loose, comfortable clothing. No valuables should be brought to the appointment.

If the child is unwell on the day with cold/flu symptoms or any contagious illness, please contact the dentist for advice. The appointment may need to be rearranged.

Please avoid bringing other children with you on the day of treatment

What will happen?

The child will be monitored during the procedure. This will include measurements of blood pressure, heart rate and oxygen levels at regular intervals.

Once the child is sedated, and feels drowsy and relaxed, the dentist can use local analgesia (pain relief that numbs the site of the dental treatment). Local anaesthetic as a paste is sometimes used to numb the site of the treatment. Any injections that the child may need can then be given through this numbed area to reduce the chance of any discomfort.

After the treatment has finished, the child will spend some time in the recovery area until alert and responsive. He or she will be checked by the dentist before being allowed to go home.

The child may not return to school and should not participate in active sports for the rest of the day. You may wish to make plans about how best to travel home with the child following the treatment.

The child must be supervised by a responsible adult for the rest of the day. Arrangements may need to be made for the care of other children or elderly dependent relatives during this time.

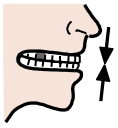
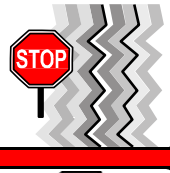
Children can be sleepy, upset or agitated for up to 3 hours after treatment. They will, however, have little memory of the procedure. Occasionally, they get hiccups. There may be some bruising on the hand or arm where the cannula was inserted.

You will be given information relating to any local analgesia and the treatment the child has received. The dental team will advise you about any medicines the child may need while recovering from the treatment.

You will be given a telephone number of who to contact in case of any concerns.

Example 15:

Dental filling: Pictorial sequence for young children

Meet the dentist 	Have teeth cleaned 
Sit in dentist chair 	Have filling put in tooth 
Lie down 	Bite down on filling 
Dentist checks teeth 	Wait until I stop feeling fuzzy 
Try on nosepiece 	Sit up 
Feel nice with happy air 	Say goodbye 

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