

The use of general anaesthesia in special care dentistry: A clinical guideline from the British Society for Disability and Oral Health.

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Authors: School of Dental Sciences, Newcastle University, Newcastle upon Tyne, UK.

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To present evidence■based recommendations, where possible, for teams involved in providing GA for dental care for adults within SCD services.

A multidisciplinary working group, supported by a formal literature search and stakeholder involvement, iteratively produced and refined the recommendations presented.

There was little evidence to inform the guidelines. Recommendations are therefore based mainly on the working group's expert consensus opinion. Clinical guidelines are presented as a set of overarching principles followed by six key sections reflecting patients' pathways from referral to

dental services through to their care during and after GA.

Guidelines are presented to support those providing GA to provide SCD. The need for comprehensive and person-centered assessment and planning is emphasized.

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It is more than a decade since the British Society for Disability and Oral Health (BSDH) published “The provision of oral health care under general anaesthesia in special care dentistry: a professional consensus statement.” At that time the specialty had only just been established and since then there have been several significant changes to care pathways, processes, training and legislation. Special care dentistry (SCD) is the provision of oral health care services for people who are unable to accept routine dental care because of a physical, sensory, intellectual, mental, medical, emotional, or social impairment or disability or a combination of these factors. 1 The use of general anaesthesia (GA) to deliver dental care is an essential component of the practice of SCD, and for many patients the only way they can accept even simple dental care. 2 GA for dental treatment has been shown to be extremely safe 3 but it is still typically associated with a risk that exceeds that of dental treatment carried out under local anaesthesia alone. The process of a GA can be distressing for both patients and their families or care teams. This means that the use of GA needs to be carefully considered and reserved for those with the greatest potential to benefit from such an approach. When such an approach is used, the nature of care delivered may have to be modified and guidance on how or when modifications to care should be made to support each individual is complex, lacking detailed guidance. While access to care for these vulnerable patients has developed greatly across the UK, the GA services available in different areas still vary significantly and a range of barriers can affect patients' ability to access care. 4 Additionally the patient groups that fall within the SCD remit are becoming more complex; for example, patients are living longer with multiple comorbidities and increasing polypharmacy. 5 , 6 , 7 All of these changes, and new research evidence relevant to dental care delivery, mean that a new consensus statement is required to support the delivery of SCD under GA.

This guidance aims to present evidence-based recommendations where possible to support teams providing GA for dental care for adults within SCD services. When and how should dental treatment be delivered for SCD patients who require general anaesthesia?

The recommendations herein apply to the care of all patients aged 16 and above seen within SCD settings in the UK. Such patient groups include, but are not limited to, people living with learning disabilities, autism, dementia, physical or sensory disabilities, significant medical conditions and those with significant dental phobia. The guidance explicitly does not consider or inform practice for the care of pediatric patients. The guidance applies primarily to those in the UK and is based on legislation, regulation, and governance processes specific to the UK. The clinical and educational recommendations may apply in other countries.

This guidance aims to present recommendations for the entire team involved in providing GA for dental care for adults within SCD services. The target users of the guideline are those involved in delivering SCD under GA primarily. Though the guidance relates to the whole team, the emphasis is on dental care provision and the facilitation of this. The guidelines should support anaesthetic teams working with dental teams yet specific recipes for or approaches to administering GA are not

the primary focus of this publication.

The recommendations also aim to support general dental practitioners who refer adult patients to specialist settings, the dentists and dental care professionals within these settings and the hospital team that support anaesthetic care including, but not limited to, anaesthetists, anaesthetic nurses, operating department practitioners, and healthcare assistants. The use of GA for pediatric patients is outside of the remit of this guidance.

The dental team and associated healthcare providers must use clinical judgement, knowledge, and expertise when deciding whether it is appropriate to apply recommendations from guidelines in the management of patients. The recommendations made here are a guide and may not be appropriate for all situations. The guidance provided does not override the responsibility of the dental team and healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and/or their guardian or carer. Care delivered should be determined on the basis of all relevant clinical data available for an individual case and are subject to change as scientific knowledge, service availability, patient/carer preferences and other techniques to deliver care evolve. Following these guidelines does not ensure “success” or “safety” in each clinical case and clinicians should not rely on them to achieve particular outcomes. The guidance provided does not override the responsibility of the dental team and healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and any relevant advocates. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be documented in the patient's medical records at the time the relevant decision is taken.

National standards for hospital teams are regularly reviewed and apply to all dental and theatre settings where preoperative or preanaesthetic assessment and related treatment may be delivered. No COVID-specific recommendations are made and the guidelines apply regardless of stage in pandemic. Levels of PPE and precautions such as fallow time are informed by separate specific guidance.

The need to produce up-to-date guidelines was highlighted at a committee meeting of the BSDH in 2020. The group's academic representative (AG■R) approached relevant professionals from within and beyond the BSDH committee and asked key stakeholders to nominate representatives. This started the process of working group formation, with further individuals contributing to the work as specific needs were identified. The overall process employed is shown in Figure 1 .

All members of the working group completed declarations of conflicts of interest. No relevant conflicts of interest were recorded. The full working composition is shown in Table 1 . The working group was multi-disciplinary containing representatives from a range of backgrounds and stakeholder organizations. Initial meetings with the group confirmed the scope of the guidelines and key areas which should be included. This informed the research question that supported the literature search. Alongside the working group, further stakeholders were contacted to gain support to review the initial draft of the guidelines.

John Wiley & Sons, Ltd. 2.2 Literature search to inform recommendations A non-systematic literature review was used to identify relevant literature to inform the guideline. This was informed by a specific question: When and how should dental treatment be delivered for SCD patients who require general anaesthesia?

A PICO (Population, Intervention, Comparison, Outcome) approach was used to generate a search strategy based on this question. Question and resultant search would be broad and results in a large number of papers to review. A subject-specific library supported the development of the search strategy (Appendix 1). This strategy or modified versions were used in Medline, CINAHL, PsychINFO, and Embase and run on September 25th, 2020. A decision was made, following preliminary scoping searches to limit the search to studies published since 2008. The previous

iteration of this guideline was published in 2009 and was informed by a comprehensive search which did not identify a significant quantity of relevant literature. Papers included in this guideline were reviewed manually to consider their appropriateness to inform the revised guidelines. Key studies identified in the search for this guideline were reviewed and read to identify highly relevant key papers that may still be relevant. Alongside reviewing the previous guideline document, this ensured high quality and relevant literature published before 2008 was not disregarded.

Two reviewers (AG■R and TO'C) screened the articles against the inclusion and exclusion criteria (shown in Table 2). Any uncertainties about whether a study could inform the guideline were resolved by mutual agreement following further discussion. The process of screening papers is shown in Figure 2 . The searches were re■run on May 28, 2021 and no further papers meeting the inclusion criteria were identified. The quality of papers was assessed using the McGill Mixed Methods Appraisal Tool. 8 The suitability of each paper identified in informing the guideline was considered and discussed with the wider working group.

Inclusion and exclusion criteria used to screen studies

John Wiley & Sons, Ltd. FIGURE 2 Prisma search and screening process

The search identified a large number of studies, only some of which were relevant to SCD delivered under general anaesthesia. A summary of 21 relevant papers 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 , 20 , 21 , 22 , 23 , 24 , 25 , 26 , 27 , 28 , 29 identified from the formal search is attached (Appendix 2). These are cited in relation to applicable guideline statements and where their quality is adequate to inform a recommendation clearly. Not all studies were suitable to inform practice despite meeting the inclusion criteria.

The working group split into teams to address the key areas of the guideline: (1) education; (2) pre■operative planning; (3) anaesthetic care; (4) intra■operative treatment; (5) post■operative care; and (6) clinical governance. Each group identified relevant policies, guidelines, and legislation as well as the studies identified from the literature search. These were used to inform the production of a first draft of recommendations. The recommendations from each sub■group were iteratively revised within each group and then further refined with the support of the wider working group. These recommendations were combined to produce a master list of recommendations, the first draft of the overall guidance. This document was then sent to the working group to allow further scrutiny and iterative revision based on the consensus opinion of the group.

The grade and strength of recommendations are presented following each statement in the guideline. The grade of evidence informing each recommendation is detailed following each statement, demonstrated by a Letter A■D, S, or GP as shown in Figure 3 . These levels of evidence are taken from Centre for Evidence■Based Medicine 30 with Good Practice and Statutory or Legislative recommendations added in a manner mirroring that employed by related anaesthetic guidelines. 31

Hierarchy of evidence and recommendations grading scheme

The strength of each recommendation was assigned based on a number of factors, broadly aligned with the GRADE approach (Grading of Recommendations, Assessment, Development, and Evaluation). 32 Both the grade and strength of recommendations is presented (as in Figure 3) as high■quality evidence does not equate to a strong recommendation in all instances nor does limited evidence mean a recommendation cannot be strong. Factors such as the balance of risk, legislative requirements and applicability of evidence to the recommendation guide determination of the strength of recommendations. A strong recommendation is made where it is considered, based on all the available information from research evidence, policy and/or expert opinion, that the recommendation will cause more benefit than harm for most people. Weak recommendations do not mean the evidence is weak, but that the action will cause more benefit than harm for most

people, but with caveats as to how well this is definitively known from evidence or agreed upon by those forming recommendations.

As well as contributing through working group member nominations, a wide range of dental and non-dental stakeholders provided suggestions, feedback, and comments on draft versions of the guidance. This support facilitated revision and refinement of the recommendations presented. Stakeholders who supported revision of the guideline include: Association of Anaesthetists

British Association of Oral and Maxillofacial Surgeons

British Dental Association England Community Dental Service Committee

Irish Society for Disability and Oral Health

Royal College of Surgeons of England—Faculty of Dental Surgery: Standards Committee

Society for the Advancement of Anaesthesia in Dentistry (SAAD)

Comments from stakeholder groups and individuals were discussed within the working group to determine their applicability and further information and discussion with stakeholders was sought or undertaken to address any suggestions where greater clarity was needed. Comments of stakeholders were considered by the working group, who discussed the key challenges or issues by relevant groups or individuals. A consensus on recommendations was made to inform the recommendations presented. [Correction added on January 21, 2022, after first online publication: The first stakeholder group name was changed to “Association of Anaesthetists”.]

This guideline provides detailed advice, based on evidence where available on how and when GA should be used in SCD. Recommendations are made under key section headings, yet a range of overarching principles should be considered first and foremost when considering the use of GA in SCD. These overarching principles aim to optimize safety, quality of care and maintain ethical and person-centered care delivery. 1) The use of GA should be based on a comprehensive assessment of patients and a clear rationale. 2

Due to the inherent risks of general anaesthesia, it should not be the first-choice approach to facilitate delivery of dental care unless other options such as local anaesthesia alone, adjunctive psychological approaches, or conscious sedation (inhalational, intravenous, intranasal, or oral) are contraindicated or are not feasible. 2

GA should only be used to provide dental care where there is expected to be a significant benefit to the patient which outweighs the risks of GA itself.

GA should not be routinely used for a dental examination alone but should be reserved for situations where there are known or suspected dental conditions that could be managed under GA.

Dental care planning under GA must take into account each patient's values and preferences³³ as well as the medical, dental, psychological, and social manners by which treatment may impact them.

Inter-professional collaboration between dental teams, anaesthetic teams and the wider health and social care team should be encouraged to facilitate holistic care provision and to support the planning of appropriate and safe use of GA including post-operative support.

The overall process for planning and facilitating GA for a person with a need for SCD should be led by a consultant or specialist in SCD.

In many instances, a great deal of medical and social information needs to be gathered in order to determine whether GA is appropriate and how this can be safely delivered. Logically, a greater deal of additional information and collaborative planning is required when patients have more complex conditions or a greater number of applicable medical conditions or psycho■social factors that affect care delivery. When these factors are considered, a consent process is required which will vary based on the legislation governing each region. In all regions, care must be taken to ensure patients' views and preferences are included in care planning where possible. 1) When choosing the most appropriate treatment modality, the following factors must be taken into account: The patient's preferences and wishes, 33 , 34 including those specified in any Advance Decisions or in previous dental attendances

The views of those who support a patient, such as carers and family members (where a patient lacks capacity) or where a capacitous patient consents for them to be involved)

The previously expressed views of somebody who has lost capacity to consent

The views or formal report of any Independent Advocates involved in a person's care

The presence of a Do Not Attempt Cardio■Pulmonary Resuscitation (DNAR) or related form

The anticipated dental treatment plan including the volume and type and complexity of treatment needed

(S – Mandatory) The patient's medical history with particular reference to:

Respiratory conditions including sleep apnea

Cardiovascular conditions, congenital and acquired

Conditions presenting with involuntary movements

Cognitive impairments that may affect a patient's understanding of the type of care being delivered or their ability to tolerate this.

(D – Strong Recommendation) The patient's social history with particular reference to:

The support they may require preparing for treatment under GA and recovery from such treatment

The availability and nature of family members, carers or other escorts who will accompany the patient on the day of treatment and post■operatively following discharge from hospital

Involvement with social services or mental health professionals who may be required to assist with hospital admission

The availability and type of transport to and from hospital, ideally, patients should not be reliant on public transport for their journey to or from the hospital.

Decision■making should also give due consideration to how the risk of any complications can be minimized and how the need for future dental interventions, including under GA, can be reduced.

The decision to place a patient requiring SCD on a GA list should involve a Consultant or Specialist in SCD wherever possible.

When making a decision that a GA is the most appropriate treatment modality to deliver dental care, the reasons for its choice should be documented in the patient's clinical notes.

5) Anyone referring a patient for dental treatment under GA must ensure that the reason for referral and the referral process is explained to the patient or their carers. 33

For all patients, especially those who have been assessed to lack the capacity to consent, less restrictive approaches to care delivery must be considered before the referral for treatment under GA is made. 35

Referring practitioners should provide as much information as possible to specialist teams when they feel GA may be indicated. This should include information regarding the patient's dental, medical and social history, the presence or suspicion of dental symptoms such as pain or infection as well as how the conditions are impacting a patient. Details of treatment already carried out, patients' expectations, and any treatment need identified when a dental examination has been possible. 36

Incoming referrals requesting the use of GA should be reviewed and their suitability or completeness established before a clinical assessment is arranged.

A referral must only be accepted if the clinician accepting the referral is trained and is competent to carry out the treatment required and the treatment is deemed appropriate and necessary (as detailed in Section 8 and Table 3). 33

10) A full dental history must be taken, including details of past treatment undertaken and treatment modalities used (specifically conscious sedation or GA).

For any previously used treatment modality, the dental team should consider which factors led to a satisfactory or unsatisfactory experience or outcome. Factors supporting a good experience or outcome should be repeated where feasible and factors perceived as problematic should be avoided if possible.

A medical history must be taken from the patient or a knowledgeable family member or professional carer.

Where a suitably detailed medical history cannot be established, dental teams must seek relevant information from a shared electronic record system, liaison with the patient's General Medical Practitioner (GMP), or where appropriate through discussion with specialist teams involved in the patient's care to gather this information.

Where local systems allow access to an electronic patient record, patients' consent should be sought to access such records. For those lacking capacity to consent for this, it must be ensured that accessing such information is in their best interests.

Dentists should consider requesting relevant reports or information from other health and social care professionals such as safeguarding reports, outcomes of psychological therapies, psychiatric or psychological reports, evaluations, or hospital passports.

Where there is a history of anaesthetic complications, the dental team may consider reviewing anaesthetic records when they have access to do so or consider seeking a provisional anaesthetic opinion at this stage. This might clarify a patient's history and determine whether an alternative to GA may be a more suitable approach to deliver treatment.

Once all of the above information has been assimilated, the dental team should discuss with the patient or a suitable advocate whether treatment under GA is still the most appropriate approach and whether the benefits of this approach are felt to outweigh its risks. 2

18) A comprehensive preoperative dental examination must be undertaken wherever possible. 36

Preoperative clinical assessment and examination should be undertaken in a clinical environment unless reasonable adjustments and individual risk assessment identify that domiciliary or video assessment may be more appropriate for a specific individual.

The dental examination must be supported by appropriate special investigations, such as pulp vitality tests and radiographs where it is possible to complete these preoperatively. 37 , 38

Where a preoperative dental or radiographic assessment has not been possible, it must be clearly documented in the patient's notes which investigations were requested or attempted and why it was not possible for these to be completed.

A suitably qualified second clinician should be available to provide a second opinion if necessary.

When a treatment plan is proposed involving prostheses to be placed at the time of anaesthesia, this prosthesis should be fabricated before admission. The dental team should ensure this is available prior to starting a procedure.

24) Wherever possible, a Consultant or Specialist in SCD should lead the process of planning treatment delivered under GA.

The dental treatment plan must be made collaboratively with patients or their advocates to ensure it is person-centered and takes into consideration: The patient's previous and current wishes and preferences

The patient's current standard of oral health

The patient's ability to comply with oral health advice

The patient's ability to maintain any dental treatment that is proposed

The patient's medical history, particularly regarding the risk of future interventions requiring anaesthesia, the risk of intra- or postoperative hemorrhage or infection and any factors that may affect wound healing

The patient's ability to comply with future assessments and dental treatment utilizing less restrictive treatment modalities

Efforts should be made to minimize delays to the delivery of care where symptoms or infection are present or when dental disease is affecting a patient significantly.

Prevention should be the cornerstone of any dental treatment plan. 39 , 40

Preventative advice and measures should be implemented before the planned admission.

All efforts should be made to ensure risk factors are modified to prevent the development of future dental disease. 39 , 40

30) Where the medical or psycho■social risks of GA are substantial, the need to modify the nature of dental care to avoid repeated GA must be considered, even if it involves a more radical or extensive approach to care delivery.

Dentists should proactively identify whether the patient has any other investigations or procedures pending under the care of other teams, which could be undertaken at the same time as dental treatment. 28 , 29 Additional procedures that may be delivered alongside dental care include, but are not limited to: Examination under anaesthesia by other medical specialties, such as otolaryngology.

Gynecological procedures, including cervical smear tests

Clinicians should consider the need to alter the venue for the proposed treatment to a site where other specialties are able to have an input on the day of surgery.

Where multiple procedures are being delivered, all parties should agree on which specialty is best placed to take responsibility for the patient's admission.

34) The procedure for pre■assessment should follow a clear protocol in agreement with the team providing anaesthesia, surgery and nursing care and national standards. 41

An anaesthetic pre■assessment aligning with national standards should be carried out prior to the planned surgery for all patients 41 unless a patient's specific needs mean that it is reasonable to avoid a pre■assessment or alter the approach by which it is carried out.

The anaesthetic pre■assessment should: Outline the surgical pathway to the patient and carers

Identify key factors relevant to the admission for dental and anaesthetic teams

Build on the dental team's risk assessment to identify medical risk factors that may impact the proposed treatment plan 42

Dental teams should support the process of anaesthetic pre■assessment by providing information gathered from a patient's dental assessment. In particular, factors related to the process of admission and how a patient may be supported in receiving healthcare should be provided to pre■assessment clinicians.

Though a large proportion of patients can be seen in day surgery units, these settings may not be appropriate for those with more complex needs or comorbidities or where an overnight admission may be required. 41 , 42 In certain situations a specific type of bed may need to be booked in advance.

A decision regarding day case or inpatient admission should be made based on a consideration of patient factors (such as the presence of comorbidities or a lack of overnight social support) and surgical factors (such as if other procedures are undertaken or if intra■ or post■operative complications are likely). 42 , 43

Where a day surgery unit is considered appropriate, the potential need for patient transfer should be considered to ensure the suitability of the setting chosen. A plan should be made to support post■operative admission to an alternative unit if this is required. 42 , 43

For patients with learning disabilities or autism, a Hospital Passport can be produced if one is not already available. Dentists can signpost care teams to resources to allow production in a standardized format 44 , 45 , 46

Where a patient has chronic or poorly controlled conditions which may be improved by medical intervention, the dental team should collaborate with the treating medical specialist teams to consider whether the risk of anaesthesia can be reduced by optimizing the patient's general health prior to a planned general anaesthetic. 47 , 48 , 49

Preoperative investigations based on an individual's specific background and medical status and national policy (including local swabbing procedures such as for MRSA and SARS-CoV2) must be undertaken or arranged by the preassessment team. 41 , 50 Reasonable adjustments may mean that desirable investigations are not undertaken preoperatively.

Following the preassessment, patients and care teams should be provided with both general and procedure-specific information relevant to their care. This should be supported by written information or information in an alternative format where required. 42 , 51 , 52

The use of a preoperative assessment proforma that summarizes relevant details regarding the patient and any additional needs should be considered (See Appendix 3). Such a proforma may include such details as: Alterations to the route by which a patient may move from a ward to the theatre setting

challenging behavior and triggers that will lead to demonstration of such behaviors

the number and nature of carers that will be required to support a person

the requirement for a single or isolated room

the likelihood of the patient requiring premedication to facilitate the procedure

details of any planned or anticipated clinical holding

the need for specialist moving and handling equipment such as a "patient transport aid" or hoist

details of specialist airway management equipment and what level of medical intervention the patient will require postoperatively

A summary of the preassessment and key information should be prepared and provided to the unit where the patient will be admitted to and cared for well in advance of the procedure's planned date. This will maximize the time available for relevant teams to prepare for the patient's admission (such as allocating side rooms or sourcing relevant equipment). 53

47) Informed consent for dental treatment and the use of GA must be obtained from all patients 33 unless it is established through formal assessment that they lack the capacity to provide such consent. 35 , 54 , 55

The consent process should take place in the dental environment in advance of preassessment and the planned procedure unless reasonable adjustments to such a process are required. This allows the patient a period of time to consider the decision they have made and raise any questions or queries they may have with the treating team or allows a best interests process to be facilitated.

The applicable legislation for the particular devolved UK nation must be followed when assessing mental capacity and facilitating legal authority to provide care* in situations where capacity has been determined to be lacking. 35 , 54 , 55

Where it is assessed that a patient lacks capacity to consent for treatment, the presence or appointment of a Lasting Power of Attorney (for Health and Welfare—England and Wales), a

Welfare Guardian or Welfare Attorney (Scotland) or other legally appointed decision-maker must be established. This determines if a specific individual has been nominated to make decisions for a person or if an alternative decision-making process is required to comply with legislation. 35 , 54 , 55 , 56

In England and Wales, checks must also be undertaken to establish whether the patient has a valid and applicable Advance Decision to Refuse Treatment which applies to the proposed treatment. 35 In Scotland, though Advanced Directives are not legally binding, they should be taken into account when making decisions. 54

When GA is used to facilitate dental care, the consent process must be documented in written form. 33 Where a patient lacks capacity to consent, an appropriate written document should be available to describe such an assessment and the steps taken to authorize treatment in line with applicable legislation.

When discussing the procedure with patients, or advocates * these individuals must: Have enough specific information presented, in a format they can access and understand, about the nature of dental and anaesthetic care being proposed. 2 , 33 , 34

Be supported to ask questions to help them in making a decision or contributing to the best interest decision-making process.

Be made aware of any material risks involved in a proposed treatment, including perioperative mortality and morbidity and of reasonable alternatives to GA 41 , 57 , 58 , 59 including the risk of not receiving care at all.

As part of the consent or best interests process, carers or advocates* must be informed of how receiving care under GA can affect the nature of dental care that may be provided and that this may be more comprehensive or radical than if other treatment modalities were used (see Section 6). Specifically, these individuals must be made aware that there is a possibility that the dental care required may be more extensive than anticipated. Emphasis should be made on the potential for loss of anterior teeth or an edentulous state post-treatment unless the dental team are confident these outcomes will not arise.

Where it is anticipated that clinical holding may be required, the written documentation of the consent or best interests process must include reference to this need.

Where multiple specialties are involved in care delivered under GA, clinicians from each specialty must undertake their own consent process for patients with the capacity to consent. Where capacity to consent is assessed to be lacking, clinicians from separate specialties must contribute to the best-interests decision-making process before procedures are jointly undertaken under GA.

Appropriate consent must be gained both for the dental treatment and for the use of GA. Though the dental team can provide some information on the risks associated with this approach to care, the pre-assessment and/or anaesthetic team must provide sufficient information to patients or their advocates* to support consent or best interest decision-making processes. 41 , 58

The need to apply for Deprivation of Liberty Safeguards Authorization in England and Wales must be considered for inpatient admission when patients lack capacity to consent for their care, are under continual supervision and who are not free to leave hospital. This must also be considered where physical restraint that goes beyond that which would be in place for a patient with capacity is felt to be necessary. 56

Clinicians facilitating care for people assessed to lack capacity should be aware of situations, such as when significant disagreement arises, when an application to the Court of Protection should be

made to authorize the definitive delivery of care 60 (England and Wales) or where the Mental Welfare Commission should be asked to appoint a Nominated Practitioner to support such decision making or seek authority from the Court of Session 54 (Scotland)

A significant number of episodes of anaesthesia are delivered across the world daily. Despite this, it is essential to consider each patient as an individual; an optimum anaesthetic plan for one patient does not equate to a safe optimum for another. The preoperative information gathered about each patient to support their care must be done early 41 and guide how and if anaesthesia is provided. Many patients seen in SCD will require support to enter a hospital setting by either adjunctive psychological approaches or pharmacological aids. Where preoperative investigations are unable to be completed, each aspect of the process requires even more caution and close monitoring, adapting to the needs of each individual patient. Additional theatre time and resources might be required for some patients. 42

1) GA for dental procedures must only be administered in a hospital with appropriate critical care facilities to manage postoperative complications 61

Each anaesthetic department should have a nominated lead anaesthetist for SCD who understands the needs of patients seen within the specialty and who can coordinate the assessment and management of complex patients where required. 62

3) The order of a list should be determined based on both medical and psychosocial factors, aiming to mitigate medical risk and reduce distress to themselves associated with waiting and to avoid disturbance to other patients.

Reasonable adjustments to the patient journey must be considered and implemented 51 , such as bypassing the admission suite, where such adjustments provide an overall benefit to the patient.

The order of the list and time of admission should be planned to minimize waiting times and the distress or anxiety associated with delays.

A separate side room for admission and waiting should be available for patients who might struggle with the environment of an open ward.

Patients should then be seen at admission by nursing, anaesthetic, and dental teams as per local admission policies for surgery.

At admission, the dental team should confirm the planned approach to treatment or examination under anaesthesia, confirm the consent process or reiterate the key outcomes of a best interests decision-making process.

A venous thromboembolism risk assessment must be undertaken even if this results in no specific prophylaxis being required. 63

10) A briefing must be undertaken at the start of a session to allow staff introductions, determine the order of the list, and discuss any other anticipated key issues.

The briefing should allow discussions regarding the patient journey to theatre, the use of clinical holding, roles and responsibilities related to this journey, the type of induction to be used, the approach for airway management and the need for intraoperative investigations to inform the care that is delivered.

For complex cases and in advance of the admission, the treating team should consider including a member of the patient's support team to discuss the process of supporting a patient with

premedication and their journey to theatre.

13) Both before and during attendance at the hospital, adjunctive psychological approaches should be considered to reduce the need for pharmacological anxiety management.

The dental team should consider when a pre-admission visit or visits to the environment where GA is delivered is appropriate to support a reduction in pre-treatment anxiety. This approach could involve familiarization with the environment and introduction to key staff members.

Patient stories or photographs may be a viable alternative to an on-site visit and should be considered where such an approach may support a patient and reduce pre-treatment anxiety.

Pre-operative pharmacological anxiolysis might occur before hospital admission, typically including a benzodiazepine medication given the night before the procedure and an hour before the patient is admitted. 65

In exceptional circumstances and following a multi-disciplinary team review and risk assessment, pre-hospital anaesthesia or sedation may be considered to facilitate transfer to a hospital setting. Such an approach must only be considered for those with the most complex needs who cannot be transferred to hospital with less invasive approaches. The use of such an approach must be managed by an anaesthetic team, ambulance services, a Specialist or Consultant-led dental team and those advocating for the patient.

Where pre-hospital pharmacological anxiolysis is required, dentists must only prescribe medications they are trained and competent to prescribe 33 that are included in the Dental Practitioners' Formulary.

If there is any doubt about drug suitability, doses or interactions, a medically qualified colleague such as the anaesthetist, a general practitioner or a patient's psychiatrist may be better placed to prescribe these.

The use of topical local anaesthetic cream at an anticipated site of cannulation should be considered as an alternative or adjunct to pharmacological premedication.

The need for premedication should be discussed with anaesthetic teams before a patient's planned admission to determine what medication(s) and routes of administration may be appropriate.

The appropriate premedication approach must consider patient factors and which option is the least restrictive.

The least restrictive approach is typically an oral preparation; this should be considered in the first instance unless contraindicated.

Midazolam should be the first choice of drug for oral premedication with the dose determined by the prescribing anaesthetist 25 , 26 , 27

Where pharmacological premedication is required and oral preparations are refused or contraindicated, intranasal midazolam or intramuscular ketamine can be considered as alternatives. 66

The use of clinical holding to support cannulation and rapid administration of anaesthetic agents may be considered as an alternative to intranasal premedication where brief holding to allow cannulation is less or equally restrictive to intranasal or intramuscular medication administration.

27) An anaesthetist who administers GA to patients in SCD should have an understanding of the specific challenges presented by these patients, such as challenging behaviors, reasonable adjustments to a variety of processes and operating with a shared airway. 62

Theatre staff involved in looking after patients who display challenging behavior should receive training in using clinical holding and positive behavior management.

The anaesthetic and dental teams must undertake a sign-in process aligning with the WHO surgical safety checklist before induction of anaesthesia. 67

At the induction of anaesthesia, a carer or family member could be present to give reassurance and support where required.

For anxious patients or when the theatre environment could be distressing, the number of people in theatre at induction of anaesthesia should be limited.

The anaesthetic team should consider preparing drugs and equipment in advance and removing needles and syringes from the patient's direct sight to reduce their stress and anxiety.

Based on a specific risk assessment, the application of any monitoring may need to be delayed until after the patient is anaesthetized in order to reduce distress.

Anaesthesia should be aimed at reducing post-operative nausea and vomiting (PONV) to avoid distress and delay the discharge of the patient. 42

Appropriate intra-operative analgesia should be administered alongside the use of local anaesthesia. Where local anaesthesia is contra-indicated, the need to amend the intra-operative approach to pain management should be considered.

36) The method of airway management should be decided at team brief following a discussion between the anaesthetist and the operating dentist(s) considering both patient and procedural factors.

A cuffed endotracheal tube provides a secure airway and should be considered as the default approach to airway management for SCD under GA.

The benefits of a nasal tube for the dental team need to be balanced against the potential risks of their use, such as nasal trauma and bleeding. The anaesthetic and dental team should discuss the implications of each approach and agree upon what is most appropriate on a case-by-case basis.

A laryngeal mask airway device is not a definitive airway, and may not provide a complete airway seal especially if irrigation fluid is being used. It may also hamper access to the operative field. Laryngeal masks, therefore, should not be routinely used for dental treatment in SCD unless a short, simple procedure is required in a patient with an otherwise straightforward airway.

Throat packs are not always essential and may be associated with harm, 68 , 69 meaning their use should be considered on a case-by-case basis, considering where substantial debris is anticipated from the planned or anticipated dental treatment.

If a throat pack is used, the dentist(s) and anaesthetists should jointly determine who is best positioned or trained to place this.

When a throat pack is used, its insertion and removal must be formally recorded.

Any adjustments or replacements of an anaesthetic airway should be carried out by the anaesthetist

Due to the complexity in organizing and providing dental care under GA for SCD patient groups it is essential that the intraoperative care provided is carefully considered. A holistic approach should be adopted, taking into consideration the patient's medical history, caries risk, previous dental treatment, and ability to cooperate with routine oral hygiene, dental examination and preventative dental care. While one GA is associated with various degrees of risk from medical, psychological and social perspectives, repeated episodes of anaesthesia multiply these risks. To minimize these risks, optimal use of the operating time and opportunity is essential. In addition, appropriate care planning using definitive and predictable techniques reduces the likelihood of people experiencing acute dental pain or infection or other treatment outcomes that would warrant further intervention.

The aim of intraoperative dental care should be to provide a symptom-free stable dentition that contributes to masticatory and social function wherever possible. In some instances, functional or aesthetic alterations are inevitable; this section describes how dental care should be provided or modified when delivered under GA. The recommendations made may not be suitable or applicable for all patients. The dental team need to use their clinical judgement, knowledge, and expertise, as well as the clinical and radiographic findings when deciding on the final treatment plan for each individual patient requiring treatment under GA. 1) Where multiple specialties are each providing treatment to an anaesthetized patient, the dental team should collaborate with the other specialties to determine the order in which each specialty should undertake treatments.

A "Time-Out" (stop moment) must occur 64 addressing each aspect of the WHO Surgical Safety Checklist 67 before examination under anaesthesia or the planned procedure.

3) For all patients, particularly those for whom a preoperative assessment has not been possible, an extra and intraoral examination must be carried out under GA. This should include a soft tissue examination, a basic periodontal examination (BPE) informing the need for further periodontal assessment, and a full dental charting. 36

Intraoperative intraoral radiographs must be taken for all patients 37 unless a comprehensive radiographic evaluation of the dentition has been possible prior to the use of GA.

Where intraoperative treatment decisions are expected to be necessary, this decision-making should be supported by two dentists, one of which should be a specialist or consultant in SCD.

Clinical photographs should be considered prior to treatment to support record-keeping and as a non-invasive approach to justify the delivered treatment.

Whenever possible, all dental treatment should be completed during a single episode of GA.

All carious teeth should be restored or extracted unless there is a contraindication to doing so.

Dental treatment provided should be able to be easily maintained by the patient or those providing oral hygiene.

Where the proposed treatment differs significantly from that which had been anticipated, reasonable attempts should be made to contact advocates who had supported the best interests decision-making process to discuss the revised plan.

Intraoperative findings may change the nature and extent of treatment delivered, but the treatment should aim to produce a maintainable and functional oral state where possible.

12) Preventative treatment provided should be based on the patient's oral health risk assessment and in line with current guidelines. 39

Provision of fissure sealants should be considered based on the patient's individual caries risk in the context of their oral health and the ability to monitor them at future appointments. 39 , 70

Application of fluoride varnish should be considered based on the patient's individual caries risk in the context of their general oral health. 39 , 71

15) A BPE must be carried out for all dentate patients to identify periodontal disease and inform the need for more comprehensive periodontal assessment. 47 , 48

Periodontal disease should be classified and documented according to current standards. 72 , 73

For teeth with significant loss of periodontal support, the approach to treatment should be based on consideration of the rate of disease progression and the long-term prognosis of such teeth. 72 , 73

Extraction should be considered for teeth with advanced periodontal disease that do not contribute to masticatory function or appearance.

Where teeth contribute to masticatory function, the anticipated response to root-surface instrumentation, the patient's oral hygiene and the impact of extraction should inform a decision as to whether a tooth should be retained or extracted.

Where teeth are retained, effort should be made to remove plaque retentive factors and remove gross calculus deposits in order to support optimal oral hygiene.

A patient or their care team's ability to comply with oral hygiene advice and treatment should be considered when formulating a treatment plan. 40

22) Permanent restorative materials should be used wherever possible.

Restorations should be placed with adequate and appropriate moisture control, and the use of a rubber dam should be considered. 74

The most predictably successful restoration in the circumstances should be provided for each tooth.

Cavity liners and bases should not be used under deep restorations due to their lack of efficacy. 75
Where there is concern about pulpal exposure due to deep caries, this should be managed by extraction or by using bio-ceramic materials where appropriate. 76

The occlusal state that would remain post-operatively must be considered to ensure optimal stability and function.

The dental team should aim to assess occlusion where it is possible to do so, being mindful of situations where post-operative occlusal adjustments would not be feasible.

Endodontic treatment provision may be considered for strategic teeth 9 , 10 , 12 when a high standard of hygiene can be maintained and where treatment is expected to be successful and possible to complete.

Where endodontic treatment is delivered, this must be completed under a rubber dam, with appropriate intra-oral radiographs.

Endodontic treatment should use a single-stage treatment approach unless there is an explicit reason why this may not be possible and the risks of a single visit approach outweigh the risks of a second general anaesthetic. 10 , 12 , 77

Careful consideration should be given to the management of tooth wear when a monitoring approach to such wear is not possible due to symptom history, aesthetic concern or functional concern. 78

When considering a restorative intervention, the nature of tooth wear should be considered alongside the ability to modify any etiological factors such as bruxism, gastroesophageal reflux, rumination or pica. 78

Repeated episodes of GA should not be used to plan and deliver restoration of worn teeth with resin composite or alternative restorative materials.

Fixed prosthodontics may be considered in limited individual cases and only when the patient can tolerate the placement of an extra-coronal restoration using less restrictive modalities than GA, such as inhalation or intravenous sedation.

The fit, occlusion, stability, and retention of dentures that have been produced pre-operatively should be examined intra-operatively, even if this may change post-operatively. Minor adjustments should be made in the theatre setting where required.

Implant-supported restorations may be beneficial for certain individuals 11 and should be considered in limited circumstances in line with current NHS (National Health Service) guidance. 79

37) Local anaesthetic should be used prior to extractions and surgical procedures unless contraindicated, either medically or due to the potential for lip-biting post-operatively.

All unrestorable teeth should be extracted unless this is contraindicated.

Sutures and hemostatic agents should be used when hemostasis has not been achieved and when otherwise indicated. 80

Hemostasis should be complete and dental packs removed prior to extubating the patient.

Antibiotics should not be prescribed in relation to anticipated post-operative complications 81 unless their prescription is indicated for specific medical reasons.

42) Management of any suspicious oral lesions identified on soft tissue examination should be based on the differential diagnoses of any lesions noted.

Mucosal lesions should be excised or investigated with incisional biopsy to facilitate histopathological analysis.

Where more extensive lesions are identified that are unable to be excised, or where an incisional biopsy could not fully inform diagnosis, these areas should not be managed without the specific input of oral and maxillofacial surgery or oral medicine teams.

When mucosal pathology is noted, clinical photographs should be considered to support onward referral where required, especially if further GA may be required for the long-term management of such pathology.

If a decision is made that dental care under GA is necessary, it has to be accepted that patients will require support following GA. The recovery period may be highly difficult for patients and their care teams both in the hospital and on their return to their residential settings. As well as supporting the individual receiving care and those who support them, information exchange with other healthcare professionals is crucial to ensure continuity of appropriate care and postoperative support, especially if this is on an emergency basis. 1) The treating clinicians, supported by the wider team, should ensure that all treatment proposed both prior to GA, and identified as necessary during GA, has been delivered.

Before the patient leaves the theatre setting, a signout process should be used per the WHO surgical safety checklist. 67

A debriefing should be performed at the end of all general anaesthetic treatment sessions. This should include and encourage contribution from all anaesthetic and dental team members. 64

If a significant issue about patient care arises during their care, this should be discussed at debriefing, and a clear and contemporaneous note of this should be made in the patient's records.

Local governance processes should ensure that issues identified in debriefing action logs are communicated at an appropriate level within the organization and that there is a mechanism to capture and promote learning.

6) During first stage recovery (lasting until the patient is awake and protective airway reflexes have returned), patients should be observed on a one-to-one basis by an anaesthetist, recovery nurse or other appropriately trained members of staff. This should be undertaken in a recovery area with appropriate facilities and staffing. 53 , 82

The lead dental clinician should provide the recovery team with information regarding the dental procedure undertaken and any precautions required, 82 including: Site and type of local anaesthesia use, including anticipated duration of action

Site and type of dental extractions (surgical procedure, sutures) and any packs placed.

Details of analgesia given on the day of the procedure and the time the next dose can be taken as part of self-care

Any other relevant information or special requirements such as how to support a patient who may require alternative methods of communication, positive behavior support or specific moving or handling approaches required.

Inviting a person's carers into the recovery space must be considered as a reasonable adjustment where doing so may help reassure the patient and support recovery staff with any possible displays of challenging behavior.

Agreed criteria for discharge of patients from first stage recovery to second stage recovery should be in place, 53 , 82 although systems based on standard clinical parameters may need to be adapted for individuals with additional needs.

No patient should be discharged from first stage recovery until control of vomiting, and postoperative pain is satisfactory. 53 , 82

Secondstage recovery (when the patient is no longer on a theatre trolley until the patient is ready for discharge from the hospital) should occur in a surgical ward or in an area adjacent to the day surgery theatre and should be equipped and staffed to deal with common postoperative problems

(such as postoperative nausea, vomiting or pain) and surgical and medical emergencies (such as hemorrhage or cardiovascular events). 53 , 82

The anaesthetist and dental team should be contactable to deal with any problems or concerns that arise.

13) Unless a patient is able to leave a hospital without additional support, the approach to hospital discharge should reflect their specific needs and align with the approach planned prior to admission.

Where additional specialties are involved or have taken responsibility for a patient's admission, the team leading the patient's admission should also lead the discharge process with the dental team's support.

The discharge process should create a climate in which patients and/or their carers understand their roles and responsibilities in ongoing care and therefore feel confident to go home.

Following daycase surgery and the dental team's postoperative review, nurse-led discharge using agreed protocols may be the standard pathway for discharge from a day surgery setting. 43

For those treated on an inpatient basis, the admitting consultant should oversee the discharge process, following the dental team's postoperative review.

Having been discussed with the anaesthetic and dental teams, reasonable adjustments to agreed protocols may be necessary to allow patients to be discharged without meeting all the usual criteria. 51

Patients and their carers should be provided with written information that includes warning signs of possible complications and when to seek help, including relevant contact numbers. 53

Alternative formats of such discharge information must be available if required. 52

When patients are ready for discharge, they should be accompanied by at least one responsible, competent adult escort who has been given clear verbal and written instructions regarding their responsibilities and the implications of the dental treatment and anaesthetic undergone.

Such an escort should accompany a patient on the journey home and should use appropriate hospital transport, private car or taxi. 53 Arrangements should be made for a responsible adult to stay with the patient for the next 24 hours.

On discharge, all patients should receive verbal and written postoperative instructions and information related to their anaesthetic and dental treatment. This should include advice on analgesia, warning signs of possible complications and contact information, including how to access out-of-hours care. Wherever possible, these instructions should be given in the presence of the individual responsible for escorting the patient home.

A summary of the patient's care should be sent to a referring practitioner unless the patient is under the long-term care of the same dental team providing the dental treatment under GA.

Where a dentist has referred a patient, this dentist should receive a detailed discharge summary, including a description of the dental care and copies of radiographs.

The patient's general practitioner should also be provided with discharge information, such as by copy of the summary sent to the referring clinician.

27) A pathway with clear details of each party's responsibilities should exist for the management of patients who require an unplanned overnight admission, including a plan for out-of-hours care.

If an unplanned overnight admission is required in an alternative hospital, it is essential the dental clinician liaise with the admitting surgical, medical, or mental health team.

The treating clinical team should have a clear link(s) to the nearest oral and maxillofacial surgery unit(s) providing out-of-hours care and emergency admissions.

If an unplanned overnight admission is required in an alternative hospital, clinical records and radiographs should be accessible to support management of a presenting emergency.

If an unforeseen admission is required following initial discharge, the team facilitating such an admission should ensure the treating dental team are informed of such an admission.

32) The dental team who provided care under GA should contact the patient or their care team by telephone following their procedure to address queries and check on the patient's wellbeing. This should ideally be undertaken within 48 h of hospital discharge.

The follow-up of intra-operative investigations such as blood tests or ECGs should be the responsibility of whoever requested such investigations. Discharge summaries should reiterate any investigations that require follow-up and who should undertake this.

A specific clinical follow-up may not be required in all instances, yet the need for a follow-up visit or alternatives such as a video follow-up should be considered on a case-by-case basis.

A case-by-case decision has to be made whether the patient remains under the care of a specialist service or if they are discharged back to their general dental practitioner. 1

Follow-up in specialist services or general practice should be determined by the patient's individual needs, the feasibility of future examinations and the patient's risk of oral and dental diseases. 1

It is crucial to provide a framework guiding how competence in a specific discipline can be attained and what adequate training looks like. While there is a curriculum for SCD in the UK 83 that includes the use of GA, there is no specific guidance on education or training for SCD GA for dentists or dental nurses outside of this framework. In addition to the lack of curriculum, there is no clear research evidence to guide recommendations on post-qualification training for dentists and dental nurses in relation to GA for those needing SCD. In addition, there are no specific formal qualifications for dentists or dental nurses in relation to GA in SCD. Education and training for anaesthetists and other non-dental members of the team involved in provision of dental care for those requiring SCD with GA is beyond the scope of these guidelines. The recommendations on education and training standards made herein are based on the consensus opinion of the guideline working group, who have been supported by relevant stakeholders listed. For this section, all recommendations should all be considered to be at evidence Grade D, weak recommendations (as per Figure 3). 1) Undergraduate dental students should receive teaching about dental care for people with physical disabilities, learning disabilities or cognitive impairments and the role of GA in SCD. An opportunity to observe GA being undertaken should be considered. 84

The overall process for planning and facilitating GA for a person who needs SCD should be led by a Consultant or Specialist in SCD.

Unless a definitive known treatment plan is being delivered, there should be two dentists involved in treatment delivering treatment for those needing SCD under GA, and at least one of these clinicians

should be a Consultant or Specialist in SCD.

The benefit of a second clinician being present should be strongly considered in all instances but is imperative when it has not been possible to undertake a comprehensive preoperative examination and determine a treatment plan.

Where no Consultant or Specialist is available, an appropriately trained and experienced clinician could plan and deliver care under GA, providing they meet the competencies in Table 3 .

All clinicians undertaking SCD under GA should include relevant learning related to dental care provision under GA in their personal development plan (PDP).

CPD relevant to patient assessment and care delivery using GA should be undertaken in each CPD cycle.

A dentist undertaking postgraduate qualifications or specialist training in SCD in an approved training program should not undertake adult GA for patients needing SCD without supervision. The degree of required supervision would be expected to decrease as the trainee progresses through a training program.

Proposed dentist competencies for providing Special Care Dentistry (SCD) under General anaesthesia (GA). Each learning outcome should be prefaced by: "On the completion of training, or based on their existing experience, a dentist planning and delivering dental care under general anaesthesia"

- the alternative methods of patient management, anxiety control and instances when these may or may not be more suitable treatment modalities
- dental care and adjustments to the provision of dental care for people with cognitive impairments, or autism who may or may not have capacity to consent for their treatment
- the impact of the patient's medical status in relation to general anaesthetic, including comorbidities, BMI, ASA, and mobility issues
- the Equality Act 51 and adjustments to care delivery may be suitable to support the care of those with specific needs
- how communication should be modified to support those with learning disabilities, autism or other cognitive impairments.
- dental treatment planning with an appropriate evidence base, in conjunction with senior colleagues as necessary, with specific emphasize on preventing the likelihood of repeat GA
- airway management techniques, enabling discussion and planning with the anaesthetists in advance, including recognition of potentially difficult airways
- evaluate the benefits, risks, indications and contraindications of dental treatment under general anaesthetic for each individual case
- justify the use of a general anaesthetic with an appropriate evidence base, in conjunction with senior colleagues as necessary
- justify their level of training and competence

- create and maintain a specific PDP relating to their ongoing professional development related to all aspects of dental treatment under general anaesthetic
- analyze each patient's concurrent medical and surgical needs, and where appropriate, liaise with other disciplines to coordinate a joint surgical session
- assess a patient's mental capacity in line with applicable legislation and use this assessment to determine the process by which care delivery is authorized
- anticipate when a surgical procedure may be outside of their skillset and requires referral to or joint management under GA with an appropriate colleague
- undertake a comprehensive dental assessment of patients within special care dental service, in conjunction with senior colleagues as necessary
- organize appropriate medical assessment of patients within a special care dental service, with advanced involvement of the anaesthetic team
- facilitate multidisciplinary team working and communication to coordinate with all those involved in the care of the patient
- complete all paperwork and records required by the anaesthetic and surgery unit teams
- plan the caseload of GA lists to optimize theatre utilization based on anticipated operative time and case complexity.
- build professional relationships with colleagues outside the immediate dental team
- recognize that the patient journey is complex and provide additional support for the patient, family, and carers
- relevant documents regarding safe surgery, 64 , 85 , 86 including the WHO Surgical Safety Checklist. 67
- national and local health and safety policies relating to theatre working, including identifying and dealing with hazards in the perioperative environment
- legislation applicable to SCD in a GA setting such as the equality act 51 and legislation related to consent and mental capacity 35 , 54 , 55
- the merits and challenges in relation to use of a throat pack and when this may or may not be suitable
- LocSSIPs relevant to the theatre setting. 86
- the risks of displacing, damaging or obstructing the anaesthetic airway
- the implications of treatment having to be provided under GA and how this may modify treatment plans
- the aims of intraoperative treatment planning when preoperative examination is not possible
- evaluate the risks of the theatre environment to the patient, dental staff and non-dental staff

- differentiate between the roles of the dental teams and the theatre teams in the patient's management
- recognize that the anaesthetic airway management is specific to the anaesthetic team and is outside the dental team's skillset
- anticipate the systemic and airway effects of any dental intervention, and liaise with the anaesthetic team to mitigate these effects
- evaluate the mechanical, physical and positioning adaptations needed when treating a dental patient under general anaesthetic and the need to develop an additional subset of skills to compensate
- construct a justifiable treatment plan in conjunction with an appropriately qualified colleague in a timely manner while the patient is anaesthetized
- recognize where teeth are restorable or where they may not be and therefore require alternative management such as extraction under GA
- identify when a surgical procedure is outside of their skillset and requires referral to an appropriate colleague
- understand and comply with local guidelines for patient admission
- access and use the local patient record system in the surgical unit
- lead the WHO surgical checklist for each patient
- scrub in, support the surgical count, undertake patient draping where this is used
- carry out a dental examination under general anaesthetic including a periodontal assessment where appropriate
- carry out clinical dental procedures in the presence of anaesthetic airway and the specifics of a theatre setting
- carry out dental radiography of the anaesthetized patient
- provide safe and appropriate suction in the presence of an anaesthetic airway
- carry out a high standard of restorative dentistry in line with the recommendations made herein
- manage routine exodontia, including the raising of a flap and the removal of retained roots/fractured teeth
- perform techniques of incisional and excisional biopsy of gingival and mucosal lesions where appropriate
- work to a professional standard in a highly technical area
- lead the dental team within a theatre setting, including during medical and non-medical emergencies in conjunction with anaesthetic colleagues and the wider theatre team.

- display excellent interpersonal skills within a multidisciplinary team
- maintain attention to detail and concentration in the non-dental setting of a theatre.
- adapt to the theatre environment, including the potential to stand for long periods and react quickly in an emergency within a confined area
- the causes, presentation and management of oral and dental postoperative complications, including pain and bleeding in the various phases of anaesthetic recovery
- the causes and presentation of medical postoperative complications and escalation to the recovery and anaesthetic teams
- the four phases of anaesthetic recovery and the postoperative visit
- the criteria for safe discharge of the patient, in conjunction with the recovery team
- take an empathetic approach to the physical and emotional needs of the patient during all stages of recovery
- recognize the timescale between the transfer of the patient from theatre to discharge and appropriately plan theatre lists and staffing levels to account for this
- mitigate the risk of repeat GA by creating a preventive follow-up plan, with appropriate recall periods 39
- undertake an intraoral patient assessment, when possible and necessary, within the confines of the recovery area
- manage postoperative pain and bleeding in a timely manner.
- complete discharge notes on local patient record system in the recovery unit
- complete a clinical handover and arrange an inpatient bed if indicated.
- assure that appropriate patient follow-up is in place
- recognize that your emotional and physical needs and those of your team may differ when you are in your normal clinical environment
- take account of the learning from serious or untoward incidents

John Wiley & Sons, Ltd. 8.1 Dentists new to providing dental care under general anaesthesia 9) A new starter (a non-specialist clinician new to working under GA or a clinician within a specialty training program) should seek to achieve the competencies detailed in Table 3 .

A new starter to delivering dental care under GA for SCD should be supervised by a Consultant or Specialist in SCD or an experienced senior clinician meeting the competencies in Table 3 .

New starters should also complete workplace-based assessments in conjunction with a Consultant or Specialist in SCD, demonstrating competence in managing the full range of patient groups seen in SCD for whom GA may be indicated.

New starters should be supported by experienced colleagues in the planning of dental care under GA for 20 patients before acting as a lead clinician. Of these cases, 15 should involve care where a pre-operative examination has been limited or not possible.

In addition to the 20 cases assessed, new starters should attend GA and be actively involved in treatment delivery for at least 20 patients as a second practitioner before considering acting as a lead clinician. Of these cases, 15 should involve care where a pre-operative examination has been limited or not possible. These should be completed over a period of time that allows reflective practice and longer-term follow-up of patients.

A logbook of experience should be maintained during their early experience in delivering dental care under GA

A new starter must be aware of their limited experience and be confident to express when a planned treatment approach or process is beyond their capabilities. 33

These numbers are a recommendation, and clinicians should cautiously consider their confidence, competence and experience, regardless of the number of cases they have contributed to, before acting as a lead clinician.

17) Wherever possible, a lead dental nurse supporting SCD patients receiving GA should have an additional qualification in SCD or additional and appropriate experience and training in the GA and theatre environment.

Any dental nurse involved with delivering dental care under GA should seek to achieve the competencies detailed in Table 4 .

Dental nurses attending GA sessions require a formal period of supervision before being the lead dental nurse.

Dental nurses should maintain a logbook during their training period to demonstrate their experience and competencies against the criteria in Table 4 .

Dental nurses should demonstrate an understanding and have practical experience in managing the many challenges that are involved in planning a theatre session for SCD patients (Table 4)

Dental nurses should demonstrate a broad experience of roles within theatre, including working jointly with other theatre team members.

Proposed dental nurse competencies for providing Special Care Dentistry (SCD) under General anaesthesia (GA). Each learning outcome should be prefaced by: "On completion of training, and when undertaking and planning dental care under general anaesthesia, a dental nurse..."

- some of the key logistical challenges that can arise in planning dental care under GA and the role of dental care professionals in this process
- adjustments to communication and care delivery to support individuals with physical or intellectual disabilities or additional needs
- create and maintain a specific PDP relating to their ongoing continuing professional development in relation to all aspects of dental treatment under general anaesthetic
- raise concerns, speak out and express their concerns about the potential risk to patients, the behavior of colleagues or standards within the clinical environment

- consider and arrange for the necessary equipment to be available
- support anxious patients and carers in the preoperative period
- anticipate what additional equipment or materials may be required based on a provisional or definitive treatment plan.
- support the preoperative management of uncooperative patients.
- build professional relationships with colleagues outside the immediate dental team
- recognize that the patient journey is complex and provide additional support for the patient, family, and carers
- national and local health and safety policies relating to theatre working, including identifying and dealing with hazards in the perioperative environment
- the implications of treatment having to be provided under GA and how this may modify treatment plans
- the agreed protocols and appropriate communication links to summon additional assistance in an emergency
- appreciate the risks of the theatre environment to the patient, dental staff and non-dental staff
- differentiate between the roles of the dental teams and the theatre teams in the management of the patient
- support the tracking of the progress of a treatment plan and speak out if any potential deviations from this are made or suspected
- access and use the local patient record system in the surgical unit
- support the team brief and team debrief and contribute directly to this process where applicable
- scrub in, effectively complete surgical counts, patient draping, and be competent in maintaining the sterile field
- provide safe and appropriate suction in the presence of an anaesthetic airway
- safe and appropriate retraction of tissues and have an understanding of the principles and implications of minor oral surgery procedures
- appropriately dispose of clinical waste such as amalgam, extracted teeth and surgical swabs
- work to a professional standard in a highly technical area
- display excellent interpersonal skills within a multidisciplinary team
- maintain attention to detail and concentration in the non-dental setting of a theatre

- adapt to the theatre environment, including the potential to stand for long periods and react quickly in an emergency within a confined area
- implement and support the appropriate environment, facilities and equipment required for special care dental treatment under general anaesthetic
- the causes, presentation and management of oral and dental postoperative complications, including pain and bleeding in a patient at the various phases of anaesthetic recovery
- basic management of postoperative complications
- recognize that your emotional and physical needs and those of your team may differ when you are not in your normal clinical environment
- take account of the learning from serious or untoward incidents

John Wiley & Sons, Ltd. 8.3 Anaesthetists 23) An anaesthetist providing anaesthesia for dental care under GA should be a Consultant or a SAS doctor on the GMC Specialist Register or a senior clinician or trainee working under a Consultant's supervision. as part of an approved training program.

Anaesthetists providing care in this context should be trained and experienced in line with the requirements specified by the Royal College of Anaesthetists. 62

Clinical governance has been defined as "A framework through which NHS organizations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish." 87 Effective clinical governance ensures that risks are mitigated, adverse events are rapidly detected and investigated openly, and lessons are learned hence are a crucial part of providing care under GA. The role of clinical governance extends from patient referral through to postoperative long-term follow-up.

1) Medical and Dental Professionals must produce well-structured and clear clinical records. 36 , 88 These should be in an appropriate format for the site and service and include contemporaneous operating theatre and surgical records written into ledgers or relevant medical and dental software programs.

The Clinical Record should contain the following in addition to the standard dental record:
Correspondence between professionals involved in planning the case

Pre-assessment information where this has been possible

Pre-operative investigations undertaken and relevant reports

Appropriate thromboembolic prophylaxis if indicated by the patient's medical history

Copies of consent forms and documentation related to best interests decision making

Where records are being moved between physical sites, care must be taken to preserve patient confidentiality and maintain the security of patient's data and records. 89 , 90 Only the minimum amount of information necessary should be transferred to minimize the risks of data transfer. 89

4) A locally agreed checklist should be used at the beginning of every procedure by a member of the team trained to record this process.

Surgical safety checklists, including the steps of the WHO Surgical Safety Checklist, must be used for all patients undergoing surgical procedures. 64 , 85

National Safety Standards for Invasive Procedures (NatSSIPs) must be used as a basis for the development of Local Safety Standards for Invasive Procedures (LocSSIPs) by all services to reduce the risk of wrong-site surgery. 86

Each step detailed in Five Steps to Safer Surgery 64 should be followed, as detailed in sections 5.1 , 6.1 , 7.1 , 8.1 and 9 .

The lead dentist must provide a supportive environment where the Duty of Candour 91 and learning is encouraged should a safety incident occur.

Any incidents, regardless of severity, must be reported to prevent repeated episodes of similar issues and to encourage quality and safety improvement.

Management of needlestick injuries should follow local procedures supported by occupational health teams.

Where a patient who can consent to a blood test related to a needlestick injury is anaesthetized, their consent for venepuncture must be gained following anaesthesia.

Where a patient has been assessed to lack capacity, taking a blood sample purely to reassure a professional is not likely to be in a patient's best interests, so it should not be undertaken.

13) High-quality reflection in combination with supportive and constructive feedback should be undertaken to promote quality improvement. 92

Clinical supervision (observation of the care provided by an appropriate clinician) should be used to promote professional and personal development, facilitate support for junior clinicians and highlight learning needs and how standards of care can be maintained and improved.

Peer review should be undertaken where care processes and treatment and outcomes for people treated under GA are discussed between the clinical team members. The discussions should include reviews of good practice and adverse outcomes and highlighting improvements that might be made to improve the quality of care provided.

16) Anaesthetic and dental practice must be audited against applicable professional standards at regular intervals. 91

Single-cycle audits should be avoided as they lack the potential to demonstrate that improvement in practice has or has not been achieved over time.

The potential to undertake research related to the use of GA should be considered by those teams undertaking GA for SCD who have access to appropriate academic support.

Research priorities should be established in conjunction with patients, care teams, members of the public. 93 , 94

Any research involving NHS patients or staff must be approved by an NHS Research Ethics Committee and relevant regulatory bodies. 95

Any research should be methodologically sound, peer-reviewed⁹⁵ and transferable to other units providing SCD under GA.

22) Feedback from patients or care teams should be routinely sought after a patient has been discharged from the hospital, such as at review appointments.

Feedback should be gathered in various ways, such as surveys and recording of patient comments, compliments and complaints.

Accessible or alternative formats should be provided where required to capture comments on patients' experiences.⁵²

The development of Patient-Reported Outcome Measures (PROMS) and Patient Reported Experience Measures (PREMs) specific to dental care under GA should be considered.^{96, 97}

Ethical approval was not required for either the literature search or the guideline production informed by this search.

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The term "advocates" is broadly used to refer to those who support decision making in line with legislation applicable to each nation. This can include those close to a patient (England and Wales, Northern Ireland), Independent Mental Capacity Advocates (IMCAs) (England and Wales, Northern Ireland), Proxies such as Welfare Attorneys or Welfare Guardians (Scotland) or those with allocated legal authority such as a Court Appointed Deputy (England and Wales) or somebody with a Lasting Power of Attorney for Health and Wellbeing (England and Wales).