

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline scope

Perioperative care in adults

The Department of Health and Social Care in England has asked NICE to develop a clinical guideline on perioperative care.

The guideline will be developed using the methods and processes outlined in [developing NICE guidelines: the manual](#).

This guideline will also be used to develop the NICE quality standard for perioperative care.

1 Why the guideline is needed

Key facts and figures

Perioperative care refers to care during the preoperative, intraoperative and postoperative periods.

In this guideline the perioperative period starts when the person is booked for surgery and ends when they are discharged from care after surgery.

According to Hospital Episode Statistics (HES) there were approximately 11 million primary surgical procedures performed in the NHS in 2015. This includes therapeutic and diagnostic procedures. Over half of these were elective (non-emergency) procedures, with the majority of these procedures performed from an elective waiting list.

The [National Confidential Enquiry into Patient Outcome and Death \(NCEPOD\)](#) reported in 2011 that there are between 20,000 and 25,000 deaths every year among people undergoing a surgical procedure in the UK. The majority of these deaths (79%) occur among 'high-risk patients' (as defined by their treating anaesthetist), who make up 10% of all patients undergoing surgery.

NCEPOD concluded that patients are not receiving optimal perioperative care and that improvements could be made.

Current practice

The Royal College of Surgeons of England and the Department of Health reported in 2011 that patient care during surgery itself is now delivered at an extremely high standard and complex elective surgery can be performed relatively safely. However, challenges in optimising perioperative care remain. Although progress has been made in improving surgical outcomes, postoperative adverse events are reported to be more frequent than generally thought, and the consequences of these complications are considerable.

2 Who the guideline is for

People using services, their families and carers, and the public will be able to use the guideline to find out more about what NICE recommends, and help them make decisions.

This guideline is for:

- Healthcare professionals, including dentists, in primary, secondary and tertiary care.
- Commissioners, planners and service providers, including those in non-NHS organisations commissioned to provide services for the NHS or local authorities.
- Adults having surgery, and their families and carers.

NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the [Welsh Government](#), [Scottish Government](#), and [Northern Ireland Executive](#).

Equality considerations

NICE has carried out [an equality impact assessment](#) during scoping. The assessment:

- lists equality issues identified, and how they have been addressed

- explains why any groups are excluded from the scope.

The guideline will look at inequalities relating to age and disability.

3 What the guideline will cover

3.1 *Who is the focus?*

Groups that will be covered

The guideline will cover adults (18 and older) undergoing surgery.

Specific consideration will be given to the needs of older people.

3.2 *Settings*

Settings that will be covered

- Secondary and tertiary healthcare (whether in a conventional hospital setting or elsewhere).
- General dental practices.

Settings that will not be covered

- Minor surgery in outpatient clinics.

3.3 *Activities, services or aspects of care*

Key areas that will be covered

We will look at evidence in the areas below when developing the guideline, but it may not be possible to make recommendations in all the areas.

- 1 Information and support needs of adults undergoing surgery, and their families and carers, before, during and after an operation.
- 2 Preoperative assessment.
 - Identifying and measuring the risk of adverse events in adults who will be undergoing surgery.
- 3 Preoperative optimisation.
 - Proactive care for older people undergoing surgery.

- Perfusion and hydration, including intravenous fluid for adults undergoing surgery.
 - Preoperative nutrition.
 - Preoperative fasting.
 - Managing anaemia.
 - Managing anticoagulation medication.
- 4 Intraoperative management
- Strict blood glucose control.
 - Non-invasive cardiac output monitoring.
 - Management systems to promote safety in the operating theatre.
- 5 Postoperative management and recovery.
- Managing acute postoperative pain.
 - Enhanced recovery programmes.
 - Recovery in specialist areas including intensive care.

Areas that will not be covered

- 1 Routine preoperative tests for elective surgery.
- 2 Blood products and blood transfusion.
- 3 Preventing infection (apart from the effectiveness of perioperative perfusion and hydration, and strict blood glucose control, on the prevention of surgical site infection).
- 4 Surgery for burns.
- 5 Surgery for traumatic brain injury and neurosurgery.
- 6 Aspects of perioperative care that apply only to specific types of surgery (for example, caesarean section).
- 7 Lifestyle modification before surgery. This guideline will cross refer to other appropriate guidelines such as [Smoking: acute, maternity and mental health services \(2013\) NICE guidance PH48.](#)

Related NICE guidance

Published

- [HumiGard for preventing inadvertent perioperative hypothermia \(2017\)](#)
NICE guidance MTG31

- [Multimorbidity: clinical assessment and management](#) (2016) NICE guidance NG56
- [Routine preoperative tests for elective surgery](#) (2016) NICE guidance NG45
- [Blood transfusion \(2015\) NICE guidance NG24](#)
- [Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use](#) (2015) NICE guidance NG15
- [Smoking: acute, maternity and mental health services \(2013\) NICE guidance PH48](#)
- [Intravenous fluid therapy in adults in hospital](#) (2013) NICE guidance CG174
- [Healthcare-associated infections: prevention and control](#) (2011) NICE guidance PH36
- [The MIST Therapy system for the promotion of wound healing](#) (2011) NICE guidance MTG5
- [Venous thromboembolism: reducing the risk for patients in hospital](#) (2010) NICE guidance CG92
- [Surgical site infections: prevention and treatment](#) (2008) NICE guidance CG74
- [Hypothermia: prevention and management in adults having surgery](#) (2008, updated 2016) NICE guidance CG65
- [Acutely ill adults in hospital: recognising and responding to deterioration](#) (2007) NICE guidance CG50

NICE guidance that will be updated by this guideline

- [Surgical site infections: prevention and treatment](#) (2008) NICE guidance CG74. This guideline will update 2 recommendations in CG74:
 - Recommendation 1.3.12 Maintain adequate perfusion during surgery.
 - Recommendation 1.3.13 Do not give insulin routinely to patients who do not have diabetes to optimise blood glucose postoperatively as a means of reducing the risk of surgical site infection.
- [CardioQ-ODM oesophageal doppler monitor](#) (2011) NICE guidance MTG3. MTG3 will be withdrawn when this guideline is published.

NICE guidance about the experience of people using NHS services

NICE has produced the following guidance on the experience of people using the NHS. This guideline will not include additional recommendations on these topics unless there are specific issues related to perioperative care:

- [Medicines optimisation](#) (2015) NICE guideline NG5
- [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- [Medicines adherence](#) (2009) NICE guideline CG76

3.4 *Economic aspects*

We will take economic aspects into account when making recommendations. We will develop an economic plan that states for each review question (or key area in the scope) whether economic considerations are relevant, and if so whether this is an area that should be prioritised for economic modelling and analysis. We will review the economic evidence and carry out economic analyses, using a NHS and personal social services (PSS) perspective, as appropriate.

3.5 *Key issues and draft questions*

While writing this scope, we have identified the following key issues, and draft questions related to them:

- 1 Information and support needs of adults undergoing surgery, and their families and carers, before, during and after an operation:
 - 1.1. What information and support is useful for adults undergoing surgery, and their families and carers, before, during and after an operation?
- 2 Preoperative assessment:
 - 2.1. Which validated risk tools best identify increased risk of adverse events in adults who will be undergoing surgery?
- 3 Preoperative optimisation:
 - 3.1. What is the clinical and cost effectiveness of preoperative optimisation clinics for older people?

- 3.2. What is the clinical and cost effectiveness of perioperative perfusion and hydration in adults?
- 3.3. What is the most clinically and cost-effective intravenous fluid for adults undergoing surgery?
- 3.4. Does a systematic approach to preoperative assessment of nutritional status improve surgical outcomes for adults?
- 3.5. What is the most clinically and cost-effective preoperative fasting strategy for adults?
- 3.6. What is the clinical and cost effectiveness of strategies for the preoperative management of anaemia?
- 3.7. What is the most clinically and cost-effective strategy for managing anticoagulation medication?
- 4 Intraoperative management:
 - 4.1. What is the clinical and cost effectiveness of strict blood glucose control in adults undergoing surgery?
 - 4.2. What is the clinical and cost effectiveness of non-invasive cardiac output monitoring for adults during surgery?
 - 4.3. What is the clinical and cost effectiveness of management systems to promote safety in operating theatres?
- 5 Postoperative management and recovery:
 - 5.1. What is the most clinically and cost-effective strategy for managing acute postoperative pain?
 - 5.2. What is the clinical and cost effectiveness of enhanced postoperative recovery programmes for adults?
 - 5.3. What is the clinical and cost effectiveness of postoperative recovery in specialist areas, including intensive care, for adults?

The key issues and draft questions will be used to develop more detailed review questions, which guide the systematic review of the literature.

3.6 Main outcomes

The main outcomes that may be considered when searching for and assessing the evidence are:

- health-related quality of life

- survival (mortality)
- adverse events and complications
 - surgical site infection
 - respiratory complications
 - nausea and vomiting
 - acute kidney injury
 - postoperative myocardial injury
- symptom scores and functional measures
- length of stay in intensive care unit or hospital
- hospital readmission
- psychological distress and mental wellbeing
- patient, family and carer experience of care
- pain.

4 NICE quality standards and NICE Pathways

4.1 NICE quality standards

NICE quality standards that may need to be revised or updated when this guideline is published

- [Surgical site infection](#) (2013) NICE quality standard QS49

4.2 NICE Pathways

[NICE Pathways](#) bring together everything we have said on a topic in an interactive flowchart. When this guideline is published, the recommendations will be included in the NICE Pathway on perioperative care (in development).

Other relevant guidance will also be added, including:

[The MIST Therapy system for the promotion of wound healing](#) (2011) NICE guidance MTG5

[Depth of anaesthesia monitors – Bispectral Index \(BIS\), E-Entropy and Narcotrend-Compact M](#) (2012) NICE diagnostics guidance DG6

Links to relevant NICE Pathways will be added as well, for example:

[Inadvertent perioperative hypothermia](#)

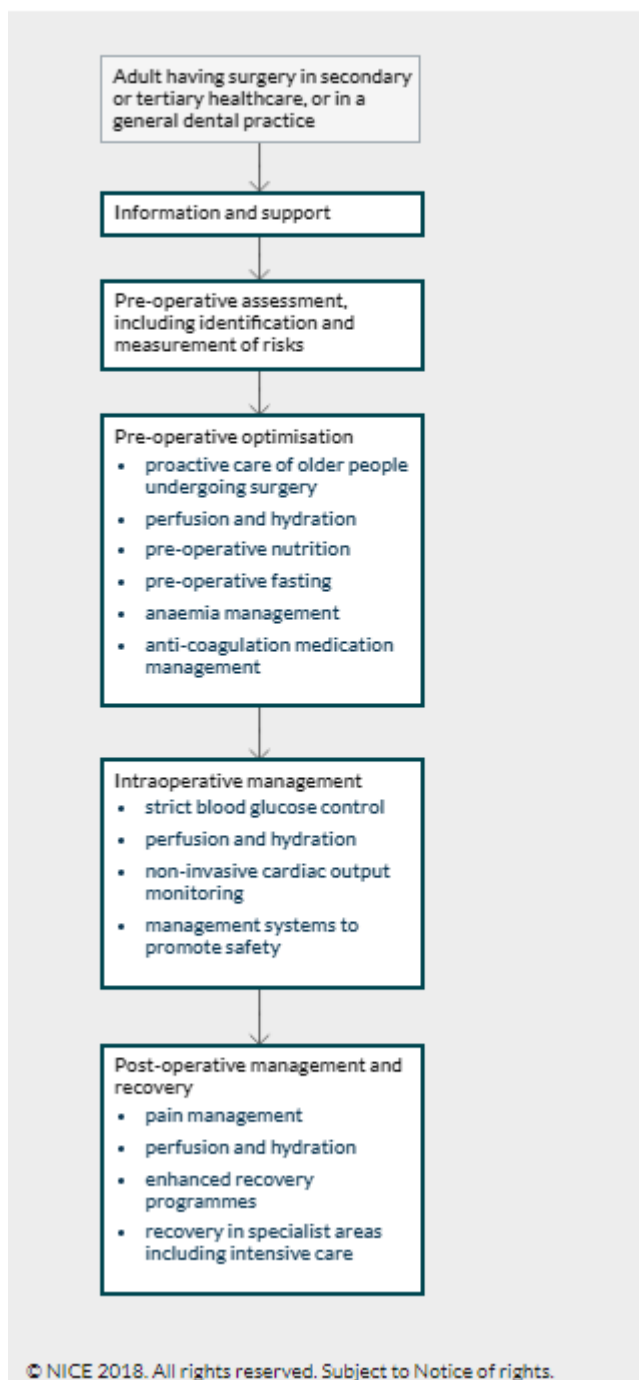
[Intravenous fluid therapy in hospital](#)

[Preoperative tests](#)

[Prevention and control of healthcare-associated infections](#)

An outline based on this scope is included below. It will be adapted and more detail added as the recommendations are written during guideline development.

Perioperative care overview



5 Further information

This is the final scope, incorporating comments from registered stakeholders during consultation.

The guideline is expected to be published in February 2020.

You can follow [progress of the guideline](#).

Our website has information about how [NICE guidelines](#) are developed.