

Anaesthesia for Patients with Fractured Neck of Femur Clinical Guideline

V2.0

July 2023

Summary

Surgery within 36 hours results in fewer complications

Acceptable reasons for delay and optimisation:

Severe electrolyte abnormalities	Sodium <120 or >150mmol/l; Potassium < 2.8 or >6.0mmol/l
Ketoacidosis	Don't delay for high BSL alone (proceed with concurrent Rx). Delay if ketotic.
Left ventricular failure/ arrhythmia	Uncontrolled or acute; or correctable cardiac arrhythmia with a rate > 120/min
Chest infection with sepsis	i.e. With signs of organ dysfunction - consider expediting under regional anaesthesia
Reversible coagulopathy	

DO NOT DELAY PATIENTS WHO HAVE NOT HAD AN ECHO – assume the pathology you suspect and cautiously continue

Preoperative management should include:

- Regular Paracetamol +/- PRN oramorph
- Peripheral nerve/plane block in ED or on the ward
- Appropriate IV fluids for those NBM
- Treatment escalation plan in place, discuss at time out

Measures to **PREVENT OR TREAT PERI-OPERATIVE HYPOTENSION** are prioritised

This reduces perioperative morbidity and mortality.

Maintain BP within 20% of patient's baseline, and SBP >100/ MAP >70 at **all** times

If not achieving targets in a normovolaemic patient start vasopressor infusion at any stage

Anaesthesia:

SAB +/- Sedation preferable*

GA and SAB should not be combined

Peripheral block should be considered for **all** patients:

Femoral nerve, fascia iliaca compartment block

20 - 40ml of 0.25 – 0.375% levobupivacaine (max 2mg/kg)

For GA consider:

- Depth of anaesthesia monitor
 - Age adjusted MAC calculator
 - Endotracheal intubation
 - Short acting opioids – fentanyl and alfentanil
- To facilitate minimum necessary anaesthetic dose

For SAB consider:

- Peripheral block before spinal (consider 50/50 Lidocaine/L-Bup)
- 7.5-10mg bupivacaine (L-Bup or heavy)
- 20-25mcg fentanyl (if using opioid)
- Propofol for sedation (TCI or small bolus)

Supplemental oxygen (target SpO₂ 94-98% or 88-92% according to pre-morbid condition)

Blood Pressure control:

- Consider arterial line
- Vasopressor infusion
- Target systolic >100mmHg; MAP >70mmHg **and** <20% drop from baseline

Temperature Management:

Fluid warmer and Bair hugger

Blood conservation:

Tranexamic acid
Intraoperative cell salvage

Postoperative management:

- Continue tight BP control as above, with vasopressors if necessary
- Warming should continue through recovery
- Monitor Hb and transfuse if required (see next page)
- Use Painad chart (NerveCentre) to assess pain in patients with dementia or delirium
- Regular analgesia and VTE prophylaxis (NOF bundle on EPMA)
- Fluid prescription if not drinking

*although current evidence of outcome is equivocal for GA vs SAB, providing BP is adequately maintained

Summary - additional information:

Variable	Points
Age 66 - 85	3
86 or older	4
Male	1
Hb \leq 100 on admission	1
Mental test \leq 6/10 on admission	1
Living in an institution	1
More than one comorbidity	1
Active malignancy in last 20 yrs	1

Score	Predicted 30 day mortality
0	0%
1	1%
2	2%
3	4%
4	6%
5	10%
6	15%
7	23%
8	22%
9	45%
10	57%

Risk Assessment and Documentation - The Nottingham Hip Fracture Score

Mortality risk using the Nottingham Hip Fracture Score (above) should be calculated, documented on the anaesthetic chart and discussed with all patients. Treatment escalation plans should be considered in all patients, with an appropriate level of post-operative care documented.

Transfusion

Avoid pre-operative blood transfusion, especially if the patient is normovolaemic, as evidence shows increased rates of surgical site infection (SSI) and transfusion associated circulatory overload (TACO). TACO carries a high mortality. Avoid transfusion if Hb > 70g/l. In those patients who are found to be anaemic on admission with a fractured neck of femur please consider early administration of IV iron.

Reducing the Risk from Cemented Hemiarthroplasty

The theatre team should follow the AAGBI recommended three-stage process to reduce the incidence of problems in patients undergoing cemented hemiarthroplasty for hip fracture taken from the [Safety guideline: reducing the risk from cemented hemiarthroplasty for hip fracture \(2015\)](#).

Clopidogrel

Surgery should not be delayed beyond the 36 hour target due to patient being on clopidogrel. Please consult the emergency surgery section of the [Thrombosis Prevention Investigation and Management of Anticoagulation Clinical Guideline V13.0](#) for further details.

Warfarin and DOACs

Proceed with surgery if INR \leq 1.8 (GA) or INR \leq 1.5 (spinal). Use vitamin K or prothrombin complex to reverse if necessary. If anticoagulated for another reason than uncomplicated AF, DVT or PE (e.g., metallic valve, esp. mitral), a more considered approach +/- bridging anticoagulation should be guided by discussion with a haematologist.

In patients taking DOACs, it's safe to proceed under spinal, providing 24 hours has passed since the last dose of DOAC and patient's eGFR > 60. For further guidance refer to 'RCH surgery and spinal anaesthesia for hip fracture in patients taking DOACs' document available on Induction app in 'Theatres' folder.

Regional Anaesthesia in Anticoagulated Patients

Regional anaesthesia and central neuraxial blocks in patients taking anticoagulation are a balance of the risk of haematoma Vs the benefits of regional/avoiding a GA in the individual patient and should be discussed with the patient and documented accordingly. Current national guidance reflects this and should be followed.

1. Aim/Purpose of this Guideline

- 1.1. It is recommended that anaesthesia for hip fracture surgery should be administered according to agreed standards at each hospital in the UK, using age appropriate doses, with the aims of facilitating early patient re-mobilisation, re-enablement and rehabilitation. This guideline aims to achieve these goals and the **principles should apply to the peri-operative management of older (> 65 years) and/or frailer people with other long bone and periprosthetic fractures.**
- 1.2. There is evidence that five and 30 day post-operative mortality is associated with lower intra-operative blood pressures. Importantly lower intra-operative blood pressures are weakly associated with higher volumes of intrathecal local anaesthetic.
- 1.3. This guideline seeks to address the above by standardised anaesthesia towards administering lower doses of spinal (and general) anaesthesia and maintaining normotension. If normotension is not achieved in the normovolaemic patient anaesthetists should have low threshold to start a vasopressor infusion in the perioperative period, including the patient's stay in recovery. Blood pressure control is paramount.
- 1.4. This RCHT guideline is evidence based and draws on national anaesthesia guidelines for the management of the elderly, those at risk of post-operative neurocognitive disorders and those with hip fractures.

1.5. Abbreviations

- AAGBI Association of Anaesthetists Great Britain and Ireland.
- AF Atrial Fibrillation.
- ASAP Anaesthesia Sprint Audit of Practice.
- BIS Bispectral index.
- BGS British Geriatrics Society.
- BOA British Orthopaedic Association.
- BP Blood Pressure.
- BSL Blood Sugar Level.
- BTS British Thoracic Society.
- DNACPR Do Not Attempt Cardiopulmonary Resuscitation.
- DOACs Direct Oral Anticoagulants.
- ED Emergency Department.
- GA General Anaesthetic.
- GP General Practitioner.

- GPAS Guidelines for the Provision of Anaesthetic Services.
- Hb Haemoglobin.
- INR International Normalised Ratio.
- MAC Minimum Alveolar Concentration.
- MAP Mean Arterial Blood Pressure.
- mmHg Millimetre of Mercury.
- NBM Nil By Mouth.
- RCHT Royal Cornwall Hospitals Trust.
- RCOA Royal College of Anaesthetists.
- SAB Subarachnoid Block (AKA Spinal Anaesthetic).
- SpO2 Oxygen Saturations As Measured By A Pulse Oximeter.
- SSI Surgical Site Infection.
- TACO Transfusion Associated Circulatory Overload.
- TEP Treatment Escalation Plan.
- VTE Venous Thromboembolism.

1.6. This version supersedes any previous versions of this document.

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2. The Guidance

2.1. Background and further discussion of the recommendations made in the above guideline summary:

This section elaborates on evidence and reasoning of the recommendations above in areas where this guideline deviates from external guidance or proved contentious in departmental discussion/review of this document.

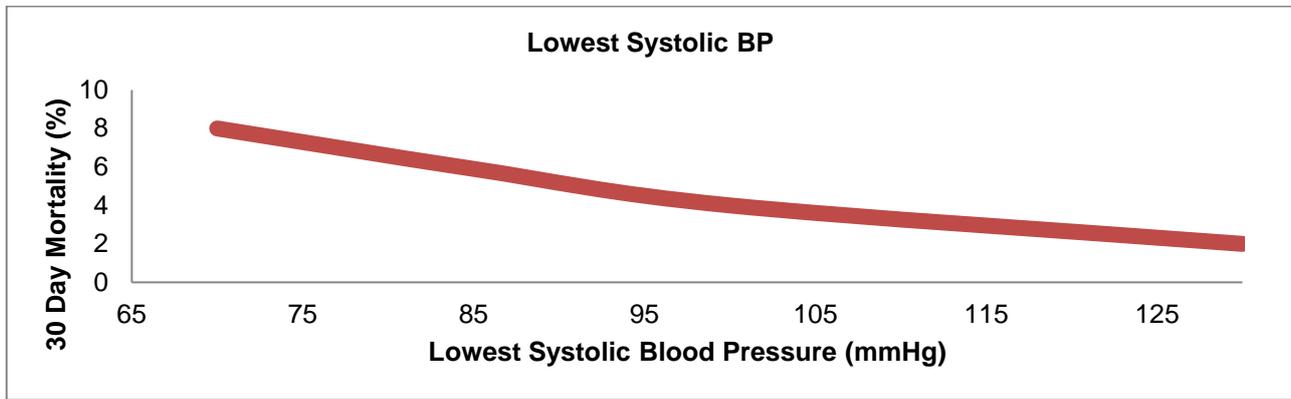
2.1.1. Defining the population

Hip fracture can occur in younger patients with high energy transfer injuries, but this proposed guideline is very much geared for the frail osteoporotic patient with a hip fracture. Although the guidance is specific to hip fracture, **principles contained in this update are applicable to older/frail people with other long bone and periprosthetic fractures, in line with recent advice from the British Orthopaedic Association.**

2.1.2. Baseline Blood Pressure and Blood Pressure Targets

- 2.1.2.1. In all patients it should be attempted to define a baseline blood pressure and then document it clearly on the front of the anaesthetic chart. Baseline blood pressure can be challenging to define in the acutely admitted trauma patient. In an attempt to identify it please use combination of current and previous admission readings found on NerveCentre, eNotes, historical documents on Maxims and the patient's paper hospital notes (recent outpatient clinics, GP referral letters etc.) are very helpful.
- 2.1.2.2. All anaesthetists caring for hip fracture patients should aim to maintain blood pressures within 20% of baseline for the entire time the patient is under their care: anaesthetic room, operating theatre and recovery. If unable to define baseline blood pressure, then aim for systolic BP >100mmHg and MAP > 70mmHg at all times. These numbers are taken from the increasing evidence in that even brief durations of systolic arterial pressure <100 mm Hg and mean arterial pressure <60–70 mm Hg are harmful during elective non-cardiac surgery. The relationship between intraoperative BP and 30 day mortality in hip fracture patients is shown in the graph below.
- 2.1.2.3. If not achieving BP targets despite normovolaemia, then have a low threshold to start vasopressor infusion at any time (anaesthetic room, operating theatre and recovery).

Relationship between lowest systolic BP and 30 day mortality.



Stylised graph taken from data in [Secondary analysis of outcomes after 11,085 hip fracture operations from the prospective UK anaesthesia sprint audit of practice \(ASAP-2\) \(Anaesthesia, 2016\)](#)

2.1.3. Sedation

- 2.1.3.1. This guideline supports the use of propofol as the primary and sole sedative agent to be used in hip fracture patients as theoretically, pharmacokinetic and pharmacodynamic changes with age make propofol dosing more predictable than with midazolam, opioids or ketamine.
- 2.1.3.2. Additionally, anaesthetists should exercise caution between the interaction of ketamine and those hip fracture patients taking Memantine.
- 2.1.3.3. This guideline advises against the use of benzodiazepines at all stages in the perioperative journey of hip fracture patients, with the exception of those with alcohol-related cognitive disorders or in people with Parkinsonian dementia.
- 2.1.3.4. A useful external reference for drugs to avoid in the elderly is the [American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc, 67: 674-694](#)

2.1.4. How much sedation?

- 2.1.4.1. Often sedation is only required to facilitate the turn to perform spinal anaesthesia and nil else. There are those that suggest sedation for hip fracture patients means no more than 40mg propofol for the turn and then stop.
- 2.1.4.2. Sedation can become too deep, and care should be taken to avoid administering a general anaesthetic without adequate airway control. The overriding principle is to use the smallest dose of sedation necessary. For those wishing to run propofol sedation for more than just “the turn” then using the lowest dose to achieve the desired clinical endpoint should be titrated using a target controlled infusion (Marsh model). Anaesthetists can also choose to sedate using BIS monitoring.

2.1.5. Atrial Fibrillation

There appears to be inconsistency in the [AAGBI Safety Guideline on Management of Proximal Femoral Fractures 2011 \(AAGBI, 2012\)](#) with one table giving a reason to postpone of a “correctable cardiac arrhythmia with a ventricular rate >120”, but further in the text this changes to AF rate >100. A rate of >100 is in keeping with the European Society of Cardiology AF guideline. Our local guideline has a ventricular rate >120, but of course this must be taken in context of the whole clinical picture and multidisciplinary discussion with the orthogeriatricians and surgeons.

2.1.6. Endotracheal intubation

There [National Hip Fracture Database Anaesthesia Sprint Audit of Practice \(ASAP\) \(2014\)](#) recommends that hip fracture patients should be kept spontaneously breathing intraoperatively if having a general anaesthetic, which implies using a supraglottic airway. This recommendation is based on the theoretical idea that spontaneous respiration causes less cardiovascular upset. The evidence base is weak. Aspiration in these frail patients is a disaster and as we move to reducing the time from injury to theatre in these patients the potential for aspiration may also be increasing. As a department we have discussed and debated these opposing airway and ventilation strategies and in the absence of strong evidence for either practice our consensus opinion is that we advocate safe airway control with particular caution to the risks of aspiration. This leads us to recommend endotracheal intubation of these patients at RCHT.

2.1.7. Supplementary Oxygen

Target SpO₂ according to British Thoracic Society (BTS) guidelines rather than supplementary oxygen for all: SpO₂ 94-98% or SpO₂ 88-92% according to pre-morbid state throughout the perioperative period.

2.1.8. Diabetes/Blood Sugar Levels (BSL)

- 2.1.8.1. Do not delay surgery in patients with raised BSL, except when in the presence of ketoacidosis/significant dehydration.
- 2.1.8.2. If BSL is raised, has no evidence of ketoacidosis, then proceed to surgery with concurrent active treatment to reduce BSL in a bid to reduce perioperative complication/morbidity.

2.1.9. Anaemia and Transfusion in Hip Fracture

- 2.1.9.1. Avoid pre-operative blood transfusion, especially if the patient is normovolaemic, as evidence shows increased rates of surgical site infection (SSI) and transfusion associated circulatory overload (TACO). TACO carries a high mortality. Avoid transfusion if Hb>70g/l. In those patients who are found to be anaemic on admission with a fractured neck of femur please consider early administration of IV iron.

2.1.9.2. Always follow the RCHT Clinical Guideline for [Peri-Operative Blood Transfusions in Adults v1](#) and the [RCHT Blood Transfusion Policy](#).

2.1.10. **Regional Blocks**

This guideline recommends femoral nerve or fascia iliaca block to be used routinely to supplement general or spinal anaesthesia **in all hip fracture patients at the time of surgery**. Single shot fascia iliaca block in AandE should not prevent patients from having repeated block, provided 6 hours have passed between the blocks.

The benefits of high volume, low concentration pericapsular/periosteal infiltration of local anaesthetic agents have not been formally assessed in the hip fracture population. These techniques are recommended only when posterior surgical approaches to the hip are used, which may not be amenable to incisional analgesia by blocking the lateral cutaneous nerve of the thigh.

However, at RCHT the preferred blocks for hip fracture surgery remain fascia iliaca or femoral nerve blocks. Anaesthetic technique should be focused on multimodal analgesia and attempt to minimising total opioid administration by any route in these frail patients.

2.1.11. **Patients taking anticoagulation**

2.1.11.1. Please consult the emergency surgery section of the RCHT [Thrombosis Prevention Investigation and Management of Anticoagulation Clinical Guideline](#) V13.0 for further details.

2.1.11.2. When considering performing a central neuraxial block or regional procedure the individual anaesthetists should balance the risk of haematoma Vs the benefits of regional/avoiding a GA in the individual patient, discuss this with the patient and document the discussion. Current national and local guidance reflects this:

2.1.11.3. [Regional anaesthesia and patients with abnormalities of coagulation \(AAGBI, 2013\)](#)

“Risk is a continuum that runs from ‘normal risk’ to ‘very high risk’, and this guidance seeks to emphasise this point. This guidance must be interpreted and used after consideration of an individual patient’s circumstances. None of the advice in this guidance should be taken as being prohibitive or indicative. An abnormality of coagulation – however severe – is always a **relative** contraindication to the use of a regional anaesthetic technique. However, there may be circumstances in which, although the use of a regional technique for a patient with abnormal coagulation may put the patient at significant risk as a result, the alternative for this patient (often a general anaesthetic) may expose them to even greater risk. Experienced clinicians should be involved in decisions about whether or not to perform a regional anaesthetic technique on a patient with abnormal coagulation, and the patient with capacity should be given all the

information he/she needs to make an informed choice.”

- 2.1.11.4. [Anaesthetic management of patients with hip fractures: an update | BJA Education | Oxford Academic \(oup.com\)](#) (CEACCP, 2013)

“Spinal anaesthesia and lumbar plexus block are not absolutely contraindicated, but their use is sensibly limited to patients in whom the benefits of such interventions outweigh the risk of bleeding and spinal haematoma.”

- 2.1.11.5. [Guideline for the management of hip fractures 2020](#) (AAGBI)

“The incidence of vertebral canal haematoma after neuraxial anaesthesia in general UK practice is very small, at 1:118,000. The incidence of vertebral canal haematoma in older patients undergoing (emergency) hip fracture repair is likely to be even lower. The extent to which this very small risk of vertebral canal haematoma is increased in (hip fracture) patients taking anticoagulants/antiplatelet medications is unquantifiable, but likely to be small. The risk may be increased further in patients with spinal deformity and those undergoing repeated attempts at spinal needle insertion. Mindful of these risks and in recognition of other Association of Anaesthetists' guidance, the Working Party has developed comprehensive recommendations for the management of patients with hip fracture who are taking antiplatelet/anticoagulant medication pre-operatively. These can be found in online Supporting Information, Appendix S1.”

- 2.1.11.6. RCHT surgery and spinal anaesthesia for hip fracture in patients taking DOACs' guideline available on Induction app in 'Theatres' folder.

2.1.12. Risk Assessment and DNAR Decision Documentation

- 2.1.12.1. Nottingham Hip Fracture score should be calculated, documented on the anaesthetic chart, and discussed with all patients prior to hip fracture surgery. Treatment escalation plans should be carefully considered in all patients, with an appropriate level of post-operative care documented.
- 2.1.12.2. Although immediate peri-operative death is relatively uncommon in the often elderly, frail and comorbid population requiring hip fracture surgery, it can occur (e.g. caused by bone cement implantation reactions). Latest recommendations suggest that resuscitation status of all hip fracture patients is reconfirmed during the WHO sign-in undertaken before commencement of an operating list, and anaesthetists routinely ascertain and record the patient's resuscitation status before administering anaesthesia.

2.1.13. Reducing the Risk from Cemented Hemiarthroplasty

The theatre team should follow the AAGBI/BOA/BGS recommended three-stage process to reduce the incidence of problems in patients undergoing cemented hemiarthroplasty for hip fracture:

Stage 1. Identification of patients at high risk of cardiorespiratory compromise:

- a) Increasing age.
- b) Significant cardiopulmonary disease.
- c) Diuretics.
- d) Male sex.

Stage 2. Preparation of team(s) and identification of roles in case of severe reaction:

- a) Pre-operative multidisciplinary discussion when appropriate.
- b) Pre-list briefing and World Health Organization Safe Surgery checklist 'time-out'.

Stage 3. Specific intra-operative roles:

- a) Surgeon:
 - Inform the anaesthetist that you are about to insert cement.
 - Thoroughly wash and dry the femoral canal.
 - Apply cement in retrograde fashion using the cement gun with a suction catheter and intramedullary plug in the femoral shaft.
 - Avoid vigorous pressurisation of cement in patients judged to be at risk of cardiovascular compromise (see below).
- b) Anaesthetist:
 - Ensure adequate resuscitation pre- and intra-operatively.
 - Confirm to surgeon that you are aware that he/she is about to prepare/apply cement.
 - Maintain vigilance for signs of cardiorespiratory compromise. Use either an arterial line or non-invasive automated blood pressure monitoring set on the 'stat' mode during/shortly after application of cement. Early warning of cardiovascular collapse may be heralded by a drop in systolic pressure. During general anaesthetic, a sudden drop in end tidal pCO₂ may indicate right heart failure and/or catastrophic reduction in cardiac output.
 - Aim for a systolic blood pressure within 20% of pre-induction value.

- Prepare vasopressors in case of cardiovascular collapse.

2.1.14. Audit and data collection for National Hip Fracture Database (NHFD)

Continuous audit of anaesthetic management of elderly/frail (≥ 65 years old) patients presenting with femoral fracture (neck of femur, shaft, distal femoral and periprosthetic fracture) is required to ensure that this group of patients receives the best possible care. At RCHT the anaesthetic data for these patients should be recorded on NerveCentre by their anaesthetists. This can be accomplished by filling 'NHFD Anaesthesia' application on the NerveCentre. The data collected is used to input information about the anaesthesia on the National Hip Fracture Database.

3. Monitoring compliance and effectiveness

Information Category	Detail of process and methodology for monitoring compliance
Element to be monitored	Regular audit of anaesthesia for neck of femur patients in addition to continual submission of data to the National Hip Fracture Database via NerveCentre 'NHFD Anaesthesia' application.
Lead	Anaesthesia Lead for Orthopaedic Trauma (Anna Malik)
Tool	Audit
Frequency	Annually
Reporting arrangements	Anaesthetic Governance Meeting Fractured Neck of Femur Working Group
Acting on recommendations and Lead(s)	Anaesthesia Governance
Change in practice and lessons to be shared	Anaesthesia Governance Meeting

4. Equality and Diversity

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the [Equality Diversity And Inclusion Policy](#) or the [Equality and Diversity website](#).

4.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.

Appendix 1. Governance Information

Information Category	Detailed Information
Document Title:	Anaesthesia for Patients with Fractured Neck of Femur Clinical Guideline V2.0
This document replaces (exact title of previous version):	Anaesthesia for Patients with Fractured Neck of Femur Clinical Guideline V1.0
Date Issued/Approved:	March 2023
Date Valid From:	July 2023
Date Valid To:	July 2026
Directorate / Department responsible (author/owner):	Anna Malik (Consultant Anaesthetist and Anaesthetic Lead for Orthopaedic Trauma)
Contact details:	01872 258197
Brief summary of contents:	Anaesthesia for Patients with Fractured Neck of Femur
Suggested Keywords:	Anaesthesia - Hip fracture - Neck of femur NOF - #NOF - Spinal
Target Audience:	RCHT: Yes CFT: No CIOS ICB: No
Executive Director responsible for Policy:	Chief Medical Officer
Approval route for consultation and ratification:	Anaesthetic Department Governance Meeting. Consultant Anaesthetists; trainee anaesthetists; SAS anaesthetists email distribution groups. Fractured Neck of Femur Working Group.
Manager confirming approval processes:	Doug Riley
Name of Governance Lead confirming consultation and ratification:	James Masters
Links to key external standards:	Guideline for the management of hip fractures 2020 (AAGBI 2020) Guidelines for the peri-operative care of people with dementia (Guideline from the Association of Anaesthetists) White S, Griffiths R, Baxter M et al.

Information Category	Detailed Information
	<p>Anaesthesia 2019; 74(3): 357-372</p> <p>AAGBI Safety Guideline on Management of Proximal Femoral Fractures 2011 (AAGBI, 2012)</p> <p>NICE Guideline for hip fracture management (NICE, 2011)</p>
<p>Related Documents:</p>	<p>Reference and associated documents</p> <p>Fractured Neck of Femur Pathway RCHT</p> <p>Thrombosis Prevention Investigation and Management of Anticoagulation Clinical Guideline V13.0</p> <p>Guidelines for the peri-operative care of people with dementia (Guideline from the Association of Anaesthetists) White S, Griffiths R, Baxter M et al. Anaesthesia 2019; 74(3): 357-372</p> <p>Association of Anaesthetists of Great Britain and Ireland. Safety guideline: reducing the risk from cemented hemiarthroplasty for hip fracture 2015.</p> <p>Anaesthesia 2015, 70, pages 623–626</p> <p>International Fragility Fracture Network Delphi Consensus Statement on the Principles of Anaesthesia for Patients with Hip Fracture (Anaesthesia, 2018)</p> <p>Secondary analysis of outcomes after 11,085 hip fracture operations from the prospective UK anaesthesia sprint audit of practice (ASAP-2) (Anaesthesia, 2016)</p> <p>Standardising anaesthesia for hip fracture surgery (Anaesthesia, 2016)</p> <p>Prediction of 30-Day Mortality After Hip Fracture Surgery by The Nottingham Hip Fracture Score and the Surgical Outcome Risk Tool (Anaesthesia, 2016)</p> <p>Griffiths R, White S, Moppett I et al (2015), Safety guideline: reducing the risk from cemented hemiarthroplasty for hip fracture 2015. Anaesthesia 70: 623-626</p> <p>National Hip Fracture Database Anaesthesia Sprint Audit of Practice (ASAP) (2014)</p> <p>AAGBI Safety Guideline on Management of Proximal Femoral Fractures 2011 (AAGBI, 2012)</p> <p>NICE Guideline for hip fracture management (NICE, 2011)</p>

Information Category	Detailed Information
	<p>Reich DL, Bennett-Guerrero E, Bodian CA et al. Intraoperative tachycardia and hypertension are independently associated with adverse outcome in noncardiac surgery of long duration. Anesth Analg 2002; 95: 273-7</p> <p>Sessler D, Bloomstone J, Aronson S et al. Perioperative Quality Initiative consensus statement on intraoperative blood pressure, risk and outcomes for elective surgery. British Journal of Anaesthesia 2019; 122 (5): 563-574</p> <p>American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc, 67: 674-694</p> <p>O'Driscoll B, Howard L, Earis J, et al. British Thoracic Society. Guideline for oxygen use in adults in healthcare and emergency settings . BMJ Open Resp Res 2017;4: e000170</p> <p>Anaesthetic management of patients with hip fractures: an update BJA Education Oxford Academic (oup.com) 2013</p> <p>Regional anaesthesia and patients with abnormalities of coagulation (AAGBI, 2013)</p> <p>Peri-Operative Blood Transfusions in Adults v1</p> <p>RCHT Blood Transfusion Policy</p> <p>RCHT Pre Assessment Clinical Guidelines V7.0 (January 2022)</p> <p>Perioperative Care of People with Dementia (AAGBI, 2019)</p> <p>Guidelines for the Provision of Anaesthesia Services (GPAS). Chapter 16. Guidelines for the Provision of Anaesthesia Services for Trauma and Orthopaedic Surgery (RCOA, 2019)</p> <p>Perioperative Quality Initiative consensus statement on intraoperative blood pressure, risk and outcomes for elective surgery (BJA, 2019)</p> <p>British Orthopaedic Association Standards for Trauma and Orthopaedics (BOAST) The care of the older or frail orthopaedic trauma patients. May 2019</p> <p>International Fragility Fracture Network Delphi Consensus Statement on the Principles of Anaesthesia for Patients with Hip Fracture (Anaesthesia, 2018)</p> <p>Secondary analysis of outcomes after 11,085 hip fracture operations from the prospective UK</p>

Information Category	Detailed Information
	<p>anaesthesia sprint audit of practice (ASAP-2) (Anaesthesia, 2016)</p> <p>Standardising anaesthesia for hip fracture surgery (Anaesthesia, 2016)</p> <p>Prediction of 30-Day Mortality After Hip Fracture Surgery by The Nottingham Hip Fracture Score and the Surgical Outcome Risk Tool (Anaesthesia, 2016)</p> <p>Reducing the risk from cemented hemiarthroplasty for hip fracture 2015 (AAGBI, 2015)</p> <p>National Hip Fracture Database Anaesthesia Sprint Audit of Practice (ASAP) (2014)</p> <p>AAGBI Safety Guideline on Management of Proximal Femoral Fractures 2011 (AAGBI, 2011)</p> <p>NICE Guideline for hip fracture management (NICE, 2011)</p> <p>Management of hip fracture in older people - A national clinical guideline (SIGN, 2009)</p>
Training Need Identified?	No.
Publication Location (refer to Policy on Policies – Approvals and Ratification):	Internet and Intranet
Document Library Folder/Sub Folder:	Clinical / Anaesthetics

Version Control Table

Date	Version Number	Summary of Changes	Changes Made by
July 2019	V1.0	Initial version	<p>Thomas Bevir, Consultant Anaesthetist</p> <p>Carlen Reed-Poysden, Consultant Anaesthetist</p> <p>Ben Whittaker, Anaesthetic Trainee</p> <p>Adam Garland, Anaesthetic Trainee</p>

Date	Version Number	Summary of Changes	Changes Made by
March 2023	V2.0	<p>Based on the latest document from AAGBI working group and changes to relevant local guidance, the following changes have been made to the initial version of the document:</p> <ol style="list-style-type: none"> 1. Target MAP for blood pressure management increased from 65 to 70. 2. Recommendation for use of Painad chart (available on NerveCentre) for pain assessment in patients with dementia or delirium. 3. Recommendation for use of NOF bundle on EPMA for analgesia and VTE prophylaxis. 4. Guidance for management of patients taking DOACs. 5. Recommendation for the principles of this guideline to be applied to the peri-operative management of older (> 65 years) and/or frailer people with other long bone and periprosthetic fractures. 6. Recommendation for continuous audit via data collection on NerveCentre 'NHF D Anaesthesia' application. 7. Updated links to key external guidelines as well as internal and external related documents. 	Anna Malik, Consultant Anaesthetist

All or part of this document can be released under the Freedom of Information Act 2000.

All Policies, Strategies and Operating Procedures, including Business Plans, are to be kept for the lifetime of the organisation plus 6 years.

This document is only valid on the day of printing.

Controlled Document.

This document has been created following the Royal Cornwall Hospitals NHS Trust [The Policy on Policies \(Development and Management of Knowledge Procedural and Web Documents Policy\)](#). It should not be altered in any way without the express permission of the author or their Line Manager.

Appendix 2. Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the Trust to identify where a policy or service may have a negative impact on an individual or particular group of people.

For guidance please refer to the Equality Impact Assessment Policy (available from the document library) or contact the Equality, Diversity, and Inclusion Team
rcht.inclusion@nhs.net

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Anaesthesia for Patients with Fractured Neck of Femur Clinical Guideline V2.0
Directorate and service area:	Anaesthetics. Anaesthetics, Critical Care; and Theatres Care Group.
Is this a new or existing Policy?	Existing
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Anna Malik, Consultant Anaesthetist
Contact details:	01872 258197

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	Anaesthetists involved in the perioperative care of hip fracture patients
2. Policy Objectives	To standardise hip fracture anaesthesia at RCHT, with a particular focus on the avoidance of hypotension
3. Policy Intended Outcomes	To standardise hip fracture anaesthesia at RCHT, with a particular focus on the avoidance of hypotension
4. How will you measure each outcome?	Audit
5. Who is intended to benefit from the policy?	Hip fracture patients at RCHT

Information Category	Detailed Information
6a. Who did you consult with? (Please select Yes or No for each category)	<ul style="list-style-type: none"> • Workforce: Yes • Patients/ visitors: No • Local groups/ system partners: No • External organisations: No • Other: No
6b. Please list the individuals/groups who have been consulted about this policy.	Please record specific names of individuals/ groups: Anaesthetic Department Governance Meeting. Consultant Anaesthetists; trainee anaesthetists; SAS anaesthetists email distribution groups. Fractured Neck of Femur Working Group.
6c. What was the outcome of the consultation?	Acceptance and approval of guideline
6d. Have you used any of the following to assist your assessment?	National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys: No.

7. The Impact

Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	No	
Sex (male or female)	No	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	No	
Race	No	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	No	
Religion or belief	No	

Protected Characteristic	(Yes or No)	Rationale
Marriage and civil partnership	No	
Pregnancy and maternity	No	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	No	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.

I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy.

Name of person confirming result of initial impact assessment: Anna Malik, Consultant Anaesthetist.

If a negative impact has been identified above OR this is a major service change, you will need to complete section 2 of the EIA form available here:

[Section 2. Full Equality Analysis](#)