

Pre-Optimisation	
<p>1 Identify and treat reversible comorbidities (see blue box opposite)</p> <ul style="list-style-type: none"> If patient not fit for surgery discuss plan for optimisation with orthogeriatricians. Needs daily review of plan. <p>2 Analgesia</p> <ul style="list-style-type: none"> Fascia Iliaca Block in ED Paracetamol 1g QDS po/iv (500mg if <50kg) Oramorph 2.5-5mg QDS plus Oramorph 2.5-5mg prn 1-2hrly (Oxycodone 1.25-2.5mgs QDS and PRN if eGFR <35) <p>3 IV Fluids – Hartmann’s through a pump</p> <p>4 Check clopidogrel, DOACs and Warfarin stopped, timing of last dose, Vit K given and INR checked. (see purple box opposite).</p> <p>6 Ensure all Parkinson’s medication given throughout perioperative period</p>	<p>7 Minimise Fasting</p> <ul style="list-style-type: none"> NBM 4 hours solids NBM 2 hours clear fluids IVI when NBM Carbohydrate drinks at 6am <p>8 Consider appropriate post-op level of care</p> <p>9 Ensure:</p> <ul style="list-style-type: none"> Mental Capacity / Appropriate Consent ReSPECT form completed with ceilings of treatment agreed Family informed Normothermia / Normoglycaemia Thromboprophylaxis <p>10 Theatres ASAP (within 36hrs)</p>

Intra-Operative							
<p>GA or Spinal Anaesthetic Fascia Iliaca Block - Provided 6 hrs since any previous block.</p> <p>Strict BP Control – Consider Art line or NIBP 2 min cycle</p> <ul style="list-style-type: none"> Aim MAP > 70mmHg < 20% Deviation from BP Baseline Consider vasopressor infusion <p>Ensure</p> <ul style="list-style-type: none"> WHO Checklist ? Cement ? DNAR Normothermia/Normoglycaemia Antibiotics <p>Tranexamic Acid</p> <ul style="list-style-type: none"> 15mg/kg Draw up after Spinal (neurotoxic) <p>Cell Salvage Availability For all Hemiarthroplasty/THR/IM Nails/pathological fracture Any patient with high bleeding risk</p>	<table border="1"> <tr> <td><u>General Anaesthesia Recipe</u></td> <td>LMA / ETT as appropriate Fascia Iliaca Block Post Induction Age Related MAC/BIS or Narcotrend Minimise Opioids</td> </tr> <tr> <td><u>Spinal Anaesthesia Recipe</u></td> <td>Fascia Iliaca Block pre-spinal 2-3mLs 1% Propofol to position patient Dose: <ul style="list-style-type: none"> 1.5-2mLs 0.5% Heavy Bupivacaine 2-3mLs 0.5% Heavy Prilocaine (Short Duration) Avoid Sedation – If required use lowest possible TCI Propofol Avoid Polypharmacy and long acting drugs (e.g. midazolam and ketamine)</td> </tr> <tr> <td><u>Fascia Iliaca Block</u></td> <td>USS Guided Pre-Spinal FI Block <ul style="list-style-type: none"> 20mLs 0.375% L-Bupivacaine plus 20mLs 0.5% lignocaine All other FI Block <ul style="list-style-type: none"> 20-30mLs 0.375%-0.5% L-Bupivacaine depending on patient weight </td> </tr> </table>	<u>General Anaesthesia Recipe</u>	LMA / ETT as appropriate Fascia Iliaca Block Post Induction Age Related MAC/BIS or Narcotrend Minimise Opioids	<u>Spinal Anaesthesia Recipe</u>	Fascia Iliaca Block pre-spinal 2-3mLs 1% Propofol to position patient Dose: <ul style="list-style-type: none"> 1.5-2mLs 0.5% Heavy Bupivacaine 2-3mLs 0.5% Heavy Prilocaine (Short Duration) Avoid Sedation – If required use lowest possible TCI Propofol Avoid Polypharmacy and long acting drugs (e.g. midazolam and ketamine)	<u>Fascia Iliaca Block</u>	USS Guided Pre-Spinal FI Block <ul style="list-style-type: none"> 20mLs 0.375% L-Bupivacaine plus 20mLs 0.5% lignocaine All other FI Block <ul style="list-style-type: none"> 20-30mLs 0.375%-0.5% L-Bupivacaine depending on patient weight
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Post-Operative	
<p>1 Analgesia</p> <ul style="list-style-type: none"> Paracetamol 1g QDS po/iv (500mg if <50kg) Oramorph 2.5-5mg QDS plus Oramorph 2.5-5mg prn 1-2hrly (Oxycodone 1.25-2.5mgs QDS and PRN if eGFR <35) AVOID Tramadol / NSAIDs <p>2 Laxatives and Anti-emetics</p> <ul style="list-style-type: none"> Docusate 200mg bd reg Ondansetron 4mg tds prn <p>3 Avoid indwelling urinary catheters whenever possible</p>	<p>4 Complete #NOF care bundle sticker:</p> <ul style="list-style-type: none"> Measure Hb using haemacue in recovery: Aim >100g/l symptomatic IHD Aim >90g/l for frail patients (CFS >6) Aim > 80g/l for fit and healthy patients. <p>Prior to transfusion haemacue result must be checked with FBC. Fluid Plan – Rescue boluses prescribed / maintenance fluids prescribed</p> <ul style="list-style-type: none"> Antibiotics (as per hospital protocol) Thromboprophylaxis / DOAC Glycaemic control <p>5 Oxygen prescribed for all patients</p> <p>6 Consider appropriate post-op level of care</p>

Avoid Post-op Cognitive Dysfunction

Fracture NOF Surgery – Acceptable Reasons for Delay	Local Guidance- All should be treated asap to optimise patients in shortest timeframe possible. If patient not fit for surgery discuss plan for optimization with orthogeriatricians. Needs daily review of plan
Anaemia – Hb <80-100g/l	Haemoglobin Targets: >10g/l Symptomatic Heart Disease >90g/l Frail Patients >80g/dl Fit and Healthy Patients
Sodium < 120 or >150mmol Potassium < 2.8 or >6.0	<ul style="list-style-type: none"> Assess cause, caution rapid fluctuations in Na Hypokalemia correct pre op - high risk for periop arrhythmia Hyperkalemia may be due to AKI or rhabdomyolysis Daily U+E if abnormal
Reversible Coagulopathy	See Anticoagulation management below
Correctable Cardiac Arrhythmia with a Ventricular Rate >120/min	Correct Electrolyte abnormalities (Potassium and Magnesium) Ensure Euvolaemia/Normoxia Antibiotics if evidence of sepsis Consider using beta-blockers (metoprolol) or verapamil, if unsure seek guidance
Uncontrolled Diabetes	Only delay if evidence of ketosis or severe dehydration
Uncontrolled Left Ventricular Failure	Surgery should not be postponed awaiting ECHO Give anaesthetic as if severe valvular disease – GA + Invasive Blood Pressure Monitoring
Pneumonia with Sepsis	Treat medically Surgery should be expedited under regional anaesthesia

Anticoagulation / Antiplatelets	Elimination Half Life	Management	Acceptable to proceed with Spinal Anaesthesia ^{1,2}
Aspirin	Irreversible effect on platelets	Proceed with Surgery	Yes
Clopidogrel	Irreversible effect on platelets	Proceed with Surgery under GA Consider platelet transfusion if significant blood loss	Yes if GA poses greater risk to patient
Ticagrelor	8-12h	Proceed with surgery under GA Consider platelet transfusion if significant blood loss	Yes if GA poses greater risk to patient
Unfractionated IV Heparin	1-2h	Stop IV Heparin 2-4 h pre-op	4h
LMWH – Prophylactic Dose	3-7h	Last dose 12h pre-op	12h
LMWH – Treatment Dose	3-7h	Last Dose 12-24h pre-op Monitor Blood Loss	24h
Warfarin	4-5 days	1mg Vitamin K IV in ED if Warfarin for Chronic AF Discuss with Haematology if other indication (e.g. metal heart valve, recurrent VTE) INR < 2 – Proceed With Surgery Consider Prothrombin Complex for immediate reversal	If INR <1.5 Consider if GA or delay poses greater risk to patient than vertebral canal haematoma from neuroaxial anaesthesia (Ref 1)
Dabigatran	15-17h	Stop on admission Consider Surgery 24-48h after last dose Review Renal Function	CrCl >80ml/min 48hr CrCl 50-80 ml/min 72hrs CrCl 30-50 ml/min 96hrs. Consider if GA or delay poses greater risk to patient than vertebral canal haematoma from neuroaxial anaesthesia (Ref 1)
Rivaroxaban Apixaban Edoxaban	12h	Stop on admission May be partially reversed with prothrombin complex Consider Surgery 12-24h after last dose Review Renal Function	GFR > 30 48-72 hr GFR < 30 72-96hr Consider if GA or delay poses greater risk to patient than vertebral canal haematoma from neuroaxial anaesthesia (Ref 1)