

Scottish Hip Fracture Anaesthesia Recommendations (SHARE)

Patients with hip fractures should be operated on within 36 hours of presentation wherever possible. These recommendations have been written by anaesthetists from throughout Scotland who regularly work in hip fracture care with the intent of giving practical advice on the anaesthetic management of this patient group and are intended as a guideline only.

Pre-operative optimisation

Key point

Surgery within 36 hours of admission is the best option to reduce pain, restore mobility and improve survival.

- Surgery should **not** be **delayed** for the result of a Covid-19 swab test.
- Discuss and agree the plan of care with the Multidisciplinary Team including Covid-19 status, haemoglobin level, resuscitation status and any ceilings of treatment .
- Complete an anaesthetic assessment as soon as possible.
- Early recognition and treatment of reversible co-morbidities.
- Use risk stratification tools to inform anaesthetic management – e.g. Nottingham Hip Fracture Score, ASA, Frailty.
- Involve the critical care team early for patients who are at high risk of failed extubation or other complications of surgery.
- Use multimodal analgesia and consider Fascia Iliaca or Femoral Nerve Block prior to surgery.
- Use the 4AT score to screen for the presence of delirium.
- Minimise the period where the patient is fluid fasting and make sure adequate hydration, IV fluids are usually necessary.
- Make sure that the Oral Nutritional Supplementation pathway (ONS) is in place.
- Review current medication and withhold where appropriate.
- Appropriate consent process undertaken, and family involved where required.

Intra-operative management

Key point

An experienced surgeon and anaesthetist should lead the procedure, Avoid hypotension and maintain MAP > 70 mmHg spinal or general anaesthetic are equally acceptable.

- Femoral Nerve or Fascia Iliaca Block (pre-spinal).
- Up to 40 ml of LA (e.g. 0.25% levobupivacaine +/- 1% Lidocaine with adrenaline).

Spinal Anaesthesia

- Lower dose = less hypotension (10 mg effective for up to 120 min procedure time).
- Avoid long acting spinal opioids.

General Anaesthesia

- Consider depth of anaesthesia monitoring and Age-adjusted MAC.

- Avoid or minimise sedation – avoid Benzodiazepines/Ketamine.
- Administer Tranexamic acid – 15mg.kg⁻¹.
- Target MAP > 70 mmHg and consider vasopressor infusion.
- Have a low threshold for invasive blood pressure monitoring.
- Give IV fluids.
- Beware of bone cement implantation syndrome and consider uncemented implant in high risk patients.

Post-operative management

Key point

High risk for development of post-operative delirium, use 4AT to screen for the presence of delirium.

- Point of care haemoglobin check for **all** patients in recovery – draw FBC if < 100 g.l⁻¹ and transfuse early if Hb < 90 g.l⁻¹ or 100 g.l⁻¹ in high risk cases (e.g. ischaemic heart disease).
- Wean vasopressor infusion as tolerated.
- Give multimodal post-op analgesia and appropriate anti-emetics & laxatives. Avoid NSAIDs
- Prescribe IV fluids and make sure early oral nutritional support pathway is in place.
- Appropriate thromboprophylaxis – as per local policy.
- Involve critical care team early for high risk patients.
- Consider surgeon or anaesthetist phoning next of kin early with update

Table 1: Delaying surgery for hip fracture: acceptable and unacceptable reasons

(Adapted from Association of Anaesthetists Guideline, 2011)

Acceptable	Unacceptable
Hb concentration < 80 g.l ⁻¹ - transfuse & operate ASAP	Lack of facilities or theatre space
Plasma sodium concentration < 120 or > 150 mmol.l ⁻¹ and potassium concentration < 2.8 or > 6.0 mmol.l ⁻¹	Minor electrolyte abnormalities
Uncontrolled diabetes	Unavailable surgical expertise
Uncontrolled or acute onset left ventricular failure	Awaiting echocardiography
Correctable cardiac arrhythmia with a ventricular rate > 120.min ⁻¹	Awaiting COVID swab result
Chest infection with sepsis	
Reversible coagulopathy – correct and do ASAP	

Table 2: Nottingham Hip Fracture (Frailty) Score

Variable	Score	Total Score	Predicted 30-day mortality risk ¹
Age 66 – 85	3	0	0.4%
Age > 85	4	1	0.6%
Sex: Male	1	2	1%
AMTS < 7 ²	1	3	1.7%
Admission Hb < 100 g.l ⁻¹	1	4	2.8%
Resident in institution	1	5	4.6%
Co-morbidities > 2	1	6	7.4%
Malignancy (e.g. SCC/BCC)	1	7	11.8%
Total (maximum 10)		8	18.2%
		9	27%
		10	38%

1. This is a prediction of mortality risk, does not take acute illness into account.

2. AMTS – Abbreviated Mental Test (AMT 4 <3 can also be used).

References

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