Anaesthetic / Analgesia Recipe for Fractured Neck of Femur in the Elderly

In principle:
- Early surgery lowers morbidity and mortality rates
- Surgery is the best analgesia
- Preoperative assessment by the anaesthetist is mandatory
- Discussions about DNACPR and appropriate escalation in the event of deterioration should precede surgery

**Preop**

No patient should be cancelled without consulting the consultant anaesthetist on call

Paracetamol 1g po/iv qds
Femoral/fascia iliaca nerve block in A+E
Oramorph for breakthrough pain
Intravenous fluids through a pump - Hartmann's started in A+E

Aim for theatre ASAP, ideally within 24hrs. (See guidelines for preop optimisation)

**Intraop**

GA or Spinal

For all patients:
1. Avoid hypotension and maintain MAP>65mmHg
2. Consider an arterial line in all patients and insert for high risk patients where a cemented prosthesis is used
3. Avoid long acting sedatives and polypharmacy
4. Tranexamic Acid 1g iv intraop

<table>
<thead>
<tr>
<th>Spinal Recipe</th>
<th>GA Recipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fascia Iliaca block pre spinal</td>
<td>LMA or ETT as appropriate</td>
</tr>
<tr>
<td>2-3mls 1% propofol to position patient</td>
<td>Fascia Iliaca block post induction</td>
</tr>
<tr>
<td>Spinal dose 1.5-2mls 0.5% heavy Marcaine +/- 20-25mcg fentanyl.</td>
<td>Use age related MAC on Mindray monitor (change age of patient on monitor)</td>
</tr>
<tr>
<td>If intraoperative sedation required use lowest possible TCI propofol. Avoid polypharmacy and long acting drugs such as midazolam and ketamine</td>
<td>Minimise opioids</td>
</tr>
</tbody>
</table>

**Fascia Iliaca Block**

1. Ultrasound guided whenever possible
2. Local Anaesthetic:
   a. Prespinal block – 20mls 0.375% L-Bupivacaine plus 20mls 0.5% lignocaine
   b. All other – 20-30mls 0.375-0.5% L-Bupivacaine depending on patient weight

**Postop**

Complete #NOF care bundle sticker

Measure Hb using haemacue in recovery and aim for Hb > 90 prior to return to ward. Remember Hb continues to fall post op. Document threshold for transfusion.

All patients to have written fluid management plan prior to return to ward, with “rescue” fluids prescribed. Early oral fluid intake should be encouraged. Stop maintenance fluids once eating and drinking normally.

Ensure adequate analgesia prescribed: Paracetamol 1g po/iv qds, codeine 30mg po qds, Oramorph 5-20mg po 2 hourly PRN for breakthrough pain
No tramadol or NSAIDS

Laxatives
Antiemetics - Ondansetron 4mgs +/- dexamethasone. Avoid cyclizine.

Urinary catheters should be removed as soon as possible
Nottingham Hip fracture score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 66 - 85</td>
<td>3</td>
</tr>
<tr>
<td>86 or older</td>
<td>4</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>Hb ≤ 100 on admission</td>
<td>1</td>
</tr>
<tr>
<td>Mental test ≤ 6/10 on admission</td>
<td>1</td>
</tr>
<tr>
<td>Living in an institution</td>
<td>1</td>
</tr>
<tr>
<td>More than one comorbidity</td>
<td>1</td>
</tr>
<tr>
<td>Active malignancy in last 20 yrs</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th>Predicted 30 day mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>3</td>
<td>4%</td>
</tr>
<tr>
<td>4</td>
<td>6%</td>
</tr>
<tr>
<td>5</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>15%</td>
</tr>
<tr>
<td>7</td>
<td>23%</td>
</tr>
<tr>
<td>8</td>
<td>22%</td>
</tr>
<tr>
<td>9</td>
<td>45%</td>
</tr>
<tr>
<td>10</td>
<td>57%</td>
</tr>
</tbody>
</table>

Reasons for delaying surgery that the AAGBI Working Party consider acceptable and unacceptable. (Management of Proximal Femoral Fractures, 2011)

Acceptable

- Haemoglobin concentration < 80
- Sodium < 120 or > 150 mmol/l
- Potassium < 2.8 or > 6.0 mmol/l
- Uncontrolled diabetes.
- Uncontrolled or acute LVF
- Chest infection with sepsis*
- Reversible coagulopathy.
- Correctable cardiac arrhythmia with a rate > 120/min

*signs of systemic sepsis/organ dysfunction due to sepsis

Unacceptable

- Lack of facilities or theatre space.
- Awaiting echocardiography.
- Unavailable surgical expertise
- Minor electrolyte abnormalities

Preoperative Optimisation

- **Echocardiography**
  Echo reports are available on computer via PACS. Out of hours, if old notes are necessary contact the hospital duty manager through switchboard.
  In the absence of an ECHO (to establish left ventricular function if the patient is breathless at rest or on low level exertion; or to investigate the severity of an ejection systolic murmur heard in the aortic area with signs/history/ECG suggestive of significant aortic stenosis) AAGBI guidelines favour proceeding to surgery with modification towards general anaesthesia and invasive blood pressure monitoring.

- **FBC**
  Pre-operative transfusion should be considered if Hb is < 90, or Hb is < 100 with a history of ischaemic heart disease.

- **AF**
  Patients should have a rate < 100/min. Treat low potassium, magnesium, hypovolaemia, sepsis, pain and hypoxaemia.

- **Clopidogrel**
  If possible delay surgery for 18 hours after last dose of clopidogrel whilst the active metabolite is circulating as transfused platelets will also be inactivated during this time. Platelets should not be administered prophylactically, but marginally greater blood loss should be expected

- **Chest infections**
  Should be medically treated appropriately. Surgery should be expedited under regional anaesthesia.

- **Diabetes**
  Hyperglycaemia is not a reason to delay surgery unless the patient is ketotic and/or dehydrated

- **Level of Postoperative Care**
  Discussions about DNACPR and appropriate escalation in the event of deterioration should precede surgery and involve the patient and their family. An Unwell/Potentially Deteriorating Patient Plan (Purple Form) should be completed and filed in the notes. This process should be initiated as soon as possible after admission and be lead by the surgical and orthogeriatric team with input from the anaesthetist where appropriate.
End of hip fracture surgery care bundle

BEFORE THE PATIENT RETURNS TO THE WARD

- The patient’s core temperature is at or above 36.5°C
- The patient’s postoperative haemoglobin level (Hemocue) has been checked AND reviewed
- Age and renal function-adjusted doses of postoperative analgesia have been prescribed.
- A postoperative fluid plan has been prescribed WITH plan for hypotension on ward
- A fascia iliaca block or equivalent (excluding spinal) has been performed
- The patient has maintained a SBP within specified parameters for 3 consecutive readings