Reducing variation in NOF Anaesthesia

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Improving Performance

- “Within organisations, we know that a defining characteristic of high performing teams is their willingness to measure their performance and use the information to make continuous improvements” (Darzi).
ERAS history: Variation=Bad

- NHS looks for variation in outcomes across the service
- Identifies practices that improve outcomes
- Narrow performance gaps in outliers
UK National Hip Fracture Database

- Using standards, audit and feedback to improve care and secondary prevention of hip fracture
- Shown improvement in key outcomes

- ANZHFR
What we know...

- Delayed surgery is bad
- Small number of medical conditions warrant delay for Ix and Rx (5%)
- Conduct of anaesthesia is an important determinant of outcomes
- Evidence is generally of poor quality and difficult to interpret
What we know…

- Complications are common
  - Delirium
  - Hypotension
  - Pain
- Morbidity and mortality remains high
- Massive variation in practice (even here..)
- Regional anaesthesia better (probably)
- GA small increase in early complications
- Hypotension is bad
- Spinal combined with GA is bad
What do we aim for?

- Early diagnosis and referral
- Drive to same day surgery
- Aggressive management of medical “Red Flags” to prevent unnecessary delays in surgery
- Daily NOF operating list
  - consultants in Anaesthesia and Orthopaedics
- Core group of specialists delivering the bulk of the service
- Underpinned by regular audit of outcomes benchmarked with other services in WA and nationally through the ANZHFR
- RESEARCH
What we’ve done

• Developed a strong MDT group model
• Prioritise NOF pts and improved access
• Early notification to MDT on presentation
• Supportive rostering
• Presence at trauma meeting
• Discourage unnecessary delays to surgery
• Develop in-house bedside echo skills
More things we’ve done

• Constantly reviewed patient pathway
• Implement ”ERAS” principles
• Withold antihypertensives
• Minimise fasting times
• Develop strategies for anticoagulated Pt
• Fastidious PBM- Iron infusions
Management of anticoagulated Pts

• Large dataset of NOAC assays
• 1st published work in this population
• Guideline for management and timing of surgery
Cognition assessment

• Demonstrated equivalence of 4AT to AMT 10
• Enforced cognitive scoring pre-op
• Creates platform for further work around cognitive impairment peri-operatively

Kris Owen 2017
Iron Studies

- Demonstrated whole population functionally iron deficient
- 1 in 3 Absolute Fe deficiency
- Established safety of intra-op Fe infusions
Perioperative Postural Hypotension

• Developed pathway elements to reduce incidence
• Instigated a pharmacological rescue pathway for persistent significant PH
This consensus statement advises basic standards of anaesthetic care that hip fracture patients should expect to receive in any country, regardless of resources.

1. Anaesthesia is integral to the multidisciplinary care of hip fracture patients.

2. Anaesthesia (and surgery) for hip fracture should be undertaken by an appropriately experienced anaesthetist (and surgeon).

3. Anaesthetists should participate in developing formal institutional hip fracture care pathways, particularly with regard to preparation for theatre and pain management.

4. Anaesthetists should facilitate surgery within 48 h of hip fracture.

5. Anaesthesia should be administered according to agreed standards at each hospital, using age-appropriate doses, with the aims of facilitating early patient remobilisation, re-enablement and rehabilitation.

6. Anaesthetists should routinely participate in standardised perioperative data collection about hip fracture patients, focusing on commonly agreed outcomes in the first five postoperative days.

7. All junior anaesthetists should receive specific training on how to administer anaesthesia to hip fracture patients.


@Anaes_Journal
Challenges

- “Regionals take longer”
- “Painful to position for a spinal”
- Tendancy to oversedate
- Intraoperative agitation and delirium
- Operative time/orthopaedic seniority
- Anaesthetic staff shortages

- Failure to prioritise NOFs to theatre 1
- NOF as golden case- Why not?
Ideal Spinal

- Bring to anaesthetic room early
- Rapid acting Fem Nerve block (20ml 0.5% lignocaine/0.375%ropiv)
- Position as soon as case on table is closed
- Low dose 0.5% Heavy Bupiv Spinal
  - 1.5-1.8 ml depending upon surgery
  - (+/- Opiate <25ug fent/<100ug morph)
- Minimal sedation as required Propofol (aim <40mg total for case)

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What we need to do next...

- More spinals?
- **Standardise techniques**
- Pre/intra/post operatively
- Minimise hypotension
- Minimise use of long acting drugs

- What is a spinal?
- What is a GA?

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Ideal Spinal
Ideal GA

- Carefully titrated/Gaseous Co-induction
- BIS monitoring targetted 40-60
- Adjunctive Fem Nerve Block
- Attention to hypotension
- Avoid NSAIDs/Benzos/Tramadol/Ket.

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FSH NOF Checklist
(Refer to full NOF Guideline in Th1/Th8)

Dr: ________________ Sign: ________________ Date: ________

Goals of Care documented □
Preoperative Drugs given, Tranexamic Acid 1g □
Antibiotics □
Urinary Catheter sited/in-situ □
Femoral Nerve Block, 12hrs pre-op/theatre □
Iron Infusion (see protocol) □

If Spinal used,
Low dose □
Minimal sedation □

If GA used,
BIS guided □
Paracetamol □
Oxycodone PRN □

Hb check in PACU
Haemacue/ABG/FBC □
Take home

- Service is performing well
- Complications remain common
- Anaesthesia has an impact
- Changes implemented through guidelines/pathway

- **Standardization** is the future
- Stickers
2 Useful Links...


- [www.hipfractureanaesthesia.com](http://www.hipfractureanaesthesia.com)