



Government of Western Australia
North Metropolitan Health Service
Sir Charles Gairdner Osborne Park Health Care Group



EFFECT OF STANDARDISED OPIOID SPARING ANAESTHETIC AND ANALGESIA ON TOTAL KNEE REPLACEMENT PATIENTS

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Declaration

- Have NOT been sponsored to go to a cadaveric lab
- Presentation STILL worth listening to.

Osborne Park Hospital

- One of the largest secondary hospital surgical services in Western Australia
- Our inpatient ward services a mixture of surgical specialties with 20 funded beds, of which 70% are allocated to orthopaedics



Enhanced Recovery Programs

- Increasing pressure for orthopaedic programs to deliver affordable and effective services
 - Pressure to maintain high patient satisfaction, patient care, outcomes whilst reducing admission stay
- Main focus has been on surgical technique, analgesia management and early mobilisation has previously seen reduction to 2-4 days

Osborne Park Hospital Program

- 2015
 - 112 TKRs with a mean LOS of **4.45** days
 - 8 regional infusions
 - 5 FNBs – LOS **4.16** days
 - 1 Adductor canal + Sciatic N. - LOS **3.00** days
 - 2 Adductor Canal LOS **3.8** days
 - 104 no regional block or continuous infusions
 - Analgesia regime
 - » PCA - Fentanyl 48hrs post op
 - LOS **4.50** days

2016 Pilot

- March 2016
 - Launch of a 3 month trial at OPH
 - Project team included;
 - Orthopod, Anaesthetist, Nursing, Physio, Pharmacy, OT, RITH/HITH
 - Aim
 - To reduce TKR LOS,
 - Identify current barriers for LOS
 - ? Reduced PONV
 - ? Reduce post op opioid use
 - maintain patient satisfaction

2016 Pilot

Method

- Developed a standardised anaesthetic/analgesic protocol for all anaesthetists performing TKR at OPH for the 3/12 trial
 - Included Spinal anaesthetic as standard
 - **Adductor canal regional infusion**
- Comparison of LOS, PONV rates and patient satisfaction surveys were collected
 - No increase in clinical or administrative staffing over this time

Adductor canal blocks

- The adductor canal block is a temporary block of the femoral nerve.
- As it occurs further down the femoral nerve, much of the motor innervation of the quadriceps has already occurred.
- Thereby preserving the strength of the quadriceps, making rehabilitation and ambulation safer



Regional infiltration vs single shot

- During the trial we used roprivicaine infused @ 6ml/hr 200ml for 48hrs post op.
- Patients could be d/c with the block insitu and HITH removed / disposed of @ home



Results

- 42 patients underwent a TKR over this period
- 33 patients met the pilot requirements
 - Some anaesthetists did not undergo the catheter insertion training prior to the trial commencing
 - 1 patient had an adverse reaction post op and t/f to SCGH (cardiac) n=32
 - 2 patients readmitted within 28/7 for minor wound related complications

Results

- LOS
 - **3.41** days for the pilot group (4.45 prior)
 - Total of 35.2 bed days
 - Estimated saving of \$34,272 during the period
- Patient Satisfaction
 - 100% patients agreed their pain was well controlled
 - 42% indicated they experienced PONV
 - Reduced to 4.8% from day 2 post
 - 88% agreed they felt ready for d/c at time of d/c

Challenges

- Preoperative anaesthetic assessment
 - Different anaesthetist in clinic to actual
- Anaesthetic training technique
 - Opt in method rather than opt out
- Consistency of management post op analgesia
 - Rotation of RMOs / Registrar
 - No APS/or anaesthetic led pain round
- Initially we had a large disconnection / fail rate
 - 6 in in 1st 2 weeks, nil others post use of dermabond

Currently

- December 2016-September 2017
 - 115 TKR's performed
 - 96 had an Adductor canal block
 - LOS 3.32
 - 19 did not
 - LOS 3.41
 - Both groups now show a reduced LOS compared to our 2015 LOS of 4.45
 - Anaesthetists are moving toward single shot rather than infiltration

Conclusion

- At OPH we have been able to show that a standardised opioid sparing anaesthetic and analgesia can reduce ALOS in TKR patients.
- With associated benefits of reducing the financial costs of the surgery whilst maintaining high levels of patient satisfaction.
- Significant decrease in PONV

Questions