

The Impact Made by Anaesthetic Type upon Time to Postoperative Standing, Opioid Consumption and Pain Scores Following Primary Total Knee Arthroplasty

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INTRODUCTION

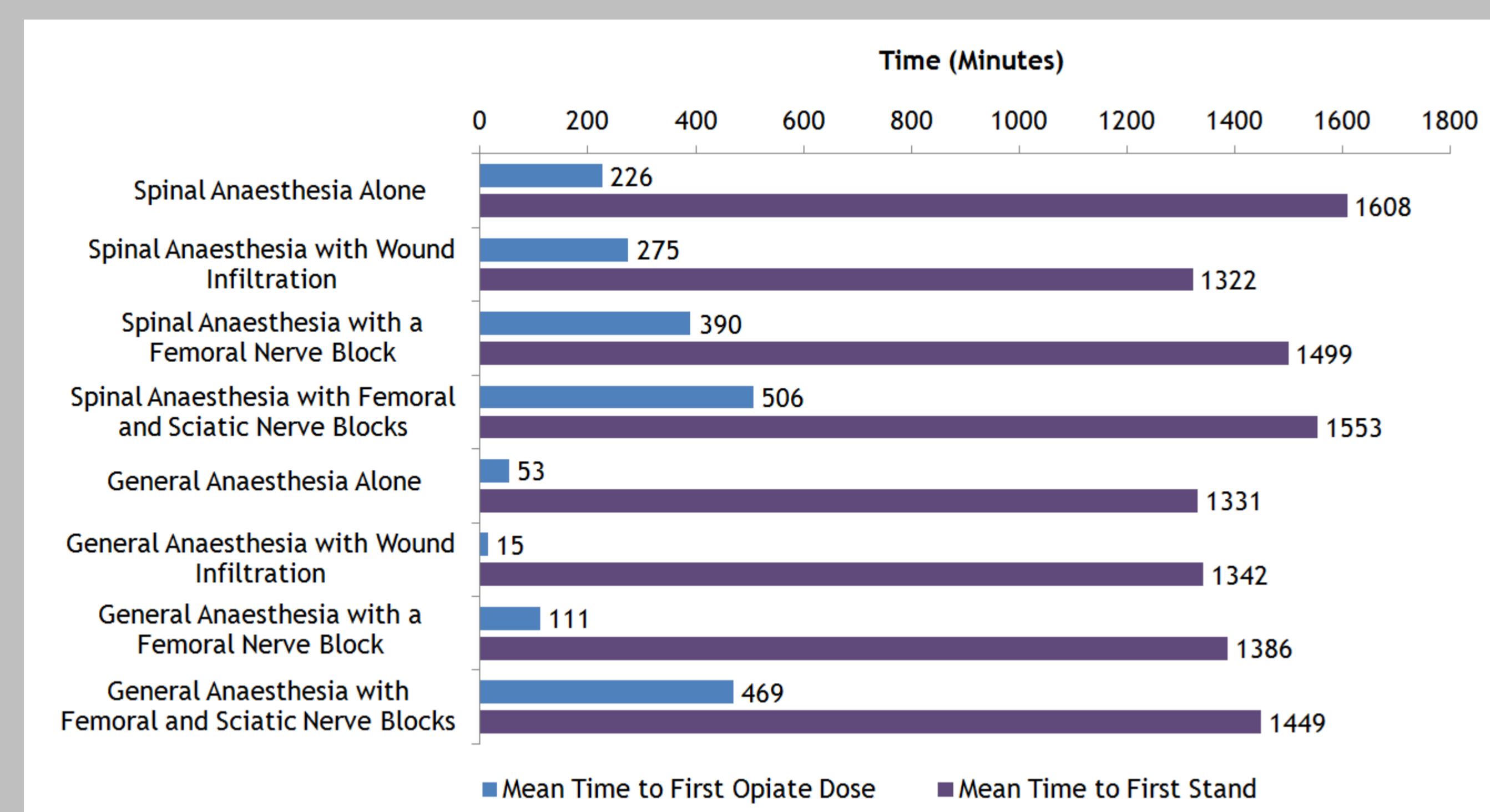
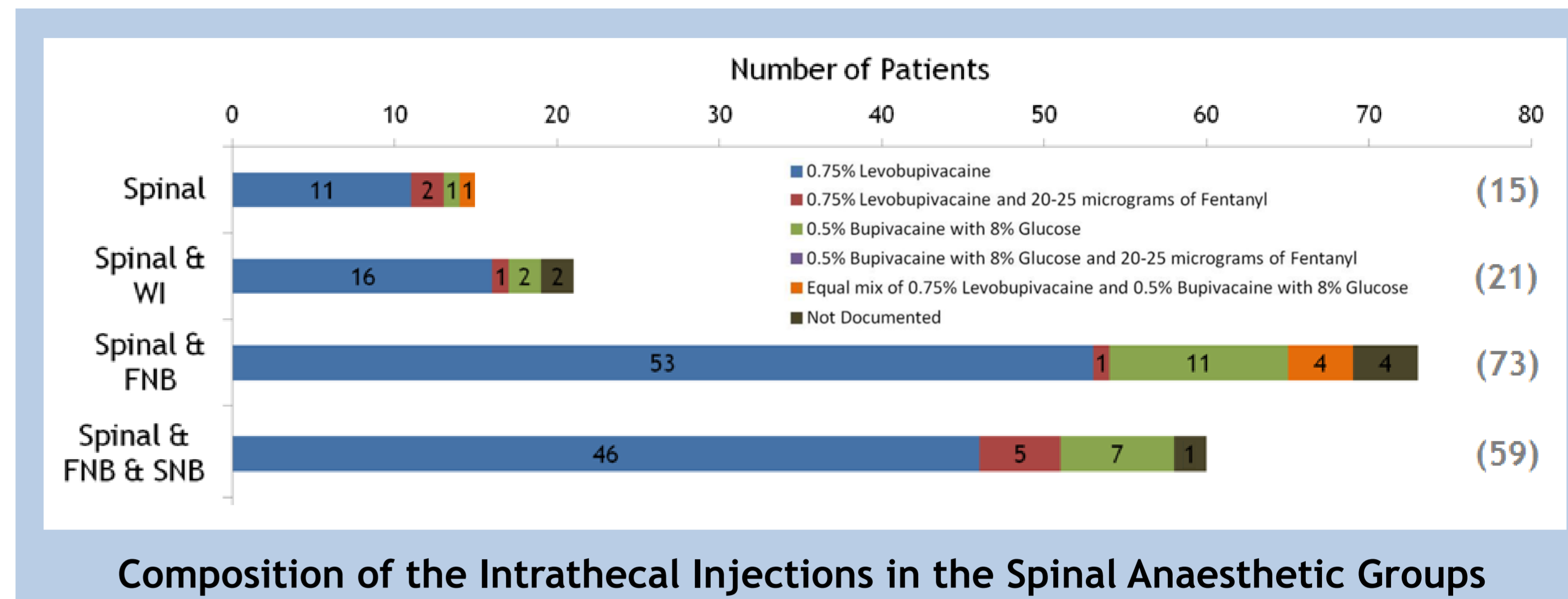
- Total knee arthroplasty is a painful operative procedure
- The perioperative anaesthetic management needs to balance effective pain control with the goals of enhanced recovery programmes [1, 2].
- Peripheral nerve blocks confer excellent postoperative analgesia [3], but the associated motor blockade may be an obstacle to mobilisation.
- A high volume of low concentration local anaesthetic agent, infiltrated by the surgeon, is considered by some to be a motor-sparing alternative to peripheral nerve blocks [4, 5].
- We wanted to look at the effects of different types of anaesthetic combinations on the patients at our institution.

METHODS

- The case notes for all primary total knee arthroplasties performed at our institution between October and December 2013 were reviewed manually
- The details below were sought.

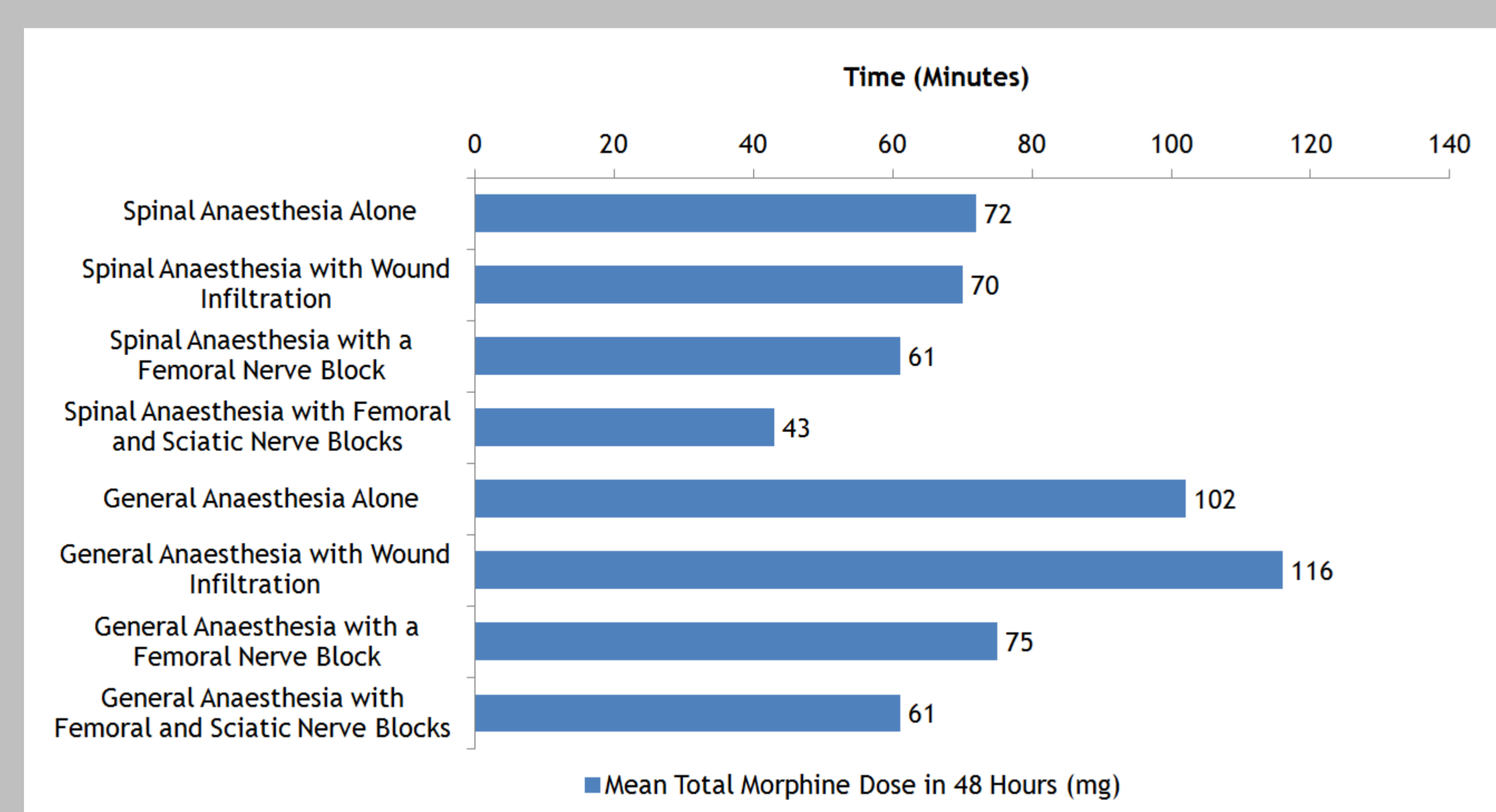
RESULTS

- A total of 223 suitable cases were identified.
- 168 were performed under spinal anaesthesia.
- 55 were performed under general anaesthesia.
- Post operative analgesia strategies included femoral nerve block (FNB), sciatic nerve block (SNB) and Wound Infiltration (WI).



DISCUSSION

- Patients receiving general anaesthesia tended to need their first opiate dose earlier than those receiving spinal anaesthesia
- Wound infiltration didn't appear to significantly extend this time to first opiate dose when compared to peripheral nerve blockade
- Those receiving femoral and sciatic nerve block in combination with either spinal or general anaesthesia had the longest delay to first post operative opiate dose.
- The main reasons documented for a delay in standing were:
 - Pain (18 patients)
 - Residual Nerve Block (14 patients)
 - Fatigue (8 patients)
 - Nausea (7 patients)
 - Light-headedness (6 patients)
 - Other medical symptoms (16 patients).



DISCUSSION

- Patients receiving both femoral and sciatic nerve blocks consumed the least morphine in the post-operative period.
- The addition of wound infiltration didn't appear to affect total opiate consumption when combined with spinal anaesthesia
- The addition of wound infiltration slightly increased opiate consumption when combined with general anaesthesia

Anaesthetic Type	Median Pain Score on the Morning After Surgery	Median Length of Hospital Stay (Days)
Spinal Anaesthesia Alone	6	3
Spinal Anaesthesia with Wound Infiltration	4	4
Spinal Anaesthesia with a Femoral Nerve Block	5	3
Spinal Anaesthesia with Femoral and Sciatic Nerve Blocks	5	3
General Anaesthesia Alone	3	2
General Anaesthesia with Wound Infiltration	5	3
General Anaesthesia with a Femoral Nerve Block	3	3
General Anaesthesia with Femoral and Sciatic Nerve Blocks	2	3

CONCLUSIONS

In our cohort, combining spinal or general anaesthesia with wound infiltration did not appear to affect the total opioid consumption in the first 48 hours or delay the first opioid dose. Nerve blocks appeared to be opioid sparing when combined with both spinal and general anaesthesia administered alone or in combination with wound infiltration. The addition of nerve blocks to spinal anaesthetics did not delay mobilisation. Adding nerve blocks to general anaesthetics may delay mobilisation by up to 100 minutes. Patients having a general anaesthetic appeared to have overall lower median pain scores on the morning after surgery than those receiving spinal anaesthesia.

References

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