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# Comparing the Effectiveness of Surgeon-administered Continuous Adductor Canal Block versus Anesthesiologist-administered Block in Total Knee Arthroplasty: A Randomized Controlled Trial

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# Disclosure

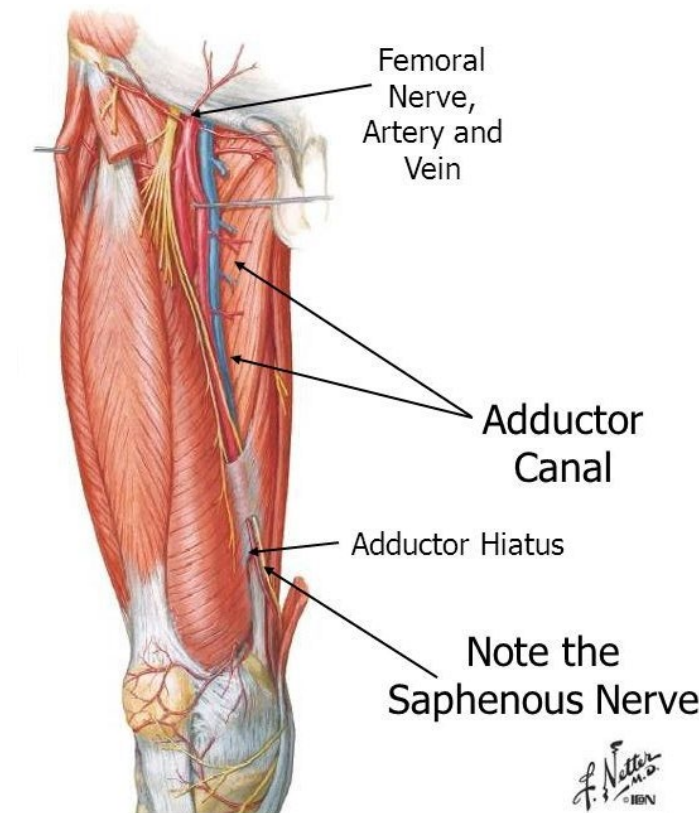
The presenter has  
no conflicts of interest to  
disclose.





# A surgeon-performed intraoperative continuous ACB

- **Alternative** to anesthesiologist-performed ultrasound-guided ACB
- Possible from within the joint during TKA procedure
- Safe
- Reduction in
  - ✓ Cost
  - ✓ Time
  - ✓ Skill requirement (Ultrasonography)



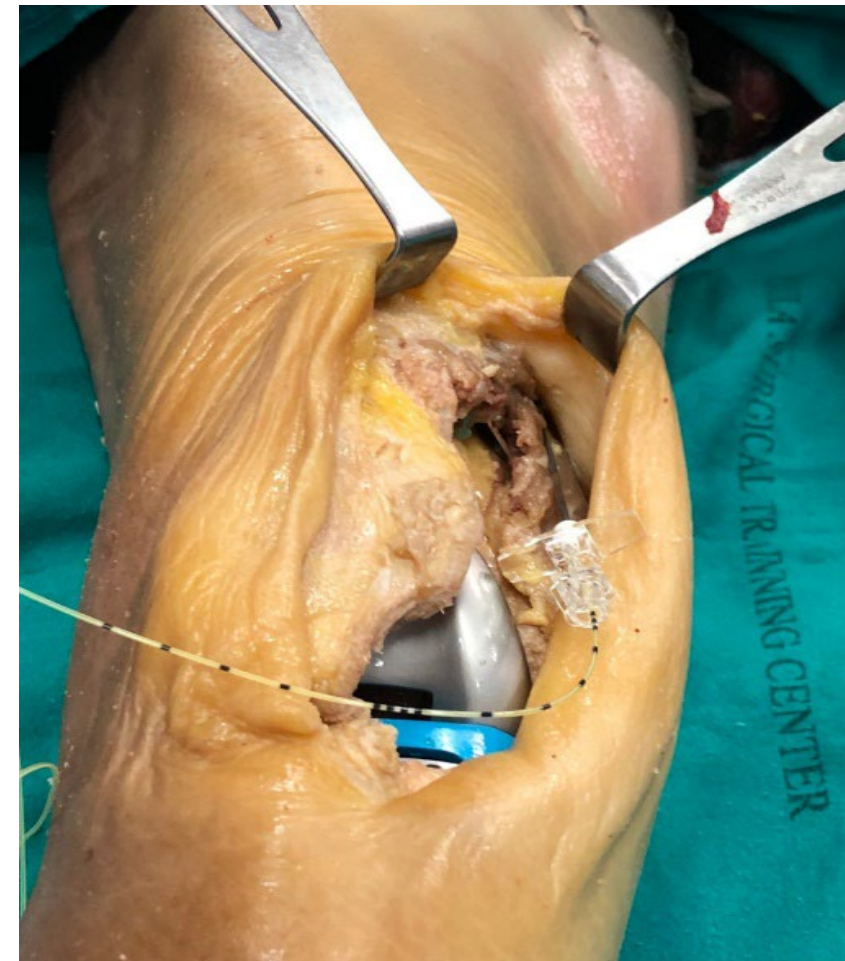
# Phase I: Cadaveric Study

## Right Knee



Sartorius

VMO



MIS-TKA: Midvastus approach

Tuohy needle leading the catheter into canal



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# Phase I: Cadaveric Study

## Right Knee



Insert the needle through anteromedial skin (extraarticular)



The catheter successfully passed outside the skin



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# Phase I: Cadaveric Study



Injected dye surrounding saphenous nerve in the adductor canal



Right Knee



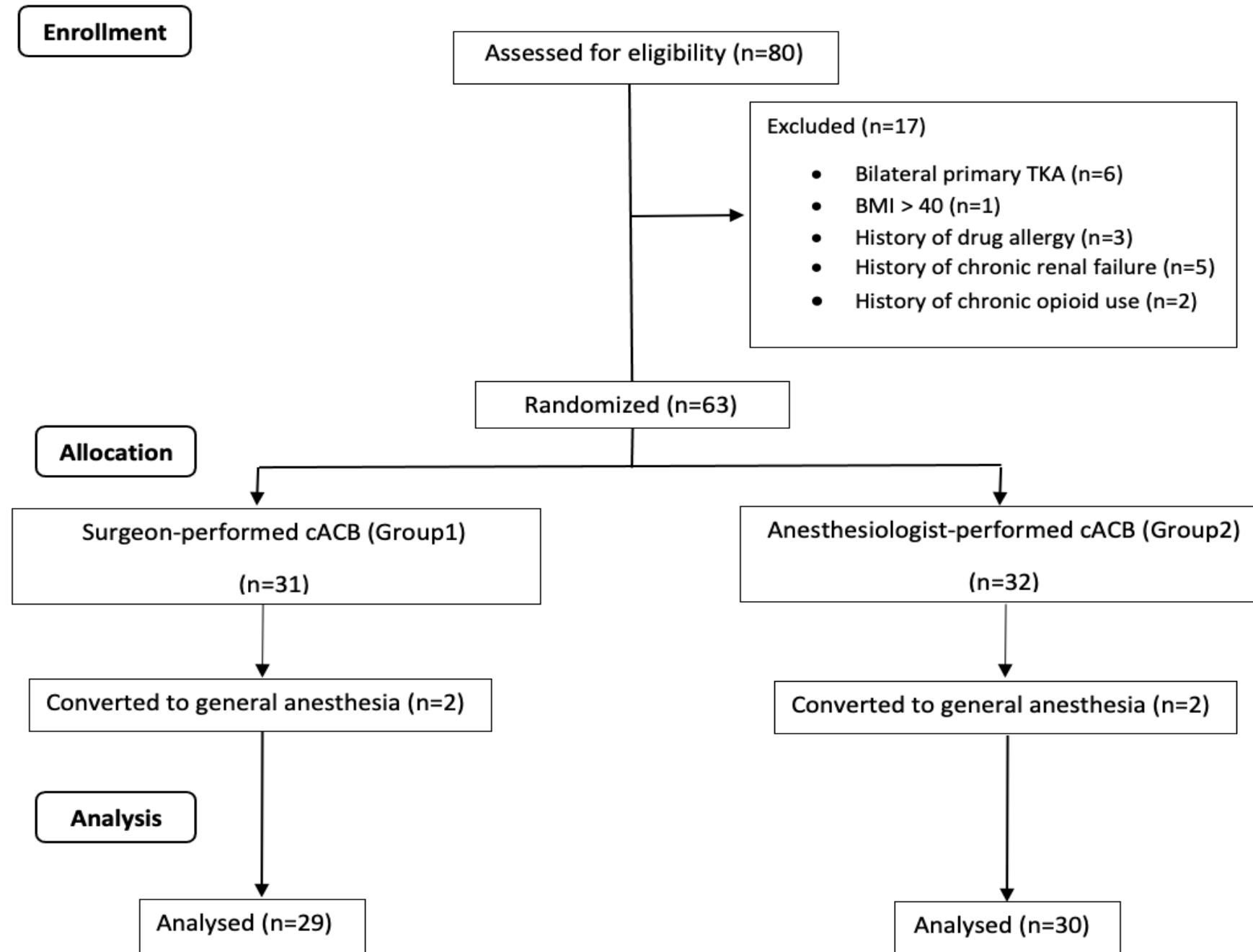
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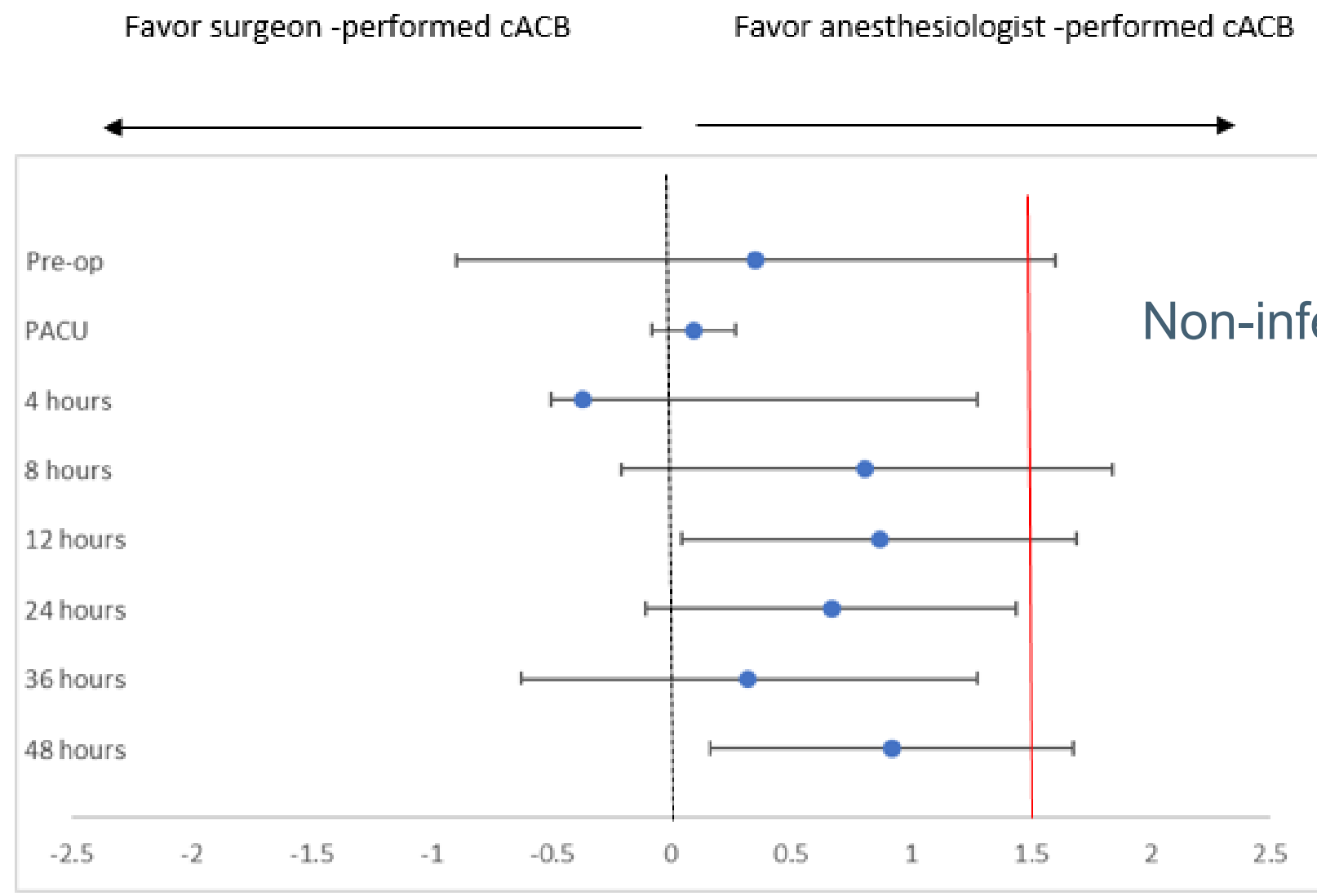
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# Phase II: Clinical study



# Primary Outcome



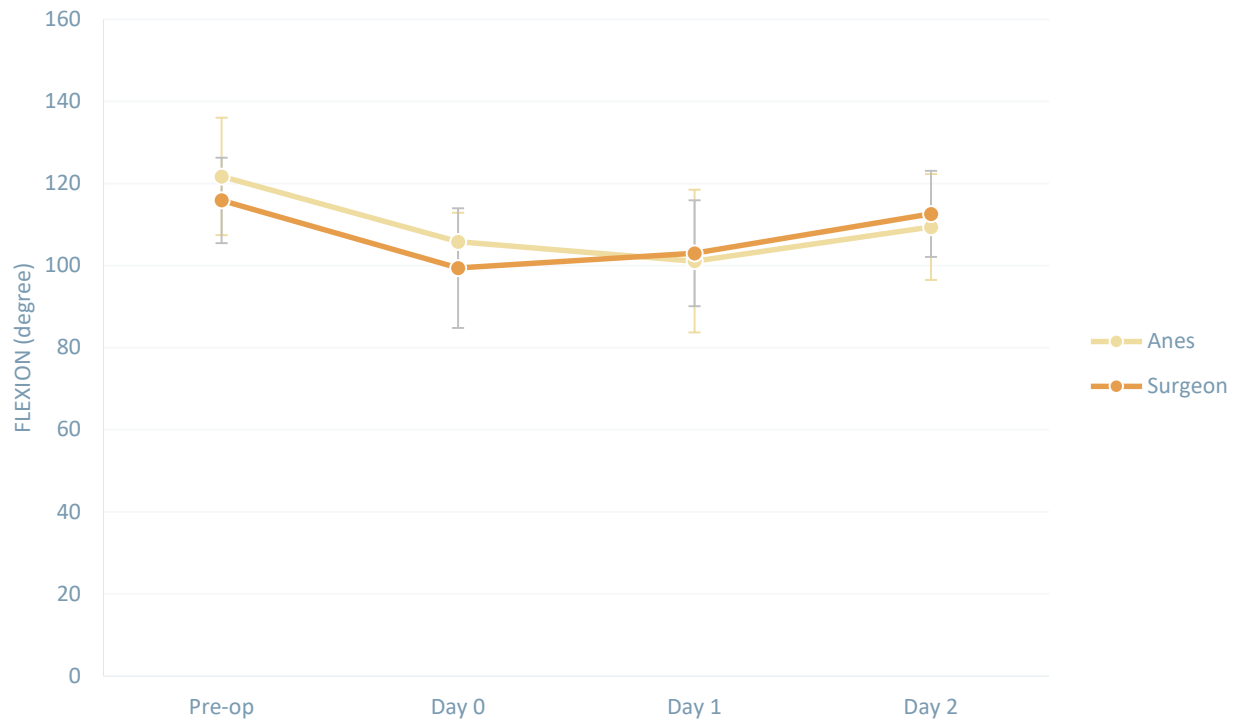
Non-inferiority margin = 1.5

Pain during movement at 24 hr., 36hr. → Surgeon's technique is **not inferior** to Anes' technique

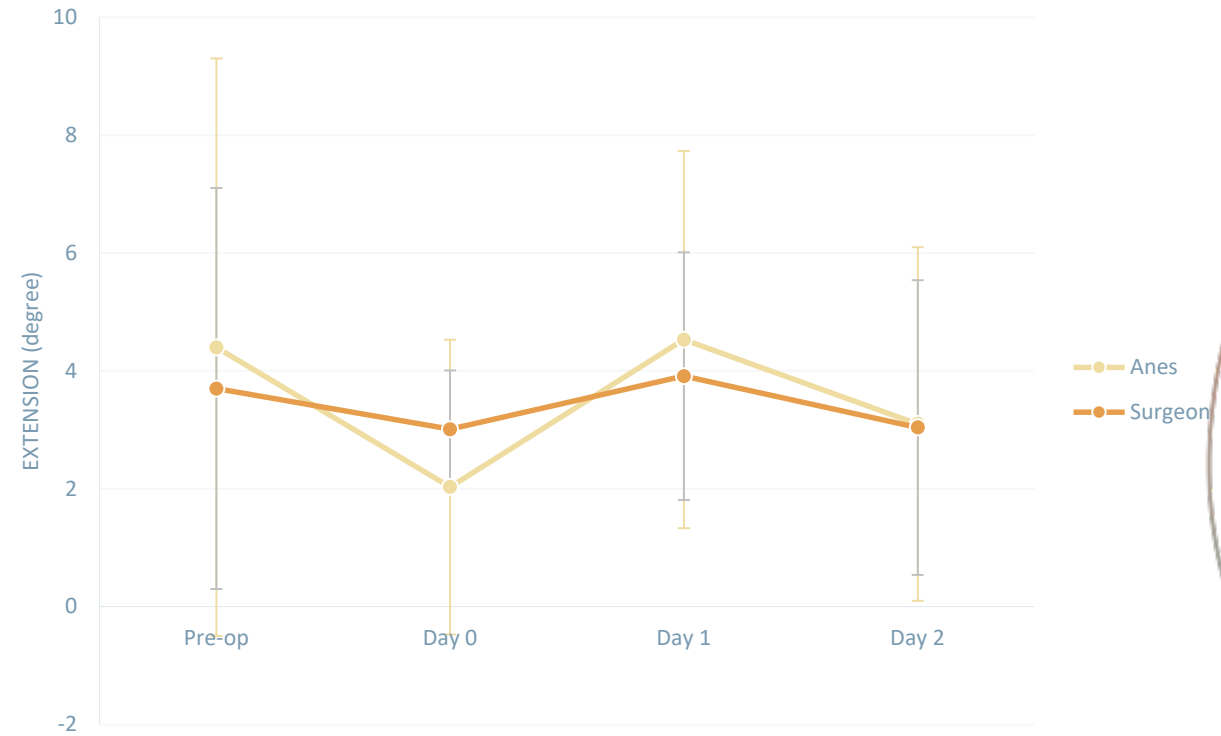


# Secondary Outcome : ROM

## FLEXION



## EXTENSION



no significant difference between the groups



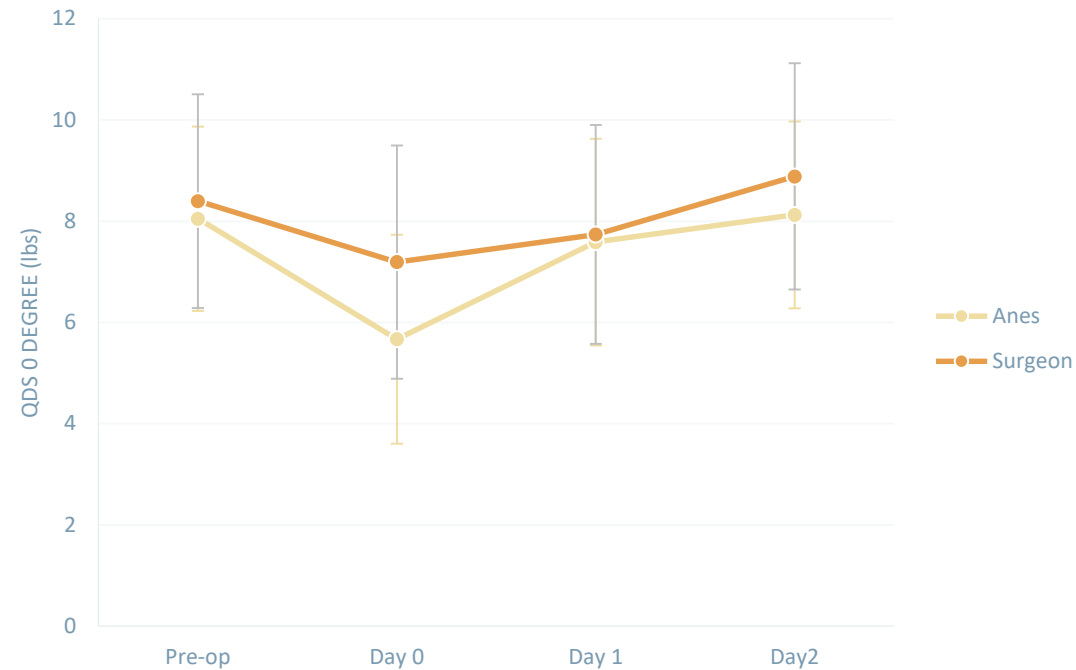


# Secondary Outcome : Quadriceps Strength

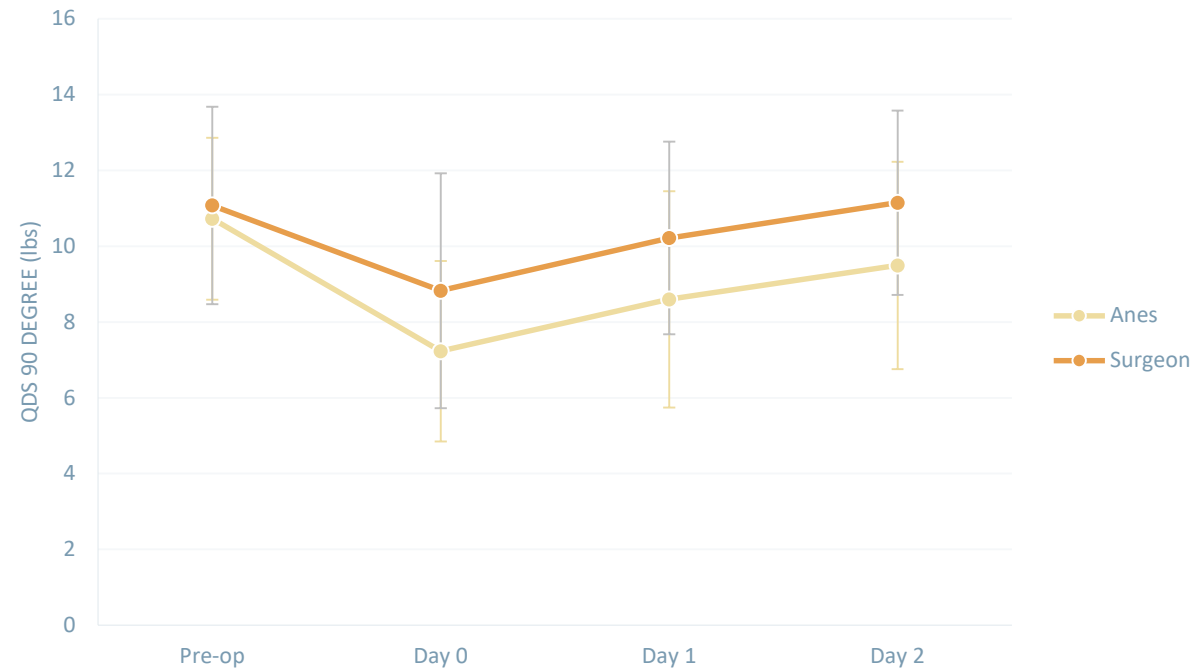


Using a digital dynamometer (MicroFET2, Hoggan Health Industries, USA)

## QDS 0 DEGREE



## QDS 90 DEGREES



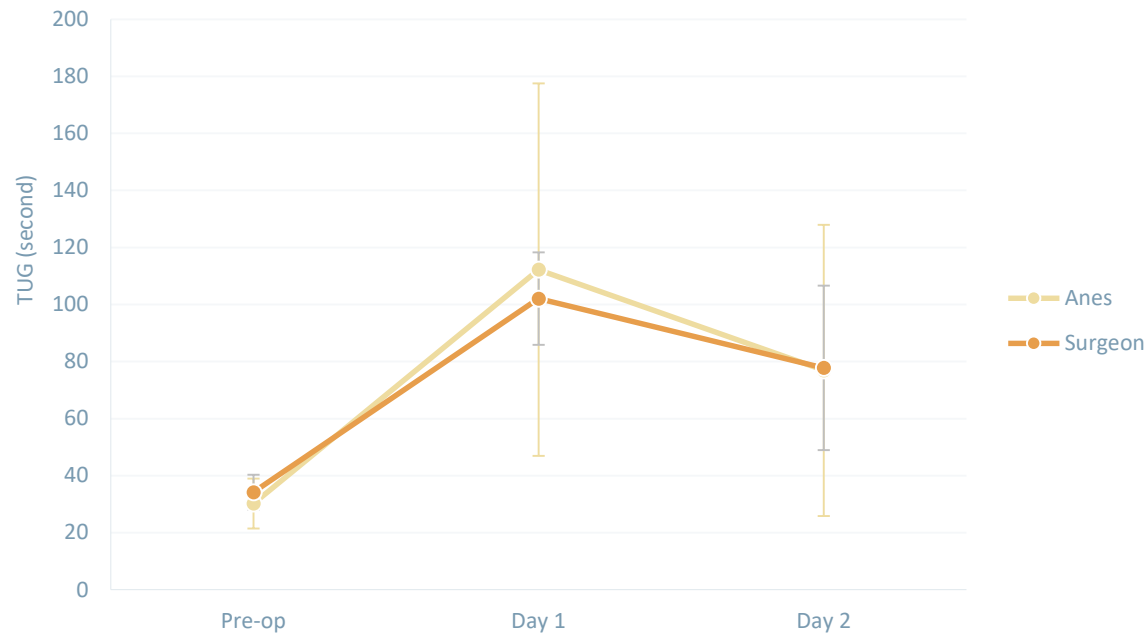
Significantly higher in **Surgeon-performed cACB** group

- At full extension at day 0
- At 90 degrees flexion at day 0-2



# Secondary Outcome : Timed up and go, MO consumption, LOS and Complications

**TUG**



	Anes cACB	Surgeon cACB
<b>MO consumption</b>	1.38±1.99	1.38±1.97

	Anes cACB	Surgeon cACB
<b>Nausea/Vomiting</b>	1	2
<b>Dizziness</b>	7	4
<b>Hospital stay(hour)</b>	60.38±14.88	61.5±9.36
<b>Satisfaction</b>	9.16±1.25	9.38±0.92

no significant difference between the groups



# Conclusion

- **A surgeon-performed ACB catheters is *non-inferior*** to an anesthesiologist's technique in terms of postoperative pain.
- There does not appear to be any clear advantage of using **surgeon-performed ACB** in tertiary care centers with skilled anesthesiologist.
- **A surgeon-performed ACB may be an attractive option** for surgeons in **community hospitals** who would like to improve pain management after TKA.



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