

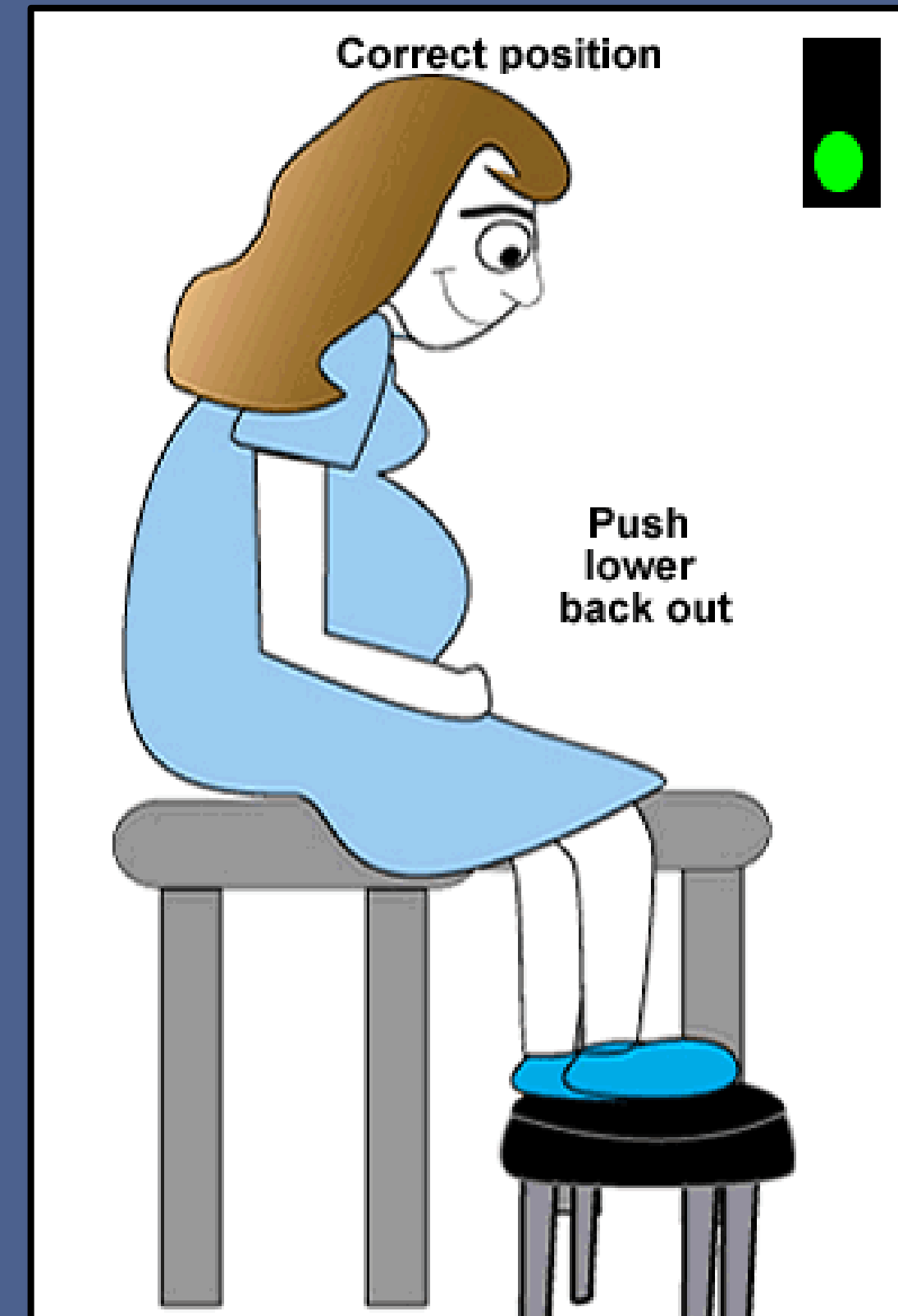
Comparison Between Traditional Seated Position vs Seated Position with Dorsal Table Tilt on Time to Successful Spinal Puncture in Elective Cesarean Deliveries: a Prospective Trial

Thomas R. Gruffi, M.D., Michael Balot, D.O., Bryan Mahoney, M.D., Ghislaine Echevarria, M.D.

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INTRODUCTION

- Patient positioning during the anesthetic procedure is critical in ensuring proper and easy neuraxial placement.
- Distance from the skin to epidural space was significantly greater when an epidural was performed in the lateral position as compared with sitting due to superior hip flexion in the sitting position.¹
- Comparison of interspinous space width from lumbar spine X-rays from volunteers in the seated position with and without hip flexion. Mean lumbar interspinous space width at L2-3, L3-4, and L4-5 increased significantly by 7%, 11% and 21%, respectively.²
- Using an ultrasound to measure the length of the ligamentum flavum and interlaminar space at L3-4 interspace, researchers found increased mean size of target are from 0° to a tilt of 8° and 15° dorsally.³
- A significant positive relationship between interspinous gap and ease of spinal anesthesia was concluded.⁴
- Collectively, these studies demonstrate the benefit of optimized patient positioning for spinal anesthetic technique and suggest a particular advantage in utilizing a dorsal table tilt.
- **Hypothesis: applying a table tilt of 5° during spinal anesthesia will lead to a shorter procedure time and reduced number of needle redirections.**



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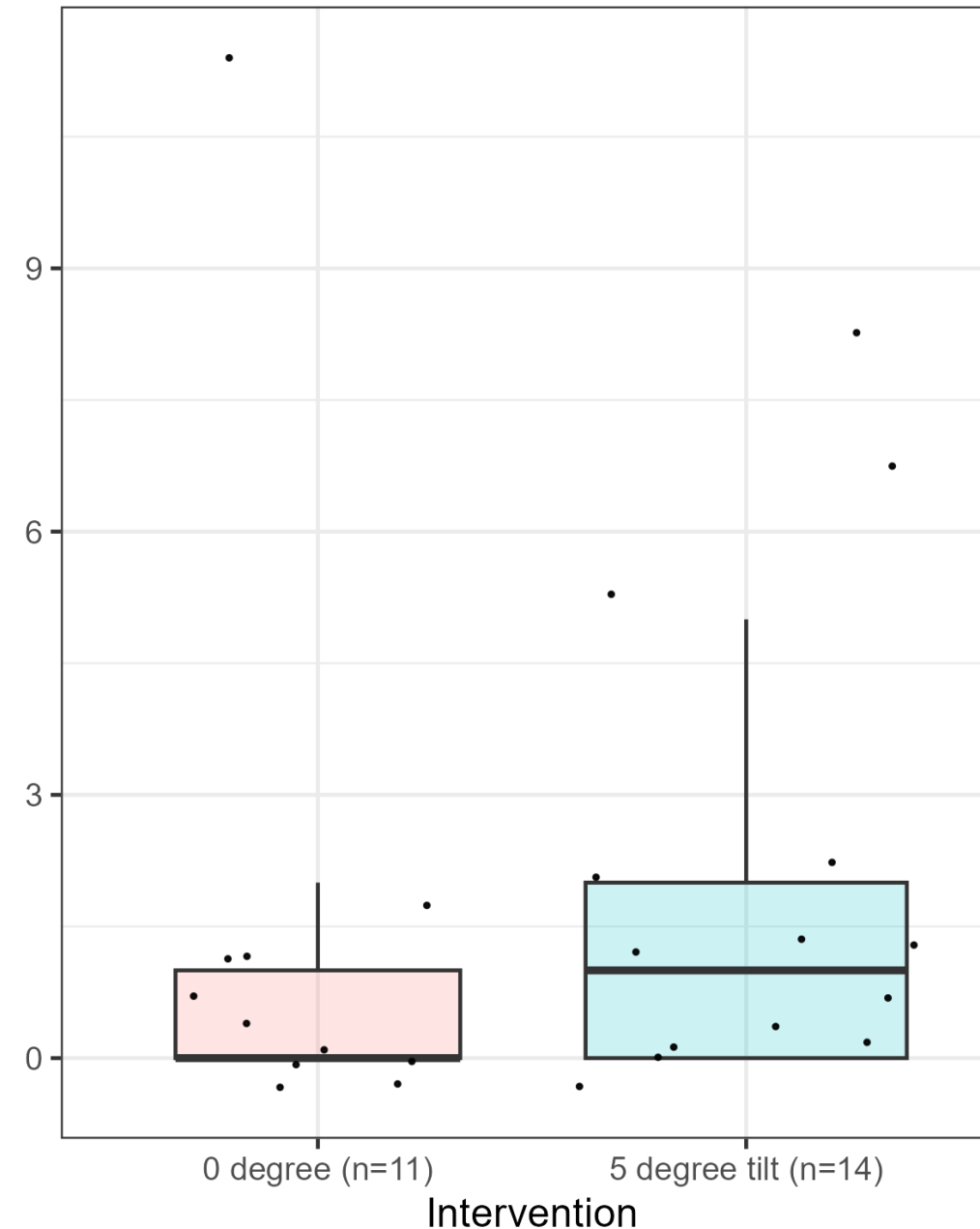
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METHODS

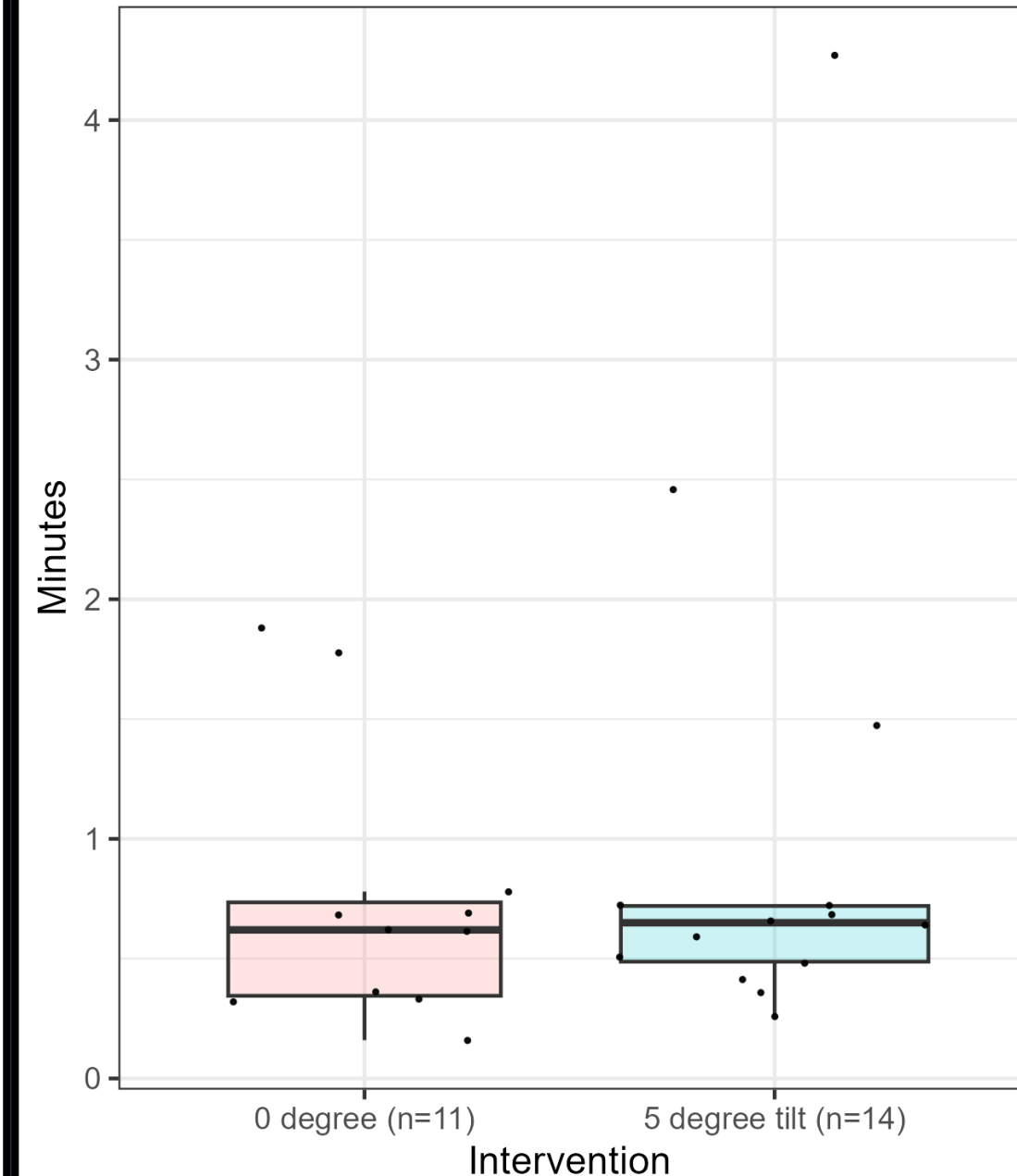
- Randomization into two study groups: Control group: no tilting of the table and Experimental group: 5° table tilt
- Eligible providers: residents with at least one month of training , fellow, and attending physicians.
- Inclusion criteria: parturients receiving a single-shot spinal for a scheduled cesarean delivery.
- Primary outcome measure: Time to placement of block
- Secondary outcome measures: number of redirections and number of vertebral levels attempted

RESULTS

Number of Needle Redirects



Outcome time (minutes)



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Discussion

- Hypothesis refuted: No significant difference in the primary or secondary outcomes
- Limitations: many outliers, small sample size
- Plan to continue to recruit participants

\$4,908.00
ships in 3-5
business days

References

1. Hamza J, Smida M, Benhamou D, Cohen SE. Parturient's posture during epidural puncture affects the distance from the skin to epidural space. Journal of Clinical Anesthesia 1995; 7: 1–4
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3. Jones, A. R., Carle, C. and Columb, M. (2013), Effect of table tilt on ligamentum flavum length measured using ultrasonography in pregnant women*. Anaesthesia, 68: 27-30.
4. Shankar H, Rajput K, Murugiah K. Correlation between spinous process dimensions and ease of spinal anaesthesia. Indian J Anaesth. 2012;56(3):250–254.

