

# The influence of needle diameter on puncture failures in relation to cesarean section and vaginal delivery; a prospective, randomized study.

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## Background:

- Comparison of G25 PP and G27 PP in obstetric anesthesia related to technical difficulties and level of experience
- The aims were:
  - to see if total puncture time, number of failed needle attempts and change of needle were different
  - to evaluate if there are group differences in Post Dural Puncture Headache (PDPH)

## Method:

- Parturients undergoing cesarean section or vaginal delivery using spinal anesthesia are randomized into two groups, G25 and G27
- The anaesthesiologists register their level of experience, patient BMI, procedure time, number of attempts and any change of needle
- A questionnaire regarding any symptoms of PDPH follows each patient
- Exclusion criteria: labour epidural or attempt of this, chronic headache, not informed consent and contraindication to regional anesthesia

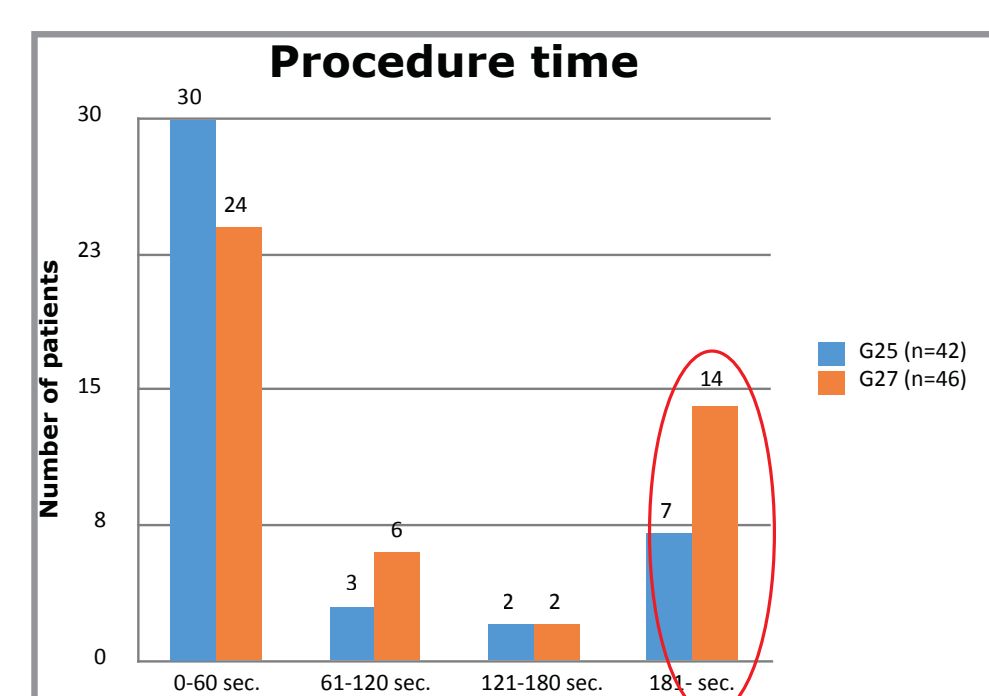


Figure 1. Procedure time in seconds for G25 and G27 PP needle.

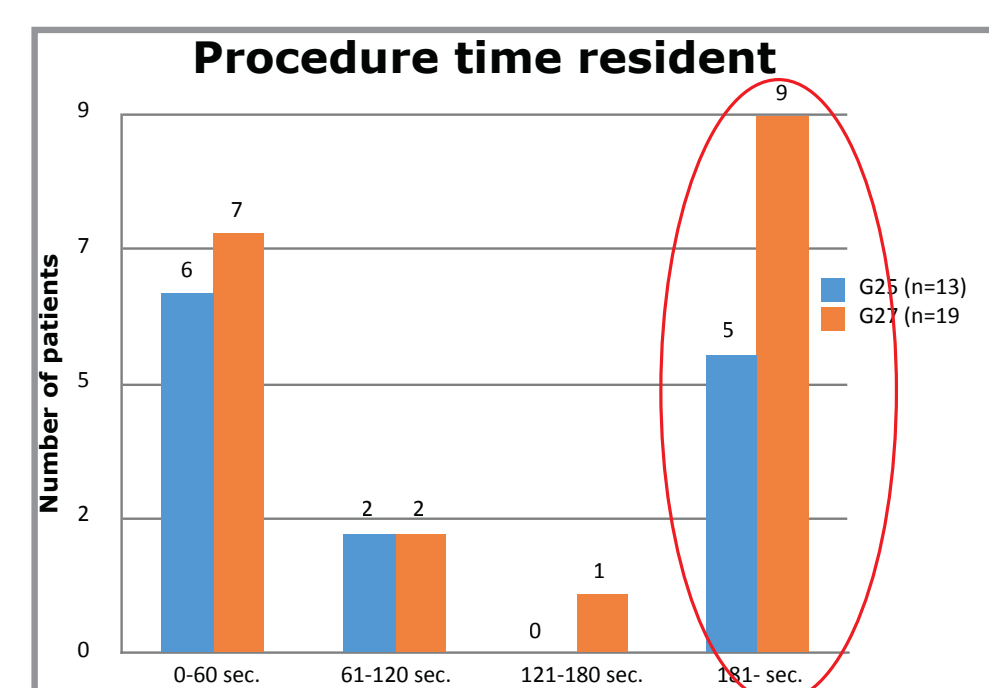


Figure 2. Procedure time for resident less than 3 years of experience for G25 and G27.

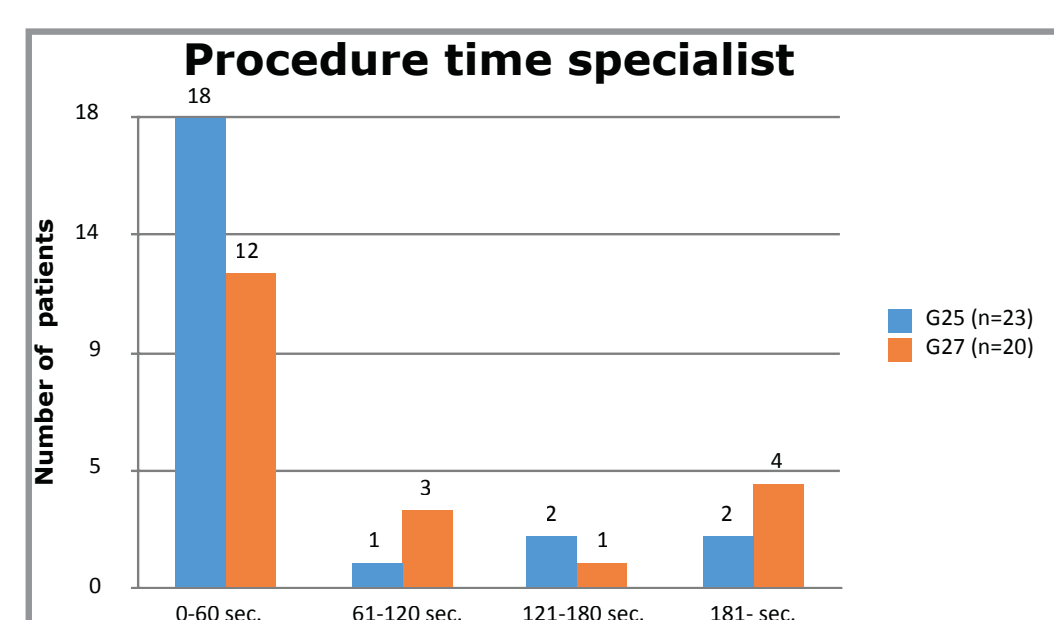


Figure 3. Procedure time for specialist in seconds for G25 and G27 PP needle.

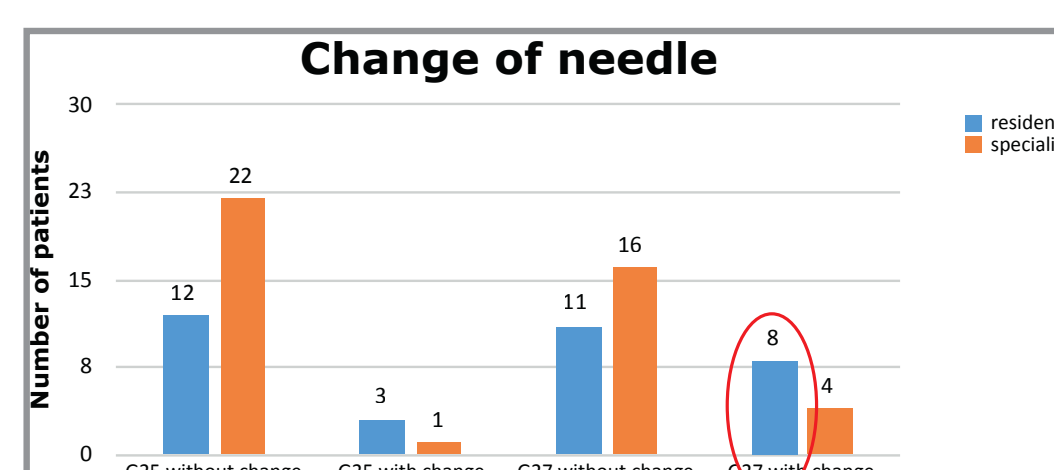


Figure 4. Comparing residents less than 3 years of experience and specialists and change of needle from primary needle.

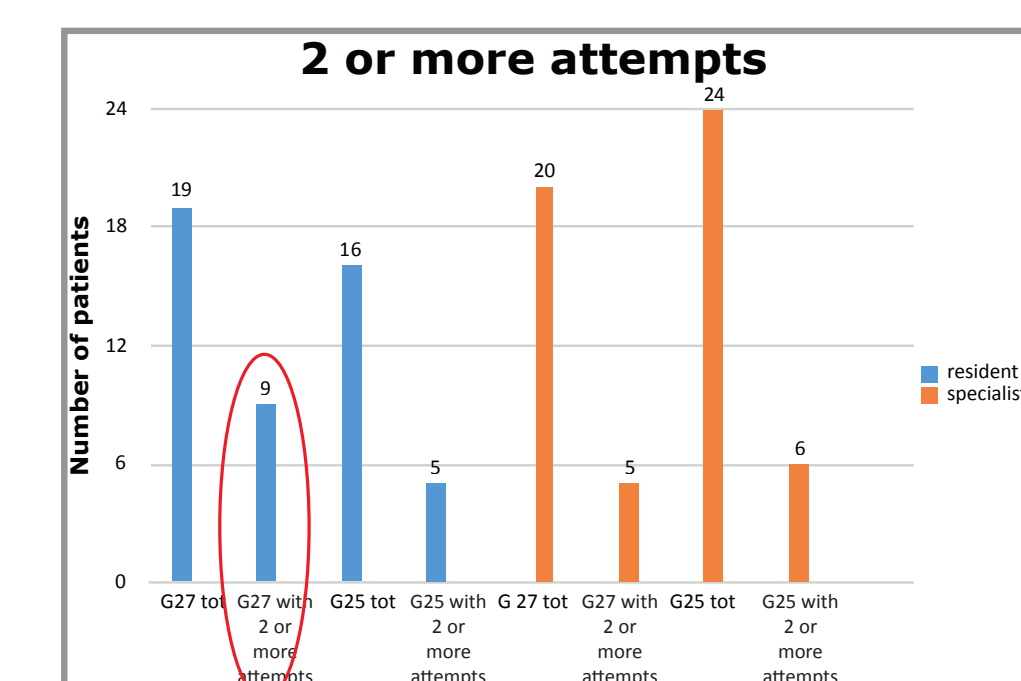


Figure 5. This diagram explains how often residents less than 3 years of experience and specialist need 2 or more attempts using G25 and G27 PP needle.

## Preliminary Results: N=88

G25 PP group: 42, G27 PP group: 46

- Two excluded due to failed dural puncture
- Procedure time longer than 180 seconds occur more frequently among residents with less than 3 years of experience
- Residents using G27 as the primary needles required more attempts and changed needles more frequent than residents using G25 or specialists

## Conclusion:

Residents with less than 3 years of experience had a prolonged procedure time and more technical difficulties using G27 as the primary needle compared to G25 needle.

Among specialists no difference between the needles used was found.