



# Use of Needle Guide Reduces Time to Perform Femoral Nerve Catheter Placement

## Novel Needle Guide Reduces Time to Perform Ultrasound-Guided Femoral Nerve Catheter Placement: A Randomized Controlled Trial

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### Summary and Methods

The Cleveland Clinic performed a single-center, randomized, controlled trial to test the hypothesis that femoral nerve catheter placement performed using the Infiniti Plus™ Needle Guidance System (CIVCO Medical Solutions, Kalona, Iowa, USA) will be quicker than without using the Infiniti Plus. Secondly, the number of attempts and the success rate of needle visibility were recorded and analyzed for statistical relevance.

The trial was performed by experienced anesthesiologists. Enrolled patients scheduled for elective total knee replacement were randomized into two groups of 67 each (134 total) to receive the ultrasound-guided femoral nerve catheter placement with or without the Infiniti Plus needle guide (control group).

### Discussion and Results

The use of Infiniti Plus needle guide significantly decreased the median time spent performing femoral nerve catheterization by 32% compared to a free-hand technique. The median time to perform the femoral nerve catheter placement using Infiniti Plus was 118 seconds and without the needle guide was 177 seconds. Infiniti Plus had no effect on the odds of a successful femoral nerve catheter placement, number of attempts or percentage of perfect needle visibility.

### Conclusions

The Infiniti Plus needle guide reduced the time required for placement of femoral nerve catheters by 1 minute on average but did not reduce the number of attempts, increase the block success rate or improve visibility of the needle. Although speculative, the Infiniti Plus needle guide system may prove more helpful for deeper blocks or for use by less experienced clinicians.

#### Author Commentary

*"We found that the use of the Infiniti Plus needle guide reduced the time required to correctly place femoral nerve catheters by 32%, which corresponded to a mean decrease of 1 min."*

*"Without the needle guidance you need a third hand to introduce the catheter, but with the needle guidance, the needle is stable inside the system and usually does not need a third hand to insert the catheter, which may decrease the time."*

