

**A1269**

ASA

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Room Hall E, Area C

**Compuflo® Improves Identification of the Epidural Space by Inexperienced Operators in a Simulator**

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**Background:** Compuflo® is a computerized system capable of detecting and displaying in real time the pressure at the end of a needle. Recently, Compuflo® was found to correctly and rapidly identify the epidural space during epidural catheter placement in obstetric patients

**Aim:** To study the role of Compuflo as tool in helping inexperienced operators to identify the epidural space in a simulator model.

**Methods:** The study subjects were anesthesia residents, interns and 4<sup>th</sup> year medical students with a previous experience of less than 10 epidurals.

A Life/form® (NASCO, Fort Atkinson, WI) spinal injection simulator was used as a model. This simulator exhibits an air space as the epidural space following a silicon layer mimicking the flavum ligament, and an inner latex tube as a spinal canal. After a detailed description of the two epidural anesthesia techniques, the subjects were randomly asked to identify the epidural space on the simulator using either loss of resistance (LOR) with saline or the Compuflo® technique. After correctly identifying the space or alternatively failing 5 attempts, the subjects were asked to use the alternate approach. The number of attempts and difficulty of the procedure as perceived by the subjects was recorded for each approach on a 1-10 scale, where 1 was easiest procedure possible and 10 was the most difficult procedure possible.

**Results:**

Forty one subjects were included in the study. The subjects were able to identify the epidural space in 100% of cases using the Compuflo and 95% of cases using the LOR technique. The main results are presented in Table 1.

**Conclusion:** In a simulator model of epidural space, Compuflo® device significantly improves epidural space identification success rate by inexperienced operators.

For minimally experienced operators we were unable to demonstrate a significantly decreased number of attempts; however the reported difficulty score was lower than the LOR score.[table1]

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Main Results			
	Loss of resistance technique	Compuflo® Technique	P
All subjects (No=41)			
Number of Attempts	1.78	1.19	p<0.05*
Difficulty Score	5.03	2.82	p<0.05*
Subjects with minimal previous experience (No = 12)			
Number of Attempts	1.66	1.08	p=0.06
Difficulty Score	4.79	2.66	p<0.001*

\* significant difference between the groups