

# Comparison of the 25, 26 and 27 Gauge Needles for Spinal Anesthesia

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## ABSTRACT

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Spinal anesthesia is one of the widely used methods of anesthesia which is done by injection of local anesthetics in the cerebrospinal fluid in the L3-L4 region with spinal needles. Our purpose was to compare several adverse effects of the three mostly used needles for spinal anesthesia; 25, 26 and 27 G. Two hundred surgery patients enrolled in the study to randomly receive spinal anesthesia with a 25, 26 or 27 G needle with Marcaine and were studied for the incidence of hemodynamic instability, paresthesia, tremor, nausea or vomiting, headache, backache one and six months after the procedure regarding the number of attempts to have a successful spinal anesthesia. The 25 G needle was of greater success in performing spinal anesthesia in the first attempt which happened to have the least incidence of paresthesia, tremor, nausea or vomiting, headache and backache one month after the procedure. However, there was no substantial difference between the adverse effects of these three needles according to the Chi-Square tests ( $p$  value  $> 0.05$ ). The systolic and diastolic **blood pressure** were all declined after the induction of spinal anesthesia in all the three groups. The thinner the needle, the harder the induction of spinal anesthesia. The more the number of attempts to induct spinal anesthesia, the higher is the incidence of side effects. Consequently, performing spinal anesthesia with the 27 G needle, which is the thinnest of all the three gave rise to a higher incidence of most of the adverse effects. Further large-scale studies with perhaps the help of highly skilled and experienced anesthesiologists, decreasing the failure rates of the first insertion, could provide us with a better deduction about which needle has the least adverse effects.