

## **An Analysis of the Flow Rates in Venflon Intravenous Cannulae and Comparison with the Manufacturer's Advertised Flow Rates**

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**Background:** Doctors rely on their clinical experience, knowledge of the Hagen-Poiseuille equation, and the manufacturer's stated flow rate on a cannula's packaging, to decide what size cannula to use in each unique clinical situation. In recent years, the Poiseuille equation has been questioned on its applicability to cannula fluid dynamics.

**Objective:** To validate the published flow rate of Venflon IV cannula.

**Design:** An Observational Study.

**Setting:** RCSI-MUB Laboratory.

**Method:** The quoted flow rates on the cannula packaging were tested in a clinical intravenous fluid delivery set-up. The goal was to assess the incremental changes in flow rates to decide whether or not the manufacturer's stated rates give a good indication of the change in flow that will be seen in practice if a doctor decided to change the size of cannula being used for infusion.

**Result:** The experimental and manufacturer's flow rates for the 22 G, 20 G, and 18 G cannulae are similar enough to make a little difference clinically. However, there are noticeable differences between the reported and the experimental flow rates with the larger gauges.

**Conclusion:** More work must be done to ensure the packaging stated flow rate and doctors must be educated on how to decide on the size of cannula to use in different clinical scenarios without relying on the package's flow rates.

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