

## ABSTRACT

This quantitative, descriptive study was to identify the relationship between solution flow rate and the use of a specific extension tubing set in one surgical setting. Specifically, the resistance to flow when a Y-connector was added to an intravenous infusion line was examined. Data were collected during a set of clinical trials conducted by the researchers. This study was conducted at a 375-bed urban medical center located in a northwestern Pennsylvania city. There are 17 operating rooms in this facility. Twenty separate trials were run during 1 day of clinical trials—10 trials without the addition of a Y-connector extension set, and 10 trials with the addition of a Y-connector extension set. Trials were conducted with intravenous infusion supplies routinely used at the study setting for surgical patients. Prior to data collection, permission to conduct this study was obtained from the university's Institutional Review Board (IRB) and the medical center's IRB and Nursing Research Approval Committee. This study involved the collection of data without the use of human subjects. Therefore, no consent was necessary. A data collection sheet was developed specifically for this study. The data collection sheet was used to record rates of fluid flow—the time it took to empty a 1000 cc bag of Ringer's solution—for each of the 20 clinical trials. Data were analyzed using descriptive statistics. In addition, a paired samples *t* test was calculated to determine whether or not there were any differences in the rate of flow of intravenous solution based on the addition of Y-connector extension tubing.

