

**Abstract:**

**AIM:** This study was to determine the effects of the two types of catheter material (vialon biomaterial and teflon) on pain intensity, dwell time, and phlebitis score for peripheral intravenous catheter (PIVC) placement.

**METHODS:** Participants (N = 208) were randomly assigned to the vialon biomaterial group (n = 104), the teflon group (n = 104). After the PIVC placement, the intensity of pain and phlebitis score were evaluated. Catheter dwell mean time was determined.

**RESULTS:** The pain intensity scores were similar immediately after inserting the PIVC. No difference was observed between the pain scores in both groups ( $p \geq .050$ ). Catheter dwell mean time for the vialon biomaterial catheter group ( $4.72 \pm 1.20$  days) was significantly longer compared to the teflon catheter group ( $4.10 \pm 0.92$  days) ( $p \leq .001$ ). It was determined that the catheter was removed due to phlebitis development in 16.3% of the vialon biomaterial catheter group and 53.8% of the teflon catheter group. An advanced level of statistically significant difference was found between the two groups in terms of phlebitis development scores ( $p \leq .001$ ).

**CONCLUSIONS:** This study concluded that vialon biomaterial catheter (BD Insyte™ Autoguard™ BC winged) demonstrates longer dwell time of PIVC, lower phlebitis rate and phlebitis score than teflon catheter (BD Venflon™).

**Reference:**

Kuş, B. and Büyükyılmaz, F. (2020) Effectiveness of vialon biomaterial versus teflon catheters for peripheral intravenous placement: A randomized clinical trial. Japan Journal of Nursing Science. February 20th. doi: 10.1111/jjns.12328. (Epub ahead of print).