

## **We conducted a study to investigate the impact of needleless intravenous access devices on the rate of phlebitis in peripheral venous catheters (PVCs)” Ronen et al (2017).**

Abstract:

**BACKGROUND:** The use of intravascular catheters is often complicated by phlebitis, which is associated with increased morbidity and extended duration of hospitalization. We conducted a study to investigate the impact of needleless intravenous access devices on the rate of phlebitis in peripheral venous catheters (PVCs).

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**METHODS:** We prospectively recruited patients in 2 phases. The first group was treated with a regular cap, and the second group was treated with a needleless connector. The incidence of catheter-related phlebitis (CRP) was recorded as the primary end point.

**RESULTS:** A total of 620 PVCs using regular caps were inserted into 340 patients and CRP rates were recorded. In the second phase of the study, 169 PVCs using needleless connectors were inserted into 135 patients. In the group treated with the regular cap, the CRP rate was 60% compared with 7% in the group treated with the needleless cap ( $P < .001$ ). Consequently, the number of catheter replacements was decreased from 1.9 on average to 1.3 ( $P < .001$ ). In both phases, patients who developed phlebitis had a statistically significant longer mean hospitalization period ( $P < .001$ ), as were patients in the regular cap group ( $P < .01$ ).

**CONCLUSIONS:** The use of needleless connectors was found to be associated with a significant reduction of CRP in peripheral veins in a surgery department setting. The decreased morbidity resulted in a lower number of catheter replacements and duration of hospitalization.

Reference:

Ronen, O., Shlomo, F., Ben-Adiva, G., Edri, Z. and Shema-Didi, L. (2017) A prospective clinical trial to assess peripheral venous catheter-related phlebitis using needleless connectors in a surgery department. *American Journal of Infection Control*. 45(10), p.1139-1142.

doi: 10.1016/j.ajic.2017.05.001.

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