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Abstract:

**BACKGROUND:** Haemodialysis requires a vascular access, most commonly an arteriovenous fistula, which many patients consider a lifeline. It is important to select a cannulation technique assuring a low number of complications. Buttonhole cannulation using sharp needles is a common technique, but information is scarce regarding its long-term consequences. In this study, we aimed to investigate whether the choice of cannulation technique – buttonhole with sharp or blunt needles – affected the development of arteriovenous fistula complications.

**METHODS:** We retrospectively reviewed medical records from 2008 to 2015, including 49 patients and 52 AVFs. We compared the complications in patients cannulated with the buttonhole technique using sharp needles versus blunt needles.

**RESULTS:** The recorded complications were grouped into major and everyday complications. Although major complications were not significantly more frequent with sharp needles than with blunt needles, there were higher numbers of bleedings between dialyses with sharp needles. In addition, everyday complications (e.g. infiltration, oozing and large scabs) were

significantly more frequent with sharp needles than blunt needles. Moreover, patients with multiple everyday complications had a higher probability of experiencing a major complication with sharp needles.

**CONCLUSION:** More frequent cannulation with blunt needles can reduce the rate of everyday complications. This practice may additionally reduce patient suffering and the incidence of major complications.

Reference:

Staaf, K. and Uhlin, F. (2018) Cannulation with sharp or blunt needles for haemodialysis: The importance of cannulation technique for the patient's lifeline. *The Journal of Vascular Access*. July 30th. .

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