

This study aimed to improve the A-DIVA scale (Adult Difficult Intra Venous Access Scale) by external validation, to predict the likelihood of difficult intravenous access in adults” van Loon et al (2019).

Abstract:

Peripheral intravenous cannulation is the most common invasive hospital procedure but is associated with a high failure rate. This study aimed to improve the A-DIVA scale (Adult Difficult Intra Venous Access Scale) by external validation, to predict the likelihood of difficult intravenous access in adults. This multicenter study was carried out throughout five hospitals in the Netherlands. Adult participants were included, regardless of their indication for intravenous access, demographics, and medical history. The main outcome variable was defined as failed peripheral intravenous cannulation on the first attempt. A total of 3587 participants was included in this study. The first attempt success rate was 81%. Finally, five variables were included in the prediction model: a history of difficult intravenous cannulation, a difficult intravenous access as expected by the practitioner, the inability to detect a dilated vein by palpating and/or visualizing the extremity, and a diameter of the selected vein less than 3 millimeters. Based on a participant's individual score on the A-DIVA scale, they were classified into either a low, moderate, or high-risk group. A higher score on the A-DIVA scale indicates a higher risk of difficult intravenous access. The five-variable additive A-DIVA scale is a reliable and generalizable predictive scale to identify patients at risk of difficult intravenous access.

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Reference:

van Loon, F.H.J., van Hooff, L.W.E., de Boer, H.D., Koopman, S.S.H.A., Buise, M.P., Korsten, H.H.M., Dierick-van Daele, A.T.M. and Bouwman, A.R.A. (2019) The Modified A-DIVA Scale as a Predictive Tool for Prospective Identification of Adult Patients at Risk of a Difficult Intravenous Access: A Multicenter Validation Study. *Journal of Clinical Medicine*. 8(2),



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