“In the current study a new safety IV catheter equipped with a blood leakage control septum was assessed under routine clinical conditions” Haeseler et al (2015).

Reference:


Preventing blood exposure during IV catheter placement due to blood leakage
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Abstract:

Purpose: Conventional safety intravenous (IV) catheters prevent blood exposure during catheter placement but blood leakage from the unconnected catheter still frequently occurs. In the current study a new safety IV catheter equipped with a blood leakage control septum was assessed under routine clinical conditions.

Methods: This prospective observational trial was conducted at the KKRN (Katholisches Klinikum Ruhrgebiet Nord), Germany, September/October 2012. Peripheral IV access was established in presurgical patients using either the investigational (“IS3”) or a conventional
safety IV catheter ("IS"). Incidence of blood leakage during placement and subsequent (dis-)
connection procedures, duration of placement as well as handling conditions were compared.

Results: A total of 200 IV accesses were established (n(IS3) = 102 and n(IS) = 98). Blood leakage during catheter placement (4.9% (IS3) vs. 61.2% (IS); p<0.001) and blood contaminations (3.9% (IS3) vs. 14.3% (IS); p = 0.01) were significantly reduced for IS3. All blood leakages observed with IS3 were due to improper technique. No blood leakage occurred during repeated (dis-)connections of IS3 (blood leakage IS: 74%). Using IS3, vein compression was not required (no compression: 98%) and duration of catheter placement was significantly shorter (t(IS3) = 69.6 ± 22.4 s vs. t(IS) = 85.2 ± 28.2 s; p<0.001).

Conclusions: The investigational IV catheter effectively prevented blood leakage, thereby reducing contamination risk and workload associated with cleaning. Omission of vein compression facilitated and shortened IV catheter placement.

Full Text
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