To evaluate differences in product characteristics and user preferences of safety-engineered protection mechanisms of winged blood collection needles” Haupt et al (2016).

Abstract:

OBJECTIVE: To evaluate differences in product characteristics and user preferences of safety-engineered protection mechanisms of winged blood collection needles.

DESIGN Randomized model-based simulation study.

SETTING: University medical center.

PARTICIPANTS: A total of 33 third-year medical students.

METHODS: Venipuncture was performed using winged blood collection needles with 4 different safety mechanisms: (a) Venofix Safety, (b) BD Vacutainer Push Button, (c) Safety-Multifly, and (d) Surshield Surflo. Each needle type was used in 3 consecutive tries: there was an uninstructed first handling, then instructions were given according to the operating manual; subsequently, a first trial and second trial were conducted. Study end points included successful activation, activation time, single-handed activation, correct activation, possible risk of needlestick injury, possibility of deactivation, and preferred safety mechanism.

RESULTS: The overall successful activation rate during the second trial was equal for all 4 devices (94%-100%). Median activation time was (a) 7 s, (b) 2 s, (c) 9 s, and (d) 7 s. Single-handed activation during the second trial was (a) 18%, (b) 82%, (c) 15%, and (d) 45%. Correct activation during the second trial was (a) 3%, (b) 64%, (c) 15%, and (d) 39%. Possible risk of needlestick injury during the second trial was highest with (d). Possibility of deactivation was (a) 0%, (b) 12%, (c) 9%, and (d) 18%. Individual preferences for each
system were (a) 11, (b) 17, (c) 5, and (d) 0. The main reason for preference was the comprehensive safety mechanism.

CONCLUSION: Significant differences exist between safety mechanisms of winged blood collection needles.

Reference:

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