PIVC stabilization - Literature review

LITERATURE REVIEW

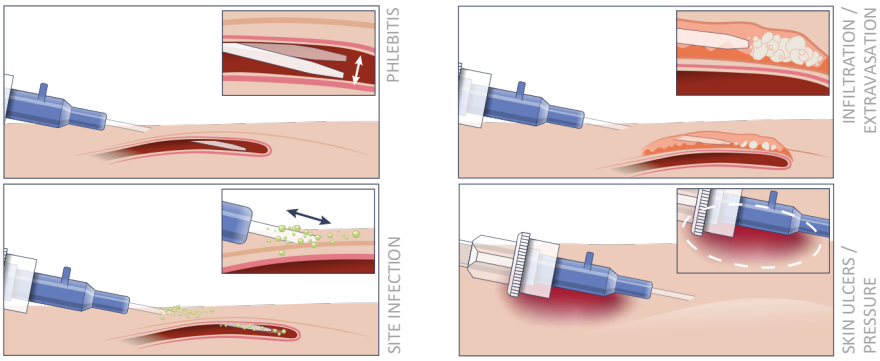
Performance review of **November 2021**
Version: **5.0**

Bedal literature review about the impact of stabilization devices on performance of Peripheral catheters.

Advantages of PIVC stabilization

The current research on the effectiveness of IV securement devices overwhelmingly demonstrates that the use of IV securement devices decreases the complications associated with peripheral IV catheters, and prolonges their longevity and patency[1].

Complications with PIVC



Studies

Securement device results in 42% reduction in complications.
Royer, 2003

Phlebitis and infiltration rates were virtually eliminated.
Penney-Timmons, 2005

Survival rate of PIV increased from 8% to 52% (96h).
Smith, 2006

Data showed considerable benefits of using cannula stabilization device compared to using IV dressings.
Bolton, 2010

Comparing stabilization with tape[9]

76% reduction in PIVC that needs restart

80% reduction in phlebitis

67% reduction in complications

Economic impact per hospital[9]

$18.000 Direct material cost saving

$22.320 Complication cost saving

$236.765 Nurse time saving

Numbers for a 300 bed hospital, with 60.000 PIV placements per year. Based on 10.164 US patients with 15.004 PIVC's

Devices

The devices under investigation in the referenced publications.

Statlock *Sorbaview* *Hubguard*

Cost elements

41% of the material costs go to unscheduled restarts[9].

With a stabilization device a reduction of 81% of unscheduled restarts is achieved[8].

59% PIVC start

41% Unscheduled

Cost elements

- Cost of an IV start: $50[11, 12], assuming success at first attempt
- Cost of extravasion: $16.342[10, 12], average potential liability of a moderate extravasion
- Cost of Bloodstream infection: $33.000 to $75.000[13] for a patient in ICU

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