

## ***IV caps: Is There Evidence for More Widespread Use?***

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### ***Abstract***

#### **Problem statement and background**

More than 250,000-500,000 bloodstream infections due to intravascular devices occur each year in the United States. With a mortality rate between 12% and 25%, these infections have become a focus of healthcare research. A single bloodstream infection (BSI) can cost \$36,000-\$107,000, with an average annual cost up to \$28 billion. Most studies concerning BSIs involve central line access, however, the limited number of studies that have investigated peripheral IV's association with BSI's have found an infection rate of 0.5 per 1000 catheter days versus 2.7 for central line catheters. A systematic review and subsequent research demonstrated that use of alcohol impregnated port protectors reduced the number of central line associated bloodstream infections (CLABSIs).

#### **Purpose and research questions**

To examine the cost effectiveness of using alcohol impregnated caps on peripheral IVs to prevent BSIs.

#### **Conclusions—Recommendations for practice**

There is a lack of research involving the use of port protector caps on peripheral intravenous lines. However, evidence demonstrates that BSI's from peripheral IV's do occur and can cost hospitals billions each year. Approximately 25 million patients receive peripheral IVs in US hospitals each year. The annual cost of utilizing 10 port protectors per peripheral IV started would cost \$72.5 million. US hospitals would comparatively spend a minimum of \$450 million to treat peripheral IV associated BSIs. Based on the available research there is evidence that universal policies for the use of alcohol impregnated port protector caps on peripheral IVs, as well as CVCs, would not only improve patient outcomes but be financially beneficial to the hospitals. It is recommended that a research study examine the use of alcohol impregnated caps on peripheral IVs and the subsequent effect on BSI incidence and hospital cost.