A diversion device diverts the initial 1-2 mL of blood to remove any potentially contaminated skin plug. This study investigates the effect of the device on culture contamination in hospitalized patients” Zimmerman et al (2019).

Abstract:

Objectives: False positive blood cultures result from contamination, consuming laboratory resources and causing unnecessary antibiotic treatment and prolonged hospital stay. Skin disinfection reduces contamination; however, bacteria colonizing human skin are also found in tissues deep into the skin surface. A diversion device diverts the initial 1-2 mL of blood to remove any potentially contaminated skin plug. This study investigates the effect of the device on culture contamination in hospitalized patients.

Methods: In this prospective controlled pragmatic study, blood cultures were obtained using an initial specimen diversion device, either via integrated needle or attachment to a newly placed intravenous catheter. Cultures taken using standard methods served as the control.

Results: Six hundred seventy-one blood cultures were obtained. Two hundred seven cultures were taken using an initial specimen diversion device, with 2 (1.0%) contaminated cultures. Four hundred sixty-four cultures were taken without the device, with 24 (5.2%) contaminated cultures (P < .008). No significant difference was shown in the rate of true-positive cultures.

Conclusions: The use of a diversion device was associated with reduced culture
Reducing blood culture contamination using an initial specimen diversion device | 2

contamination in hospitalized patients over a 6-month period, without concomitant reduction in true-positive cultures. This intervention may result in a reduction in costs, antibiotic use, and duration of hospital stay.

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Initial specimen diversion device significantly decreases blood culture contamination
Blood culture contamination quality improvement project
Reducing blood culture contamination rates

Reference:

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