



Intravenous literature: Kim, N.H., Kim, M., Lee, S., Yun, N.R., Kim, K.H., Park, S.W., Kim, H.B., Kim, N.J., Kim, E.C., Park, W.B. and Oh, M.D. (2011) Effect of routine sterile gloving on contamination rates in blood culture: a cluster randomized trial. *Annals of Internal Medicine*. 154(3), p.145-51.

Abstract:

Background: Blood culture contamination leads to inappropriate or unnecessary antibiotic use. However, practical guidelines are inconsistent about the routine use of sterile gloving in collection of blood for culture.

Objective: To determine whether the routine use of sterile gloving before venipuncture reduces blood culture contamination rates.

Design: Cluster randomized, assessor-blinded, crossover trial (ClinicalTrials.gov registration number: NCT00973063).

Setting: Single-center trial involving medical wards and the intensive care unit.

Participants: 64 interns in charge of collection of blood for culture were randomly assigned to routine-to-optional or optional-to-routine sterile gloving groups for 1854 adult patients who needed blood cultures.

Intervention: During routine sterile gloving, the interns wore sterile gloves every time before venipuncture, but during optional sterile gloving, sterile gloves were worn only if needed.

Measurements: Isolates from single positive blood cultures were classified as likely contaminant, possible contaminant, or true pathogen. Contamination rates were compared by using generalized mixed models.

Results: A total of 10520 blood cultures were analyzed: 5265 from the routine sterile gloving period and 5255 from the optional sterile gloving period. When possible contaminants were included, the contamination rate was 0.6% in routine sterile gloving and 1.1% in optional sterile gloving (adjusted odds ratio, 0.57 [95% CI, 0.37 to 0.87]; P= 0.009). When only likely contaminants were included, the contamination rate was 0.5% in routine sterile gloving and 0.9% in optional sterile gloving (adjusted odds ratio, 0.51 [CI, 0.31 to 0.83]; P= 0.007).

Limitation: Blood cultures from the emergency department, surgical wards, and pediatric wards were not assessed.

Conclusion: Routine sterile gloving before venipuncture may reduce blood culture contamination.

