



Skin microorganisms may contribute to the development of vascular access device (VAD) infections. Baseline skin microorganism type and quantity vary between body sites, yet there is little evidence to inform choice of VAD site selection” Marsh et al (2018).

Abstract:

Background: Skin microorganisms may contribute to the development of vascular access device (VAD) infections. Baseline skin microorganism type and quantity vary between body sites, yet there is little evidence to inform choice of VAD site selection.

Objective: To compare microorganisms present at different body sites used for VAD insertions and understand the effect of transparent dressings on skin microflora.

Methods: The ESCAPE observational study consisted of three phases: (1) skin swabs of four sites (mid-neck, base neck, chest, upper arm) from 48 hospital patients; (2) skin swabs of five body sites (mid-neck, base neck, chest, upper arm, lower arm) from 10 healthy volunteers; and (3) paired skin swabs (n = 72) under and outside of transparent dressings from 36 hospital patients (16 mid/base neck, 10 chest, upper arm). Specimens were cultured for 72 h, species identified and colony-forming units (CFU) counted. Ordinal logistic regression compared CFU categories between variables of interest.

Results: The chest and upper arm were significantly associated with fewer microorganisms

compared to neck or forearm (odds ratio [OR] = 0.40, 95% confidence interval [CI] = 0.25–0.65, $P < 0.05$). CFU levels under transparent dressings were not significantly different from outside (OR = 0.57, 95% CI = 0.22–1.45). Staphylococci were predominant at all sites. Other significant ($P < 0.05$) predictors of higher CFU count included prolonged hospitalisation and medical/surgical patient status. Discussion: Skin microorganism load was significantly lower at the upper arm or chest, compared to the mid- or base neck. This may impact VAD site selection and subsequent infection risk.

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Reference:

Marsh, N., Zhang, L., Bauer, M.J., Larsen, E., Mihala, G., Corley, A., Lye, I., Cooke, M. and Rickard, C.M. (2018) Evaluation of Skin Colonisation And Placement of vascular access device Exit sites (ESCAPE Study). Journal of Infection Prevention. November 9th.

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