

Our new double chlorhexidine application permits surgical hand preparation with chlorhexidine, as a safe alternative to use of alcohols, because it can surpass EN12791” Herruzo et al (2017).

Abstract:

Introduction: Surgical use of 4% chlorhexidine soap (CHX-4) and 10% iodine povidone (PVP-I-10) do not meet the standards defined by EN12791. We investigated whether it would be possible to use these antiseptics to increase their immediate and residual effects?

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Methods: During 3 consecutive weeks, n-propanol, standard CHX-4 or PVP-I-10 were tested in two experimental groups of volunteers. The new method of applying the antiseptic substances consisted of, before donning gloves, applying (after the standard hand rub and rinse of the CHX-4 or PVP-I-10) an aqueous solution based on 5% chlorhexidine or PVP-I-10, respectively, with no further rinsing of the hands. Samples were taken to assess the immediate and residual effect analyzing the logarithmic reduction of colony forming units.

Results: At t=0 h, n-propanol was superior in bactericidal effect to standard chlorhexidine ($p<0.05$), while the new chlorhexidine reapplication protocol was superior to both the standard chlorhexidine application ($p<0.01$) and n-propanol ($p<0.05$); the same effect was observed at t=3 h (residual effect). At t=0 h, n-propanol was significantly superior to standard PVP-I-10, while the povidone reapplication method was superior, although not significantly, to n-propanol. There was no significant residual effect at t=3 h.

Conclusion: Our new double chlorhexidine application permits surgical hand preparation with chlorhexidine, as a safe alternative to use of alcohols, because it can surpass EN12791.

Reference:

Herruzo, R., Vizcaino, M.J. and Yela, R. (2017) New ways of surgical hand preparation with chlorhexidine soap or povidone iodine, in order to increase their immediate and residual



effects, as a safe alternative to use of alcohol solutions. The Journal of Hospital Infection. October 28th. .

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