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## Alcohol Gel as an Antimicrobial Sanitizing Agent

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Paulson et al have reported on a study on the antimicrobial efficacy and irritation potential of five handwash product regimens: a nonantimicrobial lotion soap, an antimicrobial lotion soap, an alcohol gel sanitizer, a non-antimicrobial lotion soap with an alcohol gel sanitizer, and an antimicrobial lotion soap with an alcohol gel sanitiz-

er. The regimens were evaluated by using a Healthcare Personnel Handwash procedure, and irritation was assessed by using expert hand evaluation after 25 consecutive washes.

The Healthcare Personnel Handwash data showed that the mean log reductions from baseline were greatest for the lotion soaps with alcohol gel sanitizer, less for the alcohol and the antimicrobial soap alone, and least for the bland soap. All of the prod-

uct regimens showed a low potential for skin irritation. In terms of both microorganism reduction and skin irritation, the most effective product regimens were the use of alcohol gel sanitizer in combination with either an antimicrobial or a plain lotion soap.

FROM: Paulson DS, Fendler EJ, Dolan MJ, Williams RA. A close look at alcohol gel as an antimicrobial sanitizing agent. *Am J Infect Control* 1999;27:332-338.

## Sterilization of HIV With Irradiation: Relevance to Infected Bone Allografts

Campbell and Li from the Royal Adelaide Hospital and Institute of Medical and Veterinary Science, Australia, have challenged the use of radiation bone from HIV-infected individuals. Bone allograft banks commonly sterilize frozen bone by irradiation. The dose-response relationship for HIV is calculated, and the dose required to inactivate the bioburden of virus that may be present in allograft bone is determined. They report on a study where a virus-titre experiment was performed using irradiated frozen HIV. The virus was maintained on dry

ice (approximately  $-70^{\circ}\text{C}$ ) and was exposed to a cobalt 60 source with 0-40 kGy irradiation at 5 kGy intervals. Lymphocyte cell cultures were exposed to serial dilutions of the irradiated virus. The virus titer was quantified by cytological changes of HIV infection and p24 immunofluorescence.

There was a linear relationship between the virus titer and the radiation dose delivered. The inactivation rate of irradiated virus was  $0.1134 \log_{10}$  tissue-culture infective doses 50/mL per kGy (95% confidence intervals, 0.1248-0.1020). The irradiation dose

required to inactivate the HIV bioburden in allograft bone is 35 kGy. The irradiation dose required to achieve a sterility assurance level of 10<sup>-6</sup> is 89 kGy. This dose exceeds current recommendations for sterilizing medical products and the current practice of many bone banks. The authors concluded that gamma irradiation should be disregarded as a significant virus inactivation method for bone allografts.

FROM: Campbell DG, Li P. Sterilization of HIV with irradiation: relevance to infected bone allografts. *Aust N Z J Surg* 1999;69:517-521.