



November 2017 Infection Control learning sheet # 10 - use of alcohol on hands prior to surgery.

Review on use of alcohol based handrub (ABHR) for hygienic handrub (not surgery) in healthcare

- What percentage of alcohol and what type of alcohol is preferred? 60-80% used and whilst isopropyl alcohol is more effective, ethanol is more active against viruses
- How does alcohol inactivate or kill micro-organisms? Alcohol denatures protein in the bacterial cell and affects the envelope in those viruses that are enveloped e.g influenza
- How to use? For hygienic rub, we apply sufficient volume and rub for 15-20 seconds to ensure wet contact over this time.
- When to use like this? It is the gold standard for patient contact unless hands are visibly contaminated or soiled

Can I use the same ABHR for surgical procedures in the practice that is used for a hygienic handrub?

- the product must be labelled as suitable for hand preparation prior to surgery
- the product may have up to 90% alcohol and will require multiple applications - the hands must be wet while rubbing for at least 90 seconds to be effective (some products require 3 minutes)
- it may or may not incorporate a second disinfectant to provide a residual effect e.g. chlorhexidene
- prior to use, wash hands, forearms and nails with a plain soap handwash to remove soil (use nail pick if needed)
- Note that while Hand Hygiene Australia and the National Guidelines have yet to address this type of use, many hospitals already use it prior to surgery. Staff must be well trained to follow the method as instructed

Two step method

1. Wash with non medicated soap and remove dirt from under fingernails with nail pick. Dry hands
2. Apply sufficient suitable 5 ml portions of ABHR and rub until dry - repeat until 90 seconds contact is achieved

Types commonly available (note that some hospitals have not yet approved this for surgical use) - not exhaustive

- skinman soft N - 76% v/v isopropyl alcohol and 0.13% Benzalkonium chloride - requires 3 minutes following a plain soap wash
- skinman 90 - requires 90 seconds **Antiseptic Rub for Surgical Hand Disinfection An alcohol based hand rub containing 90% w/w Ethanol in a water clear solution for surgical hand disinfection.**

References

1. From King Edward Memorial Hospital Perth WA Perioperative services (Use Skinman 90) website

Antimicrobial surgical hand scrub agents and alcohol based surgical rub agents should not be combined sequentially.....

Note: Non- medicated soap will be available to use for the handwash before drying the hands and using the skinman 90 surgical rub product. The non- medicated soap will be situated near to the skinman 90 and the instructions for use

2. J Hosp Infect. 2013 Feb;83 Suppl 1:S35-9. doi: 10.1016/S0195-6701(13)60008-0. Surgical hand hygiene: scrub or rub?

Surgical hand hygiene is standard care prior to any surgical procedure. Per-operative glove punctures are observed in almost 30% of all interventions, and a risk factor for postoperative infections. In the past, washing hands with antimicrobial soap and water (surgical scrub) was the norm, mainly with chlorhexidine or iodine. More recently, alcohol-based hand rub has been successfully introduced, showing greater effectiveness, less irritation to the hands, and requiring less time than washing hands. All products should have a remnant effect that delays microbial growth under the gloved hand. Some of the alcohol-based compounds are effective (as determined by the European Norm EN 12791) within 90 s whereas others require 3-5 min, similar to the scrub. The short procedure relies heavily on proper technique and timing, since lowering the exposure time to <90 s leads to significantly lower effectiveness of bacterial killing.

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