IMPROVED ANTIMICROBIAL COMPOSITIONS

BACKGROUND

The use of alcohol as an antimicrobial dates to biblical times and earlier. Alcohol–containing antimicrobial compositions have been widely used in hospitals since at least the 1990's. In 1993, Bruch et al (US 5,403,864) stated:-

"Infection control and epidemiology experts have repeatedly emphasized that the single most important element in reducing the spread of infection is hand washing because a common method of transfer among individuals in the health care environment is with the hands. This fact has been painfully demonstrated in the analysis of epidemic spread.

However obvious and simple this may seem, medical care personnel, including physicians and nurses, are reluctant to wash or scrub their hands as frequently as required by their own protocols. It is estimated that the average time of washing between patients is 10 sec or less. The effectiveness of soap-and-water washing is measured in terms of minutes. Most simply do not wash frequently enough...

When a health care worker handles equipment or patients, bacteria which are not a part of the normal skin flora are picked up and adhere loosely to the topmost skin layer, the stratum corneum."

These statements remain as true in 2012 as when written in 1993. However in the intervening 20 years, new and improved antimicrobial preparations have been developed and the significance of two additional facts has become apparent. Firstly, some microorganisms may reside more deeply in sub corneum strata. Secondly, the major reason for non-compliance with protocols is drying and chapping of the hands and skin irritation caused by repeated use of alcoholic rubs or water based antiseptic washes. Attempts to minimize irritation by inclusion of emollients have not been effective at increasing compliance either (i) because the emollients contributed to a feeling of greasiness after use or (ii) because they reduced the speed with which the hand wash was effective, or (iii) at the concentrations required, the emollients were ineffective at skin irritation reduction or for a combination of these three reasons.

In 1995 Bruch et al disclosed an antimicrobial composition comprising Triclosan, chloroxyphenol and an alcohol but this composition was not effective against subcutaneous organisms and although the inventors claimed that no signs of irritation were exhibited after multiple uses in the laboratory, many cases of skin irritation were exhibited in hospital use.

In 1998 Jampani et al (US 6,022,551) noted a need for an antimicrobial composition that is effective while also being non-irritating to users, and described a composition containing specific thickeners, and phospholipids