

A Case Study of SwipenSnap Diaper Rash Cream Applicator in the Reduction of Bacterial Transmission During Infant Diaper Changes

By: Leah Alexander, Pediatrician
Michigan State University College of Human Medicine

Introduction

Infant diaper changes can be challenging. The parent attempts to hold a vigorously moving infant while applying a diaper rash prevention cream and trying to close a diaper. The developer of SwipenSnap designed an applicator which can be attached to most tubes of diaper rash products on the market. This applicator allows the use of one hand, and applies the cream in a smooth, thin layer. The cream is applied without getting it on the parent's hands.

To further demonstrate the benefits of this product, a study was performed to determine if SwipenSnap is a more hygienic method of applying such diaper rash creams. Hand washing may not always occur before or after infant diaper changes. It is possible that avoiding use of the hands to apply diaper rash cream may reduce bacterial transmission to the infant.

Methods

To conduct this study, two test surfaces were prepped: the SwipenSnap applicator and the infant perineum/diaper area. A new SwipenSnap applicator package was used. The applicator was attached to a new tube of Desitin diaper rash cream, thus discarding the original Desitin cap. The SwipenSnap lid suction cup base was then attached to a flat surface. The SwipenSnap applicator, with attached tube of Desitin, was then stored onto the suction cup base. The infant perineum was prepped by first cotton swabbing the area with the infant's own urine, then cleaning it with a standard baby wipe. For all components of this study, there were two test subjects: one mother and one infant.

Four test scenarios were used to study bacterial contamination:

SNS-1 A1	Hands washed prior to applying diaper cream
SNS-3 B1	Unwashed hands used to apply diaper cream
SNS-2 A2	SwipenSnap used to apply cream & wiped off
SNS-4 B2	SwipenSnap used to apply cream but not wiped off

Bacterial testing was performed by using culture swabs and tubes provided by Microbiology Specialists, Inc in Houston, Texas. For the first scenario, SNS-1 A1, hands were washed before applying the diaper cream. There was contact with sink components, bathroom door,

diaper bag, baby wipes and applicator tube following the hand washing. The hands were swabbed for culture immediately prior to applying the diaper rash cream. In the case of SNS-3 B1, hands were not washed throughout the day and touched multiple surfaces. These hands were also swabbed just prior to applying diaper rash cream.

In the last two scenarios, the SwipenSnap applicator was tested. The same method of application was used in each case: removing the tube of cream from the suction cup lid, squeezing the tube to release a small amount of cream onto the applicator, swiping the cream onto the infant’s skin, and replacing the applicator into the suction cup lid. For SNS-2 A2, the SwipenSnap applicator was cleaned with a standard baby wipe after cream application. Three hours later, the applicator tip for both SNS-2 A2 and SNS-4 B2 was swabbed for testing. All tests were performed and sent to Microbiology Specialists, Inc on the same day.

Results

All bacterial culture results were available five days later and are as follows:

Microbiology Specialists, Inc

	Washed Hands Lab# IC 2018-01796	No Hand Washing Lab# IC 2018-01798
Hands	30cfu/mL mixed bacterial flora	230 cfu/mL mixed bacterial flora

	Wiping Applicator Lab# IC 2018-01797	No Wiping of Applicator Lab# IC 2018-01799
SwipenSnap Applicator	1cfu/mL mixed bacterial flora	3cfu/mL mixed bacterial flora

The greatest bacterial growth was obtained from the swab of the unwashed hands. The “washed hand” sample also had more bacterial growth than either case where the SwipenSnap applicator was used.

Conclusion

This results of this study show that the use of an applicator device is a more hygienic way to apply diaper rash cream. Even when hands are washed, there is still more bacterial transmitted during diaper rash cream application. It, therefore, is reasonable to conclude that using SwipenSnap is a much cleaner method. Not only does it prevent “messy” hands while applying diaper rash cream, but it also is healthier for the infant.

This study, although revealing important information, has a few aspects that could be investigated in future product research. Further studies might involve more test subjects. Specific identification of which bacteria are cultured could be useful, particularly if MRSA and other pathogens are detected. It may also be of value to examine the reduction of bacterial transmission with SwipenSnap in a home versus a daycare setting. Essentially, however, this case study shows that there are infection control benefits to using a SwipenSnap applicator.

References

1. Microbiology Specialists, Inc, 8911 Interchange Drive, Houston, TX 77054
2. SwipenSnap, Product of Better Way Goods, LLC. <https://www.swipensnap.com>