

# Diaper Dermatitis

Erin Koprince, DPM

## Introduction

Irritant diaper dermatitis is a pervasive form of skin irritation commonly found in infants and toddlers. Prolonged exposure of the skin to irritants exacerbates these attacks. Such irritants include infrequent diaper changes, diarrhea, and contact allergy. The change in topical skin pH causes a breakdown in the epidermis, resulting in a painful erythematous rash to the most prominent areas of the buttocks.

## Case

The 4-month old patient was brought to his pediatrician by his parents after an acute onset of irritant diaper dermatitis. The patient exhibited a distressed affect, crying and avoiding pressure to the affect area. Upon physical exam, shiny erythematous raised patches were observed on the convex areas of the buttocks. Skin folds were spared. Parents reported that the rash has been present for 3 days and was worsening. Increased frequency in diaper changes had failed to improve symptoms. The patient had recently been experiencing diarrhea prior to onset which has now subsided.

## Method

The patient was assessed and the site of irritation was gently flushed with sterile water. The area was blotted dry and treated with topical application of CurX Antimicrobial Gel to the affected areas and surrounding tissue. A dry diaper was applied and the parents were given instructions for frequent diaper changes with gentle cleaning and application of CurX at each change.

## Results

Upon application the patient was noticeably more comfortable; the crying stopped and the patient began showing interest in a toy, indicating that the pain was subsiding.



Twelve hours after the initial treatment the erythema had decreased by 85% and the parents reported that the child had resumed eating, playing, and was no longer fussy.

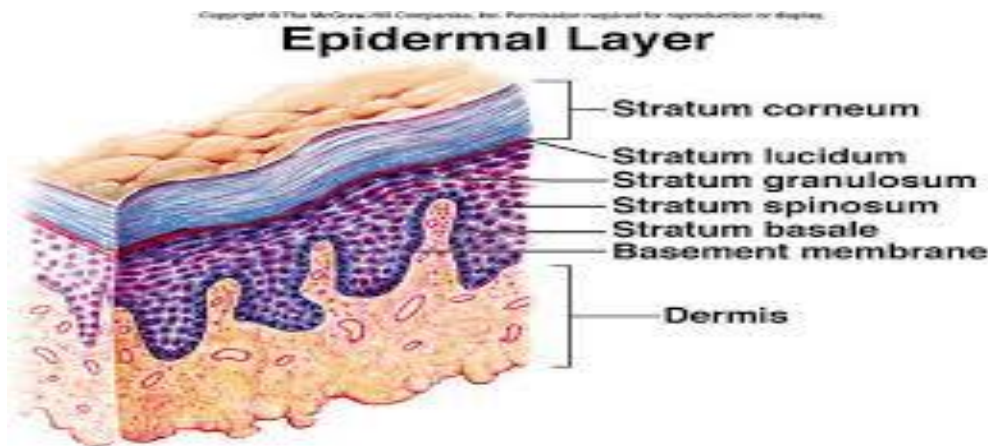


After 18 hours a total resolution of the condition had been achieved.



## Mechanism of Action

The stratum corneum, the most superficial layer of skin, is comprised of keratinocytes and is thinner and especially sensitive in young pediatric patients. The third layer, the stratum granulosum, is a lipid producing layer which provides a hydrophobic barrier to the lesser skin layers thus providing a protective barrier to the irritant therefore the irritation is primarily contained to the first two epidermal layers.



CurX Antimicrobial Gel has a petroleum base and is naturally hydrophobic, thereby mimicking the body's natural defense mechanism and speeding healing to the affected area. The antimicrobial properties support the immune system and protect against common infections associated with severe diaper rash.

## Discussion

There are many treatments for irritant diaper dermatitis, the most common of which include zinc based creams, titanium dioxide jellies, anti-fungals, antacids, and corn starch. Research shows that the creams, jellies, and antacids are only minimally effective without application of a petrol layer. Anti-fungals are effective if the cause of the irritation is fungal in nature and often takes a 7-day course to achieve resolution. Lastly, corn starch is thought to prevent chaffing which minimizes discomfort but does not provide rapid relief from symptoms. CurX is currently the only product on the market which has a petroleum base that balances the pH of the skin and is capable of treating a polymicrobial infection.

## Conclusion

A rapid rate of healing and pain resolution was achieved using CurX Antimicrobial Gel. By providing a lipid bylayer, CurX aids the body's natural defenses to protect skin from pH induced breakdown with a medicated, water proof barrier thus both treating and protecting the skin simultaneously.