Assessment and Interventions for Dermatitis in the Diapered Area

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All infants are at risk for developing dermatitis in the diapered area. Infants at increased risk include:

- Infants with the following conditions:
  - *Neonatal abstinence syndrome (NAS)*
  - *Neonatal opioid withdrawal syndrome (NOWS)*
  - *Short bowel syndrome*
  - *Post-pull-through procedure for Hirschprung's disease*
  - *Post-ostomy closure*
  - *Some enzyme therapies*
  - *Those with lack of anal sphincter tone such as myelomeningocele and bladder exstrophy*
- Infants receiving antibiotics.
- Infants receiving higher caloric density (>20 calories per ounce) breast milk or formula.
- Dermatitis in the diapered area is rare in extremely low birth weight infants but is possible.

Care Goals

1. Maintain integrity of skin.
2. Protect skin to prevent excoriation and minimize alterations in pigmentation.
3. Treat fungal infection if present.
4. Prevent further breakdown of excoriated skin.
5. Provide interventions to allow excoriated skin to heal.

Cleansing

- Frequent diaper changes; recommend every two (2) hours on average or as soon as soiled.
- For each diaper change during the day, remove the soiled area and reapply barrier that has worn away.
- Use water and mild baby soap or gentle perineal skin cleanser[1] and soft cloths/gauze.
- Diaper wipes[2] not preferred on excoriated skin.
- "Pat" to clean the area, rather than "wipe" the area.
- Once daily: Soak infant's bottom in a tub if possible or thoroughly wash. All infants should have a daily "butt bath" to get down to clean skin, assess area, then reapply barriers as needed.

Non-Excoriated Skin

Assessment

Normal skin, no erythema/ redness, no excoriation

Erythema/redness, no excoriation

Fungal infection, no excoriation

Barrier Application

- Petrolatum ointment for infants at low risk for excoriation.
- Barrier cream[3] for infants at high risk for, or with excoriation.
- Barrier films[4] can be a base layer (some have age restrictions).
- Antifungal ointment[5] is indicated as a base layer when fungal infection is present.

Excoriated Skin

Assessment

Excoriation

Severe excoriation

Fungal infection, with excoriation

Barrier Application

- Creams should be applied very thickly, like "frosting on a cake." With each bowel movement, gently remove the stool but do not attempt to remove all barrier cream, as friction will delay healing. Reapply a thick layer of barrier cream.
- Crusting technique[6] can also be used (see section below).
- For fungal infection, use crusting technique with nystatin powder, cover with barrier film and allow to dry. Cover this with thick coating of barrier cream.
- For most severe excoriations, consult with a wound/ostomy specialist to determine if the infant is a candidate for use of a cyanoacrylate barrier product.

Barrier cream applied thickly "like frosting on a cake"

Crusting Technique[6]

Used for patients who have moist, non-intact skin that impedes barrier products from adhering.

- Clean according to cleansing instructions.
- Apply a light layer of powder to excoriated area and brush off excess.
- Keep powder localized to perineal area to minimize inhalation risk.
- "Seal in" powder by blotting with silicone barrier film and allowing to dry.
- Apply barrier cream thickly "like frosting on a cake."
- Apply an outer layer of powder over barrier cream to prevent cream from sticking to the diaper.

Product Information

[1] Gentle perineal skin cleansers have the benefit of helping to break down the stool that can be caked on, so is better than just water. A chlorhexidine-based product is not recommended.

[2] Diaper wipes: It is not possible to recommend all brands of wipes as they may contain different ingredients. Some have been shown to be safe even for premature infants.

[3] Barrier ointment and creams: Contain ingredients such as petrolatum, zinc oxide and carboxymethylcellulose.
Petrolatum products: Vaseline (Unilever), Aquaphor (Beiersdorf), Critic-Aid Clear (Coloplast). Zinc oxide ointment can contain from 20–40 percent zinc.
Carboxymethylcellulose is found in Sensi-Care (ConvaTec).

[4] Barrier films: Silicone polymers (e.g., Cavilon No Sting Barrier Film [3M] for use after 30 days of age) for protection of intact skin (no excoriation).
Barriers containing cyanoacrylate: (e.g., Cavilon Advanced Skin Protectant [3M] (no age restrictions), Marathon Liquid Skin Protectant [Medline Industries]).
Use for the most severe excoriations under the discretion of a wound/ostomy specialist.

[5] Antifungal agents: Ointments preferred (e.g. nystatin); if rash does not respond in 24–48 hours of treatment, change to another antifungal agent (such as miconazole) because yeast may be resistant to nystatin.

[6] Crusting technique: Use of a carboxymethylcellulose product (e.g., Stomahesive powder [ConvaTec]) with a silicone protective skin barrier (Cavilon No Sting Barrier Film [3M]) applied on top and allowed to dry into a "crust." If the infant has a combined fungal infection and severe excoriation, use the crusting technique with nystatin powder and a silicone barrier, allow to dry, then apply a thick coating of barrier cream.