

Prevention and Treatment Protocol for Napkin Associated Dermatitis (NAD) in Paediatrics

Napkin-Associated Dermatitis (NAD), most commonly referred to as nappy rash, is caused by the prolonged exposure of urine and faeces to the skin (1). The pH of the skin alters and damages cells, causing dermatitis or irritation (2)

Nursing Assessment:

- Age appropriate skin assessment for pre term (<37 weeks), neonate (birth to 4 weeks), infant (1 month to 1 year) and for children over 8 consider use of the adult IAD pathway
- Assess frequency and consistency of stools on a daily basis
- Underlying skin conditions (eg psoriasis, eczema, epidermolysis bullosa) may require dermatology referral
- Anticipate increased NAD risk from antibiotics or immunosuppression treatment
- Look for features that may indicate bacterial secondary infection
- Consider differential diagnosis

The Skin Barrier:

The barrier properties of the skin depend greatly on the thickness and integrity of the stratum corneum (3). At birth the stratum corneum is 30% thinner in full-term infants than in adults (4). It continues to develop during the first year of life, when there are important changes in skin hydration, surface pH and permeability to water measured as transepidermal water loss (TEWL) (5). As a result, infant skin is not as resilient as adult skin (6), and its unique properties should be taken into account in order to maintain the integrity of the skin barrier (7).

Good Practice:

- Encourage regular nappy free time as much as possible
- Use emollients to cleanse skin where skin damage is moderate or severe
- Use skin barrier products that do not interfere with the absorbency of nappies
- Use barrier preparations to prevent faeces coming into contact with skin, reduce humidity and maceration, and minimise TEWL (8)
- Change nappy as soon as possible after soiling
- A swab should only be taken when a secondary bacterial infection is suspected
- Encourage use of disposable gel core nappies (following discussion with parent/carers)
- Encourage consistency in care between staff and parents/carers

Avoid:

- **Baby wipes of any kind for neonates**
- **Perfumed soaps and moisturisers**
- **Powders, such as talcum powder**
- **Thickly applied creams that can block the absorbency of nappies**
- **Stopping or changing the skin care regime before 48 hours unless skin condition is significantly deteriorating**

Prevention:

Healthy/Low Risk

- Wash skin with warm water and wet gauze
- Pat dry (no rubbing) or allow to air dry
- Use gel core nappy
- Change frequently or soon after soiling

High Risk

- All of above plus consider cleansing with emollient and apply **Medi Derma-S** cream sparingly at a ratio of a pea size of cream to a palm size of skin after every 3rd wash to bottom, groin and genitalia
- Allow to air dry
- Observe and document changes in skin integrity

Mild NAD

(Erythema, intact skin or minimal superficial injured areas):

- Cleanse with warm water +/- emollient and wet gauze
- Pat dry (no rubbing) or allow to air dry
- Apply **Medi Derma-S** Cream sparingly at a ratio of a pea size of cream to a palm size of skin after every 3rd wash and allow to air dry
- Observe and document changes in skin integrity

Moderate NAD

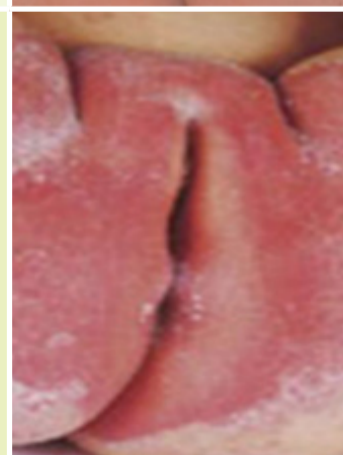
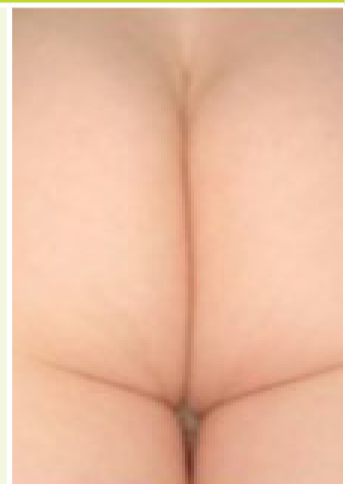
(Erythema over convex surfaces closest to the nappy (buttocks, genitals, pubic area, and upper thighs) with sparing (no erythema) in the deeper flexures and < 50% injured skin):

- Cleanse with warm water +/- emollient and wet gauze
- Pat dry (no rubbing) or allow to air dry
- Apply **Medi Derma-S** film applicator sparingly every 48-72 hours (increase to 24-48 hours if any deterioration) and allow to air dry
- Observe and document changes in skin integrity

Severe NAD

(Erythema over convex surfaces closest to the nappy (buttocks, genitals, pubic area, and upper thighs) with sparing (no erythema) in the deeper flexures and > 50% injured skin. The skin may be excoriated, shiny and painful):

- Cleanse with warm water +/- emollient and wet gauze or irrigate with 20ml syringe
- Pat dry (no rubbing) or allow to air dry
- Apply **Medi Derma-S** film applicator sparingly every 24 hours and allow to air dry
- **If skin does not improve after 72 hours or rapidly deteriorates, contact TVN**



Special Considerations:

- If the patient has short gut syndrome or reversal of stoma, commence moderate regime
- If the patient has an underlying skin condition, refer to dermatology for advice on immune status and prevention of Candida sepsis

Nursing Evaluation and Documentation:

- Assessment of the nappy area, stool and pain should take place at each nappy change
- Review with age appropriate skin care plan regularly
- Consider if medical photography would be appropriate or useful (refer to local policy)