3- Napkin Rash (napkin dermatitis)

Most babies are suffering napkin (nappy) rash at some stage during their infancy.

Contributing factors

- Contact of urine and feces with the skin due to ammonia, produced as a breakdown product of urine in soiled nappies.
- Irritant effect of soaps, detergents, antiseptics or bubble baths and sensitivity reactions to them as they may have left in reusable nappies after inadequate rinsing and sensitivity reactions to ingredients in some topical preparations, for example, in baby wipes.
- Wetness and maceration of skin due to infrequent nappy changes. Maceration of the skin ensues, leading to enhanced penetration of irritant substances through the skin and the breakdown of the skin.
- Inadequate skin care
- Wearing occlusive plastic pants exacerbates this effect.

➢ Frequent changes of nappy together with good nappy-changing routine and hygiene are essential.

Consultation points:

- ***Nature and location of rash***

Nappy rash, sometimes called napkin dermatitis, appears as an erythematous rash on the buttock area.
Other areas of the body are not involved, in contrast to other diseases.

- ***Severity***

In general, if the skin is unbroken and there are no signs of secondary bacterial infection, treatment may be considered. The presence of bacterial infection could be signified by weeping or yellow crusting. Referral to the doctor would be advisable if bacterial infection were suspected.
Secondary fungal infection is common in napkin dermatitis and the presence of satellite papules (small red lesions) would indicate such an infection. Secondary fungal infection could be treated by the pharmacist using one of the azole topical antifungal preparations that are available.

- ***Duration***

If the condition has been present for longer than 2 weeks, the pharmacist might decide that referral to the doctor would be the best option, depending on the nature and severity of the rash.

- ***Previous history and other symptoms***

The pharmacist should ask if any other **treatment** was taken for any other ailment or to manage the recent symptoms with OTC products.
Napkin dermatitis sometimes occurs during or after a bout of **diarrhea**, when the perianal skin becomes reddened and sore. Diarrhea may occur as a side effect of antibiotic therapy.
Sometimes thrush in the nappy area may be associated with **oral thrush** that causes a sore mouth or throat. If this is suspected, referral to the doctor is advisable.

Treatment

Treatment and the prevention of further episodes can be achieved by a combination of OTC treatment and advice on care of the skin in the nappy area. A baby with nappy rash that does not respond to skin care and OTC treatment within 1 week should be seen by the doctor.

Agents	Comments
Emollient preparations	Emollient preparations are the mainstay of treatment. The choice of individual preparation may sometimes depend on customer preference and many preparations are equally effective.
Zinc	Zinc (e.g. zinc oxide) acts as a soothing agent.
Lanolin	Lanolin hydrates the skin.
Castor oil / cod liver oil	Castor oil and cod liver oil provide a water-resistant layer on the skin.
Antibacterials	These may be useful in reducing the number of bacteria on the skin. Some antibacterials may produce sensitivity reactions.
Antifungals	• Secondary infection with *Candida* is common in napkin dermatitis and the azole antifungals would be effective. • Miconazole or clotrimazole topical cream applied twice to four times daily could be recommended by the pharmacist with advice to consult the doctor if the rash has not improved within 5 days. • If an antifungal cream is advised, treatment should be continued for 4 or 5 days after the symptoms have apparently cleared. • An emollient cream or ointment can still be applied over the antifungal product.

Referral points:
Baby with nappy rash is to be referred in case of:
- Broken skin and severe rash
- Unwell baby
- Signs of infection
- Other body areas affected
- Persistence of rash (longer than 2 weeks or 1 week of OTC treatment)

4- Threadworms (pinworms)

Infection with *Enterobius vermicularis* is common in young children. Many parents feel embarrassed about discussing threadworms and feel ashamed that their child is infected. Pharmacists can give reassurance that this is a common problem.

Clinical presentation
Perianal itching is caused by an allergic reaction to the substances in and surrounding the worms' eggs. Sensitization takes a while to develop. So in someone infected for the first time, itching will not necessarily occur. Itching is worse at night, because at that time the female worms emerge from the anus to lay their eggs on the surrounding skin. Persistent scratching may lead to secondary bacterial infection.

Loss of sleep due to itching may lead to tiredness and irritability during the day.
The worms themselves can be easily seen in the feces as white- or cream-colored thread-like objects.

The pharmacist should enquire whether any other member of the family is experiencing the same symptoms. Absence of perianal itching and threadworms in the feces does not mean that the person is not infected.

Management
One dose of an anthelminthic treatment is followed by another 2 weeks later to destroy any worms that might have hatched and developed after the first dose. Only two doses are required.

In addition to anthelminthic treatment, it is essential that advice be given about hygiene measures to prevent reinfection.

All family members should be treated at the same time, even if only one has been shown to have threadworms. Mebendazole and albendazole are not recommended for pregnant women. Hygiene measures are the only options for pregnant and breastfeeding women. Although, the World Health Organization has recommended use of albendazole and mebendazole during pregnancy and to treat children as young as 12 months.

Medications:

Anthelmintics	***Age for OTC***	***Notes***
Mebendazole	>2 years	It can be used in children over 6 months as POM.
Albendazole	>1 year	Babies below 2 year receive half recommended dose.
Piperazine	>3 months	Safe in pregnancy
Levamisole	No more recommended.	

Referral points

Infection other than the threadworm suspected must be referred in case of:

- Recent travel abroad
- Medication failure
- Children under 2 years of age
- Pregnant or breastfeeding

5- Head lice

Humans act as hosts to three species of louse:

Species of Louse	Type of Lice
Pediculus capitis	Head lice
Pediculus corporis	Body lice
Pediculus pubis	Pubic lice

Head lice affect all ages, although they are much more prevalent in children aged 4 to 11 years, especially girls. Head lice can occur at any time and do not show any seasonal variation. Head lice can only be transmitted by head-to-head contact. Occasionally contact is insufficient for lice to be transferred between heads.

Checking for infection

Wet combing (Bug busting method) of the hair is a more reliable detection method than scalp inspection. Wet combing is preferred on dry combing.
The presence of empty eggshells (nits) attached to the hair shafts is not necessarily evidence of current infection unless live lice are also found. Parents sometimes think that treatment has failed because nits can still be seen in the hair.

Treatment

Pediculicides are insecticides. They act by one of the following mechanisms:

- Physical Pediculicides
    - These kill the lice by a variety of means, such as physically coating their surfaces and suffocating them (dimethicone does this) or dissolving the wax coating of the louse and causing death by dehydration.
- Chemical Pediculicides
    - They are more effective and do not cause resistance to develop, this is usually reserved for second-line use. E.g.: Malathion and permethrin

There are a variety of complementary therapies, many derived from herbs. These include tea tree oil, coconut oil, eucalyptus and lavender-based products.
There are many home remedies, including the copious use of hair conditioner, baby oil, petroleum jelly and diluted white vinegar. Electric combs have also been advocated.

Pediculicides

Agents	***Dosage forms***	***Age of use***	***Instructions of use***	***Status***
Permethrin	creme rinse lotion shampoo	6 months	It should be left on the hair for 10 min before rinsing the hair thoroughly with water.	OTC (UK and USA)
Malathion	Liquid Lotion shampoo	6 months	Liquid should be applied to dry hair and left for 12 hours before washing off.	OTC (UK) POM (USA)
Dimeticone	lotion	6 months	It has to be left on for a minimum of 8 hours before being washed out with shampoo.	OTC (UK)
Isopropyl myristate	solution	2 years	It has to be left on for a 10 minutes before being washed out with shampoo.	OTC (UK)
Pyrethrins with piperonyl butoxide	shampoo	6 months	The shampoo should remain on the head for 10 mins.	OTC (USA)
Benzyl alcohol	lotion	6 months	The lotion should remain on the head for 10 mins.	POM
Spinosad	topical suspension	4 years	As per product.	POM
Ivermectin	lotion	6 months	As per product.	POM
Lindane	It is no longer recommended			POM