



A patient information flyer developed by the Asian Society of Pediatric Dermatology on

# Common Fungal Skin Infections

## Molluscum Contagiosum

### What is Molluscum?

- Molluscum contagiosum (MC) is a common skin infection in children caused by a poxvirus (molluscum contagiosum virus).
- It is spread through skin-to-skin contact and can spread between family members. It can spread from one part of the body to another, especially in children with atopic eczema.
- MC occurs most often in school-going children.
- MC presents as single or multiple, small, pearly, flesh-coloured to pink papules. A small central depression may be seen. MC may occur on any area of the skin surface, but most common in areas of skin rubbing or moist regions.
- Itch, redness and scaling may develop around MC, and may herald spontaneous resolution.



### How is Molluscum Treated?

- Spontaneous clearing of MC often occurs over 1-2 years and can be left alone, especially in younger children who may not tolerate more aggressive treatments.
- Topical therapies that can be applied at home include topical imiquimod cream, topical tretinoin cream and topical salicylic acid. These have limited effect on MC but may be attempted for a few months.
- More destructive treatment options include curettage and cryotherapy. These options may cause significant pain, and should only be attempted in older children or teenagers. Repeat treatments may be required for total clearance.
- Pricking MC lesions with a sterile needle and expressing the contents can be performed by your doctor or clinic nurse. Although less painful than curettage and cryotherapy, it can still lead to significant trauma in younger children.
- Whatever treatment is rendered, MC lesions may recur after apparent cure.

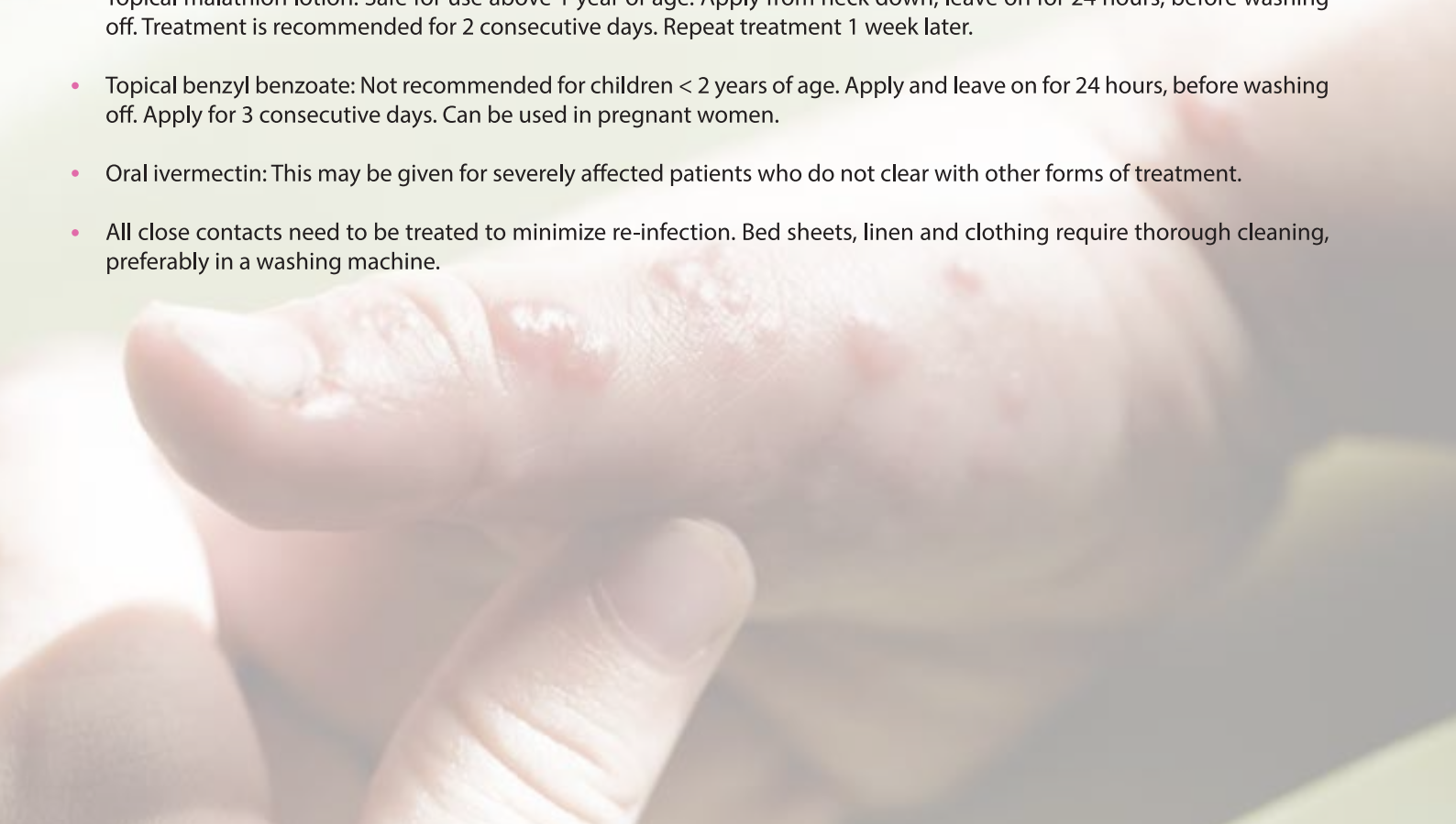
# Scabies and Lice

## Scabies

- Scabies is a common skin infection caused by the mite, *Sarcoptes Scabiei*. This mite only lives on human skin, where it also lays its eggs. The eggs take a week to hatch and the mite lives for 30–60 days.
- Scabies is transmitted by direct contact with an infected person. Spread through shared bedding and clothing is also possible. Re-infection can occur if other infected family members are not treated at the same time.
- Patients present with severe itch that is usually worse at night.
- Skin rashes include scratched, red bumps and small burrows. Common areas affected are web spaces between the fingers and toes, wrists, ankles, armpits, waist and genitals.
- Sometimes, after excessive scratching, bacterial infection can occur, and the rashes become weepy and painful. This requires treatment with antibiotics.
- After treatment, itching will improve but can last for up to a few months.
- Sometimes, the mites may be seen from scrapings of the skin rash. However, a negative result does not exclude scabies and your doctor may still prescribe scabies treatment if the suspicion is high.

## Treatment for Scabies

- Topical therapies are the most commonly used treatment options for scabies.
- Topical permethrin cream: Safe for use above 1 month of age. Apply and leave on overnight, before washing off. For infants (<1 year), apply to the whole body including the scalp. In older children and adults, apply from the neck down. Repeat treatment 1 week later.
- Topical malathion lotion: Safe for use above 1 year of age. Apply from neck down, leave on for 24 hours, before washing off. Treatment is recommended for 2 consecutive days. Repeat treatment 1 week later.
- Topical benzyl benzoate: Not recommended for children < 2 years of age. Apply and leave on for 24 hours, before washing off. Apply for 3 consecutive days. Can be used in pregnant women.
- Oral ivermectin: This may be given for severely affected patients who do not clear with other forms of treatment.
- All close contacts need to be treated to minimize re-infection. Bed sheets, linen and clothing require thorough cleaning, preferably in a washing machine.



## Head Lice (Pediculosis)

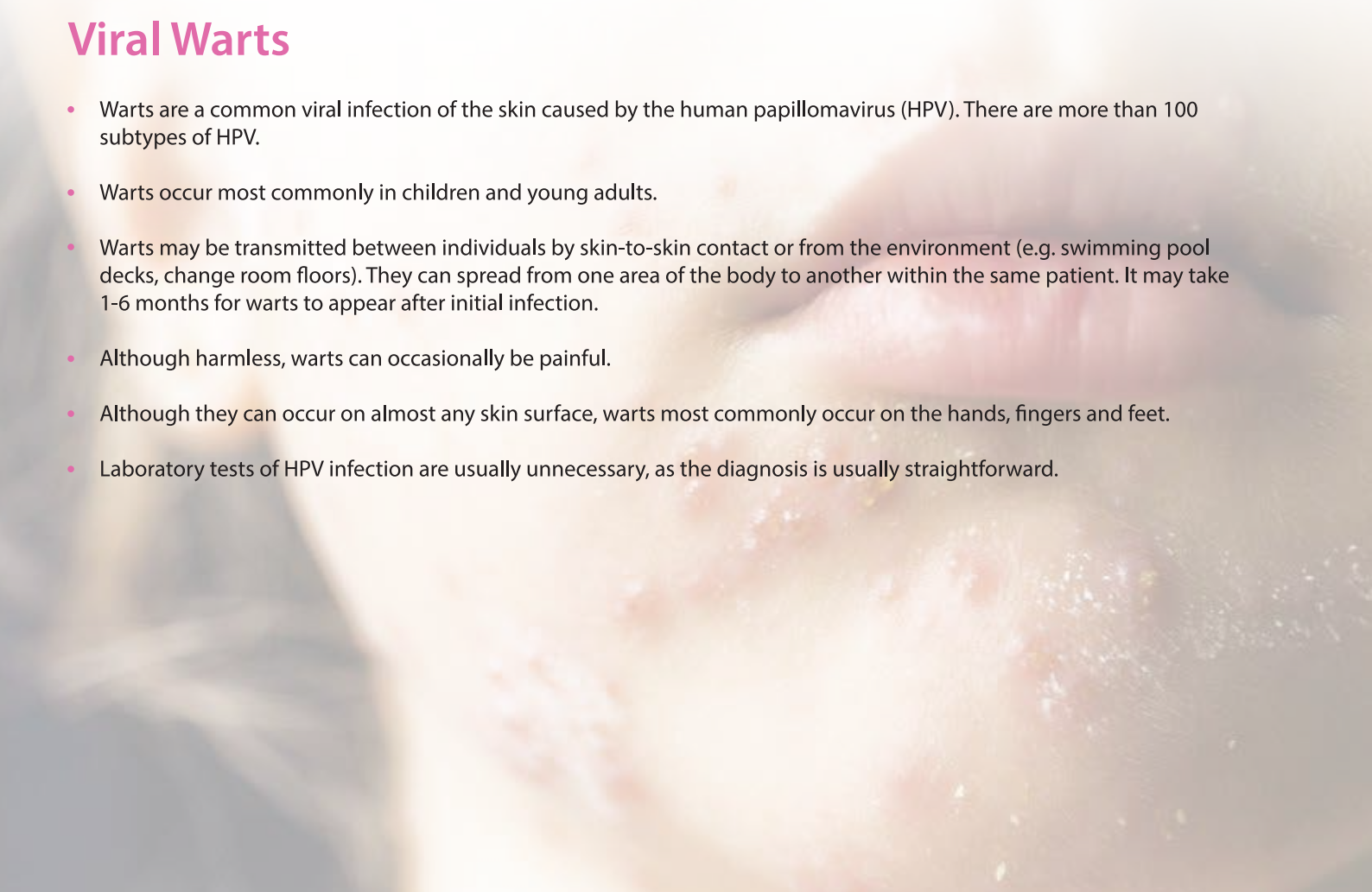
- Lice are small, six-legged, wingless insects that may be visible to the naked eye. Three species of lice can infest humans (body lice, head lice and pubic lice). Body lice may spread other diseases.
- Head lice are the most common form of lice to affect children, and usually affect those between 3 and 12 years of age. They are transmitted by close contact or via household items, including clothing and combs, brushes, and hats or other headgear. They may spread within pre-schools, schools, or homes.
- Patients present with scalp itch and scratch marks on the scalp. On close inspection, the lice may be seen on the hair.

### *Treatment for Head Lice*

- Topical permethrin cream: Safe for use above 1 month of age. Apply to mildly damp hair, leave on overnight and rinse off in the morning. Repeat treatment 1 week later.
- Topical malathion lotion: Safe for use above 1 year of age. Apply to mildly damp hair, leave on for 24 hours, then rinse off. Treatment is recommended for 2 consecutive days. Repeat treatment 1 week later.
- All close contacts need to be treated to minimize re-infection
- Play areas and furniture can be vacuumed, and bedding, clothing, and headgear should be machine washed. Items that cannot be washed may be dry-cleaned or placed in sealed plastic bags for 2 weeks. Hats, combs, brushes, grooming aids, towels, school lockers and hooks, and other items that come into contact with the head or head coverings should not be shared.

## Viral Warts

- Warts are a common viral infection of the skin caused by the human papillomavirus (HPV). There are more than 100 subtypes of HPV.
- Warts occur most commonly in children and young adults.
- Warts may be transmitted between individuals by skin-to-skin contact or from the environment (e.g. swimming pool decks, change room floors). They can spread from one area of the body to another within the same patient. It may take 1-6 months for warts to appear after initial infection.
- Although harmless, warts can occasionally be painful.
- Although they can occur on almost any skin surface, warts most commonly occur on the hands, fingers and feet.
- Laboratory tests of HPV infection are usually unnecessary, as the diagnosis is usually straightforward.





## Types of Viral Warts

- Common warts most frequently occur on the hands and around the nails. They may occur as single or multiple lesions, and appear as flesh-coloured nodules with a rough surface and small pin-point blood vessels. They may bleed if the surface is scratched or pared.
- Flat warts occur commonly on the face, neck, arms, and legs. They are usually seen as smooth, flesh-coloured, pink or brown, flat-topped papules.
- Plantar warts occur on the soles of the feet and toes and may be painful on pressure (e.g. walking). It may be difficult to differentiate from corns (calluses).
- Anogenital warts occur around the genitals and are uncommon in children. Although most often transmitted sexually in adults, this is rarely the case in children, when it can occur through non-sexual contact.

## Treatment of Viral Warts

- Watchful waiting - In children, warts may resolve spontaneously. However, this may take up to 2 years to occur.

- Topicals



Retinoids or imiquimod – These may be used for flat warts.



A combination of salicylic acid/ lactic acid or topical 5-Fluorouracil may be prescribed. These may be more effective when combined with duct tape occlusion.

- Cryotherapy with or without paring.
- Electrosurgery and lasers - Rarely used in children as they can cause significant pain.
- Oral cimetidine - Used with variable success in patients with extensive or recalcitrant warts.
- Others: Cantharidin, Immunotherapy (with SADBE or DCP).
- Even when the wart appears “cured”, there is a 20% risk of recurrence, either at the same or other site(s).

## Cryotherapy

- Highly effective therapy for warts.
- May be painful and therefore may not be suitable for younger patients.
- Liquid nitrogen, at a temperature of  $-196^{\circ}\text{C}$ , is applied to the wart, with a cotton-tipped applicator or via a spray gun, for 10–20 seconds. The number of applications per treatment session depends on the size of the wart and its location.
- Treatment is best repeated at 1-3 week intervals.
- A blister may form at the site of cryotherapy. If the blister is small, it may be left alone. If the blister is large and painful, bring your child back to the clinic. When the blister heals, the wart may also disappear.

