

# Skin Conditions I

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## Fungal Skin Infection/ Athlete's foot

Most often, tinea infections are named based on the area affected.

The incidence of athlete's foot (tinea pedis) is not, as its name might suggest, limited to those of an athletic disposition. The fungus that causes the disease thrives in warm, moist conditions. The spaces between the toes can provide a good growth environment and the infection therefore has a high incidence. The problem is more common in men than in women and responds well to OTC treatment.

Site	Name
Scalp	Tinea capitis
Feet	Tinea pedis
Groin	Tinea cruris
Body	Tinea corporis
Nails	Tinea unguium (onychomycosis)

## Patient Assessment

### Appearance

Athlete's foot usually presents as itchy, flaky skin in the web spaces between the toes. The flakes or scales of skin become white and macerated and begin to peel off. Underneath the scales, the skin is usually reddened and may be itchy and sore. The skin may be dry and scaly or moist and weeping.

### Severity

Athlete's foot is usually a mild fungal infection, but occasionally the skin between the toes becomes more macerated and broken and deeper and painful fissures may develop. The skin may then become inflamed and sore. Once the skin is broken, there is the potential for secondary bacterial infection to develop. If there are indications of bacterial involvement, such as weeping, pus or yellow crusts, then referral to the doctor is needed.

### Location

Classically, the toes are involved, the web space between the fourth and fifth toes being the most commonly affected. More severe infections may spread to the sole of the foot and even to the upper surface in some cases. This type of spread can alter the appearance of the condition and severe cases are probably best referred to the doctor for further investigation. If the toenails appear to be involved, referral to the doctor may be necessary because systemic antifungal treatment may be required to deal with infection of the nail bed where OTC treatment is not appropriate.

### **Previous history**

Many people occasionally suffer from athlete's foot. The pharmacist should ask about previous bouts and about the action taken in response. Any diabetic patient who presents with athlete's foot is best referred to the doctor. Diabetics may have impaired circulation or innervation of the feet and are more prone to secondary infections in addition to poorer healing of open wounds.

### **Medication**

One or more topical treatments may have been tried before the patient seeks advice from the pharmacist. The identity of any treatment and the method of use should be established. Treatment failure may occur simply because it was not continued for sufficiently long enough. However, if an appropriate antifungal product has been used correctly without remission of symptoms, the patient is best referred to the doctor, especially if the problem is of long duration (several weeks).

### **When to refer**

Severe, affecting other parts of the foot  
Signs of bacterial infection  
Unresponsive to appropriate treatment  
Diabetic patients  
Involvement of toenails

### **Treatment timescale**

If athlete's foot has not responded to treatment within 2 weeks, patients should see their doctor.

### **Management**

Most cases of athlete's foot are minor in nature and can be treated effectively with OTC products. Formulations available for the treatment of athlete's foot include creams, powders, solutions, sprays and paints. Pharmacists should instruct patients on how to use the treatment correctly and on other measures that can help to prevent recurrence. Regular application of the recommended product to clean, dry feet is essential, and treatment must be continued after symptoms have gone to ensure eradication of the fungus. Individual products state the length of treatment and generally advise use for 1–2 weeks after the disappearance of all signs of infection.

#### **1. Azoles**

Topical azoles can be used to treat many topical fungal infections, including athlete's foot. They have a wide spectrum of action and have been shown to have both antifungal and antibacterial activity. (The latter is useful as secondary infection can occur.) The treatment should be applied two or three times daily. Formulations include creams, powders and sprays. *Miconazole*, *clotrimazole*, *bifonazole* and *ketoconazole* have occasionally been reported to cause mild irritation of the skin. *Ketoconazole* has a 1 week treatment period, continue 2-3 days after the disappearance of symptoms.

#### **2. Terbinafine**

*Terbinafine* is available as cream, solution, spray and gel formulations. Apply 1-2 times daily for 1 week. There is evidence that *terbinafine* is better than the azoles in preventing recurrence, so it will be useful where frequent bouts of athlete's foot are a problem. *Terbinafine* can cause redness, itching and

stinging of the skin; contact with the eyes should be avoided. *Terbinafine* products are not recommended for use in children.

### **3. Griseofulvin**

*Griseofulvin 1% spray* can be used OTC for the treatment of athlete's foot. The spray is used once a day and the maximum treatment period is 4 weeks.

### **4. Tolnaftate**

*Tolnaftate* is available in powder, cream, aerosol and solution formulations and is effective against athlete's foot. It has antifungal, but not antibacterial, action. It should be applied twice daily and treatment should be continued for up to 6 weeks. *Tolnaftate* may sting slightly when applied to infected skin.

### **5. Undecenoates (e.g. zinc undecenoate, undecenoic acid and methyl and propyl undecylenate)**

*Undecenoic acid* is an antifungal agent, sometimes formulated with zinc salt to give additional astringent properties. Treatment should be continued for 4 weeks.

### **6. Hydrocortisone cream or ointment**

*Topical hydrocortisone* not recommended in athlete's foot because, although it would reduce inflammation, used alone would not deal with the fungal infection, which might then worsen. Combination products containing *hydrocortisone* together with an antifungal agent are available OTC for use in athlete's foot. Treatment is limited to 7 days. Therefore they are probably best used to control initial symptoms of redness and itch before switching to an imidazole only product after the initial 7 days of treatment. They are suitable for children over 10 years of age.

### **Practical point:**

1. Product should be applied after careful cleaning and drying of the foot especially between the toes.
2. Creams or solutions are the most effective dosage form for the delivery of active ingredient to the epidermis. Sprays and powders are less effective because they are often not rubbed into the skin. They are probably more useful as adjunct to creams and solutions or as prophylactic agents in preventing new recurrent infections.
3. They can be used during pregnancy.

## Eczema/dermatitis

**Dermatitis** and **Eczema** are terms used interchangeably to describe a range of skin conditions characterized by dryness, erythema, and itch of the skin, often with weeping and crusting. However the term dermatitis is more correctly used when an external precipitating factor is present (contact dermatitis). While term eczema applied to conditions with endogenous cause in atopic individuals (Atopic eczema).

### Causes of Contact dermatitis

Contact dermatitis may be caused by substances that irritate the skin or spark off an allergic reaction. **Irritant contact dermatitis** is most commonly caused by prolonged exposure to water (wet work). Typical occupations include cleaning, hairdressing, food processing, fishing and metal engineering. Substances that can irritate the skin include alkaline cleansing agents, degreasing agents, solvents and oils. Such substances either cause direct and rapid damage to the skin or, in the case of weaker irritants, exert their irritant effect after continued exposure. Napkin dermatitis is an example of irritant dermatitis and can be complicated by infection, e.g. thrush.

In other cases, the contact dermatitis is caused by an **allergic response** to substances which include chromates (present in cement and rust-preventive paint), nickel (present in costume jewellery and as plating on scissors), rubber and resins (two-part glues and the resin colophony in adhesive plasters), dyes, certain plants (e.g. primula), oxidizing and reducing agents (as used by hairdressers when perming hair) and medications (including *topical corticosteroids*, *lanolin*, *neomycin* and *cetyl stearyl alcohol*). Eye make-up can also cause allergic contact dermatitis.

## Patient Assessment

### Age/distribution

Atopic eczema affects up to 20% of children, in many of whom it disappears or greatly improves with age such that 2–10% of adults are affected.

The distribution of the rash tends to vary with age. In infants, it is usually present around the nappy area, neck, back of scalp, face, limb creases and backs of the wrists (Plate 2). In white children, the rash is most marked in the flexures: behind the knees, on the inside of the elbow joints, around the wrists, as well as the hands, ankles, neck and around the eyes. In black and Asian children, the rash is often on the extensor surface of the joints and may have a more follicular appearance.

In adults, the neck, the backs of the hands, the groin, around the anus, the ankles and the feet are the most common sites. The rash of intertrigo is caused by a fungal infection and is found in skin folds or occluded areas such as under the breasts in women and in the groin or armpits.

### Occupation/contact

To know whether or not contact dermatitis is the problem, pharmacist can ask about:

Site of rash, details of job and hobbies, onset of rash and agents handled, and improvement of rash when away from work or on holiday.

### History of hay fever/asthma

Many eczema sufferers have associated hay fever and/or asthma. There is often a family history (in about 80% of cases) of eczema, hay fever or asthma. Eczema occurring in such situations is called atopic eczema. The pharmacist can enquire about the family history of these conditions.

### **Aggravating factors for Atopic eczema:**

- hay-fever season.
- house dust or animal danders.
- soaps or detergents and cold wind (dry the skin ).
- Certain clothing such as woollen material can irritate the skin.
- Cow's milk, eggs and some food colouring (less than 5% of sufferers).
- Emotional factors, stress and worry can sometimes exacerbate eczema.
- Antiseptic solutions applied directly to the skin or added to the bathwater can irritate the skin.

### **Severity**

Severe contact dermatitis (badly cracked /fissured skin, bleeding), or sign of bacterial infection (weeping) required referral.

### **Medication**

- Contact dermatitis may be caused or made worse by sensitisation to topical medicaments.
- Topically applied local anaesthetics, antihistamines, antibiotics and antiseptics can all provoke allergic dermatitis. Some preservatives may cause sensitisation.  
(The *British National Formulary (BNF)* is also a good source of information on this subject, with a list of additives for each topical product and excipients that may be associated with sensitization).
- Failed medication need referral

### **When to refer**

Evidence of infection (weeping, crusting, spreading)

Severe condition: badly fissured/cracked skin, bleeding

Failed medication

No identifiable cause (unless previously diagnosed as eczema)

Duration of longer than 2 weeks

### **Treatment timescale**

Most cases of mild-to-moderate atopic eczema, irritant and allergic dermatitis should respond to skin care and treatment with OTC products. If no improvement has been noted after 1 week, referral to the doctor is advisable.

### **Management**

1-All form of dermatitis can cause redness, drying of the skin, and irritation / pruritus to varying degrees. Treatment should include three steps: managing the itch avoiding the irritant (i.e. non pharmacological advice e.g. : wearing gloves to protect the skin) and maintaining the skin integrity.

Further advice could be given regarding the use of ordinary soaps that tend to dry the skin and their alternatives (soap substitutes).

2-The main agents used are emollients and steroid. Emollient used on regular basis to keep the condition under control and the flare-up is treated by short course of steroid.

### **Emollients**

Emollients are the key to managing eczema and are medically inert creams and ointments which can be used to soothe the skin, reduce irritation, prevent the skin from drying, act as a protective layer and be

used as a soap substitute. They may be applied directly to the skin or added to the bathwater. There are many different types of emollient preparations that vary in their degree of greasiness.

The greasy preparations such as white soft paraffin are often the most effective, especially with very dry skin, but have the disadvantage of being messy and unpleasant to use. Patient preference is very important and plays a major part in compliance with emollient treatments.

Emollient preparations should be used as often as needed to keep the skin hydrated and moist. Several and frequent applications each day may be required to achieve this. Standard soaps have a drying effect on the skin and can make eczema worse. Aqueous cream can be used as a soap substitute. It should be applied to dry skin and rinsed off with water. Proprietary skin washes are also available. Adding emulsifying ointment or a proprietary bath oil to the bath is helpful. Emulsifying ointment should first be mixed with water (one or two tablespoonfuls of ointment in a bowl of hot water) before being added to the bath to ensure distribution in the bathwater. Some patients with eczema believe, incorrectly, that bathing will make their eczema worse. This is not the case, provided appropriate emollient products are used and standard soaps and perfumed bath products are avoided, and in fact, bathing to remove skin debris and crusts is beneficial.

### **Topical corticosteroids**

1-Two topical steroids are now OTC (a mildly potent steroid : hydrocortisone 1% Cream and ointment, and moderately potent steroid : clobetasone 0.05% cream only but not ointment. They are licensed for the treatment of irritant and allergic dermatitis and mild-to-moderate eczema.

2- The choice between hydrocortisone and clobetasone is based on the severity of the dermatitis and where the dermatitis is, with hydrocortisone being best for areas that have thin skin (e.g., flexures), and clobetasone possibly better for other areas (e.g., hands and palms) or where hydrocortisone has failed to control symptoms.

3- OTC hydrocortisone is contraindicated where the skin is infected (e.g. athlete's foot or cold sores, in acne, on the face and anogenital areas).

4- Children aged over 10 years and adults can be treated, and any course must not be longer than 1 week.

Topical clobetasone 0.05% can be used for the short-term treatment and control of patches of eczema and dermatitis in people aged 12 years and over.

7-Hydrocortisone cream can be applied as frequently as two to four times per day while clobetasone applied twice a day.

### **Antipruritics**

Antipruritic preparations are sometimes useful, although evidence of effectiveness is lacking. The itch of eczema is not histamine related, so the use of antihistamines other than that of sedation at night is not indicated. *Calamine* or *crotamiton* can be used in cream or lotion. A combination product containing *crotamiton* with *hydrocortisone* is available. Indications for use are the same as those for *topical hydrocortisone* for contact dermatitis (irritant or allergic) and mild-to-moderate eczema.

# Acne

Acne vulgaris is a common condition in young people. It is not usually serious and resolves in most patients by the age of 25. However, it can have a significant psychological impact as it affects young people at a stage in their lives when they are especially sensitive about their appearance.

The pilosebaceous units in the dermis of the skin consist of a hair follicle and associated sebaceous glands. These glands secrete sebum -a mixture of fats and waxes- to protect the skin and hair by retarding water loss and forming a barrier against external agents.

Peak incidence of acne is 14-17 years in females and 16-19 years in males. The condition normally resolves in the majority of patients within 10 years of onset.

## Etiology

Acne is the result of a combination of several factors. The main processes involved are as follows:

1. The hormonal changes that occur during puberty, especially the production of androgens, are thought to be involved in the causation of acne. Increased keratin and sebum production during adolescence are thought to be important contributory factors; the increased amount of keratin leads to blockages of the follicles and the formation of microcomedones.
2. A microcomedone can develop into a non-inflammatory lesion (comedone), which may be open (blackhead) or closed (whitehead), or into an inflammatory lesion (papule, pustule or nodule).
3. Excess sebum encourages the growth of bacteria, particularly *Propionibacterium acnes*, which are involved in the development of inflammatory lesions. Acne can thus be non-inflammatory or inflammatory in nature.

## Patient Assessment

### Age

Acne commonly occurs during the teenage years and its onset is most common at puberty, although it may start to appear a year or so earlier.

#### *Very young*

Acne is extremely rare in young children and babies and any such cases should be referred to the doctor for investigation since an androgen secreting (hormone-producing) tumour may be responsible.

#### *Older*

For patients in whom acne begins later than the teenage years, other causes should be considered, including drug therapy (discussed below) and occupational factors. Oils and greases used at work can precipitate acne and it would be worth asking whether the patient comes into contact with such agents. Acne worsens just before or during menstruation in some women; this is thought to be due to changes in progesterone levels.

## Severity

Only mild acne can be managed by the pharmacist using OTC products, moderate and severe acne should be referred.

**1-Mild acne:** Patients suffering from mild acne characteristically have predominately open and closed comedones with few inflammatory (papulopustular) lesions mainly confined to the face. Mild acne is therefore characterized by the presence of a few to several papules and pustules the, but not nodules

**2-Moderate acne:** A patient with moderate acne has many inflammatory lesions that are not confined to the face. Lesions are often painful and there is a possibility of mild scarring.

**3-Severe acne:** A patient with severe acne has all the characteristics of moderate acne plus the development of cysts. Lesions are often widespread involving the upper back and chest. Scarring will usually result.

### **Affected areas**

In acne, affected areas may include the face, neck, center of the chest, upper back and shoulders, i.e. all areas with large numbers of sebaceous glands. Rosacea is a skin condition that is sometimes confused with acne. Occurring in young and middle-aged adults, rosacea has characteristic features of reddening, papules and pustules. Only the face is affected. It is normally seen in patients over 40 years of age and is more common in women than in men.

### **Medication**

The pharmacist should establish the identity of any treatment tried already and its method of use. Inappropriate use of medication, e.g. infrequent application, could affect the chances of success. Information about current therapy is important, since acne can sometimes be drug induced. *Lithium*, *phenytoin* and the progestogens, levonorgestrel and norethisterone (e.g. in the combined oral contraceptive pill), may be culprits. If acne is suspected as a result of drug therapy, patients should be advised to discuss this with their doctor.

### **When to refer**

Moderate and Severe acne  
Failed medication  
Suspected drug-induced acne

### **Treatment timescale**

A patient with mild acne, which has not responded to treatment within 8 weeks, should be referred to the doctor.

### **Management**

The general aims of therapy are to remove follicular plugs so that sebum is able to flow freely and to reduce the number of bacteria on the skin. Treatment should therefore reduce comedone formation. The most useful formulations are lotions, creams and gels. Gels with an alcoholic base dry quickly but can be irritating. Those with an aqueous base dry slower but are less likely to irritate the skin. A noncomedogenic moisturiser can help if the skin becomes dry as a result of treatment.

### **Benzoyl peroxide (2.5%, 5%, and 10% gels, lotion, cream)**

*Benzoyl peroxide* has both antibacterial and anticomedogenic actions and is the first-line OTC treatment for inflammatory and noninflammatory acne. Anti-inflammatory action occurs at all strengths. Anticomodogenic action is low and has the greatest effect at higher strengths. It has a keratolytic action, which increases the turnover of skin cells, helping the skin to peel. Regular application can result in improvement of mild acne. At first, *benzoyl peroxide* is very likely to produce reddening and soreness of the skin, and patients should be warned of this. Treatment should start with a 2.5 or 5.0% product, moving gradually to the 10.0% strength if needed. Gels can be helpful for people with oily skin and



creams for those with dry skin. Washing the skin with a mild soap or cleansing product rinsed off with water before applying *benzoyl peroxide* can help by reducing the amount of sebum on the skin.

*Benzoyl peroxide* prevents new lesions forming rather than shrinking existing ones. Therefore it needs to be applied to the whole of the affected area, not just to individual comedones, and is best applied to skin following washing. During the first few days of use, the skin is likely to redden and may feel slightly sore. Stinging, drying and peeling are likely. Warning should be given that such an irritant effect is likely to occur; otherwise treatment may be abandoned inappropriately. One approach to minimise reddening and skin soreness is to begin with the lowest strength preparation and to apply the cream, lotion or gel sparingly and infrequently during the first week of treatment.

#### *Application*

Once daily or on alternate days could be tried for a week and then frequency of use increased to twice daily. After 2 or 3 weeks, a higher strength preparation may be introduced. If irritant effects do not improve after 1 week or are severe, use of the product should be discontinued. It is generally agreed that keratolytics such as benzoyl peroxide require a minimum of 6-8 weeks treatment for benefit to be shown.

#### *Sensitisation*

Occasionally, sensitisation to *benzoyl peroxide* may occur. The skin becomes reddened, inflamed and sore, and treatment should be discontinued.

#### *Bleaching*

Warning should be given that *benzoyl peroxide* can bleach clothing and bedding. If it is applied at night, white sheets and pillowcases are best used and patients can be advised to wear an old T-shirt or shirt to minimise damage to good clothes. Contact between *benzoyl peroxide* and the eyes, mouth and other mucous membranes should be avoided.

### **Other keratolytics**

Other keratolytics include *potassium hydroxyquinoline sulphate* and *salicylic acid*. They are second-line treatments.

### **Nicotinamide**

Topical nicotinamide has a mild anti-inflammatory action and is applied twice daily. There is limited evidence of effectiveness. Side-effects may include skin dryness and/or irritation.

### **Antibacterials**

Skin washes and soaps containing antiseptic agents such as chlorhexidine are available. Such products may be useful in acne by degreasing the skin and reducing the skin flora. There is limited evidence of effectiveness.

### **Topical Retinoids (Adapalene/ Differin Gel 0.1%)**

1-Retinoids are highly effective in the treatment of acne, retinoids stimulate epithelial cell turnover and aid in unclogging blocked pores. Thus, the retinoid family are highly active peelers. Available topical retinoids include tretinoin, adapalene, and tazarotene. Adapalene is considered the drug of first choice because it has similar efficacy and a lower incidence of adverse effects. Differin Gel 0.1% is the first in a class of retinoids to be made available OTC for the treatment of acne vulgaris in patients 12 years of age and older.

2-The drug should be applied once daily in a thin layer on the affected areas of skin. However, if there is no improvement in 3 months of daily use, patients should stop using the product and consult a physician.  
3-Adapalene is photoirritants, and sun avoidance and sunscreen use are imperative.

## **Practical points**

### **Diet**

There is no evidence to link diet with acne, despite a common belief that chocolate and fatty foods cause acne or make it worse.

### **Continuous treatment**

Acne is slowly responding condition to treatment and a period of up to 6 months may be required for maximum benefit. Patients should therefore be encouraged to persevere with treatment, whether with OTC or prescription products, and told not to feel discouraged if results are not immediate. The patient also needs to understand that acne is a chronic condition and continuous treatment is needed to keep the problem under control.

### **Skin hygiene**

Regular washing of the skin with soap and warm water or with an antibacterial soap or skin wash can be helpful as it degreases the skin and reduces the number of bacteria present.

### **Topical hydrocortisone and acne**

The use of topical hydrocortisone is contraindicated in acne because steroids can potentiate the effects of androgenic hormones on the sebaceous glands, hence making acne worse.

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## **Cold Sores**

Cold sores (herpes labialis) are caused by one of the most common viruses affecting humans worldwide. The virus responsible is the herpes simplex virus (HSV) of which there are two major types: HSV1 and HSV2. HSV1 typically causes infection around or in the mouth, whereas HSV2 is responsible for genital herpes infection. Occasionally, however, this situation is reversed with HSV2 affecting the face and HSV1 the genital area.

## **Patient Assessment**

### **Age and Duration**

Cold sores are most commonly seen in adolescents and young adults. Following the primary attack, the virus is not completely eradicated and virus particles lie dormant in nerve roots until they are reactivated at a later stage. Recurrent cold sores occur in up to 25% of all adults and the frequency declines with age, although cold sores occur in patients of all ages. The incidence of cold sores is slightly higher in women than in men.

In active primary herpes infection of childhood, the typical picture is of a febrile child with a painful ulcerated mouth and enlarged lymph nodes. The herpetic lesions last for 3–6 days and the infection is resolved within 1–2 weeks.

### **Symptoms and appearance**

The symptoms of discomfort, tingling or irritation (prodromal phase), may occur in the skin for 6–24 h before the appearance of the cold sore. The cold sore starts with the development of minute blisters on top of inflamed, red, raised skin. The blisters may be filled with white matter. They quickly break down to produce a raw area with exudation and crusting by about the fourth day after their appearance. By around 1 week later, most lesions will have healed. Cold sores are extremely painful and this is one of the critical diagnostic factors. When a cold sore occurs for the first time, it can be confused with a small patch of impetigo. Impetigo is usually more widespread, does not start with blisters and has a honey-coloured crust. Impetigo tends to spread out to form further patches and does not necessarily start close to the lips. It is less common than cold sores and tends to affect children. Since impetigo requires either topical or oral antibiotic treatment, the condition cannot be treated by the pharmacist. If there is any doubt about the cause of the symptoms, the patient should be referred.

### **Location**

Cold sores occur most often on the lips or face. Lesions inside the mouth or affecting the eye need medical referral.

### **Precipitating factors**

It is known that cold sores can be precipitated by sunlight, wind, fever (during infections such as colds and flu) local trauma to the skin and menstruation (hormonal changes). Physical and emotional stress can also be triggers. These information is usually helpful for the sufferer.

### **Previous history (help in diagnoseis)**

If a sore keeps on returning in the same place in a similar way, then it is likely to be a cold sore. Most sufferers experience one to three attacks each year. Cold sores occur throughout the year, with a slightly increased incidence during the winter months. Information about the frequency and severity of the cold sore is helpful when recommending referral to the doctor, although the condition can usually be treated by the pharmacist. In patients with atopic eczema, herpes infections can be severe and widespread. Such patients must be referred to their doctor.

### **Medication**

You need to know what medication used in previous episodes and what, if anything, helped last time. Immunocompromised patients, e.g. those undergoing cytotoxic chemotherapy, are at risk of serious infection and should always be referred to their doctor.

### **When to refer**

- Babies and young children
- Failure of an established sore to resolve
- Severe or worsening sore (widespread)
- History of frequent cold sores
- Sore lasting longer than 2 weeks
- Painless sore (like in oral cancer)
- Patients with atopic eczema
- Eye affected
- Uncertain diagnosis
- Immunocompromised patient

## Management

The duration of the symptoms is important as treatment with aciclovir (acyclovir) is of most value if started early in the course of the infection (during the prodromal phase). Usually the infection is resolved within 1–2 weeks. Any lesions that have persisted longer need medical referral.

### Aciclovir and penciclovir

*Aciclovir cream* and *penciclovir creams* are antivirals that reduce time to healing and reduce pain experienced from the lesion. Treatment should be started as soon as symptoms are felt and before the lesion appears (prodromal stage). Once the lesion has appeared, evidence of effectiveness is less convincing. The treatments are therefore a helpful recommendation for patients who suffer repeated attacks and know when a cold sore is going to appear. Such patients can be told that they should use treatment as soon as they feel the characteristic tingling or itching which precedes the appearance of a cold sore.

*Aciclovir cream* can be used by adults and children and should be applied **4-hourly** during waking hours (approximately five times a day) to the affected area **for 5 days**. If healing is not complete, treatment can be continued for up to 5 more days, after which medical advice should be sought if the cold sore has not resolved. *Penciclovir* can be used by those aged 12 years and over and is applied 2-hourly during waking hours (approximately eight times a day) for 4 days. Some patients experience a transient stinging or burning sensation after applying the creams. The affected skin may become dry and flaky.

### Bland creams (e.g. cetrimide/ celavex cream)

Keeping the cold sore moist will prevent drying and cracking, which might predispose to secondary bacterial infection. For the patient who suffers only an occasional cold sore, a simple cream, perhaps containing an antiseptic agent, can help to reduce discomfort.

### Hydrocolloid patch

This patch is applied as soon as symptoms start and replaced as needed. The thin hydrocolloid patch is used for its wound healing properties.

### Practical point: preventing cross-infection:

1. Patient should be aware that HSV1 is contagious and transmitted by direct contact.
2. Patients should be encouraged to use a separate towel and wash their hands after applying products because viral particles are shed from the cold sore and can be transferred to others.
3. Risk of transmission is highest during the first 1–4 days of symptoms
4. Lesion should be kept clean by gently washing with it with mild soap solution.
5. For those patients in whom the sun triggers cold sores, a sun block would be the most effective prophylactic measure.

### References:

1. Symptoms in the Pharmacy 7th Edition, 2014.
2. Community Pharmacy a guide to management of minor ailments 1<sup>st</sup> Edition, 2018.