Heat Rash/Prickly Heat

Some information on Heat Rash/Prickly Heat......

Heat rash is the generic group name for a number of skin problems that arise or worsen because of heat exposure. Common names for heat rash include prickly heat, miliaria rubra, sweat retention syndrome, and "sun" allergy.

This disorder occurs all year round in the tropics, and elsewhere in the summer months when the weather is hot and humid. In the tropics it is most commonly seen from September onwards until March, especially in visitors from cooler climates. Treated early, with good advice, it is easily managed. Poor treatment can lead to greater discomfort, and restricted lifestyles for sufferers than may have occurred with NO treatment at all. Note that poor treatment MAY be overtreatment with the wrong products.

People will sometimes self diagnose "heat rash" when actually suffering from other conditions such as insect bites, sunburn, bacterial infections like folliculitis, or cutaneous fungal infections, so for correct treatment we need to know what prickly heat actually is.

Types of Heat Rash/Prickly Heat

The skin contains two types of glands: one produces oil and the other produces sweat. The sweat glands are coil shaped and extend deep into the skin. They can block at several different places, leading to different looking types of rash.

There are 4 types of miliaria (heat rash):

- The most common is miliaria rubra (red), where the sweat glands block at a deep layer. This causes sweat to leak into the living layer of the skin, causing irritation and itching, especially around the skin pores. Redness may be just around the sweat gland pores initially, with more advanced heat rash leading to larger red or pink patches of skin, and even large red bumps, and welts. The torso and thighs are common sites for heat rash. Areas where there are a lot of sweat glands, especially where skin touches skin, such as the groin, armpits and under breasts, are also commonly affected. Scratching may aggravate the red appearance, and the subsequent itching. Wet sweaty clothing also can aggravate the condition through physical friction.

- A complication of miliaria rubra is miliaria pustulosa, which looks white/yellow in the pore, where the damaged sweat gland is infected with pus producing bacteria. There is some evidence that the initial blockage of the sweat gland is caused by plugs formed by the normal bacterial inhabitants of the skin.

- Another type of miliaria is miliaria crystallina (clear little blisters), caused by blockage at the top of the sweat gland in the epidermis (upper layer) of the skin. These little blisters are generally not irritating, and can look like tiny sunburn blisters.

- Miliaria profunda is the deepest of all blockages, which completely interferes with the free flow of sweat, leading to dry skin, and sometimes goose bumps.

Please refer to pictures of these 4 different conditions on the following page......

Why does it happen?

Heat rash is caused by a blockage of the sweat glands, especially after repeated episodes of sweating, leading to inflammation when sweat escapes into adjacent tissue. This causes the itching and prickling sensations that most people seek treatment for, as well as the red rash, which may be extensive.
**The 4 different types of Heat Rash / Prickly Heat:**

(Please note these rashes may present in many different ways and our pharmacists can help to diagnose which type a patient may have)

<table>
<thead>
<tr>
<th>Miliaria rubra</th>
<th>Miliaria pustulosa</th>
<th>Miliaria crystallina</th>
<th>Miliaria profunda</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Miliaria rubra" /></td>
<td><img src="image2.png" alt="Miliaria pustulosa" /></td>
<td><img src="image3.png" alt="Miliaria crystallina" /></td>
<td><img src="image4.png" alt="Miliaria profunda" /></td>
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**Who is at risk and how can I avoid it?**

- Infants, and overweight or obese children or adults are at particular risk of getting heat rash, as is anybody doing more physical activity than normal in a hot and humid environment.

- Heat rash is also easily caused, or aggravated, by any skin lotion that has the ability to enter sweat glands (i.e. almost all skin lotions) and block them. A water resistant sunscreen in a lotion, milk, oil or cream will sit tenaciously on the skin, restricting the passage of sweat from the sweat gland. Moisturising lotions, including aloe vera gels, also can restrict the free flow of sweat out of the gland.

- It is common to find sufferers of heat rash who have recently arrived in a hot area from a cooler climate, put on a good quality water resistant thick 30+ sunscreen, spent a lot of time outdoors in the sunshine enjoying themselves, and moisturised diligently after noticing some redness appearing on the skin. The increased and unusual demands on their sweat glands for cooling the body, the sunscreen, and the moisturiser have all contributed to the heat rash.

- Alcohol based, water resistant sunscreens are the best option for heat rash patients who will continue to be exposed to UV radiation. The sunscreen remains on the skin, but the base evaporates, leaving fewer residues to block the sweat glands. Moisturisers, and other creams, should be avoided on skin areas affected by heat rash.

**Examples of suitable alcohol based sunscreens stocked in your pharmacy are shown below:**

![SunSense Sunscreen](image5.png)

![Sunsense Clear Gel](image6.png)
Treatment Advice

Most heat rash resolves without treatment, often within a day of changing to a cooler environment. Even though the sweat glands may take a week or two to be repaired, if there is not an excessive demand placed on the body for cooling, then the rash will clear quickly. The challenge is to manage heat rash in those who will remain in a hot and humid environment. Treatment will involve helping with relief of symptoms, and working on how to minimise it from getting worse, or recurring (with advice from your local LiveLife pharmacy).

Keep cool!!

- Remain in a cool environment e.g. air conditioning, or close to a fan, and allow for adequate ventilation of the skin.
- Take cool showers or baths, several times a day, and always after exercise or heat exposure. Always pat dry the skin with a towel, do not rub vigorously.
- Use cool packs on affected areas (but not for longer than 20 minutes per hour).
- Wear loose, light fitting, soft clothes. Avoid clothing that traps heat or moisture. Cotton underwear is better than no underwear if the groin or buttocks are affected.
- Avoid skin to skin contact elsewhere by placing a soft, clean washcloth or other material between skin folds e.g. under breasts.

It is important to note that most sufferers will want to continue in their daily routines, or maximise their holiday enjoyment, and so 24 hours a day in air conditioning until symptoms resolve is not always going to be possible or practical.

It is essential to be aware of the importance of keeping COOL. If doing outside activities, especially if in the sunshine, try to avoid getting hot by wearing cool breathable fabrics. Avoid nylon. Spend as much time as possible in the water, or shade, to keep cool. Once the activity has finished, have a cool shower as soon as possible. If the skin is irritated, avoid soaps, but use a non-soap alternative like Pinetarsol if necessary for cleanliness, or itch relief. Pat dry afterwards, do not rub. Always avoid hot spas and saunas. Always wear a sunscreen, as sunburn will aggravate heat rash, but use an alcohol based or evaporative based sunscreen. Do not apply after-sun moisturisers to the affected area.

Remember to always keep cool!!!
Products available for Optimal Care

- **Pinetarsol shower gel** may give some relief, and is useful for cleansing skin which may be irritated by normal soaps/washes. It is also very helpful at maintaining the Ph of the skin at 5.7, minimising secondary infection of the rash area/damaged sweat glands.

- **Prickly heat solutions:** These may be helpful if the patient is going to continue to be exposed to heat. Once heat rash is present, the sweat glands in that area are ineffective, so artificial cooling of the area (other than swimming, showers etc) is useful.
  - Cooling lotions such as Calamine lotion may be helpful, but not necessarily any more than evaporative cooling of water from the skin. The cosmetic unpleasantness of Calamine is a big consideration too.
  - Menthol in lotions has a swift cooling effect. It is temporary, but good for calming children. Note that lotions may end up being counterproductive if they are thick or greasy.
  - Some prickly heat lotions are alcohol based. The alcohol evaporates, giving a cooling effect immediately, and leaves less residue on the skin than water based lotions. They should not sting, but use should be discontinued if they do.
  - The Apothecary Prickly heat lotion contains menthol, cetrimide and salicylic acid in an alcohol base. The salicylic acid acts as an exfoliant, hopefully to clear the blocked sweat glands more quickly than they would otherwise. Please note: it will not be effective if the you are not diligent about keeping as cool as possible/practical.
  - Having an antibacterial (e.g. cetrimide) in a prickly heat lotion is useful to minimise the chances of secondary infection leading to miliaria pustulosa (infection in the sweat gland). Triclosan (Phisohex) is also helpful to treat the infection, if it occurs.
  - All other topical creams, lotions etc, including aloe vera gels (100% natural gel or otherwise) should be avoided in the heat rash areas, as they may aggravate sweat gland blockage, and impede heat loss from the surface of the skin.

- **Cortisone creams** are very useful in relieving heat rash symptoms such as itch and redness. Hydrocortisone 1 % creams are available in a pharmacy without a prescription. A tiny amount of the least greasy option available (e.g. Derma-aid soft 1%) will help, but only if you are able to keep cool. If you are not itchy, but are concerned about minimising the heat rash for cosmetic/aesthetic purposes, you may also use Hydrocortisone cream to your benefit.

- **Antihistamines** e.g. the non sedating (non sleepy) 24 hour acting ones like Fexofenadine 180 mg, can be useful in relieving the itching, prickling sensation of heat rash. Histamine is only one of the inflammatory mediators released once sweat leaks into the tissue surrounding the blocked sweat gland, so antihistamines work better when combined with Hydrocortisone cream. Some tourists refer to heat rash as a “sun” allergy, but it is not actually a true allergic response.

- Consider changing your sunscreen, if appropriate. This is essential if you have previously had heat rash and are looking for advice on how to prevent it occurring again. – note a “sensitive” sunscreen is NOT the answer, an alcohol based one is.

- **Local anaesthetic clear lotions e.g. Paxyl** (not creams) may be helpful, if you are still uncomfortable despite Hydrocortisone and antihistamines.

- **DO NOT use talc or cornstarch powders to treat prickly heat.** They may be useful as an aid to prevent heat rash in occluded areas by minimising friction, along with antiperspirants e.g. 3B cream. They will be another potential physical sweat gland blocker once heat rash is present.

- Drink lots of **water.** Heat rash itself will not lead to heat exhaustion (dehydration) or heat stroke (= sun stroke - potentially fatal inability of the body to regulate its temperature), even though the affected area is ineffective at helping to cool the skin and thus the body. However, conditions that lead to heat rash can lead to heat exhaustion and other dehydration problems. Lots of fluid intake of the wrong liquids e.g. alcohol and caffeine, may exacerbate dehydration.