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Miliaria

Miliaria is another name for sweat rash.

Why does it occur?

Miliaria arises from obstruction of the sweat ducts. It is commonest in hot, humid conditions but may occur in desert regions. It affects up to 30% of people exposed to these climatic conditions. However, there is a striking variation in individual susceptibility. Very young infants are especially prone to it. Miliaria may begin within a few days of arrival in a tropical climate but is maximal after 2–5 months.

In New Zealand, miliaria is most common during humid summer weather. Activities which encourage sweating and the wearing of synthetic clothing against the skin are important precipitating factors. In winter, miliaria can result from swaddling up in too much clothing, sitting too close to the fire or heater and being hot in bed with a duvet and/or electric blanket.

In hospital, miliaria is typically seen on the backs of people who are lying for prolonged periods in bed, particularly when they are sweating from an infection, heart attack or chemotherapy, or have been immobilized by a stroke, head injury or orthopaedic operation.

Miliaria may be produced experimentally in susceptible subjects by injury to the epidermis (ie. surface layers of the skin). It can be reproduced regularly by occlusion of the skin under polythene for 3–4 days, following which the sweat ducts remain blocked for about 3 weeks. Prolonged exposure of the skin to sweat achieves the same effect. It is believed the first event in the production of miliaria is an increase in certain normal *Staphylococcus epidermidis* bacteria which live on the skin. These produce a sticky substance which blocks the sweat ducts. Leakage of sweat through the walls of the duct behind the block is responsible for production of the miliaria spots and for further aggravation.

What does it look like?

The typical spots develop in skin folds and on the body, especially in areas of friction from clothing. In infants lesions commonly appear on the neck, groins and armpits, but also on the face and elsewhere. In contrast to acne and other forms of [folliculitis](#), miliaria spots do not arise around the hair follicles.

- Miliaria crystallina or sudamina is caused by obstruction of the sweat ducts close to the surface of the skin and appears as tiny superficial clear blisters that break easily.
- Miliaria rubra or prickly heat occurs deeper in the epidermis (outside layer of skin) and results in very itchy red papules (bumps).
- Miliaria profunda results from sweat leaking into the dermis (middle layer of skin) causing deep and intensely uncomfortable, prickling, red lumps.
- Miliaria pustulosa describes pustules due to inflammation and bacterial infection.

Miliaria



Once triggered off, an attack of miliaria profunda commonly lasts 5–6 weeks despite the best treatment that can be offered. This is because the plugs which form in the sweat duct openings can only be cast off by the outward growth of the sweat duct cells. This takes several weeks. Treatment cannot influence this process.

Treatment

- **Avoid further sweating** Even if this is achieved for only a few hours a day, as in an air-conditioned office or bedroom, considerable relief is experienced. For the very susceptible person a move away from tropical climates may be essential.
- **Do not irritate the skin** Avoidance of excessive clothing, friction from clothing, excessive soap and contact of the skin with irritants will reduce the liability to miliaria. Shirts and blouses should be made of the new breathable synthetic fabrics where available, otherwise of cotton.
- **Cool water compresses** and good ventilation will soothe inflamed areas.
- **Calamine lotion** Calamine is probably as effective as anything for relief of discomfort, but because of its drying effect an emollient may subsequently be required.
- **Topical steroids** For more marked cases, mild [topical steroids](#) often give reasonable relief of symptoms while natural resolution of the condition is awaited.
- **Antiseptics** Antiseptics and antistaphylococcal [antibiotics](#) can combat bacterial overgrowth.

Related information

On DermNet NZ:

- [Hair, scalp, nails and sweating](#)

Other websites:

- [Miliaria](#) - emedicine dermatology, the online textbook

Books about skin diseases:

See the [DermNet NZ bookstore](#)

DermNet does not provide an on-line consultation service.

If you have any concerns with your skin or its treatment, see a [dermatologist](#) for advice.

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