

## Erythema nodosum

Erythema nodosum is a skin condition characterised by the formation of red and painful lumps, most commonly on the shins. The condition is three times more common in women than men and tends to develop somewhere between 20 and 45 years of age. Children under the age of 15 years are very rarely affected. The specific cause of erythema nodosum is unknown, but the condition can be triggered by certain drugs, diseases and infections. The trigger remains unknown in many cases. Even with treatment, the inflamed nodules can take around three to six weeks to resolve.

### Symptoms

The symptoms of erythema nodosum include:

- The skin on the shins is most commonly affected.
- Other areas that may be affected include the ankles, calves, thighs, buttocks and arms.
- Raised, red, hard, hot and painful lumps appear on the skin.
- The lumps can be from 1cm to 20cm wide.
- Up to 50 lumps may develop in the affected area.
- Leg swelling.
- Fever and general malaise.
- Around half of all cases are associated with joint pains, particularly the knees.
- Conjunctivitis sometimes develops.
- The lumps turn from bright cherry red to purple over a few days.
- The purple lumps become brownish-yellow and flat over a few weeks.
- The lumps tend to recur if the person doesn't have sufficient rest.

### Pockets of immune cells

The skin consists of three main layers: the epidermis, the dermis and the subcutaneous layer. The subcutaneous layer is the deepest, and provides support and structure for the overlying dermis and epidermis. Erythema nodosum is an immunological response. The characteristic lumps are collections of immune cells clustered in pockets within the subcutaneous layer. In some cases, the dermis (middle layer of the skin) may also be affected.

### Possible causes

The exact cause of erythema nodosum is unknown, but some cases may be linked to a range of infections and other factors, including:

- Throat infections, either bacterial or viral.
- Involvement of the lymph nodes in sarcoidosis.
- Tuberculosis.
- Leukaemia.
- Hormonal changes, such as pregnancy and the use of birth control pills.
- Certain drugs, including penicillin, bromides and sulphonamides.
- Inflammatory bowel disease (IBD).
- Other infections, including psittacosis, infectious mononucleosis (EBV or 'glandular fever'), hepatitis B and syphilis.
- The cause is unknown in around 20 per cent of cases.

### Diagnostic methods

Erythema nodosum can be confused with other skin conditions, such as vasculitis or necrobiosis lipoidica. It needs to be carefully diagnosed, and further tests may be used to identify the cause. These may include:

- Medical history
- Physical examination

- Biopsy of the subcutaneous tissue
- Throat swab
- Blood tests
- Chest x-rays
- Specific tests for known triggers such as tuberculosis, sarcoidosis, IBD or syphilis.

### **Treatment options**

Treatment depends on the underlying cause, but may include:

- Bed rest to relieve pressure and reduce swelling.
- Non-steroidal anti-inflammatory medications (NSAIDs).
- Corticosteroids to reduce inflammation.
- Treatment of the underlying cause - for example, treating the infection or changing the drug treatment, if drugs are the cause.
- Oral potassium iodide (SSKI) solution.
- Pain-killing drugs.
- Support stockings or bandages.
- The use of alternating hot and cold compresses to ease pain.

### **Where to get help**

- Your doctor
- Dermatologist
- The Australasian College of Dermatologists [www.dermcoll.asn.au](http://www.dermcoll.asn.au)

### **Things to remember**

- Erythema nodosum is a skin condition characterised by the formation of red and painful lumps, most commonly on the shins.
- The characteristic lumps are collections of immune cells clustered in pockets within the subcutaneous (deepest) layer of the skin.
- Known causes of erythema nodosum include inflammatory bowel disease (IBD), tuberculosis, certain drugs and throat infections.
- Treatment options include medications, bed rest and treatment for any underlying condition.

**This page has been produced in consultation with, and approved by:**

Australasian College of Dermatologists

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