CONDITION

Polymorphous light eruption

Polymorphous light eruption is a recurring itchy skin rash caused by sensitivity to ultraviolet light.

WHAT IT IS
Recurring itchy rash triggered by ultraviolet light

BODY SYSTEM
Skin and immune system

MAIN SYMPTOMS
Itchy bumps, raised patches, small blisters, burning

WHAT CAUSES IT
Abnormal immune response to ultraviolet light

HOW IT IS DIAGNOSED
Skin examination; sometimes phototesting or biopsy

MAIN TREATMENT
Sun protection, anti-inflammatory creams, preventive phototherapy

CAN IT BE CURED?
No - episodes can often be controlled

IS IT AN EMERGENCY?
No - unless breathing trouble accompanies the rash

LONG-TERM OUTLOOK
Seasonal recurrences that often ease over time

Overview

Polymorphous light eruption, often shortened to PMLE, is a skin reaction that develops after exposure to sunlight or another source of ultraviolet, or UV, light. It is sometimes called polymorphic light eruption. These names describe the same condition.

PMLE usually causes an itchy or burning rash on skin that has recently been exposed to light. "Polymorphous" means that the rash can take different forms in different people. However, it often looks much the same each time it returns in one person.

Episodes are most common during spring or early summer, when skin has had little recent sun exposure. A sunny holiday can also trigger a flare. Some people become less sensitive as summer continues, a process sometimes called hardening.

PMLE is not contagious. It is not skin cancer and does not itself increase the risk of skin cancer. However, repeated unprotected UV exposure still damages skin, so protecting yourself from the sun remains important.

Symptoms

The rash usually appears within a few hours to several days after UV exposure. It often affects the upper chest, lower neck, arms or lower legs. The face and backs of the hands may be less affected because they receive light more regularly, although any exposed area can develop symptoms.

The appearance can include:

On lighter skin, affected areas may look pink or red. On brown or black skin, redness may be less obvious, and the rash may look skin-coloured, darker than the surrounding skin or slightly purple.

PMLE tends to affect matching areas on both sides of the body. It usually does not cause fever or make you feel generally unwell.

The rash often settles within several days after further UV exposure is avoided. Some episodes last a week or longer. Scratching can break the skin, but PMLE itself usually heals without scarring.

- Groups of small, raised bumps
- Larger raised or inflamed patches
- Tiny fluid-filled blisters
- Itching, burning or prickling

Causes and risk factors

PMLE is thought to involve an unusual immune response to UV radiation. UV light changes substances within the skin, and the immune system reacts to those changes with inflammation. The exact substances and immune processes involved are not fully understood.

Both UVA and UVB may contribute. UVA passes through ordinary window glass more easily than UVB, so some people can react after sitting beside a sunny window or travelling in a car.

Factors linked with PMLE include:

PMLE can affect people with any skin colour. It often begins in childhood or early adulthood,

but it can first appear at other ages.

Some medicines and skin products can cause different kinds of light-sensitive rash. These reactions are not PMLE, although they may look similar. Do not stop a prescribed medicine without medical advice.

- A personal or family tendency to develop the condition
- Living in a place with large seasonal changes in sunlight
- Sudden intense UV exposure after months with little sun
- Having had PMLE before

Diagnosis

PMLE is usually diagnosed from the timing, appearance and location of the rash. A clinician may ask how soon it appeared after UV exposure, whether it has happened before and how long it took to clear.

There is no single blood test that confirms PMLE. Phototesting may be used when the diagnosis is uncertain. During this test, small areas of skin are exposed to controlled amounts of UVA or UVB over several days to see whether the usual rash develops.

A small skin sample, called a biopsy, is sometimes examined under a microscope. A biopsy cannot always prove that a rash is PMLE, but it can help rule out other conditions.

Blood or urine tests may be appropriate if the symptoms could have another cause, such as lupus, porphyria or a reaction to medicine. Lupus is an autoimmune condition that can cause a different type of sun-sensitive rash. Porphyrias are uncommon conditions involving chemicals used to make red blood cells.

Photographs of an active rash can be helpful if it has disappeared before your appointment.

Treatment and management

A mild episode often improves once the affected skin is protected from further UV exposure. Cool compresses and fragrance-free moisturiser may soothe itching or burning.

A clinician may recommend a corticosteroid cream to reduce inflammation. These creams come in different strengths and should be used as directed, particularly on the face or other sensitive skin.

Antihistamines like cetirizine or loratadine may help some people manage itching, although

they do not treat the underlying light reaction. Some antihistamines can cause drowsiness.

If episodes are frequent or severe, a dermatologist may discuss preventive phototherapy. This involves exposing the skin to carefully controlled UV light in a medical setting, usually before the sunnier part of the year. The aim is to make the skin gradually less reactive. Phototherapy is not the same as using a tanning bed, which gives an uncontrolled UV dose and increases skin cancer risk.

For difficult cases, specialists sometimes consider medicines that affect inflammation or immune activity. These may include short courses of oral corticosteroids or medicines such as hydroxychloroquine. Their possible benefits, side effects and monitoring needs must be considered for each person.

Sun protection remains important during treatment. It lowers the chance of a flare but may not prevent every episode.

Complications

PMLE usually clears without lasting physical harm. Persistent scratching can damage the skin and occasionally lead to infection. Warning signs include increasing pain, warmth, swelling, pus or spreading redness.

Temporary lighter or darker marks may remain after inflammation settles, especially on darker skin. Permanent scarring is unusual unless the skin has been repeatedly scratched or infected.

The condition can also affect daily life. Worry about a flare may limit outdoor exercise, work, holidays or social activities. If this is affecting your mood or routine, discuss it during a routine appointment. Adjusting sun protection or preventive treatment may help.

Another risk comes from trying to "toughen" the skin through deliberate sun exposure or tanning beds. This adds UV damage and is not a safe substitute for medically supervised phototherapy.

Prevention

PMLE cannot always be prevented, because the underlying sensitivity is not fully controllable. You can often reduce how frequently it occurs and how severe it becomes.

Useful measures include:

"Broad-spectrum" means that a sunscreen protects against both UVA and UVB. No sunscreen blocks all UV light, and missed areas are common. Clothing and shade provide important

additional protection.

Remember that UVA can pass through windows. UV-protective window film or choosing a seat away from direct sunlight may help if travel or work beside a window repeatedly triggers symptoms.

Avoid deliberate tanning. If regular sun avoidance raises concerns about vitamin D, ask a clinician whether diet or a supplement would be appropriate rather than increasing unprotected UV exposure.

- Seeking shade when UV levels are high
- Wearing tightly woven clothing that covers sensitive areas
- Using a wide-brimmed hat when the face or neck is affected
- Applying broad-spectrum, high-SPF sunscreen generously
- Reapplying sunscreen after swimming, sweating or towel drying
- Increasing outdoor exposure gradually rather than suddenly

Living with it and what to expect

PMLE commonly follows a seasonal pattern. The first episode of the year may happen in spring or during the first period of strong sun exposure. Later episodes may become milder as the skin becomes accustomed to regular light, although this does not happen for everyone.

The rash may return each year. In many people, sensitivity becomes less troublesome over several years, but it is not possible to predict exactly when or whether this will occur. Others continue to need consistent protection and occasional treatment.

PMLE does not usually cause ongoing symptoms between episodes. Most people can continue ordinary work, exercise and travel by planning around UV exposure. Lightweight covering clothes, portable shade and suitable sunscreen can make outdoor activities easier.

Keep track of when flares occur, which body areas are affected and how quickly the rash begins. Photographs and a brief symptom record may help identify patterns. They can also help distinguish PMLE from another condition if the rash changes over time.

A new rash should not automatically be assumed to be PMLE, even if you have had it before. Seek routine medical review if its appearance, timing or associated symptoms are different.

When to get medical help

Arrange a routine appointment if you have a recurring rash after sunlight and have not previously had it assessed. Review is also appropriate if the rash is getting more severe, lasts despite avoiding further UV exposure, interferes with daily life or may be related to a medicine.

Seek prompt medical advice if:

Call emergency services for trouble breathing, fainting, or swelling of the tongue or throat. These are not expected features of PMLE and may indicate a serious allergic reaction or another emergency.

- The rash is very painful, widespread or heavily blistered
- Your eyes, mouth or genitals are affected
- You develop fever or feel generally unwell
- The skin shows signs of infection
- A new rash began after starting a medicine
- You also have joint pain, marked fatigue or other unexplained symptoms

Common questions

Is polymorphous light eruption the same as heat rash?

No. Heat rash develops when sweat becomes trapped in the skin, usually in hot, covered or sweaty areas. PMLE is triggered by UV light and mainly affects exposed skin. The two can look similar without an examination.

Can I get PMLE through a window?

Yes. UVA can pass through ordinary window glass. A flare may follow time beside a sunny window or in a car, although the amount of UVA exposure depends on the glass and any protective coating.

How long does a PMLE rash last?

It often improves within several days if the area is protected from further UV exposure. Some episodes last a week or longer. Continued exposure can make the rash persist or bring out new areas.

Is PMLE contagious?

No. It is an inflammatory response within your own skin and immune system. It cannot spread to another person through touch, shared towels or close contact.

Will sunscreen completely stop PMLE?

Not always. Broad-spectrum sunscreen can reduce UV exposure, but no product blocks all UV light. Using it with shade and protective clothing offers better protection than sunscreen alone.

Does PMLE mean I have lupus?

No. PMLE and lupus are separate conditions. Lupus can cause a sun-sensitive rash, so testing may be needed when the pattern is unusual or there are symptoms elsewhere in the body.

Sources

- British Association of Dermatologists: Polymorphic light eruption
- NHS: Polymorphic light eruption
- DermNet: Polymorphic light eruption
- NCBI Bookshelf, StatPearls: Polymorphic Light Eruption