CONDITION

Moles

Moles are clusters of pigment-making skin cells that form usually harmless spots or bumps.

WHAT IT IS
Usually harmless clusters of pigment-making skin cells

BODY SYSTEM
Skin

MAIN SYMPTOMS
Flat spots, raised bumps, brown or skin-coloured marks

WHAT CAUSES IT
Genes, pigment-cell growth, and sun exposure

HOW IT IS DIAGNOSED
Skin examination, dermoscopy, and biopsy when needed

MAIN TREATMENT
Monitoring or removal of concerning or bothersome moles

CAN IT BE CURED?
Sometimes - individual moles can be removed

IS IT AN EMERGENCY?
No - concerning changes need prompt assessment

LONG-TERM OUTLOOK
Most remain harmless; some fade or change slowly

Overview

Moles are small areas where pigment-making cells called melanocytes have grown in a cluster. The medical name for a mole is a melanocytic naevus, or nevus. Moles are common skin features rather than a disease.

A mole may be flat or raised. It can be brown, black, tan, pink, red, blue-grey, or close to your natural skin colour. Some moles grow coarse hairs. Others have a smooth, rough, or slightly uneven surface.

Most moles appear during childhood or early adult life. They may slowly become raised, lighter, or less noticeable as the years pass. Some people have only a few, while others have many.

Nearly all moles are harmless. However, melanoma, a serious type of skin cancer, can

sometimes resemble a mole or develop in an existing one. Melanoma can also begin in skin that previously looked normal. Knowing what is usual for your skin can help you notice a significant change.

Symptoms

Moles do not usually cause physical symptoms. Their main feature is a visible or raised skin mark. An ordinary mole often:

Not every normal mole fits this description. Some have an irregular outline or several colours but remain harmless. Atypical moles, also called dysplastic naevi, may be larger and less regular than ordinary moles. Having atypical moles can be linked with a higher risk of melanoma, but it does not mean that a particular mole is cancerous.

A useful way to remember possible melanoma changes is ABCDE:

Diameter alone cannot identify melanoma. Some melanomas are smaller than 6 millimetres, and many harmless moles are larger.

Also notice an "ugly duckling": a mark that looks clearly different from your other moles. New itching, pain, crusting, oozing, or bleeding should also be assessed, particularly if it persists or happens without an obvious injury.

- Has a round or oval shape
- Has a clear, regular edge
- Is one even colour or has minor colour variation
- Stays similar in size, shape, and colour over time
- Measures less than about 6 millimetres, although harmless moles can be larger
- A - Asymmetry: one half does not match the other
- B - Border: the edge becomes irregular, blurred, or notched
- C - Colour: there are new or uneven shades
- D - Diameter: the mark is getting larger, especially beyond 6 millimetres
- E - Evolving: its size, shape, colour, height, or symptoms are changing

Causes and risk factors

Moles form when melanocytes grow together instead of being spread evenly through the skin.

These cells make melanin, the pigment that contributes to skin, hair, and eye colour.

Some moles are present at birth or appear during a baby's first year. These are called congenital melanocytic naevi. Most are small. Very large congenital moles are uncommon and may need specialist monitoring because their melanoma risk is higher than that of an ordinary small mole.

Genes affect how many moles you develop and what they look like. It is common for people in the same family to have similar patterns of moles.

Sun exposure also contributes, particularly during childhood and adolescence. People with fair skin, light hair, freckles, or skin that burns easily often have more sun-related moles. Moles can occur on every skin tone and on areas that receive little or no sun.

Hormonal changes may make moles appear darker or more noticeable, including during puberty and pregnancy. A changing mole should not automatically be assumed to be hormonal, especially if the change is uneven or continues.

Having many ordinary moles, atypical moles, a personal history of melanoma, or close relatives with melanoma can raise your overall melanoma risk. These factors do not show whether an individual mark is cancerous.

Diagnosis

A healthcare professional usually begins by asking when the mole appeared and whether it has changed. They may ask about sun exposure, previous skin cancer, and melanoma in close relatives.

The skin is then examined for size, shape, colour, surface, and border. Other moles may be checked for comparison. This helps identify a mark that looks different from your usual pattern.

A dermatologist, a doctor specialising in skin conditions, may use a dermatoscope. This handheld instrument combines magnification and light to reveal structures beneath the skin's surface. Dermoscopy does not hurt or damage the mole.

Photographs or digital dermoscopy may be used to monitor selected moles over time. This is more useful for some people with many moles or a higher melanoma risk than for routine self-photography alone.

Appearance cannot always provide a definite answer. If a mole may be cancerous, it is usually removed and sent to a laboratory. A specialist examines the tissue under a microscope. This is called a biopsy and is the test that confirms whether melanoma or another skin cancer is

present.

Treatment and management

Most moles need no treatment. A stable mole can usually be left alone.

Removal may be considered if a mole:

A clinician may remove a mole by cutting it out or using another surgical technique suited to its shape, depth, and location. Local anaesthetic numbs the area. When cancer is a concern, the tissue is sent for examination.

Removal leaves some form of scar. The scar's appearance is influenced by the mole's size and location, the method used, your skin, and how the wound heals. A mole can sometimes return if pigment cells remain after a superficial removal.

Do not cut, burn, tie off, or apply unapproved "mole removal" products to a mole at home. These methods can cause burns, infection, bleeding, and scarring. They may also destroy tissue that should have been examined for cancer or delay a correct diagnosis.

If a biopsy finds melanoma, treatment is based on how deeply it has grown and whether it has spread. This generally begins with surgery to remove the cancer and a margin of nearby skin. Further tests or treatments are used only when appropriate for the confirmed stage.

- Has features that need laboratory examination
- Is repeatedly caught by clothing, jewellery, shaving, or a comb
- Causes ongoing irritation
- Is unwanted because of its appearance

Complications

Ordinary moles rarely cause complications. Raised moles can become sore or bleed after being rubbed, scratched, or cut during shaving. Repeated irritation does not by itself mean that a mole has become cancerous.

The main medical concern is mistaking melanoma for a harmless mole. Most moles do not turn into melanoma, and many melanomas begin as new marks rather than existing moles. Prompt assessment of a suspicious change allows any needed testing to happen sooner.

Mole removal can lead to pain, bleeding, infection, changes in skin colour, or scarring. A raised or thick scar is more likely in people who tend to develop keloid scars.

Large congenital melanocytic naevi may have additional effects, including emotional distress and, depending on their size and location, a higher risk of melanoma. They are usually managed with specialist advice rather than home monitoring alone.

Prevention

Moles cannot always be prevented. Genetics and normal development play major roles, and congenital moles form before birth.

Reducing ultraviolet, or UV, exposure may limit some sun-related moles and helps lower the risk of skin cancer. Practical protection includes seeking shade, wearing covering clothing and a hat, and using broad-spectrum sunscreen on exposed skin. Sunscreen should support, not replace, shade and clothing. Avoid tanning beds and deliberate tanning.

Sun protection is useful for every skin tone. Although darker skin has more natural protection from UV, melanoma and other skin cancers can still occur.

There is no medicine, supplement, or skin product proven to prevent inherited moles. Removing harmless moles does not prevent melanoma from developing elsewhere.

Living with it and what to expect

Most people with moles live normally without treatment or frequent medical appointments. Ordinary moles often remain stable for years. Some gradually become lighter, softer, or more raised, and others fade later in life.

New moles are common in childhood and adolescence. A new mark later in adulthood deserves closer attention, although it is not automatically cancerous. The pattern and speed of change matter more than any one feature.

Become familiar with your own skin rather than trying to memorise every mole. When practical, look at less visible areas such as your scalp, back, buttocks, soles, and between your toes. On darker skin, melanoma may occur on the palms, soles, or beneath a nail, although marks in these areas also have many harmless causes.

Photographs can help you compare a particular mole over time. Use similar lighting, distance, and scale. A photograph cannot replace an examination if a mole is changing or causing symptoms.

People with many atypical moles or a strong personal or family history of melanoma may be offered planned skin checks. The timing of follow-up is based on individual risk. Most people

with ordinary, unchanged moles do not need every mole removed or biopsied.

When to get medical help

Arrange a prompt, non-emergency appointment if you notice:

Do not wait for a mole to become painful. Early melanoma often causes no discomfort.

Routine follow-up is suitable for a previously assessed mole that remains stable, or for scheduled skin monitoring based on your risk. Seek an earlier review if it changes between appointments.

A mole itself is not usually an emergency. Get urgent medical help if bleeding will not stop after firm, continuous pressure, or if you feel faint or seriously unwell. After mole removal, urgent assessment may also be needed for rapidly spreading redness, worsening swelling, pus, fever, or uncontrolled bleeding.

- A new or changing mole that does not settle
- Asymmetry, an irregular border, or new uneven colour
- Rapid growth or a mole that looks unlike your others
- Persistent itching, pain, crusting, oozing, or bleeding
- A dark line under a nail that is new or changing
- A sore or unusual mark that does not heal

Common questions

Are all dark moles dangerous?

No. Many harmless moles are dark brown or black, particularly on naturally darker skin. Colour should be considered with shape, border, symptoms, and change over time. A new or changing dark mark should be assessed.

Can a normal mole turn into melanoma?

It can happen, but most ordinary moles never become melanoma. Melanoma often starts in skin that previously looked normal. That is why both changing moles and new unusual marks matter.

Is it normal for a mole to grow hair?

Yes. Hair can grow through a harmless mole because normal hair follicles remain in the skin.

Hair does not prove that a mole is harmless, so other changes still need attention.

Can I remove a mole for cosmetic reasons?

Often, yes, after it has been examined. Removal will leave a scar, and cosmetic removal may not be covered by publicly funded care or insurance. The safest method depends on the mole and its location.

Why did my mole come back after removal?

Pigment cells may remain after a shallow removal and produce colour or a bump again. A returning mole should be reviewed, especially if it looks different from the original or continues to change.

Do I need regular skin checks if I have lots of moles?

Not everyone needs scheduled professional screening. Checks may be helpful if you have many atypical moles, previous melanoma, or a strong family history. Any concerning change should be assessed even if no routine check is due.

Sources

- NHS: Moles
- National Cancer Institute: Common Moles, Dysplastic Nevi, and Risk of Melanoma
- American Academy of Dermatology: Moles-Diagnosis and treatment
- American Academy of Dermatology: What to look for-ABCDEs of melanoma
- DermNet: Melanocytic naevi
- NICE guideline NG12: Suspected cancer-recognition and referral