TEST

Wood lamp examination

A Wood lamp examination uses ultraviolet light to highlight certain changes in skin, hair, or the eye.

WHAT IT MEASURES
Fluorescence and color changes in skin, hair, or eyes

SAMPLE
None; skin, hair, or eyes viewed directly

FASTING NEEDED?
No

HOW LONG IT TAKES
Usually a few minutes

RESULTS IN
Immediate; confirmatory test timing varies by laboratory

USED FOR
Supporting diagnosis of selected skin, hair, and eye conditions

MAIN LIMITATION
Many relevant conditions do not produce characteristic fluorescence

Overview

A Wood lamp examination uses a handheld light that produces mainly long-wave ultraviolet A, or UVA, light. A filter blocks most visible light. When the lamp is used in a dark room, certain substances in the skin, hair, or eye may glow, or fluoresce, in characteristic colors.

The examination can help identify some infections and pigment changes. With fluorescein dye, it may also help show damage on the eye's surface. The color is a clue rather than a diagnosis.

The test is painless and does not use X-rays or other ionizing radiation. No blood or tissue sample is needed unless another test is performed afterward.

Why the test is ordered

A healthcare professional may use a Wood lamp when the appearance of a skin or hair change does not provide enough information on its own.

It may help assess:

Not every organism fluoresces. For example, some fungi that cause scalp ringworm glow under a Wood lamp, while other common causes do not. A normal examination therefore cannot rule out infection.

- Areas of lost or increased skin pigment, including suspected vitiligo
- Some fungal infections of the scalp or skin
- Erythrasma, a bacterial infection affecting skin folds
- Possible infection with certain bacteria, including Pseudomonas
- The depth or pattern of some pigment changes
- Scratches, ulcers, or foreign material on the eye after fluorescein dye

Who should have the test

This examination may be suitable when a clinician needs more information about a skin, hair, or eye finding that can sometimes fluoresce. It is commonly performed during a dermatology, primary care, urgent care, or eye assessment.

It is not generally used as routine screening when you have no relevant symptoms or examination findings. Whether it is useful depends on what condition is being considered and whether a more accurate test is available.

How to prepare

You do not need to fast. You can eat, drink, and take your usual medicines unless you receive different instructions.

If possible, leave the area being examined clean and dry. Avoid applying makeup, moisturizer, sunscreen, deodorant, perfume, ointment, or medicated cream beforehand. These products can glow or cover the natural fluorescence.

Do not stop a prescribed skin treatment unless the clinician who ordered the examination tells you to do so. Instead, explain what you have used and when you last applied it.

For an eye examination, you may be asked to remove contact lenses. Tell the clinician if you have a known sensitivity to fluorescein dye or have been advised to avoid ultraviolet light.

What happens during the test

The room is made as dark as possible. The lamp is switched on and usually allowed to warm up before being held a short distance from the area. You should not look directly into the light. For a facial examination, you may be asked to close your eyes or wear eye protection.

The clinician looks for areas that become brighter or develop a particular color. Several areas may be compared, including skin that appears unaffected in normal light.

For an eye assessment, fluorescein dye may first be placed on the eye's surface. Damaged areas can take up the dye and appear green under blue or ultraviolet light. A slit lamp microscope is often preferred when a detailed eye examination is needed.

The findings are usually available immediately. Photographs or confirmatory samples may be taken during the same appointment.

Understanding your results

A Wood lamp result is descriptive rather than a number. There is no universal reference range.

Possible findings include:

These colors are not proof of a specific condition. Similar appearances can come from medicines, cosmetics, fibers, or other substances on the skin. Some confirmed conditions produce no fluorescence at all.

Interpretation can vary with age, skin tone, sex, pregnancy-related pigment changes, medicines, recent treatment, and the clinical context. If a sample is sent for confirmation, laboratory methods and reporting also vary.

- Bright blue-white accentuation in areas with reduced pigment, such as vitiligo
- Coral-red fluorescence with erythrasma
- Blue-green fluorescence from some Microsporum scalp infections
- Green fluorescence with some Pseudomonas infections
- Yellow, orange, or copper-colored fluorescence in some other skin conditions

What affects the results

Several factors can make a Wood lamp finding misleading even when the equipment is working correctly.

Cosmetics, soap residue, sunscreen, deodorant, ointments, laundry fibers, and lint may fluoresce. They can create a glow that is mistaken for a medical finding. Sweat and oil may also

make the area harder to examine.

Recent washing can remove substances produced by some bacteria. This may reduce the coral-red fluorescence of erythrasma and produce a falsely reassuring result.

Antifungal or antibiotic treatment may reduce the amount of an organism present. The examination may then be negative even though the condition has not fully cleared.

The species involved matters. Some fungi and bacteria fluoresce, while closely related organisms do not. This is an important reason that a negative result cannot exclude infection.

The room must be sufficiently dark. The lamp's wavelength, filter quality, distance from the skin, and time allowed for the examiner's eyes to adjust can affect what is seen. Contrast may also be less clear in some skin tones or when changes are subtle.

Accuracy and limitations

There is no single accuracy rate for a Wood lamp examination because it is used for different conditions, each with different patterns of fluorescence.

The examination can miss a condition when the organism does not fluoresce, when there are too few organisms, or when washing or treatment has removed fluorescent material. It can suggest a condition that is not present when a cosmetic, ointment, fiber, or harmless skin substance produces a similar color.

For a possible fungal infection, skin or hair microscopy, fungal culture, or another laboratory test may be more reliable. A bacterial swab or culture may be needed when the exact organism matters. Pigment changes may require examination with a dermatoscope, photographs over time, blood tests, or occasionally a skin biopsy.

For eye injuries, a slit lamp provides magnification and generally detects more surface abnormalities than a handheld Wood lamp.

Risks and complications

A brief skin examination has very little risk. The light does not touch you, although people with severe sensitivity to ultraviolet light should mention this before the test.

If fluorescein dye is used in the eye, it may briefly cause yellow tears, mild stinging, or blurred vision. Significant reactions are uncommon, and eye protection or closure limits direct exposure to the lamp.

What happens next

If the appearance strongly supports a suspected condition, the clinician may discuss treatment or monitoring with you. If the finding is unclear, a skin scraping, hair sample, swab, culture, eye examination, or biopsy may be arranged.

A negative result may need no further action when the rest of the examination is reassuring. It does not automatically rule out infection or another skin condition, so routine follow-up may still be appropriate if the problem persists or changes.

Seek urgent assessment for severe eye pain, marked sensitivity to light, or a rapid change in vision. A chemical splash, penetrating eye injury, or sudden loss of vision needs emergency care. For a skin problem, rapidly spreading painful redness with fever, widespread blistering or peeling, or breathing difficulty requires urgent or emergency help. These warnings relate to the underlying symptoms, not to the Wood lamp examination itself.

Common questions

Can I drink coffee before a Wood lamp examination?

Yes. Coffee, food, and other drinks do not affect the examination.

Can I wear makeup or moisturizer?

It is better not to apply them to the area being examined. Many products fluoresce or hide natural color changes.

Does the time of day matter?

Usually not. A properly darkened room is more important than the time of day.

Can I exercise beforehand?

Exercise does not directly change the result. However, sweat, deodorant, sunscreen, and body products may interfere, so keep the area clean and dry if possible.

Does the examination hurt?

No. The lamp is held near the area without touching it. Fluorescein eye dye may sting briefly.

Will it tell me for certain what I have?

Not always. A characteristic glow can support a diagnosis, but many conditions do not fluoresce and some products create misleading colors. Another examination or laboratory test may be needed.

Sources

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