

What Is Wood's Lamp Test ?



Wood's Lamp Examination

Wood's Lamp

- Mercury vapour UV lamp with an incorporated Wood's filter (barium silicate glass with 9% metal oxide).
- Emits UV rays in the wavelength of 360 nm

Microscopic Tests

Wood's lamp (Black light)

- Examination of skin with long-wave ultraviolet light
- Causes substances to fluoresce
- Detect fungal infection, pseudomonas org



Infectious organisms glowing
under Wood's lamp illumination

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Wood's light examination

- ❑ An ultraviolet light
- ❑ Wave length 365 nm
- ❑ It is a UVR filtered by Wood's glass (consist of barium silicate containing 9% Nickel oxide)
- ❑ Some of dermatophytes causing tinea capitis will induce fluorescence, those are:
 - The fungus is capable of invading hair
 - Infected hairs are living and growing (**anagen hair**)
- ❑ These fungi fluorescent due to **petridine** produced as a metabolite of the fungus
- ❑ However the most common fungi producing T.capitis don't fluorescein.

Wood's Lamp Examination

Uses

- a) Diagnosis of taenia capitis
 - Gives rise to greenish fluorescence
 - Microsporum species and trychophyton schoenleonii are the main fluorescing species

- b) Diagnosis of bacterial infections
 - Erythrasma gives a coral pink colouration

Wood's Light

- This is a source of ultraviolet light from which virtually all visible rays are excluded by a Wood's (nickel oxide) filter
- **Uses:**
 1. Tinea capitis: green fluorescence
 2. Erythrasma: coral pink
 3. Pityriasis versicolor: yellow
 4. Scabies: put fluorescein on lesion to visualize burrow
 5. Porphyrias: teeth, urine, faeces and serum fluorescence
 6. Ash leaf macules in tuberous sclerosis

Wood's light physics

- Wood's lamp's long-wave UV radiation (UVR) emission is generated by a **high-pressure mercury arc** fitted with a compounded filter made of barium silicate with 9% nickel oxide, the so-called **"Wood's filter."**
- This filter is opaque to all light except for a band **between 320 and 400 nm with a peak at 365 nm.**



Wood's light examination

- Woods lamp is a low output mercury arc lamp covered by Wood's filter (Barium silicate and 9% Nickel oxide) which emits light of wavelength 320-450 nm (peak 365 nm)
- It is used to detect fluorescence in the lesions and to differentiate between epidermal (enhanced by Wood's lamp) and dermal pigmentation (unchanged)

Steps involved :

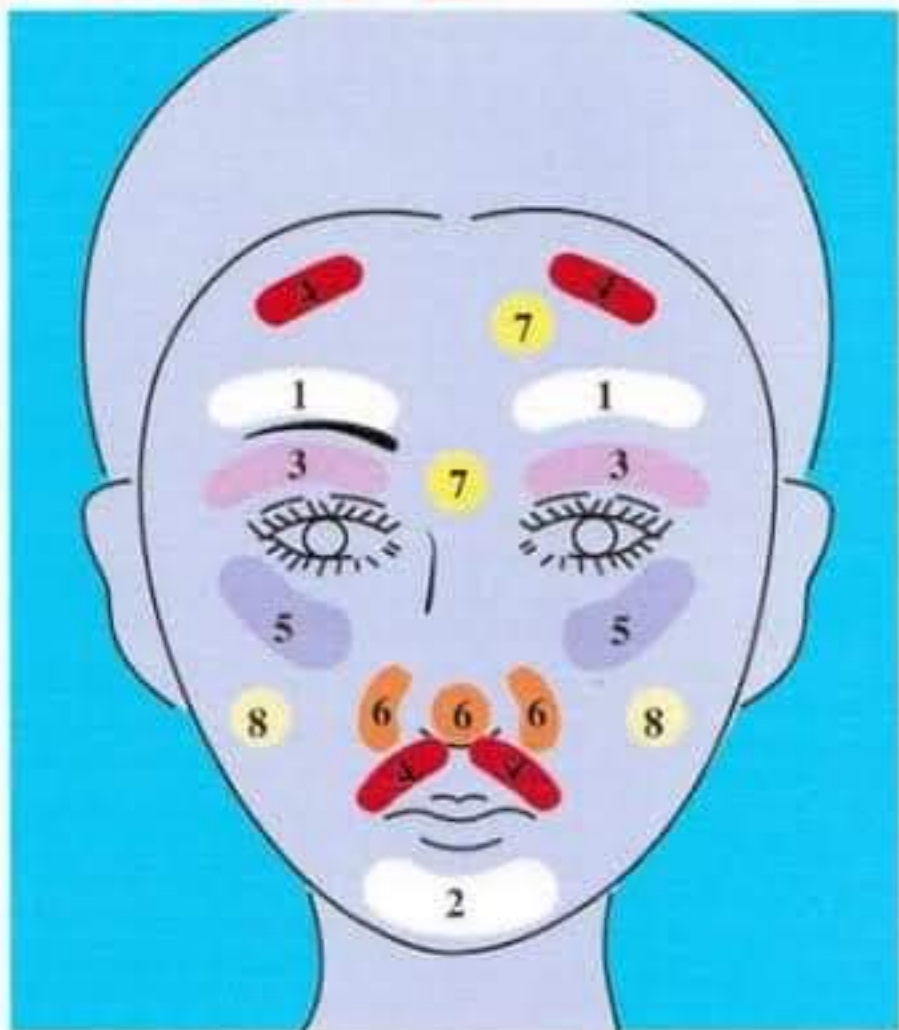
- Examine in a dark room
- Skin or hair should be examined in a natural state
- Switch the Wood's lamp on and wait for 1-2 minutes for the lamp to emit the correct wavelength.
- Hold the light 4 to 6 inches from skin or hair, and look for fluorescence or pigmentary change

Technique

- Ideally, the lamp should be allowed to warm up for about **1 min.**
- Black occlusive shades or **a windowless room** are preferred.
- It is also essential that the examiner becomes **dark-adapted** in order to see the contrasts clearly.
- The lamp is held about **10-30cm from the lesion.**

SKIN SCOPE

1	Blue-White. Normal and healthy skin.
2	White spots. Horney layer of the skin and dead cells
3	Purple flourescent Thin skin without enough Moisture
4	Brown Pigmentation and dark spots
5	Light violet. Dehydrated skin.
6	Bright flourescent Hydrated skin.
7	Yellow or sometimes pink. Oily areas of the face and comedones.
8	White flourescence. Thick corneum layer.



Considerations

- **Do not wash before the test**, because that may cause a false-negative result.
- **Other materials may also glow**. For example, some deodorants, make-ups, soaps, and even lint may be visible with the Wood's lamp.
- **Not all infections can be detected with the light**. Some species of fungi and bacteria do not contain fluorescent chemicals