

#MADEEASY



**XERODERMA
PIGMENTOSUM**





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- Xeroderma Pigmentosum (XP) is a rare, inherited disorder characterized by extreme sensitivity to ultraviolet (UV) rays from sunlight.
- It is a result of defects in the **nucleotide excision repair pathway**, which is responsible for repairing UV-induced DNA damage.
- Think of individuals with XP as having paper-thin skin when it comes to sunlight, where even minimal exposure can cause significant damage.

Pathophysiology

- Autosomal recessive disorder caused by mutations in any one of the several genes involved in the NER pathway (e.g., XPA, XPC, ERCC2, ERCC3, DDB2).
- This pathway is like the body's "repair shop" for fixing DNA damaged by UV light.
- Defective DNA repair leads to accumulation of UV-induced DNA damage, resulting in skin changes, premature aging, and a high risk of skin cancers.

Clinical Features



- **Cutaneous Manifestations:**
 - Photosensitivity causing severe sunburns after minimal sun exposure
Imagine someone who gets sunburned just by sitting near a sunny window
 - Early onset of extensive freckling in sun-exposed areas
 - Abnormally dry, scaly skin (Xerosis).
 - Irregular pigmentation, hypopigmented macules
 - Thinning of the skin, loss of elasticity.
 - Premature aging
 - High incidence of basal cell carcinoma, squamous cell carcinoma, and melanoma at a young age





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- **Ocular Manifestations:**
 - Photophobia (Sensitivity to light)*
 - Chronic inflammation of the conjunctiva.*
 - Keratitis (Inflammation of the cornea)*
 - Corneal Opacities like clouding of the cornea, leading to vision impairment.*
- **Neurological Manifestations (in some cases):**
 - Microcephaly*
 - Intellectual Disability*
 - Progressive hearing loss*



Diagnosis

- *Clinical Evaluation based on characteristic skin and eye findings, especially in the context of early-onset and severe photosensitivity.*
- **Genetic Testing** confirms the diagnosis by identifying mutations in NER pathway genes.
- *Skin Biopsy shows histopathological changes typical of sun damage and skin cancer.*

Management

- *Strict avoidance of UV exposure through the use of high-SPF sunscreens, protective clothing, wide-brimmed hats, and UV-blocking sunglasses.*
- *Topical Treatments: Use of topical retinoids and 5-fluorouracil for premalignant lesions.*
- *Oral Retinoids: May help reduce the risk of skin cancers in some patients.*
- *Regular skin checks and prompt removal of any suspicious lesions.*
- *Regular eye check-ups to monitor and treat ocular complications.*
- *Assessment and support for any neurological symptoms.*
- *Quality of life can be significantly impacted by the need for constant UV protection and the risk of skin cancers and neurological complications.*

