Melanoma pathophysiology, UVA exposure & prevention

GP quick reference guide

A summary of key insights to support risk-based sun protection and melanoma detection in general practice, based on the HealthCert Education webinar presented by Prof Pascale Guitera, in collaboration with La Roche Posay. **Watch replay >**

At-a-glance summary

- Sun protection should be risk-stratified, not universal.
- Vitamin D and melanoma risk must be balanced.
- Melanoma in darker skin is less common but more fatal.
- Real-world sunscreen use significantly reduces effective SPF.
- Childhood/teen UV exposure has a disproportionate impact on lifetime risk.
- Screening is shifting toward targeted, risk-based approaches.

Key takeaways for GPs

1. Individualise sun protection advice

Balance skin cancer risk, vitamin D requirements, skin type, and lifestyle.

In practice:

- High risk: strict protection + assess vitamin D selectively
- Low risk (deeply pigmented): may need more sun exposure
- Intermediate: prioritise protection, assess vitamin D selectively

2. Do not miss melanoma in darker skin

Melanoma more often develops on palms, soles and nails in people with darker skin. It has a lower incidence but higher mortality, and delayed diagnosis is common.

Clinical implication:
Maintain suspicion regardless of skin type.

3. Vitamin D is unpredictable

It has strong genetic variability and poor correlation with sun exposure.

In practice:

- Test selectively (not routinely)
- Supplement rather than relaxing protection in high-risk patients

4. Childhood and teen exposure drives risk

Early-life UV exposure is strongly linked to melanoma. Risk is cumulative and age dependent.

Clinical implication:
Prevention in children has the greatest long-term impact.

5. SPF: understand real-world limitations

SPF reflects UVB only. SPF30 (~97%) vs SPF50 (~98%) → small difference. In reality, under-application is common, and water, sweat, and friction reduce protection.

Clinical implication:
Effectiveness depends on dose and reapplication, not SPF number alone.

6. Sunscreen is not enough

Patients often overestimate sunscreen protection and under-apply. Achieve more reliable protection with shade, clothing, and hats.

7. Screening should be risk-based

Assess melanoma risk in all patients. For high-risk patients:

- Regular dermoscopic skin checks and digital monitoring
- Consider total body photography

Note: Optimal follow-up intervals remain unclear.

8. Detect the melanoma that matters

- ~70% arise de novo
- ~20% are amelanotic (pink)
- Nodular melanoma is fast-growing and high-risk

Use EFG (not just ABCD):

- Elevated
- Firm
- Growing (over weeks)

Clinical implication:
Biopsy changing or raised lesions early.

Practice tips

- Avoid blanket advice; frame decisions around risk/trade-offs
- Use absolute risk language (e.g. % or per 1,000)
- Check acral sites when appropriate
- Reinforce that sunscreen failure is usually application failure
- Prioritise prevention messaging in children and parents

Clinical reminder

Melanoma diagnosis is missed in up to one-third of cases. The highest-risk lesions are new, changing, raised or rapidly evolving. If in doubt, biopsy rather than review for the EFG lesions.

Next steps

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