

The OSMD Sun Defense Protocol™

1. Polypodium leucotomos Extract

Natural UV Defense

Polypodium leucotomos is a tropical fern extract with extensive research supporting its ability to reduce UV-induced skin damage.

Benefits

- Helps increase the skin's natural resistance to sunburn
- Reduces UV-induced inflammation
- Protects collagen and elastin
- Helps reduce DNA damage caused by sunlight
- May reduce hyperpigmentation and melasma flare-ups

Recommended Dose: 240 mg twice daily

For vacations or prolonged outdoor activities:

- Begin **2–3 days before** increased sun exposure.
- Continue throughout the period of high sun exposure.

2. Astaxanthin

The "Internal Sunscreen" Antioxidant

Astaxanthin is a carotenoid antioxidant derived from microalgae. It is one of the most potent natural antioxidants studied for skin health.

Benefits

- Protects skin cell membranes from UV damage
- Reduces oxidative stress
- Supports collagen preservation
- Improves skin hydration and elasticity
- May reduce fine lines and wrinkles
- Helps minimize UV-induced redness

Recommended Dose: 12 mg once daily with food

Because astaxanthin is fat-soluble, take it with a meal containing healthy fats.

3. Nicotinamide (Niacinamide)

Supports DNA Repair

Nicotinamide is a form of vitamin B3 that helps skin cells recover after UV exposure.

Benefits

- Enhances cellular DNA repair
- Helps maintain normal immune function within the skin
- Reduces UV-induced damage
- May reduce actinic keratoses
- Shown to reduce new non-melanoma skin cancers in high-risk individuals

Recommended Dose: 500 mg twice daily

Important:

Use **nicotinamide (niacinamide)**—not **niacin**, which can cause flushing.

4. Pycnogenol® (French Maritime Pine Bark Extract)

Supports Healthy Skin Aging

Pycnogenol is a standardized pine bark extract rich in polyphenols.

Benefits

- Powerful antioxidant activity
- Supports healthy collagen production
- Improves skin hydration
- Helps reduce oxidative damage
- Supports healthy skin tone
- May reduce UV-induced pigmentation

Recommended Dose: 100-200 mg once daily

Daily Protocol Summary

Supplement	Daily Dose	Best Time
Polypodium leucotomos	240 mg twice daily	Morning & afternoon
Astaxanthin	12 mg	With breakfast or lunch
Nicotinamide	500 mg twice daily	Morning & evening
Pycnogenol	100 - 200 mg	Morning

For Travel or Beach Vacations

Begin the protocol **7–14 days before** your trip if possible to allow antioxidant levels to build. At a minimum, start **2–3 days before** significant sun exposure.

Continue the supplements daily throughout your vacation and for several days afterward to support recovery from UV exposure.