

Australian Researchers have recently released data revealing Nicotinamide; a form of vitamin B3, may reduce the risk of non-melanoma skin cancer and a skin cancer precursor – actinic keratosis. Other studies have shown topical application of nicotinamide prevents immunosuppression, an important factor in the progression of skin cancer. More research is required but this is a promising method of prevention of sun damage and skin cancer.

Nicotinamide is the water-soluble active form of Vitamin B3 (not to be confused with its precursor Nicotinic acid). It occurs naturally in small quantities in lean meats, fish, nuts, legumes and yeast. It is also available in 500 mg tablets.



Studies have shown that using one 500mg tablet, twice daily, is well tolerated. Very high doses (over 3000 mg a day) can cause nausea. It has been added to some sunscreens but as it is water soluble its beneficial effect is lost with exposure to water and sweat.

## So how does it work?

Nicotinamide has been shown to enhance the repair of DNA damage to cells (keratinocytes) within upper layer of the skin reversing the adverse effects of ultraviolet light. It also appears to prevent sun induced immune suppression. It does not work as a sunscreen so sun protection is still required.

No recommendations have been made as research is ongoing. However if you have severe sun damage (actinic keratosis) or history of non-melanoma skin cancers, it is safe to take and relatively cheap (\$20) a month. The recommended dose is one 500mg tablet taken twice daily. It is not clear if this needs to be taken just during the summer months or all year. Further research will clarify this. It is currently not recommended for those at low risk for skin cancer as there is insufficient evidence for benefit in this group.

## Reference:

Kim B, Halliday GM, Damian DL. Oral nicotinamide and actinic keratosis: a supplement success story. *Curr Probl Dermatol.* 2015;46:143-9. doi: 10.1159/000366550. Epub 2014 Dec 18. PubMed PMID: 25561219.

Bissett DL, Oblong JB et al. Niacinamide: A B vitamin that improves aging facial skin appearance. *Dermatol Surg.* 2005; 31: 860-865.

Surjana D, Halliday GM, Damian DL. Nicotinamide enhances repair of ultraviolet radiation-induced DNA damage in human keratinocytes and ex vivo skin. *Carcinogenesis.* 2013 May;34(5):1144-9. doi: 10.1093/carcin/bgt017. Epub 2013 Jan 24. PubMed PMID: 23349012.