



North Shore Eye Centre

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NUTRITION SUPPLEMENTS AND THE EYE

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SUMMARY OF PUBLICATION

Anti-oxidant vitamins

The retina and lens are considered to be under threat of damage by oxidation due to free radicals, generated by normal metabolic processes and by exposure to sunlight and cigarette smoking.

Anti-oxidant vitamins A, C and E are present in green leaf foods, fruits, nuts and root vegetables. Provitamin A (beta-carotene) is present in dairy products, green plants and in yellow or orange fruits. Parsley and spinach are a rich source; the best root vegetable for vitamin A is the carrot. A reasonable upper dietary limit is: beta-carotene 10mg, vitamin C 1000mg and vitamin E 600mg per day. Vitamin C can be toxic in excess and may be harmful to the foetus in pregnancy. Evidence of long-term safety of anti-oxidant vitamin supplements is still lacking.

Zinc

Zinc is thought to play an important role in the metabolism of the retina and the lens. Zinc is present in meats, eggs, seafood, whole cereals and pulses. Zinc is non-cumulative in the body and is only toxic if taken in large excess. A reasonable supplement to take is 20mg a day.

Selenium

Selenium has anti-oxidant properties. It is possibly harmful if taken to excess. Natural sources of selenium include seafood, meats, cereals, dairy products, fruits and vegetables in descending order of importance. A reasonable supplement to take is 23ug a day, but the need for a selenium supplement is yet to be defined.



Carotenoids

Carotenoids are yellow pigments that are found particularly in coloured fruits and vegetables. Zeaxanthin in maize and lutein in melon and spinach are concentrated in the macular and are likely to be important in protecting the eye against Age Related Macular Degeneration.

Essential fatty acids

Evening primrose oil and star flower oil are good sources of the essential fatty acid gamma-linolenic acid (GLA), required to form prostaglandins. The omega-3 long chain polyunsaturated essential fatty acids such as docosahexaenoic acid (DHA) are components of cell lipids and are present in oils of animal origin and especially in those from oily fish, such as the mackerel and herring.

Conclusion

All persons should be encouraged to maintain healthy nutrition, including the consumption of fresh fruit and vegetables, especially green vegetables, and vegetable and fish oils in the place of animal fats. Middle-aged and elderly patients may benefit from a supplement. An intake in excess of the recommended daily intake may be harmful.