

Are you prescribing the correct form of vitamins & minerals?

Taking the wrong form of Vitamin E increases lung cancer incidence and can cause heart failure

Most vitamin E supplements contain **only** the *alpha*-tocopherol form of Vitamin E, which research now shows, when used without the other 7 forms of Vitamin E, can **increase the risk of heart failure¹⁻⁴, cancer²³ and mortality⁵⁻⁶**, even in doses as low as 400IU. Furthermore, using only the *alpha*-tocopherol form of Vitamin E, which most locally available products contain, does nothing to reduce the risk of cancer as was previously thought²⁻³.

To protect your heart and reduce cancer-risk you need a full spectrum of all 8 types of Vitamin E, known as mixed tocopherols and tocotrienols^{4,7,11} (which provide, not only the *alpha*-tocopherol form, but also the *beta*-, *gamma*- and *delta*- forms of both tocopherols and tocotrienols). **Taking all 8 types of Vitamin E is especially important, since heart disease is the second largest killer of South Africans after HIV/AIDS. SOLAL's Full Spectrum Vitamin E is the only Vitamin E product on the South African market that contains all 8 forms of Vitamin E, to protect your heart and provide the benefits obtained in clinical trials.**

NOTE: Even "natural" Vitamin E products contain the *alpha*-tocopherol form only. Buying "natural" Vitamin E does NOT mean you are getting all 8 forms. Only Solal's Full Spectrum Vitamin E provides all 8 forms of mixed tocopherols & tocotrienols.

Why are all 8 types of Vitamin E so important?

- Mixed tocopherol & tocotrienol Vitamin E is **60 times more effective** than conventional Vitamin E: Tocotrienols have been shown to be 40-60 times more potent than *alpha*-tocopherol as an antioxidant²².
- They **act synergistically** enhancing each others' activity and health benefits⁷.
- Studies show that it may be **dangerous to take supplements containing only alpha-tocopherol** at high doses (400 IU/268.5 mg or above) because it prevents the action of the most important cardiovascular and cancer protective tocopherol: *gamma*-tocopherol^{12,23}.
- *Gamma*-tocopherol in combination with other tocopherols:
 - has strong **cardiovascular** protective effects (reducing clotting and helping to prevent strokes, and by lowering total cholesterol and LDL). *Alpha*-tocopherol does not provide these benefits¹⁴⁻¹⁵.
 - helps protect against many types of **cancer** including colon, liver, breast and prostate cancers¹⁵ (*alpha*-tocopherol alone cannot do this).
 - acts as an anti-inflammatory^{9,12}.
 - helps prevent **Age Related Mental Decline** and **brain nerve damage**, whilst *alpha*-tocopherol alone does not¹³.
 - protects against nitrogen oxide free radicals caused by the **pollutants** like vehicle exhaust fumes, cigarette smoke and dietary pollutants. *Alpha*-tocopherol is a strong antioxidant but is not nearly as effective at fighting these types of free radicals⁹.
- Combined tocopherols **protect DNA**⁹.
- A supplement without tocotrienols is missing the most important types of Vitamin E forms because:
 - Tocotrienols are important in a world where breast cancer is on the increase and the ozone is thinning because they **strongly help prevent breast cancer¹⁶ and protect our skin** from the free radicals caused by ozone and ultra-violet radiation from the sun²¹.
 - Preliminary animal research suggests that tocotrienols may increase lifespan¹⁷⁻¹⁸.
 - Strong research shows tocotrienols **reduce cholesterol^{17,19-20}** and are **more potent antioxidants than tocopherols⁷**.
- Mixed tocopherol and tocotrienol Vitamin E has **anti-prostate cancer effects¹¹**.

Can diet supply enough?

No, most oils and food contain some tocopherols, but virtually no tocotrienols. Tocotrienols only occur at very low levels (below 800 parts per million) in nature. Due to their low levels, it is impossible to obtain the ideal amount of tocotrienols from diet alone. For example, one would have to drink a cup of pure palm oil per day to attain this level.

Each daily dose of one capsule provides:

- **Mixed tocotrienols 66.8mg** (19.5mg *alpha* tocotrienol, 2.5mg *beta* tocotrienol, 9.3mg *delta* tocotrienol, 35.5mg *gamma* tocotrienol).
- **Mixed tocopherols: 367mg** (46mg *d-alpha*-tocopherol, 7mg *d-beta*-tocopherol, 104mg *d-delta*-tocopherol, 210mg *d-gamma*-tocopherol).
- **Plant sterols 6mg, Squalene 17mg, Mixed carotenoids (alpha and beta) 84.5mg.**

References:

1. Barclay, L and Lie, D. Supplemental Vitamin E May Increase Heart Failure Risk. Medscape. 15 March 2005
2. DeNoon, D. Vitamin E Harms More Than It Helps Supplement No Help for Cancer, Heart, Stroke -- but Increases Heart Failure Risk. WebMD. March 2005
3. Vitamin E may increase heart attack risk - does not prevent cancer. Medical Research News. 15 March 2005.
4. Vitamin E Study Asserts More Heart Failure Risk for Seniors. Senior Journal. 16 March 2005.
5. Meta-Analysis: High-Dosage Vitamin E Supplementation May Increase All-Cause Mortality. Annals of Internal Medicine. Volume 142, Issue 1, 7 January 2005.
6. Peck, P. Vitamin E May Shorten Life: Doctors Advise Not Taking It; Supplement Industry Disagrees. WebMD. 10 November 2004.
7. Jordan, K. What's Wrong With Vitamin E? LE Magazine. May 2002.
8. Morrow, M. COVER STORY: Does Vitamin E Prevent Breast Cancer? LE Magazine. May 2002
9. MacWilliam, L. REVIEW: What Makes Gamma Tocopherol Superior to Alpha Tocopherol. LE Magazine. April 2006.
10. Inokuchi, H. et al. Anti-angiogenic activity of tocotrienol. Biosci Biotechnol Biochem. Volume 67, Issue 7, Pages 1623-1627. 2003.
11. Jiang, Q., et al. *alpha*-Tocopherol or combinations of vitamin E forms induce cell death in human prostate cancer cells by interrupting sphingolipid synthesis. PNAS. Volume 101, Issue 51, Pages 17825-17830. 21 December 2004.
12. Jiang Q et al. *Gamma* tocopherol, the major form of vitamin E in the US diet, deserves more attention. Am J Clin Nutr. Volume 74, Pages 714-22. 2001.
13. Relation of the tocopherol forms to incident Alzheimer disease and to cognitive change. Am J Clin Nutr. Volume 81, Issue 2, Pages 508-14. February 2005.
14. Dietary antioxidant vitamins and death from coronary heart disease in postmenopausal women. Volume 2:334, Issue 18, Pages 1156-62. May 1996.
15. Newly discovered benefits of gamma-tocopherol. LE Magazine. October 2002.
16. Guthrie, N et al. Inhibition of proliferation of estrogen receptor-negative MDA-MB-435 and -positive MCF-7 human breast cancer cells by palm oil tocotrienols and tamoxifen, alone and in combination. Journal of nutrition. 127(3 Supplement), Pages 544S-548S. 1997.
17. Hiroshi Adachi and Naoki Ishii. Effects of tocotrienols on Life Span and Protein Carbonylation in Caenorhabditis elegans. The Journals of Gerontology Series A: Biological Sciences and Medical Sciences. 55:B280-B285. 2000.
18. Adachi H, et al. Effects of tocotrienols on life span and protein carbonylation in Caenorhabditis elegans. J Gerontol A Biol Sci Med Sci. 55(6):B280-5. June 2000.
19. Qureshi AA, et al. Lowering of serum cholesterol in hypercholesterolemic humans by tocotrienols (palmitee). Am J Clin Nutr. 53(4 Suppl):1021S-1026S. April 1991.
20. Parker RA, et al. Tocotrienols regulate cholesterol production in mammalian cells by post-transcriptional suppression of 3-hydroxy-3-methylglutaryl-coenzyme A reductase. J Biol Chem. 268(15):11230-8. 25 May 1993.
21. Borek, C. REPORT: Antioxidants and aging. LE Magazine. August 1999.
22. Serbinova E, et al. Free radical recycling and intramembrane mobility in the antioxidant properties of alpha tocopherol and alpha tocotrienol. Free Radic Biol Med. Volume 10, Issue 5, Pages 263-75. 1991.
23. Christopher G. Slatore, et al.: Long-Term Use of Supplemental Multivitamins, Vitamin C, Vitamin E, and Folate Does Not Reduce the Risk of Lung Cancer. American Journal of Respiratory and Critical Care Medicine. Vol 177. pp. 524-530. (2008)



Are you prescribing the correct calcium?

Most calcium and magnesium products, contain the CARBONATE salts of calcium and magnesium. This form does not occur naturally in the diet. In fact, its mined from rock. Not only does calcium carbonate cause constipation (which is already a problem in many women), but it is very poorly absorbed from the GIT. Importantly, the little that is absorbed, relies on stomach hydrochloric acid for absorption. As one ages, hydrochloric acid production decreases, reducing the absorption of these carbonate calcium and magnesium salts even further.

Furthermore, carbonate salts also neutralise existing stomach acid (they have an antacid effect). This is problematic, since stomach acid is important for protein digestion (pepsinogen is activated in low pH). Stomach acid also kills the bacteria and other food-borne pathogens that one swallows when eating. Chronic stomach acid neutralisation with carbonate salts can result in gut dysbiosis and intestinal permeability. This can then result in partially digested protein (which are allergenic) and pathogens being absorbed systemically, causing not only chronic systemic infections, and inflammatory and allergic responses, but also triggering auto-immune hyperactivity.

The GLYCINATE forms of calcium and magnesium (calcium glycinate and magnesium glycinate) are identical to what are found naturally in the diet. They consist of magnesium and calcium bound to an amino acid, glycine. This type of calcium and magnesium has the best bio-availability of all forms of calcium (the second best is calcium citrate –the worst is calcium carbonate). It is 12 times more bio-available than calcium carbonate, in low hydrochloric acid environments, and does not neutralise stomach acid in the process.

Bio-CalMag™ is the only calcium glycinate and magnesium glycinate supplement in South Africa. It contains calcium & magnesium in the optimally effective 2:1 ratio.

Each daily dose (6 capsules) supplies:

- Calcium-glycinate, (standardised to 19.3% Calcium), supplying 400mg absorbable calcium (50% RDA) **2070mg**
- Magnesium-glycinate, (standardised to 11.7% Magnesium), supplying 200mg absorbable Magnesium (66.7% RDA) **1710mg**

Products also available: **Calcium Glycinate with Vitamin D3** (without magnesium), as well as **Magnesium Glycinate** (without calcium).

The dosage for these products is 2 capsules twice daily after meals.

References:

- a. Hunt, J. N., et al. Relation between gastric secretion of acid and urinary excretion of calcium after oral supplements of calcium. Dig Dis Sci. 28:417-421. 1983.
- b. Falloon, W. Calcium: Keep what you take. Life Extension. 5(3):10-14, 1999.
- c. Sosa M, Bregni C.; Metabolism of the calcium and bioavailability of the salts of most frequent use.; Boll Chim Farm. 2003 Jan-Feb;142(1):28-33.
- d. Kenny, A.M., et al. Comparison of the effects of calcium loading with calcium citrate or calcium carbonate on bone turnover in postmenopausal women. Osteoporosis Int. 2004.
- e. Harvey, J.A., et al. Dose dependency of calcium absorption: a comparison of calcium carbonate and calcium citrate. J Bone Miner Res. 3(3):253-258, 1988.
- f. Kitchen, J. Hypochlorhydria: a review, part 1. Townsend Letter for Doctors and Patients. October 2001.
- g. Plummer, N. The unseen epidemic: the linked syndromes of achlorhydria and atrophic gastritis. Townsend Letter for Doctors and Patients. July 2004.
- h. Dagec, H., et al. Protozoan infections and intestinal permeability. Acta Trop. 81(1):1-5, 2002.
- i. Martin, S. Intestinal permeability. BioMed Newsletter. 11, 1995.



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