NUTRIENTS

Vitamins: Vitamin K

What is it?

There are three forms of vitamin K

- Vitamin K1 comes from plant sources
- Vitamin K2 is produced by intestinal bacteria
- Vitamin K3 is produced synthetically

Functions - what does it do?

Blood Clotting. Vitamin K plays an essential role in normal blood clotting. It contributes to the synthesis of several blood-clotting factors.

Inactive blood-clotting factors
»
Action of vitamin K
»
Active blood-clotting factors

Without sufficient vitamin K, haemorrhaging (bleeding) occurs.

Bone Health. Vitamin K particpates in the synthesis of several bone proteins that are essential for bone formation. Research is in progress to determine the specific roles of these proteins in bone metabolism and the risk of osteporosis.

Requirements - How much do we need?

	Adequate Intake* (µg/day)	
Life-Stage (years)	**Males**	**Females**
0 - 0.5 (0 - 6 months)	2.0	2.0
0.5 - 1 (7 - 12 months)	2.5	2.5
1 - 3	30	30
4 - 8	55	55
9 - 13	60	60
14 - 18	75	75
Ages 19+	90	90

Life-Stage (years)	Pregnancy	Lactation
18 and younger	75	75
19 - 30	90	90
Ages 31 - 50	90	90

*Adequate Intakes (AI) are used as no RDA is established. The AI is a recommended daily intake level based on observed or experimentally determined approximations of nutrient intake by a group of healthy people who are assumed to be maintaining an adequate nutritional state.

Sources - Where is it found?

	Food Sources	Nutrient Density		
		High	Medium	Low
Excellent sources	Liver, Green leafy vegetables (e.g. Kale, Turnip greens, Cabbage, Spinach), Broccoli, Peas, Green beans			
Other sources	Other vegetables, Fruits, Cereals, Dairy products, Eggs, Meat			

Vitamin K is naturally produced by bacteria in the intestines.

Deficiency - When you have too little

Newborns lack the intestinal bacteria to produce vitamin K and need a supplement for the first week. A vitamin K injection is given at birth to provide the nutrient until enough bacteria are present in the infant's intestine to make the amounts needed.

In adults, deficiencies can occur in people using antibiotics for prolonged periods, possibly due to the destruction of the intestinal bacteria that produce vitamin K. People on anticoagulant drugs (blood thinners) and those suffering from severe chronic fat malabsorption may also become deficient.

Toxicity - When you have too much

Oral doses of vitamin K poses no risk of toxicity. Megadoses of vitamin K reduce the effectiveness of oral anticoagulant drugs (blood thinners) used by some people.

For further, personalized and more detailed information, please contact a dietitian registered with the Health Professions Council of South Africa.*References from the scientific literature used to compile this document are available on request.*

Human Nutrition | Menslike Voeding
Fakulteit Geneeskunde en Gesondheidswetenskappe /
Faculty of Medicine and Health Sciences
Universiteit Stellenbosch University
Francie van Zijl Rylaan / Drive; Tygerberg; Kaapstad / Cape Town
Posbus / PO Box 241; Kaapstad / Cape Town; 8000
Suid-Afrika / South Africa
Tel: +27 21 938-9259
e-pos / e-mail: irene@sun.ac.za
www.sun.ac.za

Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT
forward together sonke siya phambili saam vorentoe