

Vitamin D

Bildung im Körper

Demnach reicht es auch in Deutschland, das sich von Breitengrad 47 bis 55 N° erstreckt, für ungefähr die Hälfte des Jahres für Erwachsene aus, pro Tag ein Viertel der Körperoberfläche (Gesicht, Hände und Teile von Armen und Beinen) je nach Hauttyp und Jahreszeit 5 bis 25 Minuten der Sonne auszusetzen.

Quelle: http://www.bfr.bund.de/de/ausgewaehlte_fragen_und_antworten_zu_vitamin_d-131898.html

Überdosierung

Mehr als 100µg/Tag sollten nicht eingenommen werden. Quelle:
<https://www.netdoktor.de/ernaehrung/vitamin-d/ueberdosierung/>

Im Falle der zusätzlichen Aufnahme von Vitamin D über Vitamin D-Präparate ist zu berücksichtigen, dass die Europäische Behörde für Lebensmittelsicherheit (EFSA) für Erwachsene und für Kinder ab 11 Lebensjahren eine tolerierbare Gesamtaufuhrmenge pro Tag von 100 Mikrogramm Vitamin D und für Kinder bis 10 Lebensjahre von 50 Mikrogramm Vitamin D abgeleitet hat.

Quelle: http://www.bfr.bund.de/de/ausgewaehlte_fragen_und_antworten_zu_vitamin_d-131898.html

DGE Empfehlung

Die *Deutsche Gesellschaft für Ernährung* empfiehlt die Einnahme von 20µg/Tag Vitamin D ab dem ersten Lebensjahr. Das schließt Vitamin D aus normaler Nahrung bereits ein.

Quelle: <http://www.dge.de/wissenschaft/referenzwerte/vitamin-d/>

SACN Vitamin D and Health report

Das *Scientific Advisory Committee on Nutrition* hat 2016 folgende Empfehlung herausgegeben:

[SACN Vitamin D And Health Report 2016.pdf](#)

Original:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/537616/SACN_Vitamin_D_and_Health_report.pdf

Empfehlung

Altersunabhängig ab Geburt 10µg/Tag Vitamin D Einnahme in Wintermonaten (Oktober bis März).

Auszüge

- *RNI* = Reference Nutrient Intakes
- *DRV* = Dietary Reference Values
- *RCT* = randomised controlled trial

The small amount of UVB radiation in winter sunlight is insufficient to initiate synthesis of any biologically relevant amounts of vitamin D.

Sunlight-induced vitamin D synthesis in white-skinned populations becomes effective from late March/early April with maximum concentrations observed in September after a summer of exposure. Serum 25(OH)D concentration decreases from October onwards throughout the winter months.

The pigment melanin absorbs some of the UVB radiation which would otherwise be absorbed by 7-DHC. This means that if the absolute dose of UVB radiation is the same as that given to a person with white skin then people with dark skin will synthesise less. However, darker skin has the same capacity to synthesise vitamin D if the dose of radiation is adjusted for the protective effect of melanin.

Cohort studies suggest an association between increased serum 25(OH)D concentration and decreased fracture risk in adults ≥ 50 y; evidence from RCTs, however, suggests vitamin D plus calcium supplementation is more effective than vitamin D alone in reducing fracture risk. On balance, vitamin D supplements alone appear to have no effect on fracture risk in older men and women.

Evidence from RCTs suggest that vitamin D supplementation may improve muscle strength and function in adults < 50 y with mean serum 25(OH)D concentration < 30 nmol/L.

Previously in the UK, an RNI (but not an EAR or LRNI) for vitamin D was set only for population groups at high risk of deficiency (DH, 1991). It was assumed that, for most people, the amount of vitamin D produced by exposure to sunlight containing UVB in the summer months would be adequate for achieving serum 25(OH)D concentrations ≥ 25 nmol/L during winter. It is now known that this is not the case.

An RNI of 10µg/d (400IU/d) is recommended for the general UK population aged 11y and above.

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This is the average amount needed to achieve a serum 25(OH)D concentration ≥ 25 nmol/L during winter in 97.5% of the population.

Data from the modelling exercise were therefore extrapolated to younger age groups and the RNI of 10µg/d (400IU) recommended for the UK population was considered appropriate for children aged 4 up to 11y.

Since data are not available to clearly relate serum 25(OH)D concentration in the infant to current or long term health, *Safe Intakes* rather than *RNIs* are recommended for infants and children aged up to 4y.

Safe Intakes are based on a precautionary approach and reflect the insecurities of the data.

A *Safe Intake* range of 8.5-10µg/d (340-400 IU), based on concentrations of vitamin D in infant formula, is recommended for infants aged 0-11m.

There is currently no vitamin D RNI for exclusively breastfed infants because it was previously assumed that maternal vitamin D supplementation during pregnancy and then breast milk would provide the infant with adequate vitamin D for the period of exclusive breast feeding. The few available data suggest that it is unlikely that an exclusively breastfed infant in the UK would maintain a serum 25(OH)D concentration ≥ 25 nmol/L for 6 months. Therefore the *Safe Intake* range of 8.5-10µg/d (340-400IU) is recommended for all infants, including those who are exclusively breast fed and those who are breastfed and part-formula-fed, from birth.

A *Safe Intake* of 10µg/d (400IU), based on the RNI for the UK population, is recommended for infants and children aged 1-3y.

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