

Vitamin D supplementation

In the last years the debate about the need for vitamin D supplementation has changed. After it had previously been recommended exclusively for newborns in their first year, more and more adults have started to worry about adequate vitamin D intake. In the following we summarize the article "Vitamin D in Clinic and Practice" from the journal Aktuelle Ernährungsmedizin (4/2016):

15-18% of the general population show a vitamin D deficiency (25OHD blood level <50nmol/l). In children and adolescents, this rate even amounts up to 31%. To counteract this, the supplementation of vitamin D is recommended from various sides for infants and partly for children and adults, too.

What function does vitamin D have in the body?

Besides the intake from food (such as fatty fish like salmon, liver or egg yolk), our body produces most of its vitamin D under the use of UVB radiation which we can absorb from sunlight. After several transformations in the liver and kidneys, the active form of vitamin D is required for mineralization, and thus for stabilization of the bone.

What are the consequences of a vitamin D deficiency?

A pronounced vitamin D deficiency leads to rickets in infants, a bone growth disorder with malformations, in adults to osteomalacia, a painful bone softening. Both diseases lead to an increased danger of fractures.

Furthermore, the risk for infections of the upper respiratory tract is increased by vitamin D deficiency.

Should I give vitamin D products to my child?

Because of the widespread deficit it is suggested in Germany, Austria, Switzerland and England to administer vitamin D preparations to all newborns and continue this for several years. The proposed dosage is 400-500 IU (international units) per day, depending on the season and sun exposure. For most commercial preparations, this equals 4 - 5 drops per day. Highly dosed, irregular vitamin D intake cannot be recommended.

Besides, we encourage you to regularly spend time outdoors in sunlight with your child - this, however, with special regard to sun protection.

Which vitamin D supplement is recommended?

We distinguish between native vitamin D and 25-hydroxyvitamin D preparations. However, the latter lead to a 4 to 5 times more pronounced increase in 25OHD level in the blood.

What if my child has accidentally taken too much vitamin D?

Overdose symptoms (so-called hypervitaminosis) of vitamin D are very rare and occur only in extreme excess of the proposed dosage. Should it, for instance, happen that you accidentally administer your child's daily dose twice, there is no reason for concern. If you suspect extreme overdose, you should however consult a doctor immediately.

Should I determine my vitamin D level?

According to the "US Preventive Services Task Force" a precautionary determination of vitamin D blood value (25OHD levels) is not recommended. It is to be considered that the blood level is subject to seasonal fluctuations and its equally important that the laboratory test meets

international standards. If you or your child belong to one of the following risk groups, such a screening might be appropriate:

- pregnant women and nursing mothers
- African, Latin American, ethnically fully clothed people
- Obese (BMI >30)
- vegetarians and vegans
- nursing home residents
- diseases of various organs (liver, bones, kidney, gastrointestinal tract, granulomas)
- taking long-term medication

Recommendation: *In our opinion a consistent dose of vitamin D in the first year is a reasonable preventive measure. Depending on the lifestyle habits, place of residence and the form of diet an individual decision on determining the vitamin D levels and the possible supplementation must be taken.*

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All information is a summary of the article "Vitamin D in Clinic and Practice" from the journal Aktuelle Ernährungsmedizin, issue 4/2016, Thieme Verlag, pp 300-314. The statement does not replace the advice of your doctor.