HEALTH BENEFITS OF MODERATE EXPOSURE TO UV RADIATION

There is an ongoing debate surrounding the question whether or not **exposure to natural and artificial sunlight is rather beneficial or detrimental to human health**. While overexposure and especially sunburns need to be avoided, this document lists important facts in favor of **moderate and responsible tanning.**

Regular moderate exposure to UV light has various benefits, for example an **improved cardiovascular health** (through the release of nitric oxide) and **release of important hormones** such as ß-endorphins or serotonin, which are **crucial for an overall well-being**. The most important one though, is the **production of vitamin D** in the skin.

- **What is vitamin D?**

The term vitamin D describes a family of essential and fat-soluble hormones (secosteroids) with many important functions, e.g. the absorption of calcium from the small intestine and bone mineralization.

- **How to get vitamin D?**

Regular moderate sun exposure is the **most natural way to get enough vitamin D**. Depending on some factors, such as the skin type, latitude, time of the day, the season, etc. **10-30 minutes of midday sunlight several times per week** are sufficient to maintain healthy blood levels. In fact, vitamin D is also called "the sunshine vitamin", as in average **80-90% of vitamin D is from sunlight-derived production in the skin**. In the winter months, visits to tanning salons can replace the natural sun.[1] Other sources are fatty fish, such as herring, mackerel and salmon, fortified food and supplements.

- **Benefits of vitamin D?**

It has been shown, that **vitamin D affects the personal risk of several cancers**, plays a role in cardiovascular diseases as well as other illnesses, such as diabetes, multiple sclerosis, Alzheimer and depressive disorders.[2] Further, it also strengthens the immune system and has a protective effect against acute respiratory infections.

- **Vitamin D and COVID-19**

Many preliminary studies have been published that **suggest a link between vitamin D deficiency and COVID-19 severity and mortality**. More specifically, two recently published studies have added to the growing evidence as researchers from a hospital in Cordoba, Spain found that vitamin D given as part of a treatment can reduce severity of COVID-19 infection[3]. The other publication from a team of the university of Chicago concluded that patients with insufficient vitamin D levels had double the risk to contract the disease.[4]
Vitamin D may protect from viral infection and ameliorate the symptoms of COVID-19, especially by suppressing the release of pro-inflammatory molecules, so-called cytokines.[5]
These findings should be enough for **public health authorities to encourage people to build up or maintain sufficient serum vitamin D levels** by going outside or at the least, take supplements.

- **Vitamin D deficiency**

Vitamin D deficiency is widespread around the globe and affects at least 20-30%[6] of Europeans as a vast majority of people spend most of their time indoors. Another reason is that, depending on the latitude, it is only possible from March to September to synthetize sufficient vitamin D from sunlight.
According to the European Food Safety Authority (EFSA), a serum concentration of 50 nmol/L is a suitable target for all population groups. To reach or maintain this level, it sets the adequate daily intake at 15µg or 600 IU/day for adults when there is minimal cutaneous vitamin D synthesis.[7]

As a conclusion, non-burning natural or artificial UV exposure is a health benefit and, in moderation, should be recommended as such in public health messages.

The European Sunlight Association (ESA) promotes benefits of moderate and responsible sunbed use in compliance with EU legislation and provides balanced information on the risks and benefits of UV light. To ensure consumer safety, ESA is working hand in hand with the EU and Member State national authorities towards the implementation and enforcement of mandatory standards across Europe.

Sources:
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[3]Castillo et al. (2020). Effect of Calcifediol Treatment and best Available Therapy versus best Available Therapy on Intensive Care Unit Admission and Mortality Among Patients Hospitalized for COVID-19: A Pilot Randomized Clinical study. Journal of Steroid Biochemistry and Molecular Biology.
[4]Meltzer et al. (2020). Association of Vitamin D Status and Other Clinical Characteristics With COVID-19 Test Results. JAMA Network Open.
[5]Grant et al. Evidence that vitamin D supplementation could reduce risk of influenza and COVID-19 infections and deaths. March 2020. Nutrients.
[6]Lips P et al. Current vitamin D status in European and Middle East countries and strategies to prevent vitamin D deficiency: a position statement of the European Calcified Tissue Society. April 2019. European Journal of Endocrinology.
[7]European Food Safety Authority. Dietary reference values for vitamin D. October 2016. EFSA Journal.

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