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# Vitamin D in Focus

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Jörg Reichrath

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Misconceptions Corrected

 Springer

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## Preface

How important is vitamin D for our health and what do we need to do to achieve optimal supply of the “sun hormone”? Currently, hardly any other medical topic is being discussed as controversially and emotionally among scientists as well as in the public media as this question. Is vitamin D the “universal remedy from the sky pharmacy”? Or are the many reports about positive effects on our health exaggerated false reports?

Metaphorically, vitamin D deficiency can be compared to an invisible “ticking time bomb”. We can neither smell, feel, nor taste it, and we also do not have any sensory organ that could recognize this danger or warn us about it. Also, because we do not feel any negative consequences at the beginning of its insidious course, the health risks associated with a vitamin D deficiency are often underestimated. Because with the increasing duration of the vitamin D deficiency, the risk for the occurrence of many different diseases increases unnoticed and unstoppable. The great importance of vitamin D for the regulation of bone and calcium metabolism is undisputed. However, this is often doubted in many other widespread diseases, including numerous infectious, autoimmune, cardiovascular, cancer, and metabolic diseases.

Vitamin D deficiency is a pandemic. According to studies by the Robert Koch Institute and other professional societies, more than 60% of the German population have a vitamin D deficiency (25-hydroxyvitamin D [25(OH)D] serum levels > 20 ng/ml)

It is convincingly shown that we do not have to choose between Scylla and Charybdis, that is, between vitamin D

deficiency and increased skin cancer risk. This book provides precise recommendations for a third, healthy way and gives concrete behavioral rules for optimal vitamin D supply and healthy handling of the sun. According to current data collections, it is a tragic misdevelopment that most of us still leave the unique opportunity unused, which a sensible handling of the sun and a resulting optimal vitamin D status offer for a healthy and long life.

I hope that I have made you somewhat curious about reading this book, and wish you a lot of fun while reading!

Homburg, Germany

Jörg Reichrath

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## Abbreviations

AhR	Aryl Hydrocarbon Receptor
DHC	Dehydrocholesterol
LXR	Liver X receptor
PPAR $\gamma$	Peroxisome proliferator-activated receptor $\gamma$
ROR	Retinoic Acid Receptor-related Orphan Receptors
UV	Ultraviolet
VDR	Vitamin D receptor
Vitamin D	Calciferol
Vitamin D <sub>3</sub>	Cholecalciferol
Vitamin D <sub>2</sub>	Ergocalciferol
1,25(OH) <sub>2</sub> D <sub>3</sub>	1,25-Dihydroxyvitamin D <sub>3</sub> , 1,25-Dihydroxycholecalciferol, Calcitriol
25(OH)D <sub>3</sub>	25-Hydroxyvitamin D <sub>3</sub> , 25-Hydroxycholecalciferol, Calcifediol
20(OH)D <sub>3</sub>	20-Hydroxyvitamin D <sub>3</sub>
20,23(OH) <sub>2</sub> D <sub>3</sub>	20,23-Dihydroxyvitamin D <sub>3</sub>