

# The Patho-physiological bases of Co-morbid conditions associated with mild to severe COVID-19 disease have vitamin-D3 deficiency in common

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## Abstract

COVID-19 when it infects a person has revealed a common Achilles' heel of many comorbid conditions / diseases that being the deficiency of Vitamin D3. The long-held presumptions that Vitamin D3 is required mainly for healthy bones and that adequate D3 comes from living in sunny climates has been shattered. Vitamin D3 deficiency (VD3D) is the common denominator of the presence and severity of asthma, cardiovascular disease, diabetes (Type II), obesity, Alzheimer's Disease, Parkinson's Disease, Multiple Sclerosis, Inflammatory diseases inter alia. Persons hospitalized with moderate to severe COVID-19 have Vitamin D3 deficiency (>80%). Persons whose VD3D is addressed in the hospital have improved survival rates. The underlying conditions most often associated with COVID-19 are Vitamin D3 deficiency, advanced age (decreased T cell count with age), genetic predisposition (Down Syndrome, DiGeorge Syndrome, Neanderthal Chromosome 3), and co-morbid conditions strongly related to VD3D.

**Received:** July 05, 2022; **Accepted:** July 15, 2022; **Published:** July 25, 2022

## Biography

Lundeen has a BS degree in electrical engineering from the University of Illinois (Urbana Campus) 1977, a thesis MS degree in computational chemistry from Illinois State University (Normal Campus) 1979, and an MD from the Chicago Medical School (North Chicago Campus) 1983. Lundeen received an award upon graduation from medical school for receptor binding software research conducted as a medical student.

Lundeen's research expanded into Lundon Software, Inc. which was founded in 1983 and which supplied the pharmaceutical industry with the only automated software of its kind. Lundeen's career has spanned several decades of outpatient clinical care of injured workers, general medicine, as well as director of an urgent care facility. Lundeen has a special interest in diagnosing and treating the poison spider bites of the Brown Recluse spider; the tissue reaction is a delayed immune response which responds to corticosteroids and is a parallel to the delayed immune response in COVID-19. Lundeen has reported the association of VD3D repeatedly in posts on LinkedIn as well as parallel posting in Researchgate.