






## A TOUR OF THE RECENT PAPERS ON FREE 25OH VITAMIN D ...

First author (date)	Field	Title	Learnings on Free Vitamin D	Method
K. Chhantyal (2020) 	Bone metabolism	<b>Free vitamin D correlate better with bone mineral density and thoracolumbar junction osteoporotic vertebral fractures than serum vitamin D</b>	<ul style="list-style-type: none"> <li>Free vitamin D was significantly related to the occurrence of thoracolumbar junction OVFs and lumbar BMD, which assumed to be a positive predictor for fracture and osteoporosis prevention.</li> <li>In the meantime, total serum vitamin D levels did not have any association with BMD at different sites as well as fragile vertebral fracture.</li> </ul>	ELISA
T. Grassi (2020) 	Inflammatory disease	<b>Direct detection of free vitamin D as a tool to assess risk conditions associated with chronic plaque psoriasis</b>	<ul style="list-style-type: none"> <li>Chronic plaque psoriasis patients exhibited a serum level of free vitamin D lower than controls.</li> <li>Free 25(OH)D seemed to be more sensitive than total and bioavailable vitamin D to identify abnormalities in vitamin D pathways in chronic plaque psoriasis patients.</li> </ul>	ELISA
E. Preka (2020) 	Kidney disease	<b>Free 25-hydroxyvitamin-D concentrations are lower in children with renal transplant compared with chronic kidney disease</b>	<ul style="list-style-type: none"> <li>In transplanted patients, VDBP concentrations were significantly higher compared to CKD and dialysis patients, and consequently, free-25(OH)D concentrations were lower, despite a comparable total-25(OH)D concentration.</li> <li>Free-25(OH)D measures may be required in children with CKD, dialysis, and transplant.</li> </ul>	ELISA
S. Banerjee (2019) 	Kidney disease	<b>Free vitamin D levels in steroid-sensitive nephrotic syndrome and healthy controls</b>	<ul style="list-style-type: none"> <li>The total 25(OH)D levels are low in nephrotic syndrome, while free 25(OH)D level did not change in relapse or remission in comparison with healthy controls.</li> <li>This suggests that, In proteinuric renal diseases, free 25(OH)D rather than total 25(OH)D levels should be used to diagnose vitamin D deficiency.</li> </ul>	ELISA
D. D. Bikle (2019) 	<b>Review - Different physiological &amp; pathological conditions</b>	<b>Vitamin D Binding Protein, Total and Free Vitamin D Levels in Different Physiological and Pathophysiological Conditions</b>	<ul style="list-style-type: none"> <li>This review details our current knowledge about the vitamin D binding proteins. It also details why, in a certain number of clinical conditions, measuring the free 25(OH) vitamin D, instead or in addition to total 25(OH) vitamin D, improves the assessment of vitamin D status.</li> </ul>	ELISA + calculation

First author (date)	Field	Title	Learnings on Free Vitamin D	Method
C.M. Henderson	Genetic	<b>Vitamin D–Binding Protein Deficiency and homozygous Deletion of the GC Gene</b>	<ul style="list-style-type: none"> <li>Albumin may not bind a meaningful amount of 25OHD in-vivo</li> <li>The megalin-mediated uptake of vitamin D metabolites may not be necessary</li> <li>The disconnect between low plasma 25OHD and relatively mild bone disease highlights the controversy surrounding the use of total 25OHD to define Vitamin D status</li> </ul>	ELISA
L. Bonnet	Obesity	<b>Diet induced obesity modifies Vitamin D metabolism and adipose tissue storage in mice</b>	<ul style="list-style-type: none"> <li>The reduction of plasma free 25OHD might be a cause and a consequence of obesity</li> <li>- Plasma free 25OHD could a better marker of Vitamin D status than total 25OHD during obesity</li> </ul>	ELISA
O. Tsuprykov	Pregnancy	<b>Comparison of Free and Total 25-hydroxyvitamin D in Normal Human Pregnancy</b>	<ul style="list-style-type: none"> <li>Free 25OHD was better associated with gestational age, markers of bone metabolism, lipid metabolism and nutritional status biomarker than total 25(OH)D</li> <li>Free 25OHD decreased during pregnancy, while DBP increased. Total 25OHD remained unchanged</li> <li>It is suggested that an optimal monitoring of vitamin D status in pregnancy should include free 25OHD measurements in early and late gestation</li> </ul>	ELISA
X. Wang	Hyper-parathyroidism	<b>25-Hydroxyvitamin D and Vitamin D Binding Protein Levels in Patients With Primary Hyperparathyroidism Before and After Parathyroidectomy</b>	<ul style="list-style-type: none"> <li>Total 25OHD levels in PHPT patients may not be a good indicator of vitamin D status before or after surgery since there is a much lower rise in free 25OHD concentrations</li> </ul>	Calculation