

Current guidelines advocate for universal 25-hydroxyvitamin D (25[OH]D) cut-offs to diagnose vitamin D deficiency. However, there is increasing evidence that the measurement of 25(OH)D incompletely reflects biology and that the currently used cut-offs do not apply in all patient groups. The vitamin D metabolite ratio (VMR), which is based on the simultaneous measurement 25(OH)D and 24,25-dihydroxyvitamin D (24,25[OH]<sub>2</sub>D), allows the identification of individuals with functional vitamin D deficiency. These individuals have no 25(OH)D to spare for catabolism and thus have very low 24,25(OH)<sub>2</sub>D concentrations. Amongst the large number of people with low vitamin D stores, individuals with functional vitamin D deficiency have accelerated bone turnover and increased all-cause mortality. This presentation will focus on existing evidence supporting the VMR as a valid tool for a personalized evaluation of vitamin D metabolism.