Solving Vitamin D Deficiency – A Safety Profile

Identify and quantify risk levels of vitamin D

Reinhold Vieth Ph.D., F.C.A.C.B.
Professor, Department of Nutritional Sciences, and Department of Laboratory Medicine and Pathobiology
University of Toronto
Director, Bone and Mineral Laboratory
Pathology and Laboratory Medicine
Mount Sinai Hospital

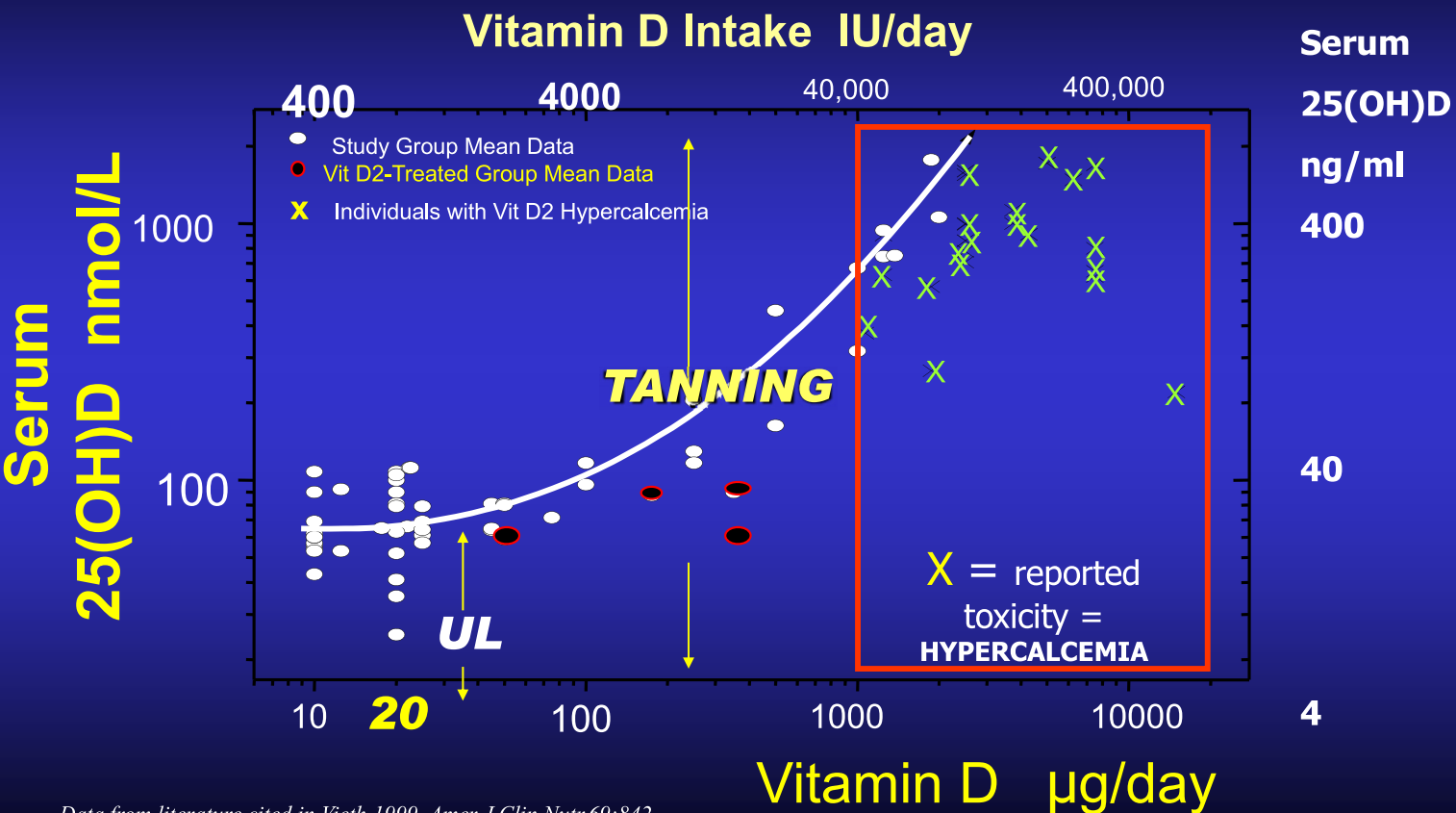
Declaration of Potentially Perceived Conflicts:

Grant/Research Support: NCIC, Direct-MS, Dairy Farmers of Canada

Consultant: DiaSorin, Wyeth, DSM, Yoplait

Speaker's Bureau: Merck/MSD, DiaSorin, Carlson Laboratories

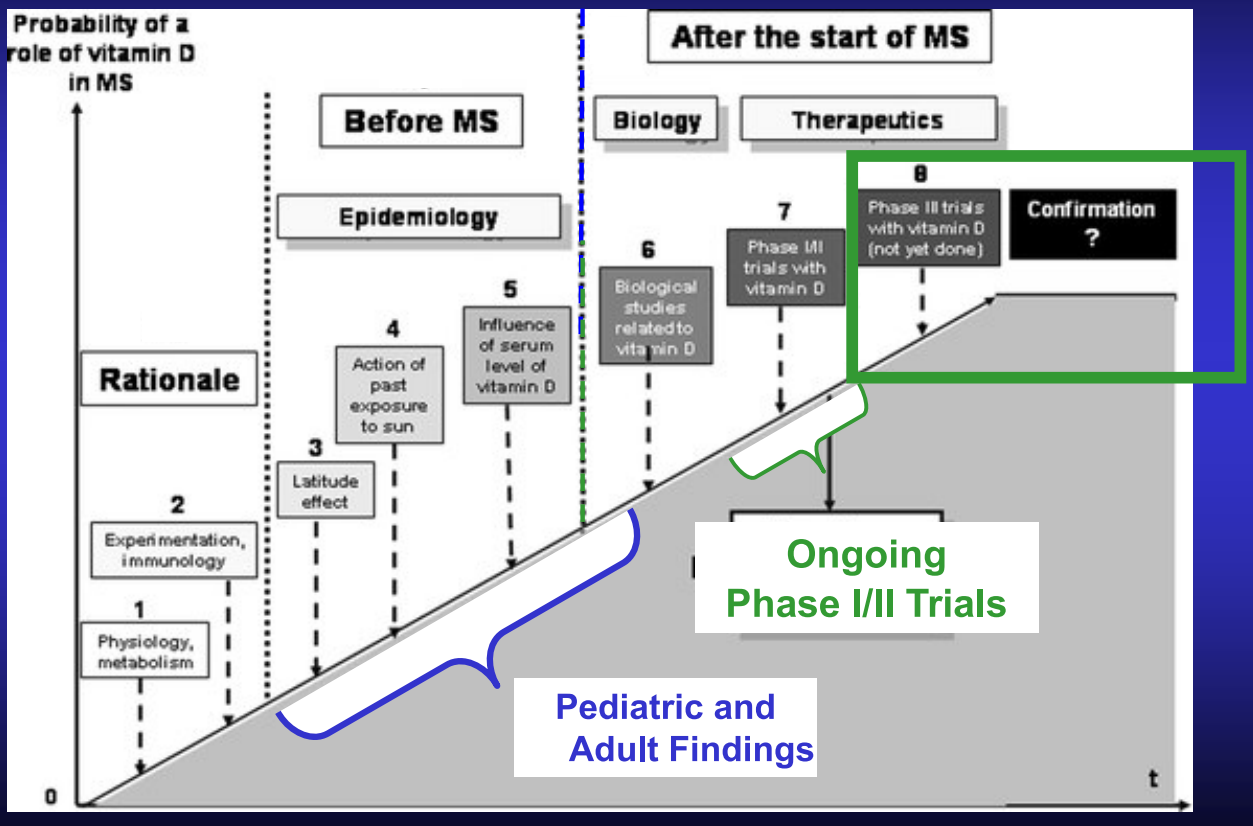
Human Dose Response for vitamin D



Data from literature cited in Vieth 1999, Amer J Clin Nutr,69:842
Hathcock JN, Shao A, Vieth R, Heaney R. Am J Clin Nutrition 2007

Figure 7. Prostate cancer risk stratified by vitamin D concentration

Study	Category	25(OH)D concentration (nmol/L)	P for trend	Quality
Ahn 2008 (n=1530)	Q1 (ref)	13 - 43	0.20	B
	Q2	43 - 51		
	Q3	51 - 61		
	Q4	61 - 72		
	Q5	72 - 129		
Platz 2004 (n=920)	Q1 (ref)	nd	0.59	D
	Q2	nd		
	Q3	nd		
	Q4	nd		
Tuohimaa 2004 (n=2073)	Cat1	<19	nd	C
	Cat2	20 - 39		
	Cat3 (ref)	40 - 49		
	Cat4	50 - 79		
	Cat5	>80		
Li 2007 (n=1156)	Q1	nd	0.91	C
	Q2	nd		
	Q3	nd		
	Q4 (ref)	nd		
Ahonen 2000 (n=715)	Q1	<30	0.01	C
	Q2	31 - 40		

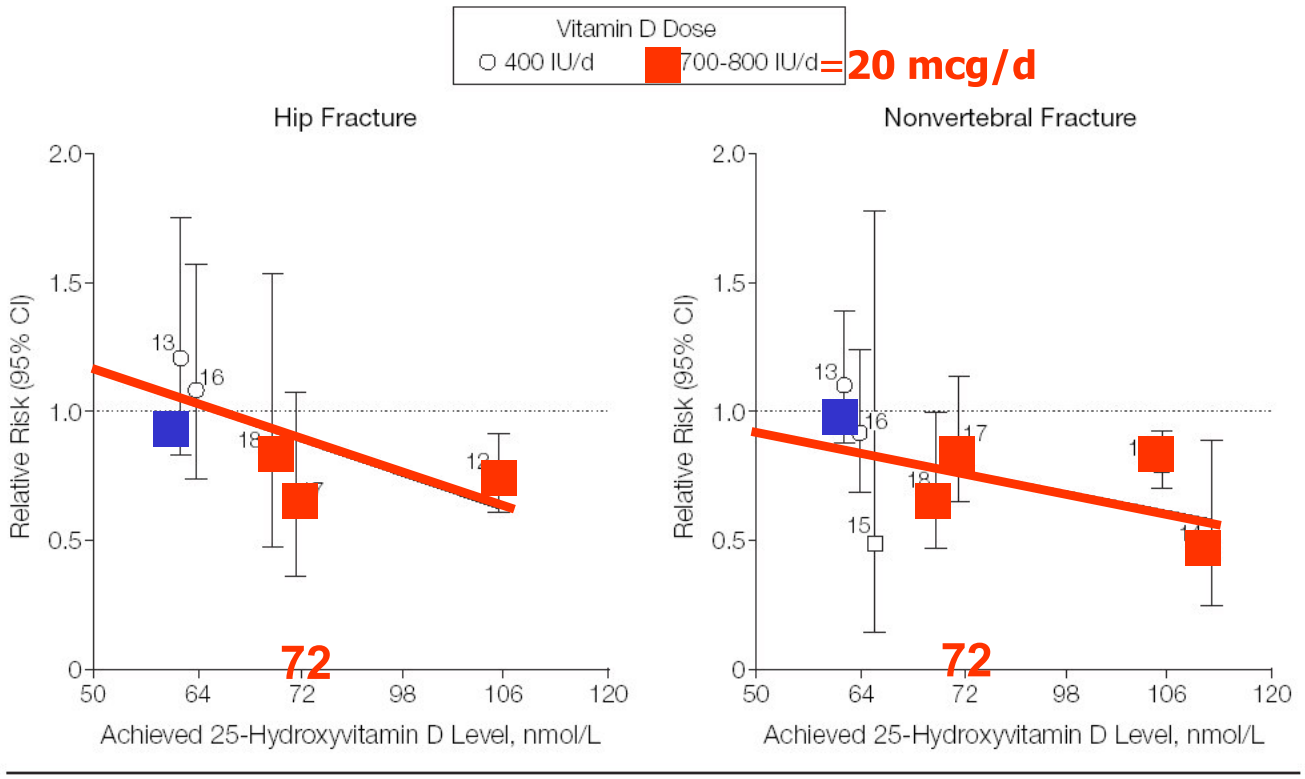


The Ascent of the Evidence Mountain for MS:

C Pierrott-Deseligny, J Neurol 2009

FRACTURE-PREVENTION STUDIES WITH VITAMIN D3

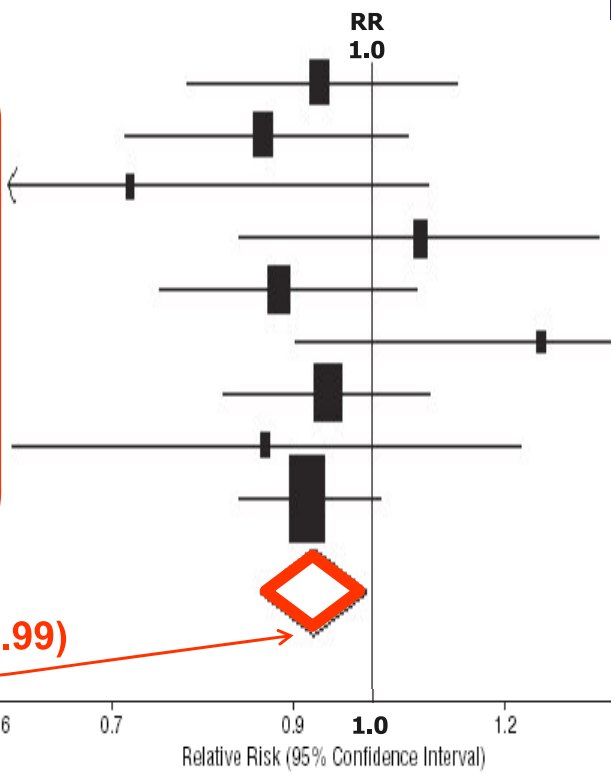
Figure 3. Hip and Nonvertebral Fracture Efficacies by Achieved 25-Hydroxyvitamin D Levels in 400 IU/d and 700-800 IU/d Vitamin D–Treated Groups



Bischoff-Ferrari et alJAMA. 2005;293:2257-2264

Meta-analysis of data on all-cause MORTALITY in randomized controlled trials with vitamin D.

Study	Therapy	PLACEBO
Chapuy et al, 1992	258/1634	274/1636
Lips et al, 1996	223/1291	251/1287
Chapuy et al, 2002	71/393	45/190
Meyer et al, 2002	169/569	163/575
Trivedi et al, 2003	224/1345	247/1341
Porthouse et al, 2005	57/1321	68/1993
RECORD Trial, 2005	438/2649	460/2643
Flicker et al, 2004	76/312	85/313
Jackson et al, 2006	744/18 176	807/18 106
Summary relative risk (95%).	**0.92 (0.86-0.99)**	



Autier and Gandi 2007 *Arch Intern Med*;167(16):1730-1737