



**The Truth
About
Vitamin D**
The Sunshine Vitamin
with
Dr. Ritamarie Loscalzo

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“Sun phobia, sunscreens and spending too much time indoors have all contributed to the problem of Vitamin D insufficiency.”

Zoltan Rona, MD, MSc



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By the End of This Presentation You'll Understand:

- ★ How Vitamin D can protect you from cancer, heart disease, autoimmune disease, digestive disorders and so much more
- ★ The relationship between Vitamin D and Calcium in **bone metabolism**
- ★ How to benefit from **safe sun exposure**
- ★ How to test, supplement, and eat in a way that **supports Vitamin D**



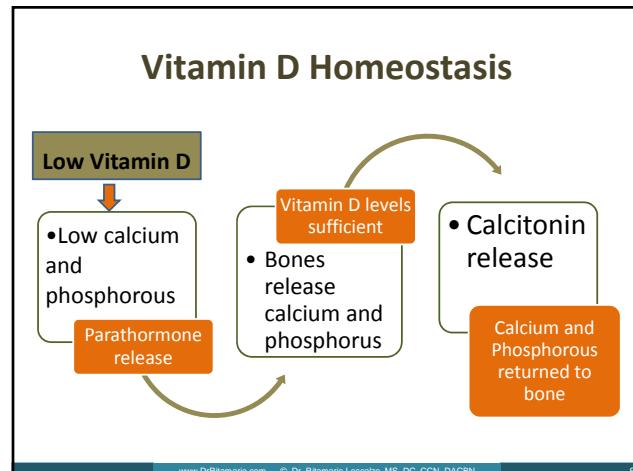
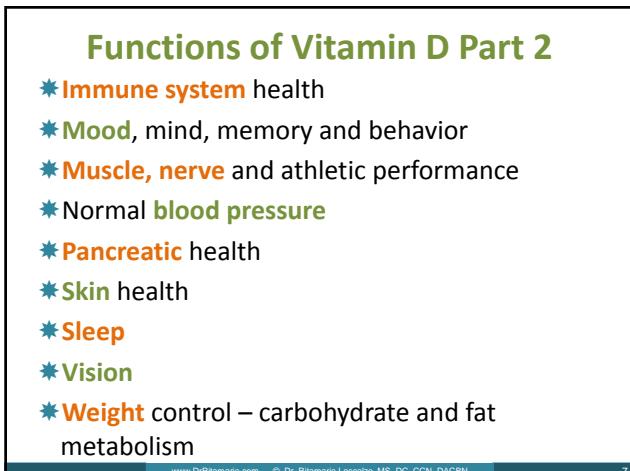
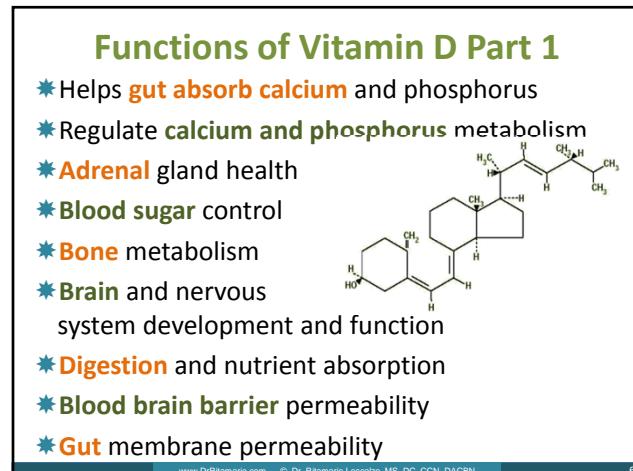
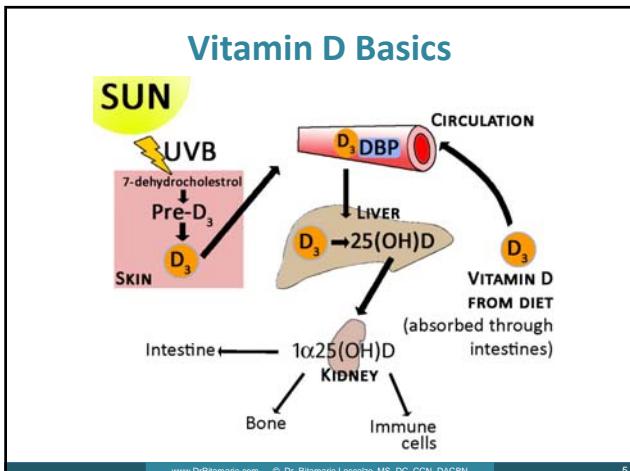
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Why We Become Vitamin D Deficient

- ✿ Sun phobia
- ✿ Sunscreens
- ✿ Too much **time indoors**
- ✿ Poor liver function
- ✿ Poor **kidney** function
- ✿ Poor bile production
- ✿ **Food allergies** (prevent absorption)
- ✿ Northern climates / cold climates
- ✿ **Genetics**
- ✿ Showering and scrubbing with soap
- ✿ **Statin drugs**



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Vitamin D Deficiency

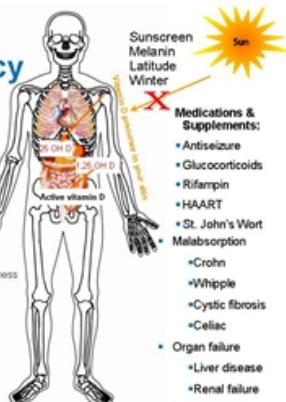
Consequences:

- ✿ **Psychiatric**
 - Schizophrenia
 - Depression
- ✿ **Infections**
 - Urinary
 - Tuberculosis
- ✿ **Circulatory**
 - High blood pressure
 - Coronary heart disease
- ✿ **Cancer**
 - Breast
 - Colon
 - Prostate
 - Other
- ✿ **Other**
 - Diabetes
 - Syndrome X
 - Obesity
- ✿ **Pulmonary**
 - Wheezing
 - FEV1
- ✿ **Bone & Muscle**
 - Osteoporosis
 - Osteomalacia
 - Osteoarthritis
 - Rickets
 - Muscle aches & weakness

Vitamin D Testing
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Medications & Supplements:

- Antiseizure
- Glucocorticoids
- Rifampin
- HAART
- St. John's Wort
- Malabsorption
 - Crohn
 - Whipple
 - Cystic fibrosis
 - Celiac
- Organ failure
 - Liver disease
 - Renal failure
 - Nephrotic syndrome



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Vitamin D Deficiency Can Result In

- ✿ Over-weight
- ✿ High Blood Pressure
- ✿ Osteoporosis and Osteopenia
- ✿ Autism
- ✿ Autoimmune Conditions
- ✿ Cancer
- ✿ Depression
- ✿ Asthma
- ✿ Migraines
- ✿ Cystic Fibrosis
- ✿ Diabetes (types: 1 and 2)
- ✿ Multiple Sclerosis
- ✿ Schizophrenia
- ✿ Epilepsy
- ✿ Osteoarthritis
- ✿ PCOS (Polycystic Ovarian Syndrome)
- ✿ Musculoskeletal Pain, including Joint Pain and Low Back Pain
- ✿ Muscle Weakness
- ✿ Poor Balance
- ✿ Systemic Inflammation
- ✿ Fibromyalgia

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Blood Levels of Vitamin D (US Measurements)

>100 ng/mL	Excessive vitamin D
50–70 ng/mL	Proposed optimal range
30–50 ng/mL	Suboptimal
<30 ng/mL	Deficient
<20 ng/mL	Overt vitamin D deficiency
<10 ng/mL	Seriously deficient

** To convert to Standard International units, multiply by 2.496

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Vitamin D Deficiency Statistics

- 41% of people studied had Vitamin D level below 20
- 82.1% of African Americans had Vitamin D level below 20
- 69.2% of Hispanics had Vitamin D level below 20

Nutr Res. 2011 Jan;31(1):48-54. doi: 10.1016/j.nutres.2010.12.001. Prevalence and correlates of vitamin D deficiency in US adults. Forrest KY, Stuhldreher WL.

- 1988 - 1994, 45% of people studied had Vitamin D level greater than 30
- 2001-2004, 23% of people studied had Vitamin D level greater than 30

Demographic Differences and Trends of Vitamin D Insufficiency in the US Population, 1988-2004. Adit A. Ginde, MD, MPH; Mark C. Liu, MD; Carlos A. Camargo Jr, MD, DrPH. Arch Intern Med. 2009;169(6):626-632.

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Cancer and Sun Exposure

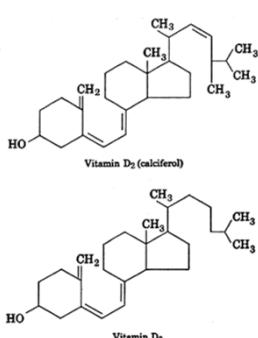
- Melanoma – most dangerous cancer of skin is not related to sun exposure – recent studies suggest it can be caused by vitamin D and omega-3 deficiency
- Basal cell carcinoma is benign
- Sunscreens are carcinogenic
- Get out of the sun when it starts to turn a little pink
- Natural sunblocks if necessary – zinc oxide, titanium dioxide

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Forms of Vitamin D

- Vitamin D3: found exclusively in animal sources
- Vitamin D2: found in plant sources in small amounts
- Synthetic Vitamin D2: fortified products and some supplements



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Vitamin D in Foods

Food	Serving Size	Calories	Amount of Vitamin D
Cod Liver Oil	1Tbs	120	1360
Salmon	4 oz	158	511
Sardines	3.2 oz	189	175
Tuna	4 oz	147	93
Egg	1	77	43
Shitake Mushrooms	½ cup	41	20

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Those at Highest Risk of Vitamin D Deficiency

- ❑ **Overweight:** greater need – stored in fat
- ❑ **Pregnant women**
- ❑ **Elderly:** skin loses ability to produce
- ❑ **Dark skinned:** melanin blocks UVB rays



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Vitamin D Testing

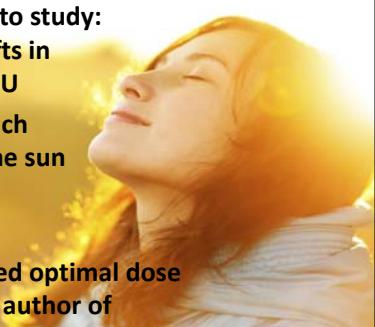


- ★ Get a baseline test
- ★ Supplement if indicated
- ★ Retest every 3 months until stable, for at least a year
- ★ Be sure to test in winter and summer

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Vitamin D Supplementation How Much is Safe?

- ✳ **University of Toronto study:** No measurable shifts in levels until > 4000 IU
- ✳ **20,000 IU made each hour of summertime sun exposure**
- ✳ **Skin reserves**
- ✳ **10,000 IU considered optimal dose by Dr. Zoltan Rona, author of *Vitamin D: The Sunshine Vitamin***



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Conditions That Benefits From Large Doses of Vitamin D

- ✳ Cancer
- ✳ ALS
- ✳ Depression
- ✳ Hashimotos
- ✳ Multiple sclerosis
- ✳ Allergies
- ✳ Flu
- ✳ Rheumatoid arthritis
- ✳ Heart disease
- ✳ Lung disease
- ✳ Osteoporosis



Dr. Joe Prendergast, endocrinologist, - 50,000 iu per day

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Subset of Conditions That Respond To Vitamin D Supplementation - 1

- ✓ **The flu:** *Cambridge Journals* showed that vitamin D reduces the incidence of respiratory infections in children
- ✓ **Muscle weakness:** Michael F. Holick: muscle weakness is usually caused by vitamin D deficiency because for skeletal muscles to function properly, their vitamin D receptors must be sustained by vitamin D
- ✓ **Psoriasis:** In a study published by the UK PubMed central, it was discovered that synthetic vitamin D analogues were found useful in the treatment of psoriasis

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Subset of Conditions That Respond To Vitamin D Supplementation - 2

- ✓ **Chronic kidney disease:** Patients with advanced chronic kidney diseases unable to make the active form of vitamin D
- ✓ **Diabetes:** *Lancet.com* - 10,366 children were given 2000 international units (IU)/day of vitamin D3 per day during their first day of life then monitored for 31 years; risk of type 1 diabetes was reduced by 80 percent
- ✓ **Asthma:** Asthma attacks in school children in Japan were significantly lowered in those subjects taking a daily vitamin D supplement of 1200 IU a day

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Subset of Conditions That Respond To Vitamin D Supplementation - 3

- ✓ **Periodontal disease:** Raising their vitamin D levels increases defensins and cathelicidin and lower the number of bacteria in the mouth
- ✓ **Cardiovascular disease:** *Harvard University* - nurses study - women with low vitamin D levels had a 67% increased risk of hypertension
- ✓ **Schizophrenia and Depression:** Vitamin D prenatal and during childhood - vitamin D receptor in the brain integral for brain development and mental function maintenance in later life

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Subset of Conditions That Respond To Vitamin D Supplementation - 4

- Cancer:** *Georgetown University Medical Center* presented at the *American Association for Cancer Research* - increased doses of Vitamin D linked to a **75 percent reduction in overall cancer growth** and **50 percent reduction in tumor** among those already having the disease, especially estrogen-sensitive breast cancer

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High Dose Vitamin D Supplementation

- ★ John Cannelli, head of vitamin D council recommends **50,000 – 100,000 iu daily for cold or flu**
- ★ Dr. Mercola recommended **90% of body weight during swine flu outbreak**
- ★ Norm Shealy, MD takes **50,000 iu daily** – has for 18 months
- ★ **Do not take calcium with such high doses**
- ★ In 1930s and 1940s doctors at Johns Hopkins prescribed **600,000 iu to treat arthritis** and only 10 patients developed toxicity symptoms after 2 – 18 months

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Vitamin D Toxicity Symptoms

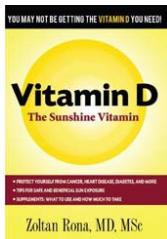
- ★ Weight loss and fatigue – first
- ★ Anorexia
- ★ Nausea
- ★ Vomiting
- ★ High blood calcium
- ★ Kidney damage
- ★ Only deaths reported were when steroids prescribed with the Vitamin D

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Treatment for Vitamin D Toxicity

- ★ Discontinue supplements
- ★ Stay out of sun
- ★ Drink at least **4 liters of water per day**
- ★ **Symptoms resolve in several weeks**, calcium level normalizes in several months



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Supplementation Guidelines

- ★ Vitamin K2
- ★ Vitamin A
- ★ Research drug interactions
- ★ Limit or avoid calcium supplements with high dose vitamin D



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Resources/References - 1

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- * Vitamin D the Sunshine Vitamin, Zoltan Rona, MD
- * <http://www.youtube.com/watch?v=l4fAB9-vTzU>
- * <http://drritamarie.com/blog/2011/02/06/vitamin-d-are-you-getting-enough/>
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- * Mercola.com "Daily Sunlight Can Keep Cancer Away" August 7, 2008
- * Mercola.com "Lack of Sunshine Causes One Million Deaths a Year" August 24, 2007
- * Dr. Joe Mercola Comments How Much Vitamin Do You Need?

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Resources/References - 2

- * Video by Dr. Joe Mercola. 1 hour video with lots of details about Vitamin D
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- * Annals of Epidemiology July 2009, Volume 19, Issue 7, Pages 468-483
- * Science Daily, "New Model of Cancer Development: Low Vitamin D Levels May Have Role" May 26, 2009
- * The Journal of Steroid Biochemistry and Molecular Biology March 2007; 103(3-5):708-11
- * American Journal of Clinical Nutrition June 2007; 85(6):1586-91.
- * American Journal of Epidemiology October 12, 2007

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