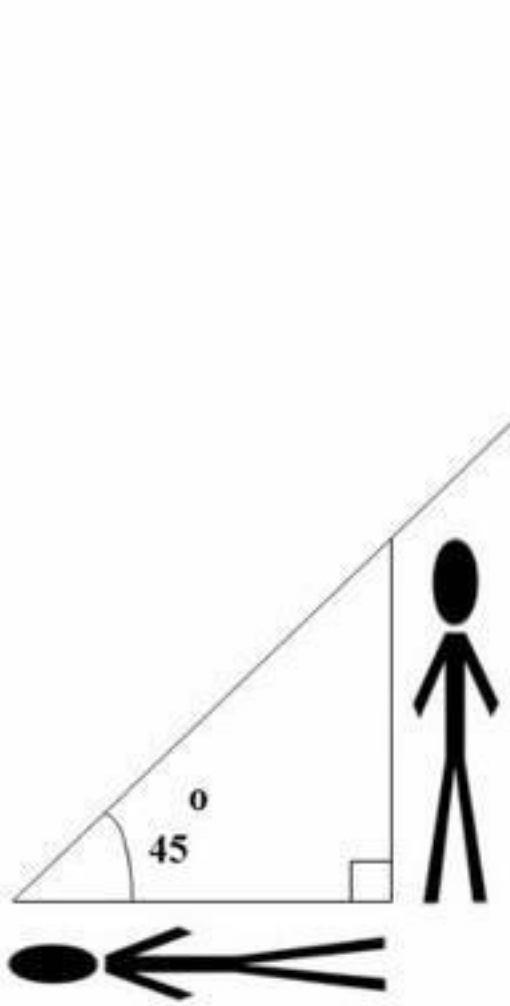
Presentation to Jen Aliano Grassrootshealth

March 2nd, 2025)

Cícero Galli Coimbra, MD, PHD
Neurologist, Associate Professor
Federal University of São Paulo – UNIFESP



The "Shadow Rule"
If your shadow is longer than you are tall, then you will not make vitamin D

Graphic prepared by Edward Gorham, Ph.D.

Dark-skinned individuals require about 5–10 times longer exposure to sunlight to produce vitamin D compared to fair-skinned individuals

The Lancet 1(8263):74-6 February 1982

Sunscreen with a sun protection factor of 15 blocks approximately 99% of the cutaneous vitamin D production

Sunscreens can contain aluminum hydroxide-coated titanium dioxide nanoparticles ”NPs ⩽ 4 nm can penetrate and permeate intact skin” - Regul Toxicol Pharmacol. 2015 Jul;72(2):310-22.

Vitamin D is not actually a vitamin; it is a steroid molecule.

It converts into a hormone in several of human cells and is needed by nearly all cells for their functions.

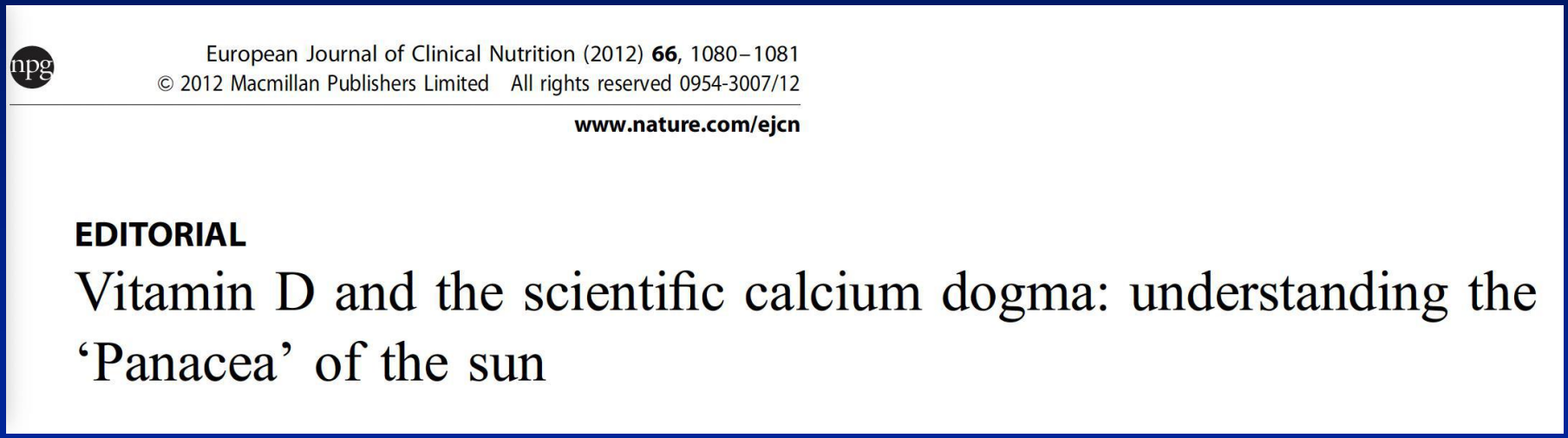
Low vitamin D levels play a role in the development of many diseases.

Human Health - Google Scholar (2025) – “vitamin D”:

- **& human health:** 1,990,000 papers
- **& cancer:** 1,490,000 papers
- **& diabetes:** 1,320,000 papers
- **& insulin:** 375,000 papers
- **& cardiovascular:** 988,000 papers
- **& hypertension:** 387,000 papers
- **& obesity:** 630,000 papers
- **& psychiatric disorders:** 91,500 papers
- **& depression:** 234,000 papers
- **& psychosis:** 25,500 papers
- **& autism:** 30,300 papers
- **& ADHD:** 16,300 papers

WE Stumpf (2012):

"*Vitamin D is as fundamental as the sun, the closest we have to a 'panacea'.*"



European Journal of Clinical Nutrition (2012) **66**, 1080–1081

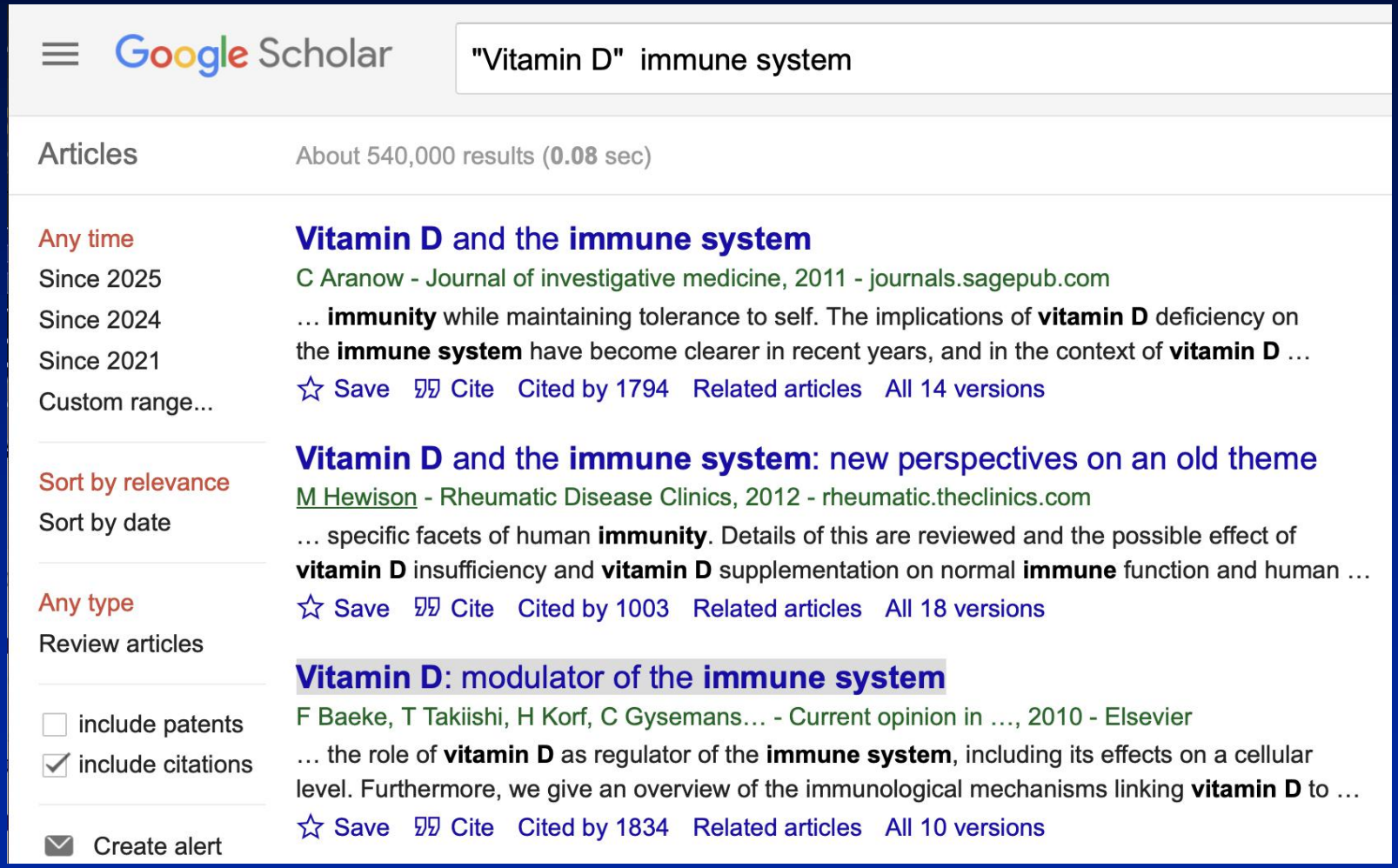
www.nature.com/ejcn

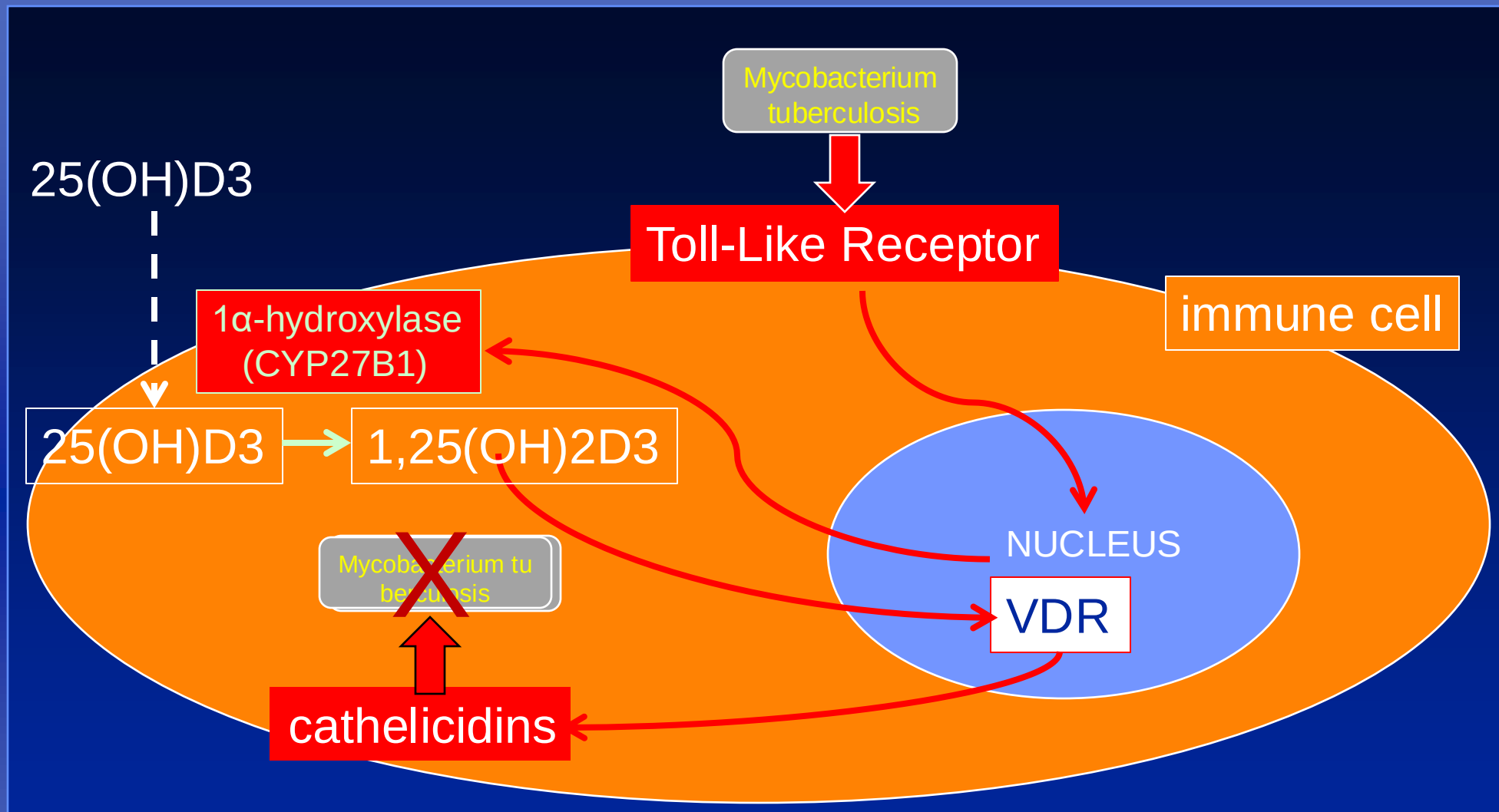
EDITORIAL

Vitamin D and the scientific calcium dogma: understanding the 'Panacea' of the sun

https://www.nature.com/articles/ejcn201278

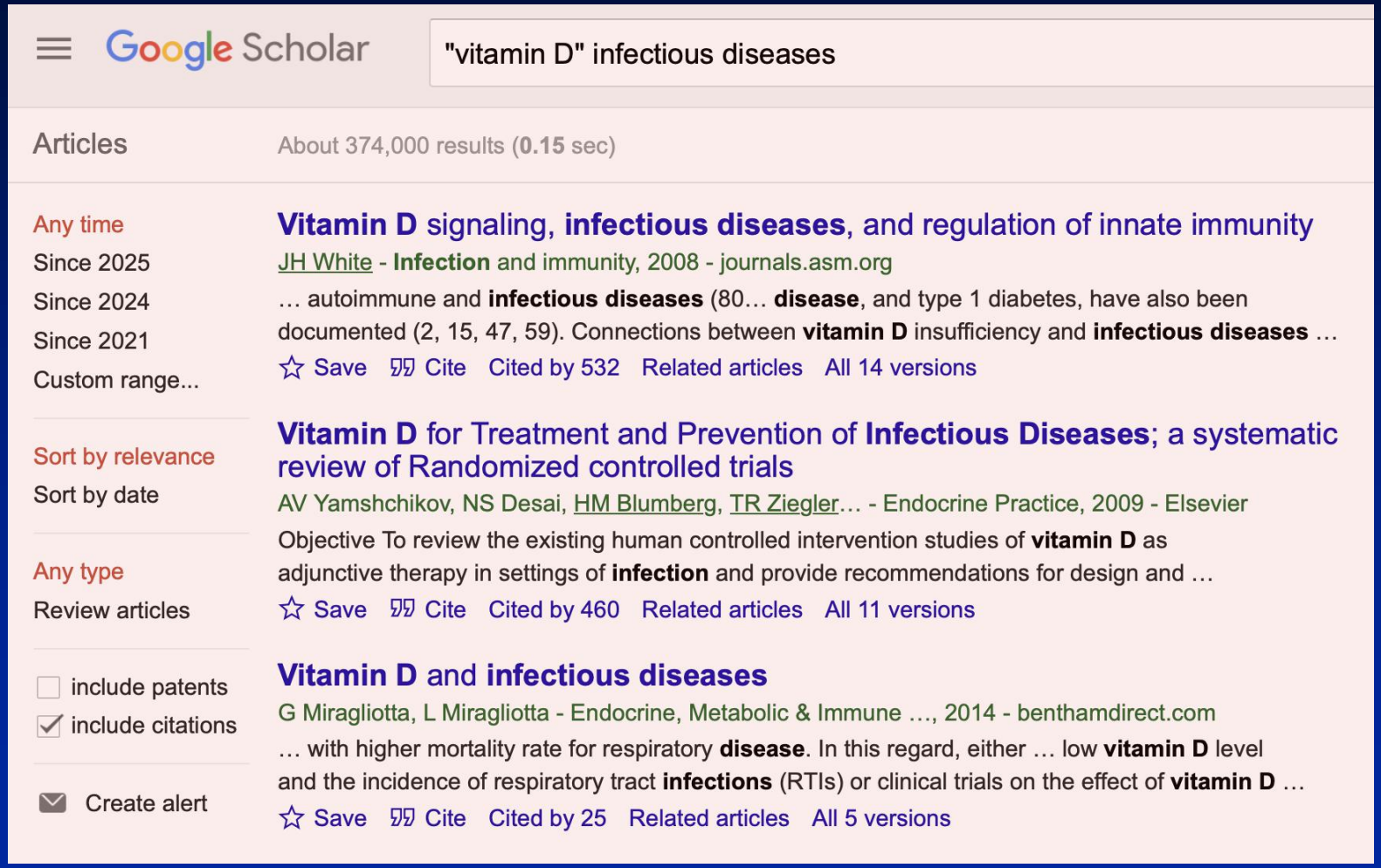
Google Scholar (2025):
Vitamin D & immune system → 540,000 papers





Liu PT et al. Toll-Like Receptor Triggering of a Vitamin D-Mediated Human Antimicrobial Response
Science vol 311 24 March 2006

Google Scholar (2025):
Vitamin D & infectious diseases → 374,000 papers

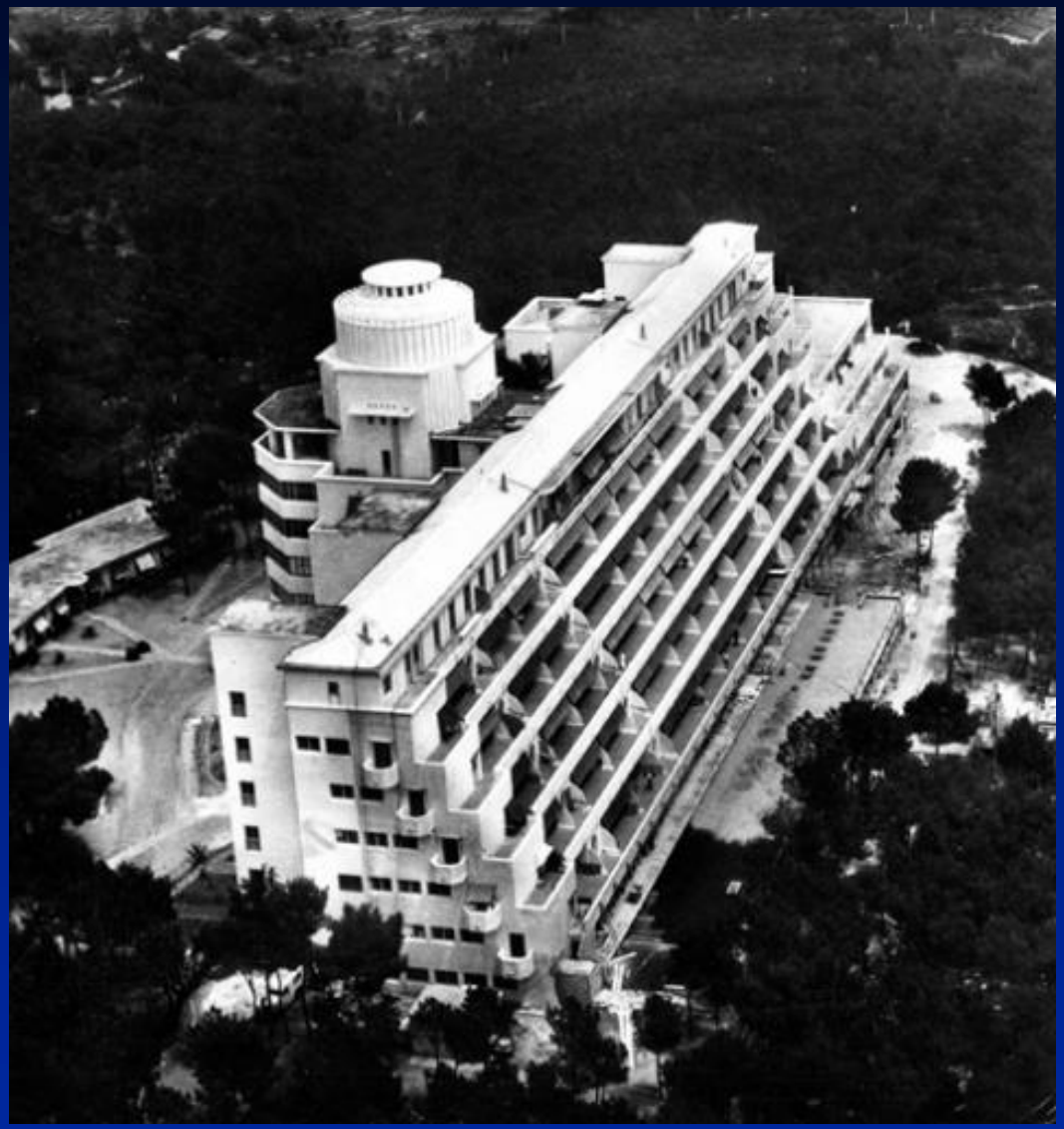


Infectious diseases - Google Scholar (2025) – “vitamin D”:

- **& “infectious”**: 420,000 papers
- **& COVID-19:** 128,000 papers
- **& tuberculosis:** 121,000 papers
- **& HIV:** 119,000 papers
- **& pneumonia:** 60,500 papers
- **& influenza:** 48,800 papers
- **& Haemophilus influenzae:** 22,200 papers
- **& meningitis:** 23,800 papers
- **& Epstein-Barr:** 22,900 papers
- **& Respiratory Syncytial Virus (SRV):** 12,100 papers
- **& common cold:** 10,800 papers
- **& dengue:** 9,950 papers

Auguste Rollier
heliotherapy for
tuberculosis

Dr. Auguste Rollier
(1874-1954)



http://insitu.revues.org/11102

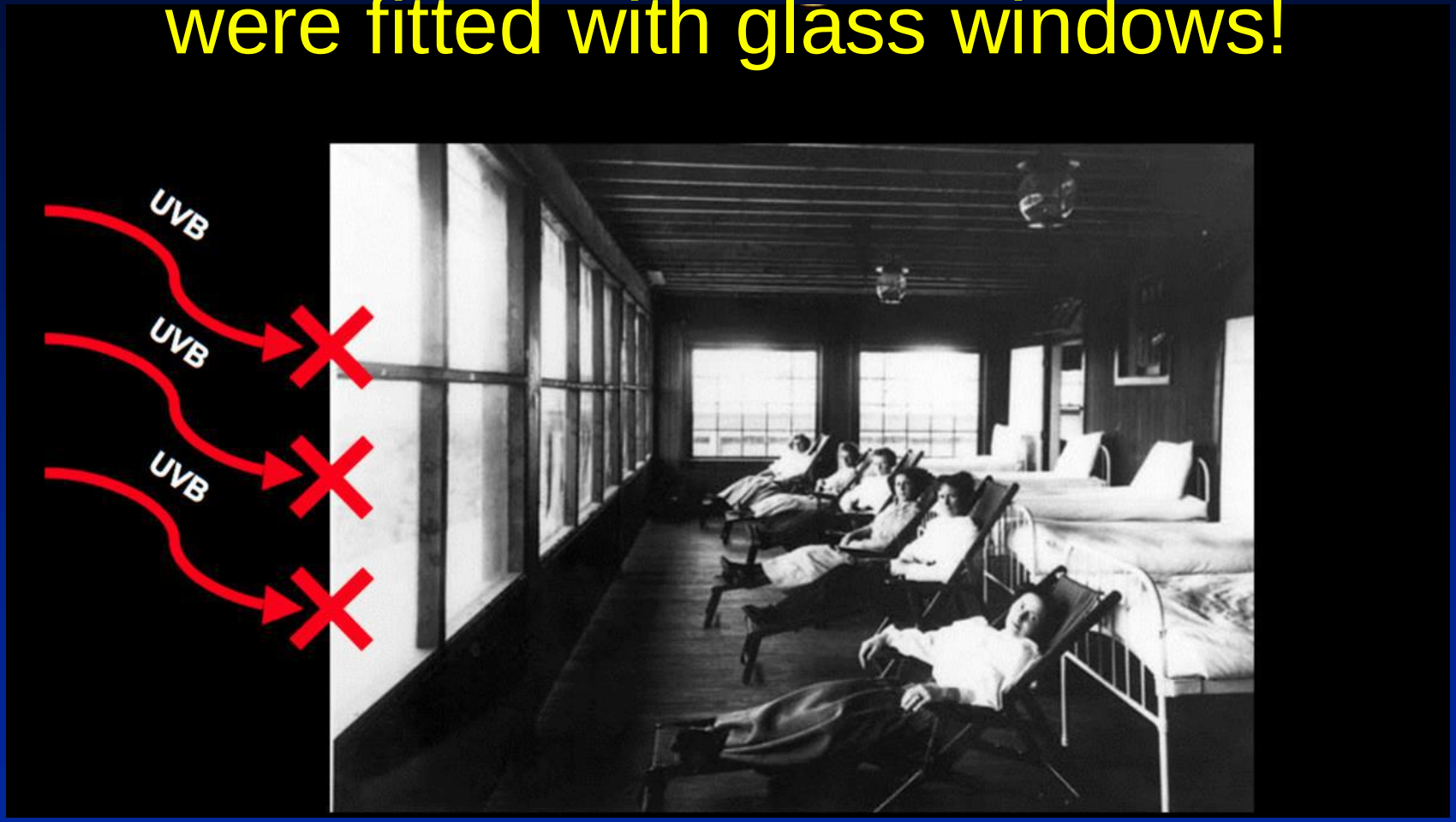
Patients rebuilt: Dr Auguste Rollier's heliotherapeutic portraits

https://mh.bmj.com/content/39/1/38.long

“Four-year-old patient with thirty-four foci of osteitis-periostitis, adenitis, numerous ulcers, advanced tuberculosis of both feet, right hand, left lung, peritonitis, cachexia.” The lowered left shoulder indicates rickets.

The same patient, one year later. Healing of ulcers, reconstruction of bones, muscles, and general condition.

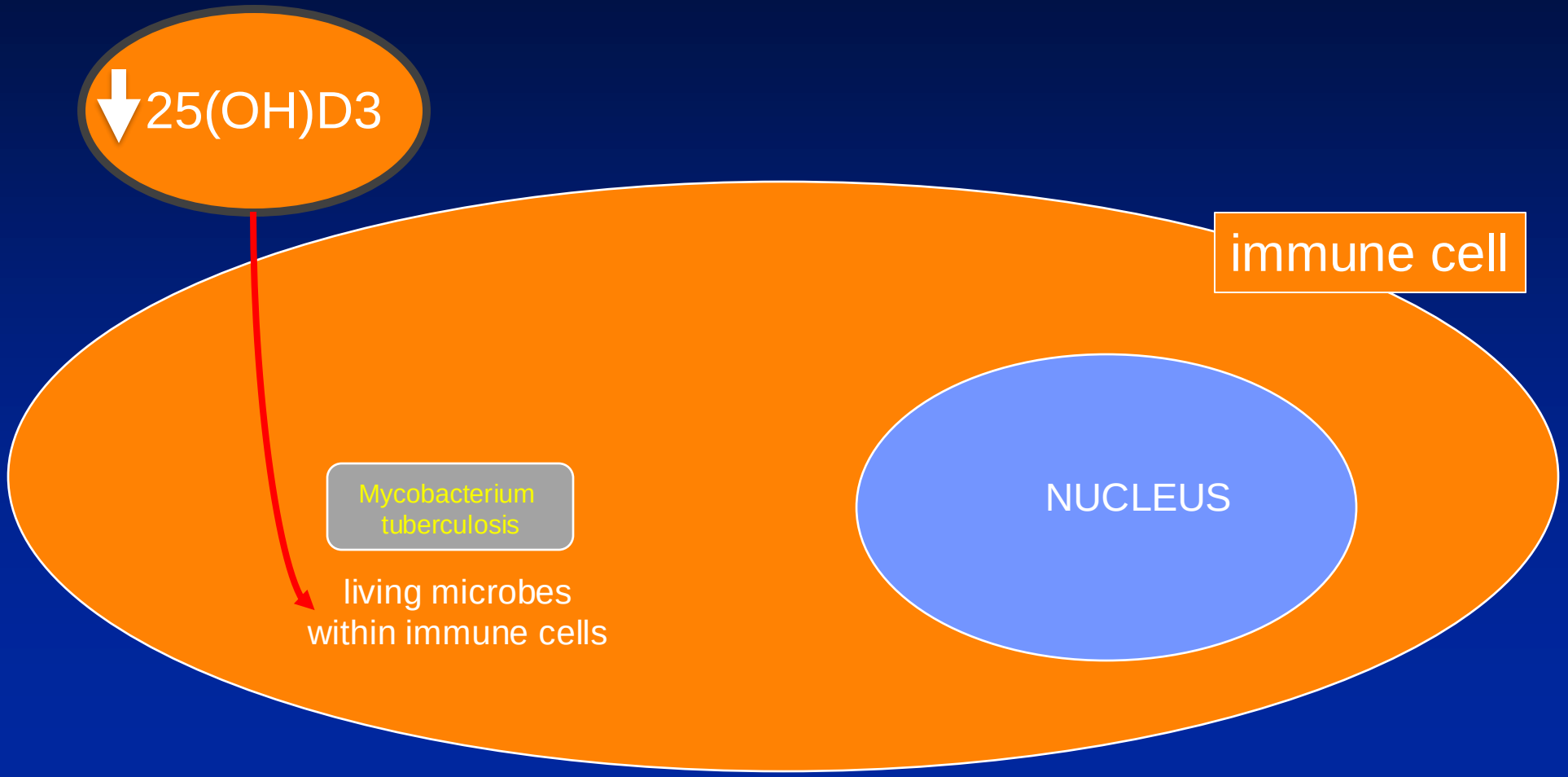
What happened to the sanatoriums? They were fitted with glass windows!



http://ctsi.ucla.edu/education/files/view/training/docs/LiuRI.pdf

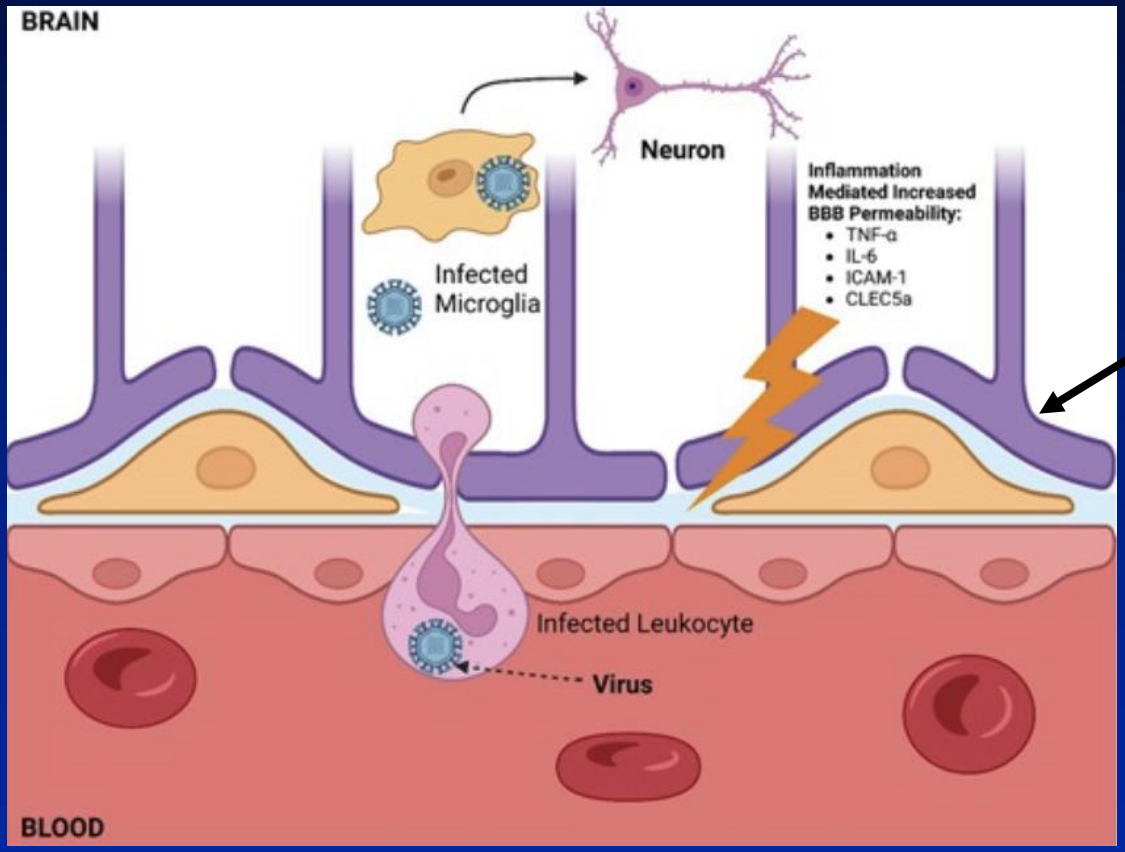

…and the Swiss sanatoriums turned into hotels

Low vitamin D leads to low cathelicidin synthesis, allowing microbes to remain alive within immune cells.



The Trojan horse mechanism: when vitamin D levels are low, microbes can survive and infiltrate the blood-brain and placental barriers within immune cells, infecting the brain and the fetus.

Blood-brain barrier



astrocytic podocyte

Srichawla et al, Annals of Medicine & Surgery 85(6): pp2761-2766, June 2023

September 2018: WHO calls for urgent action to end the tuberculosis epidemic

Prior to the Covid-19 pandemic, tuberculosis was the deadliest infectious disease, claiming 4,000 lives each day worldwide

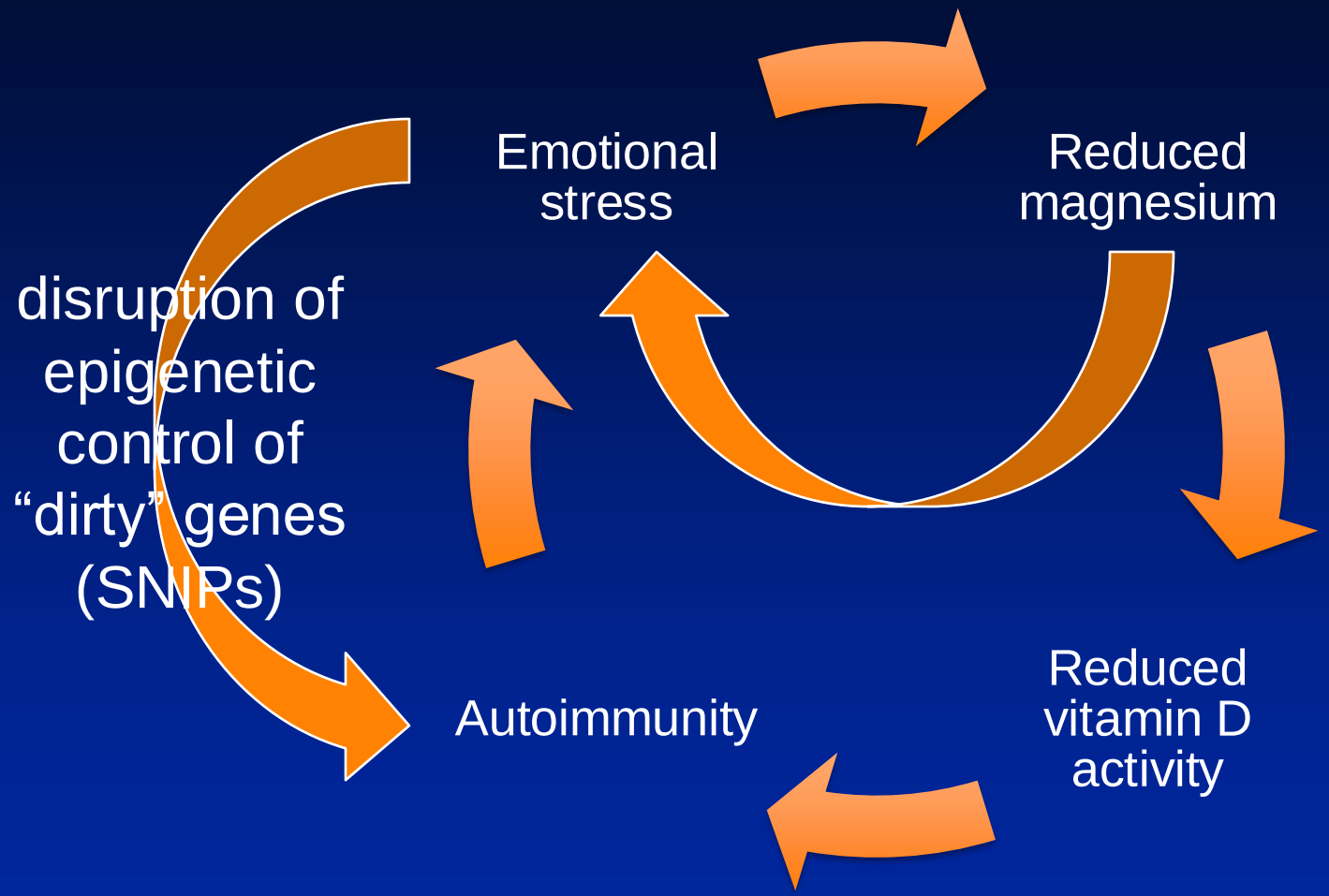
News | Health Policy News

WHO calls for urgent action to end the tuberculosis epidemic

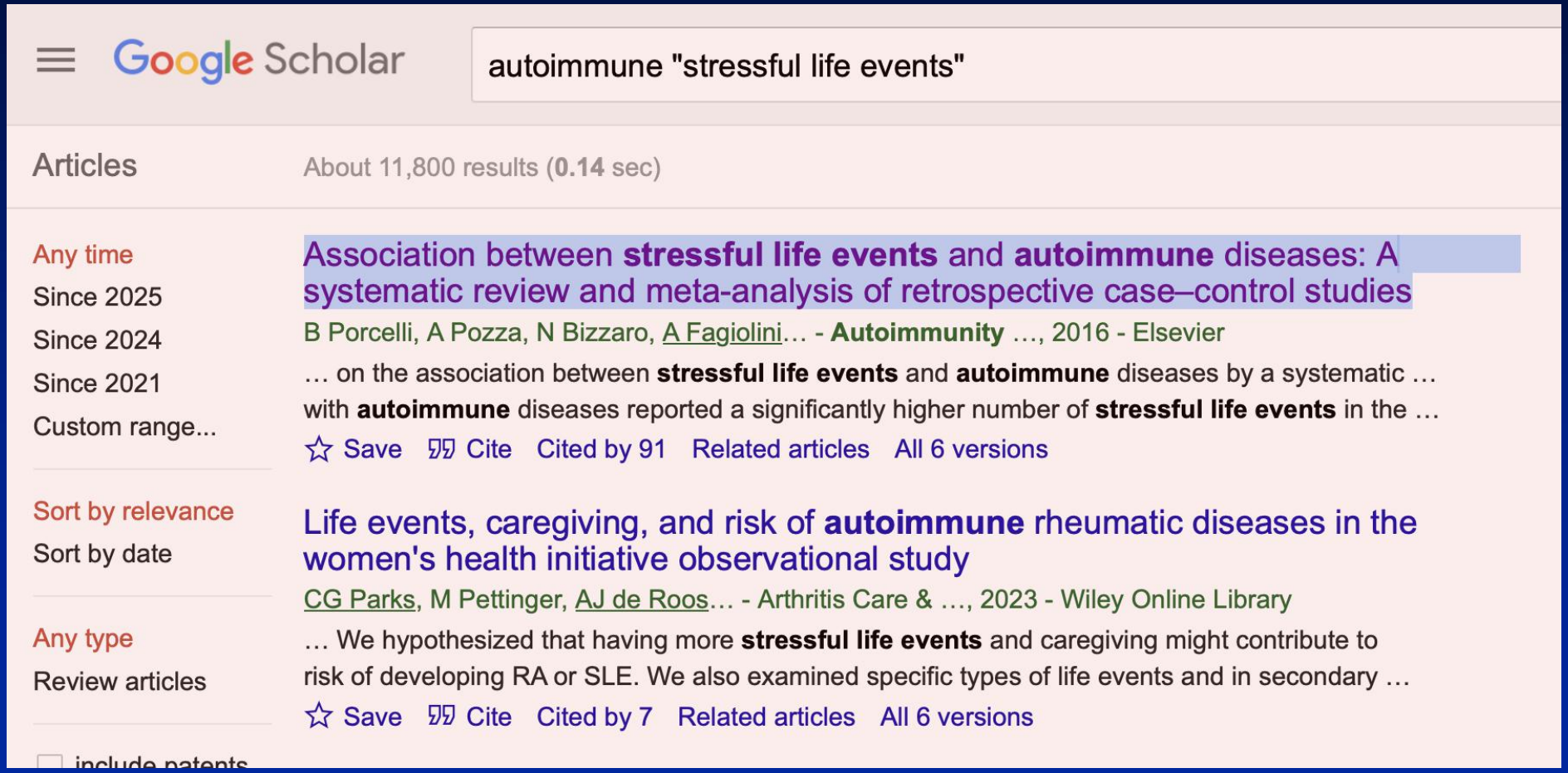
20th September 2018

https://www.healtheuropa.eu/tuberculosis-epidemic/88174/

Autoimmune diseases are almost always triggered by stressful life events, and managing emotional stress should be regarded as essential for the success of all therapeutic approaches


Emotional stress
Reduced magnesium
disruption of epigenetic control of “dirty” genes (SNIPs)
Autoimmunity
Reduced vitamin D activity

Google Scholar (2025): autoimmune & “stressful life events” → 11,800 papers



"The results of this meta-analysis suggest that *stressors* may play an important role in the etiopathogenesis of autoimmune disorders."

ELSEVIER

Autoimmunity Reviews

Volume 15, Issue 4, April 2016, Pages 325-334

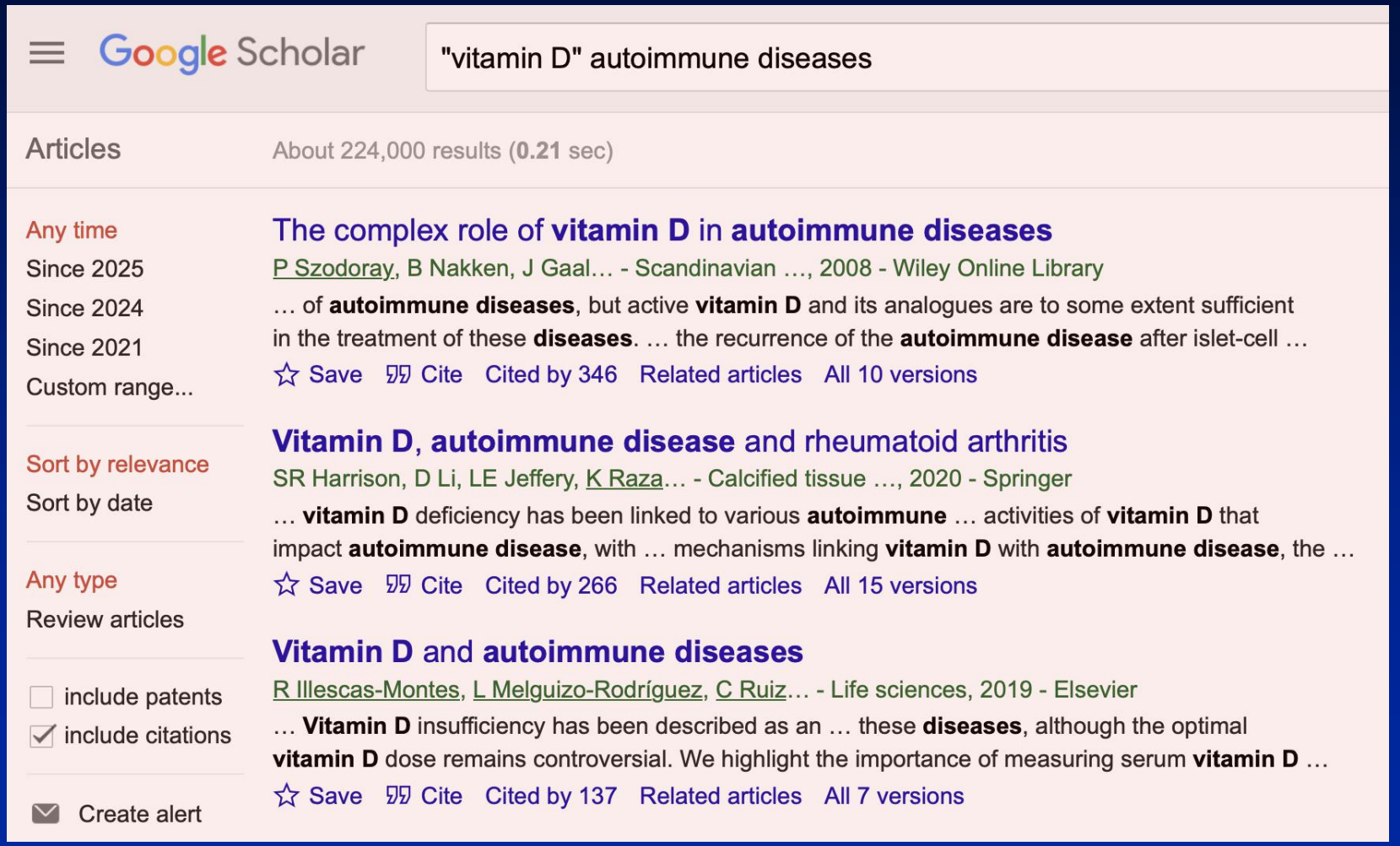
Review

Association between stressful life events and autoimmune diseases: A systematic review and meta-analysis of retrospective case–control studies

Brunetta Porcelli [a], Andrea Pozza [b], Nicola Bizzaro [c], Andrea Fagiolini [d], Maria-Cristina Costantini [e], Lucia Terzuoli [a], Fabio Ferretti [b]

hhttps://www.sciencedirect.com/science/article/abs/pii/S1568997215002621

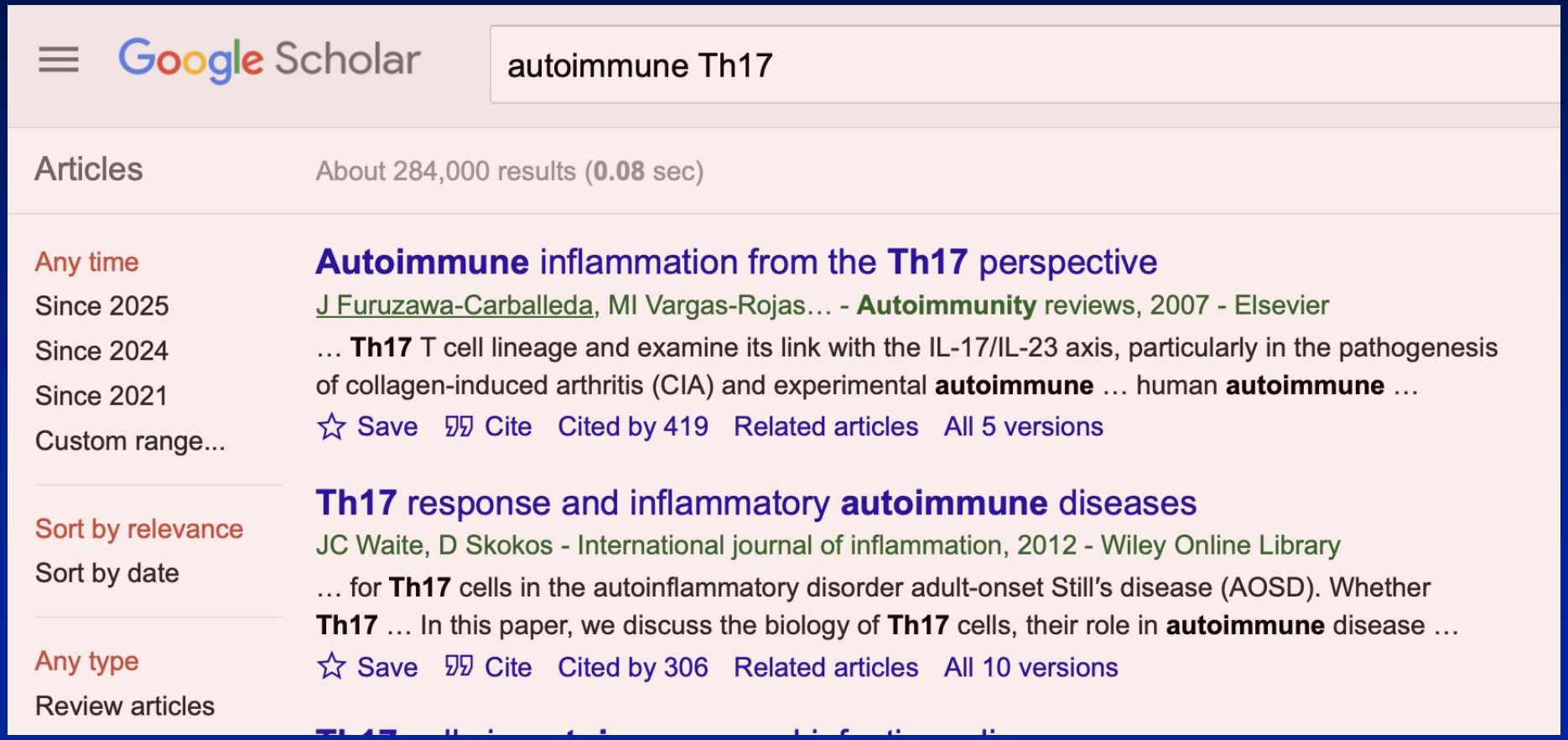
Google Scholar (2025):
Vitamin D & autoimmune diseases → 224,000 papers



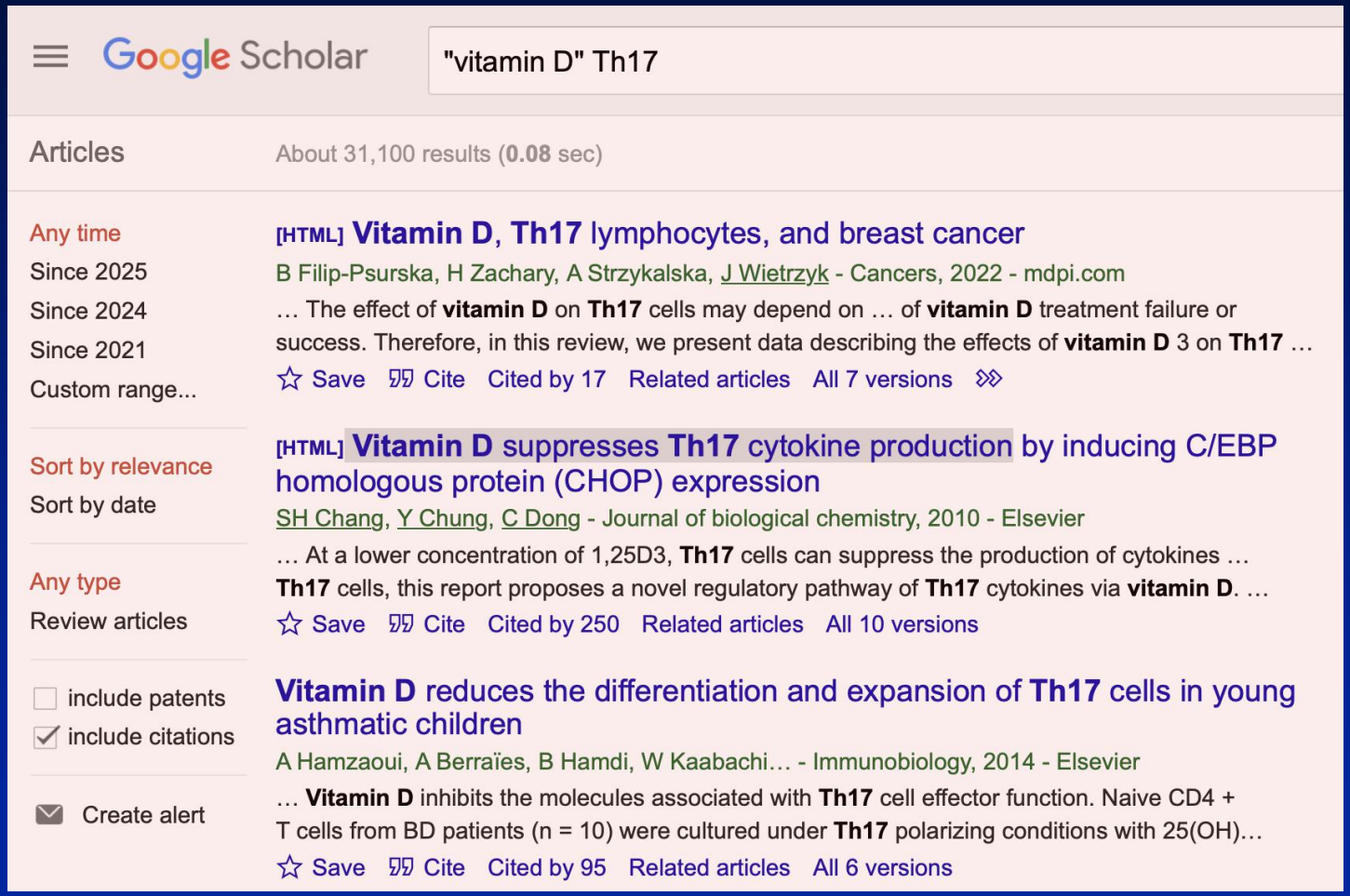
Autoimmune diseases - Google Scholar (2025) – “vitamin D”:

- **& “autoimmune”**: 327,000 papers
- **& rheumatoid arthritis**: 157,000 papers
- **& “multiple sclerosis”**: 83,300 papers / **& myelin:** 27,600 papers
- **& systemic sclerosis:** 79,300 papers
- **& Hashimoto's thyroiditis:** 82,000 papers
- **& lupus:** 74,500 papers
- **& psoriasis:** 62,400 papers
- **& myasthenia:** 60,500 papers
- **& Crohn’s disease:** 47,200 papers
- **& Sjögren:** 18,400 papers
- **& rectocolitis:** 18,600 papers
- & uveitis: 11,100 papers

Google Scholar (2025): Autoimmune diseases are mediated by an abnormal immune response known as “Th17” → 284,000 papers



Google Scholar (2025):
Vitamin D inhibits Th17 → 31,100 papers



REPORT

Vitamin D Suppresses Th17 Cytokine Production by Inducing C/EBP Homologous Protein (CHOP) Expression*

Received for publication, September 16, 2010, and in revised form, October 22, 2010
Published, JBC Papers in Press, October 25, 2010, DOI 10.1074/jbc.C110.185777

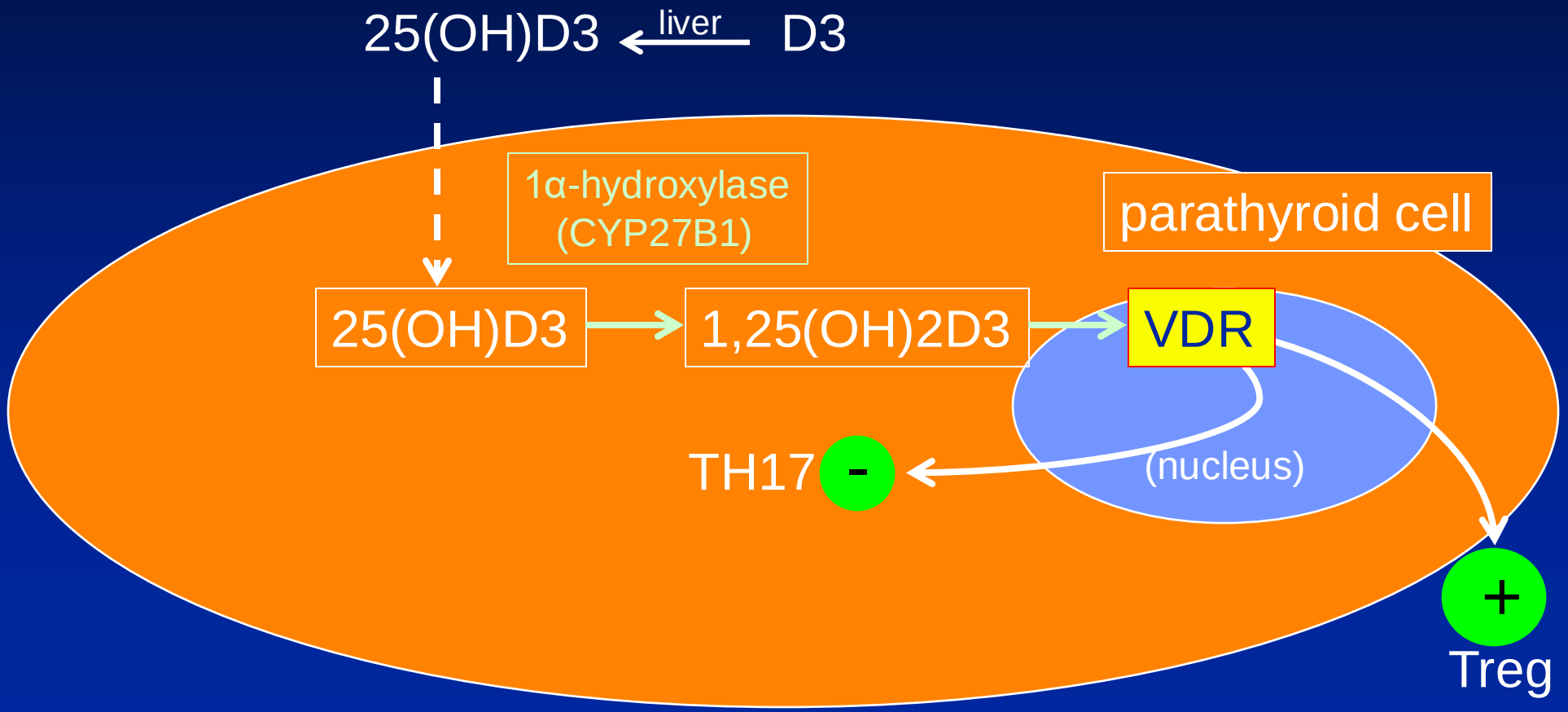
Seon Hee Chang, Yeonseok Chung[1], and Chen Dong[2]

From the Department of Immunology and Center for Inflammation and Cancer, The University of Texas, MD Anderson Cancer Center, Houston, Texas 77054

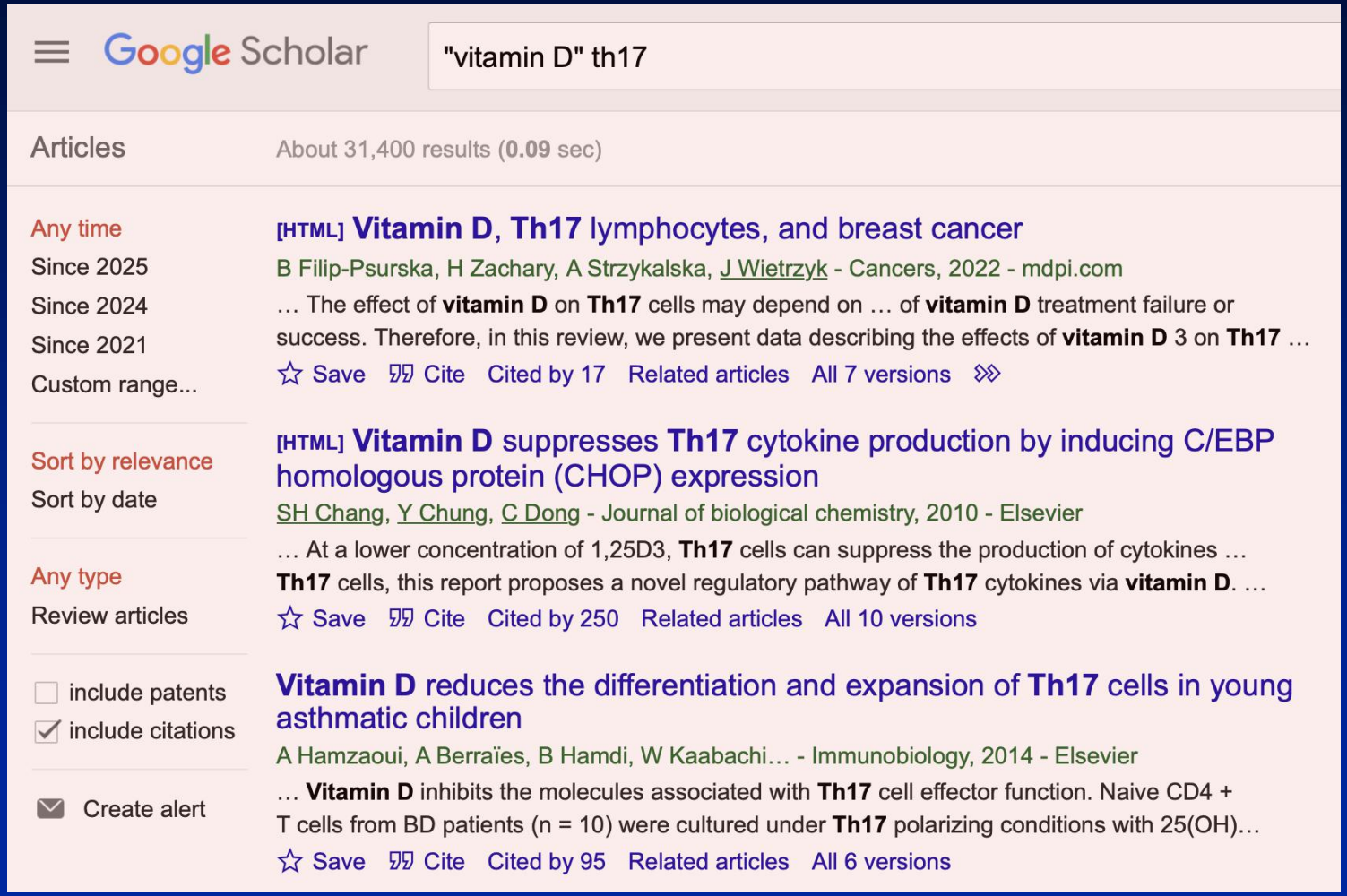
Vitamin D Suppresses Interleukin-17 Production

"THE JOURNAL OF BIOLOGICAL CHEMISTRY VOL. 285, NO. 50, pp. 38751–38755, December 10, 2010"

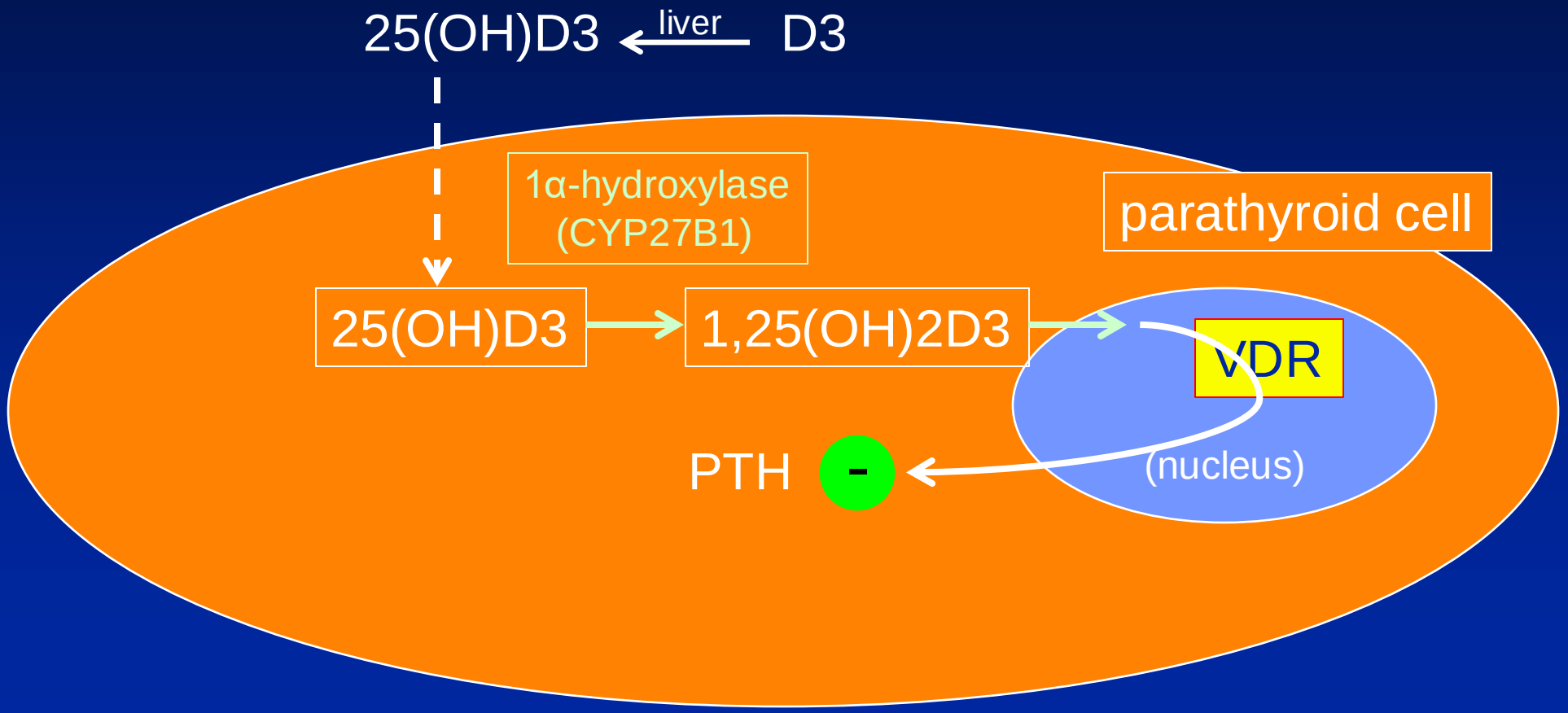
Metabolism of vitamin D within immune cells



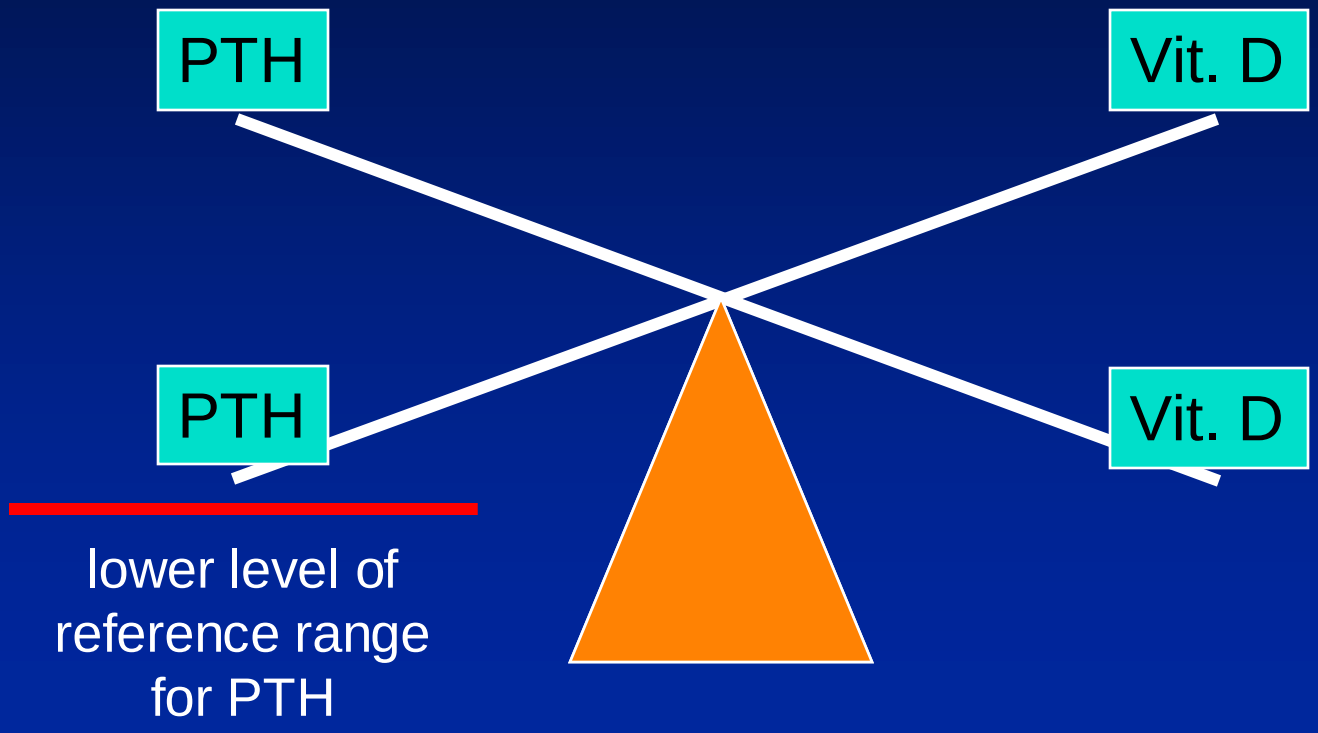
Google Scholar (2025):
Vitamin D inhibits TH17 → 31,400 papers



Metabolism of vitamin D within the cells of parathyroid glands



How can we adjust the daily dose according to the individual level of genetic resistance to vitamin D?



PTH inhibition is the most valuable index to adjust daily doses of vitamin D

- shows the level of individual resistance;
- if not suppressed, assures safety.

Systemic Lupus Erythematosus

Systemic Lupus Erythematosus - 2

Systemic Lupus Erythematosus -3

psoríasis - 1

psoriasis - 2

psoriasis - 3

effects on multiple sclerosis – 1

remyelination of recent lesions

NRF, female, dob 03/21/1982

MRI (Flair Scan) March 14, 2011

MRI (Flair Scan) July 23, 2012

effects on multiple sclerosis – 2

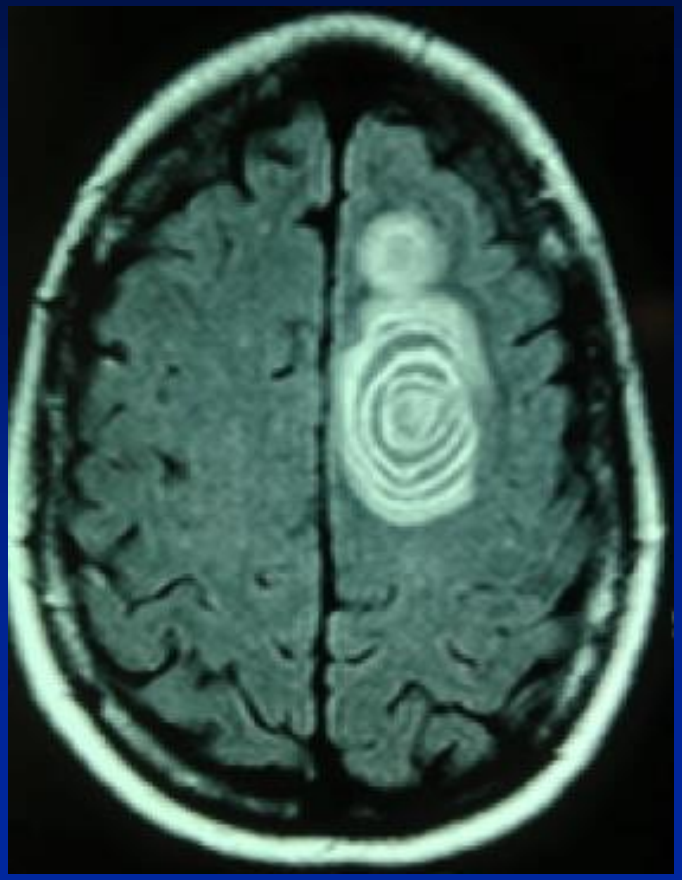
JHCDN, male, dob 10/02/1989

MRI (T2) April 18, 2011

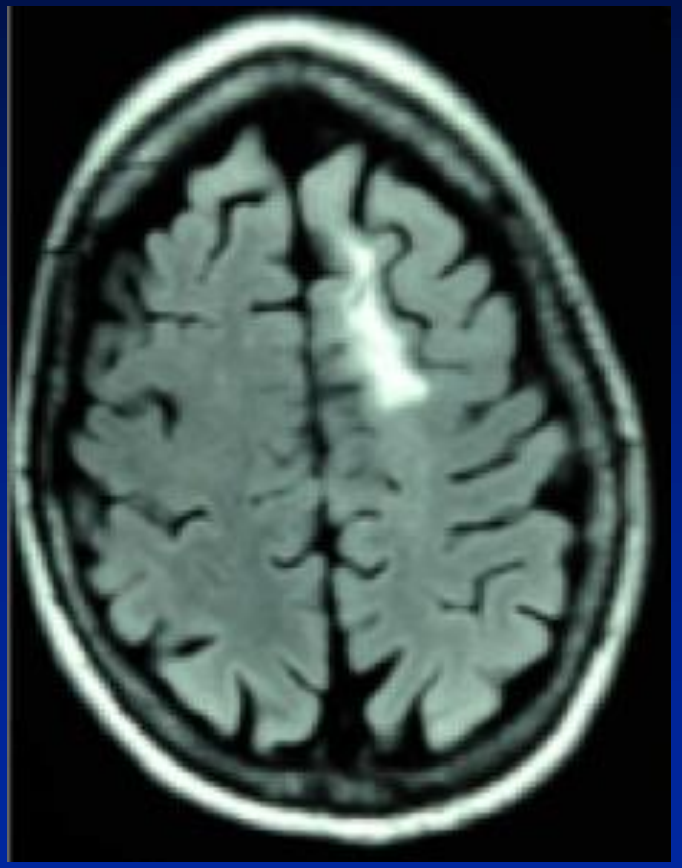
MRI (T2) September 18, 2013

effects on Balo's concentric sclerosis – a severe disease related to multiple sclerosis

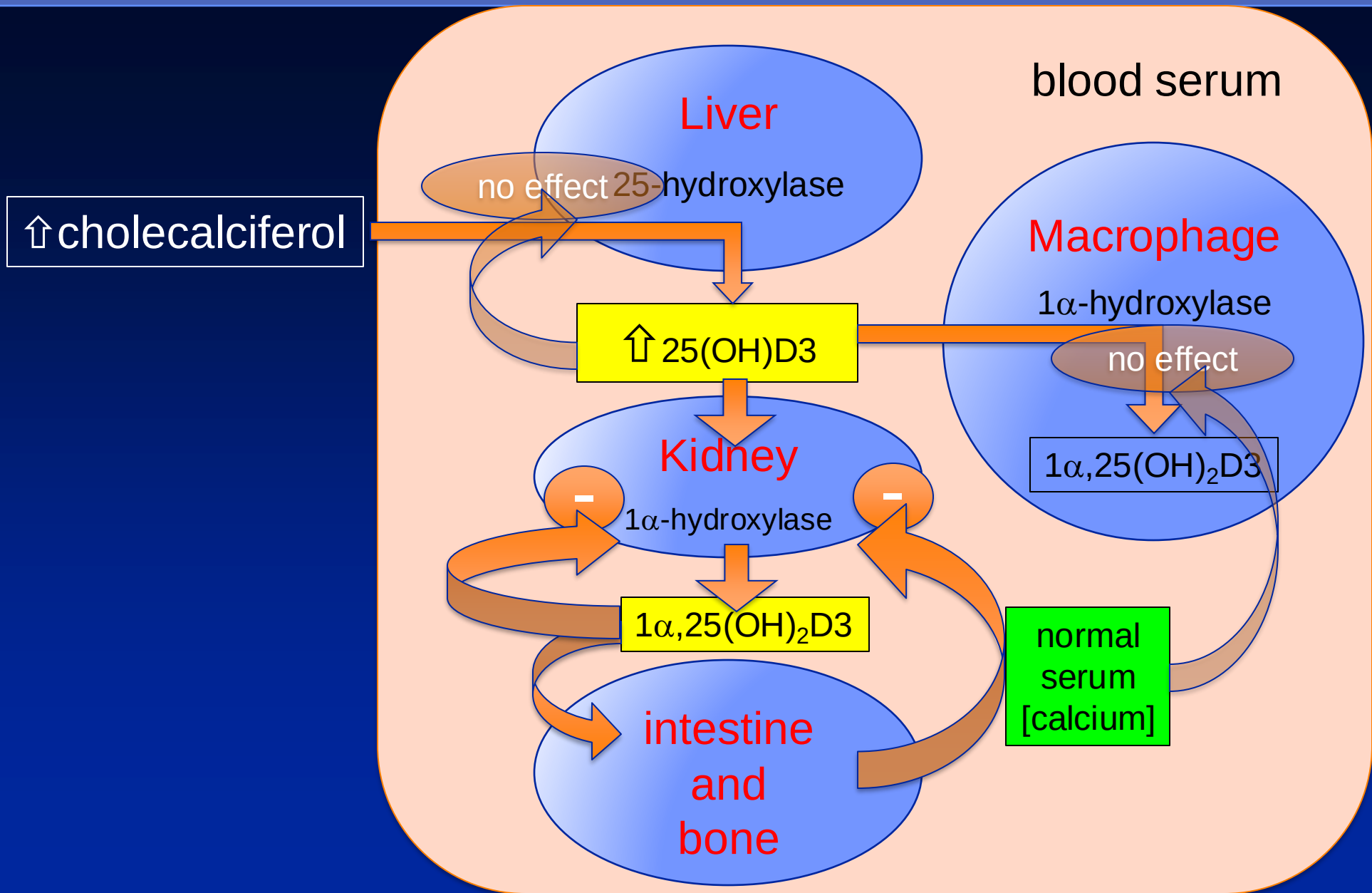
IMFF, female, dob 07/10/1952



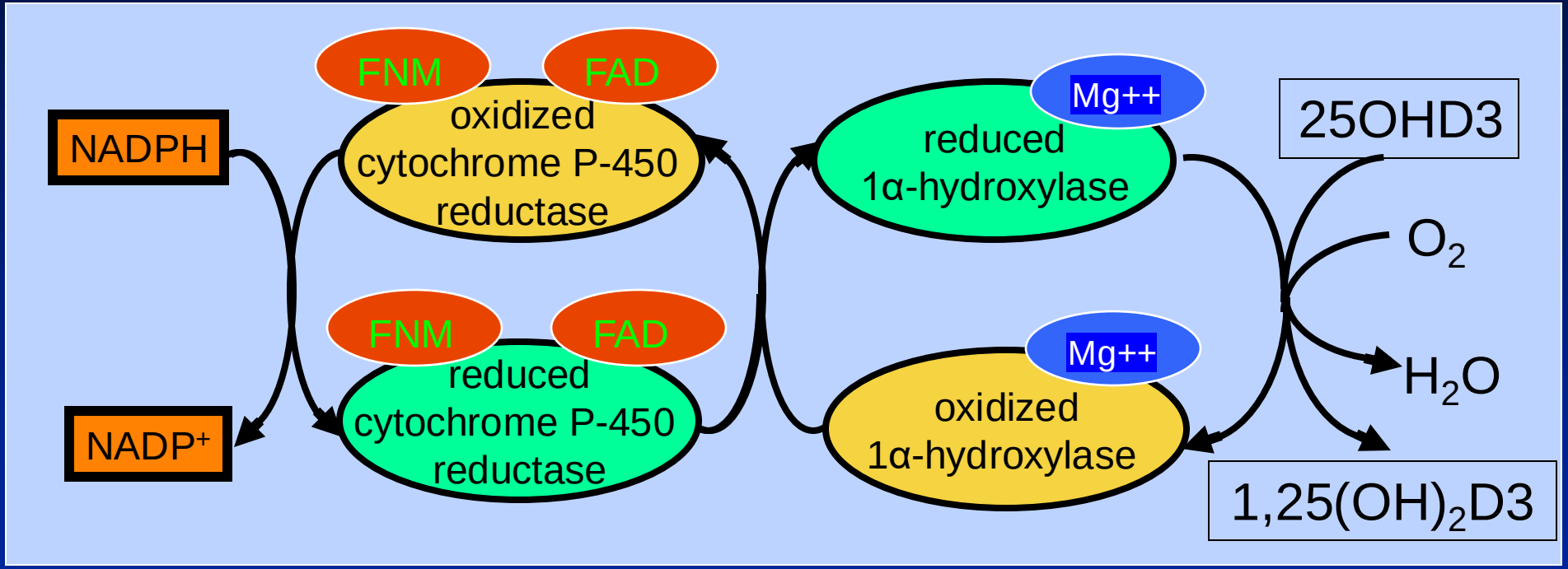
MRI (flair) October, 2008



MRI (flair) January, 2013


⇧cholecalciferol
blood serum
Liver
no effect
25-hydroxylase
⇧25(OH)D3
Macrophage
1α-hydroxylase
no effect
1α,25(OH)2D3
Kidney
-
1α-hydroxylase
-
1α,25(OH)2D3
intestine
and
bone
normal
serum
[calcium]

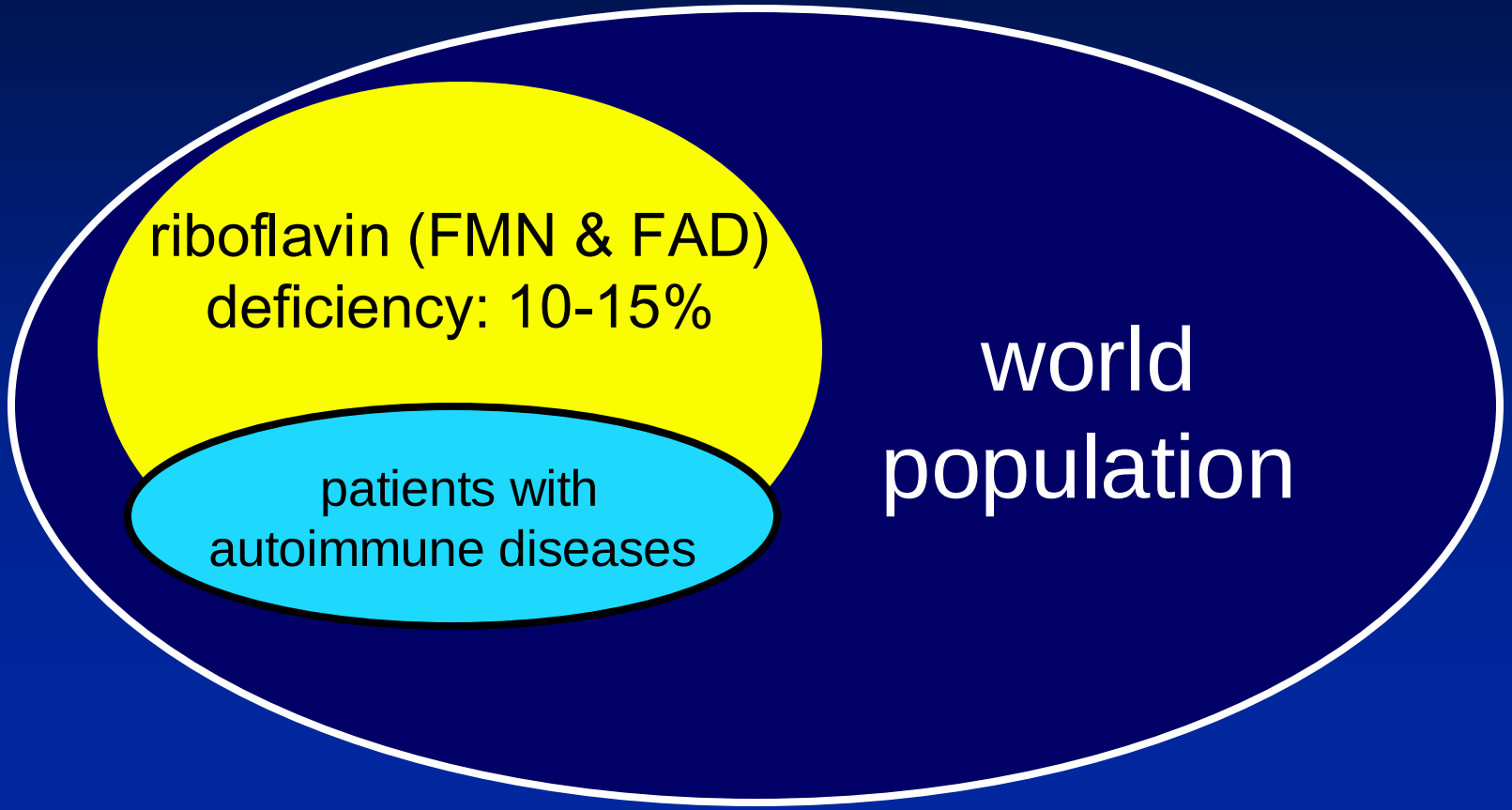
Vitamin D 1α-hydroxylase belongs to the cytochrome P-450 superfamily; therefore, 1α-hydroxylase activity depends on the availability of vitamin B2 and magnesium



Both FMN and FAD are prosthetic groups of the reductase of cytochrome P-450 enzyme family → both are essential for 1α-hydroxylase activity

Deficient absorption of riboflavin (vitamin B2 – FNM and FAD precursor):

what is the possible relationship with autoimmunity?



Endemic malaria from 300 B.C. increased the prevalence of impaired riboflavin absorption in some areas of Italy (from 10-15% to 50%)

Am. J. Hum. Genet. 55:975–980, 1994

Is the Flavin-deficient Red Blood Cell Common in Maremma, Italy, an Important Defense against Malaria in This Area?

Barbara B. Anderson,[1] Massimo Scattoni,[3] Gillian M. Perry,[4] Paola Galvan,[5] Mirella Giuberti,[2] Giuseppe Buonocore,[6] and Calogero Vullo[1]

[1]Divisione Pediatrica, Arcispedale S. Anna, and [2]Istituto Professionale Alberghiero, Ferrara; [3]Divisione Pediatria, Ospedale Generale, Grosseto, Italy; [4]Haematology Department, St. Bartholomew's Hospital, London; [5]Dipartimento di Pediatria, Ospedale Meyer, Florence; and [6]Cattedra di Neonatologia, Università di Siena, Siena

High doses of cholecalciferol should be taken only under the supervision of an experienced physician to avoid harming renal function

Causes of intoxication (increased serum calcium levels:

- unreliable source of vitamin D (doses higher than prescribed)
- urinary tract infections (particularly pyelonephritis)
- poor compliance with dietary calcium restriction
- hyperthyroidism (Basedow-Graves disease)
- concomitant administration of supplements containing vitamin C (systemic oxalosis)
- concomitant administration of drugs such as lithium and aromatase inhibitors

Intoxication: patients should be aware of symptoms such as persistent nausea and constipation, and should

- Stop taking vitamin D and all other supplements except for magnesium;
- Increase daily hydration to ≥3,5L per day;
- Double the daily dose of 100 mg of elemental magnesium to 2 doses 4 times per day (QID);
- Start furosemide 40 mg 1 tablet twice a day (BID) for one week and then reduce to once a day;
- Start potassium 100 mg 1 tablet twice a day (BID) for one week and then reduce to once a day;
- Alendronate 70 mg every other day for 3 doses consecutive doses and then reduce to once a day;
- Collect blood and urine samples as prescribed (repeat after one week) and send the results to be evaluated.

Intoxication (nausea, no bowel movements for several days)

- Parathormone
- *Total and ionized calcium
- *Urea (BUN) and creatinine
- *Sodium and potassium
- *Urinary calcium (24-hour urine sample)
- TSH
- Culture of urine with assessment of sensitivity to antibiotics

"The IOM recommendations for vitamin D fail in a major way on logic, on science, and on effective public health guidance."

PERSPECTIVE

JBMR

Why the IOM Recommendations for Vitamin D Are Deficient

Robert P Heaney[1] and Michael F Holick[2]

[1]Creighton University , Omaha, NE, USA

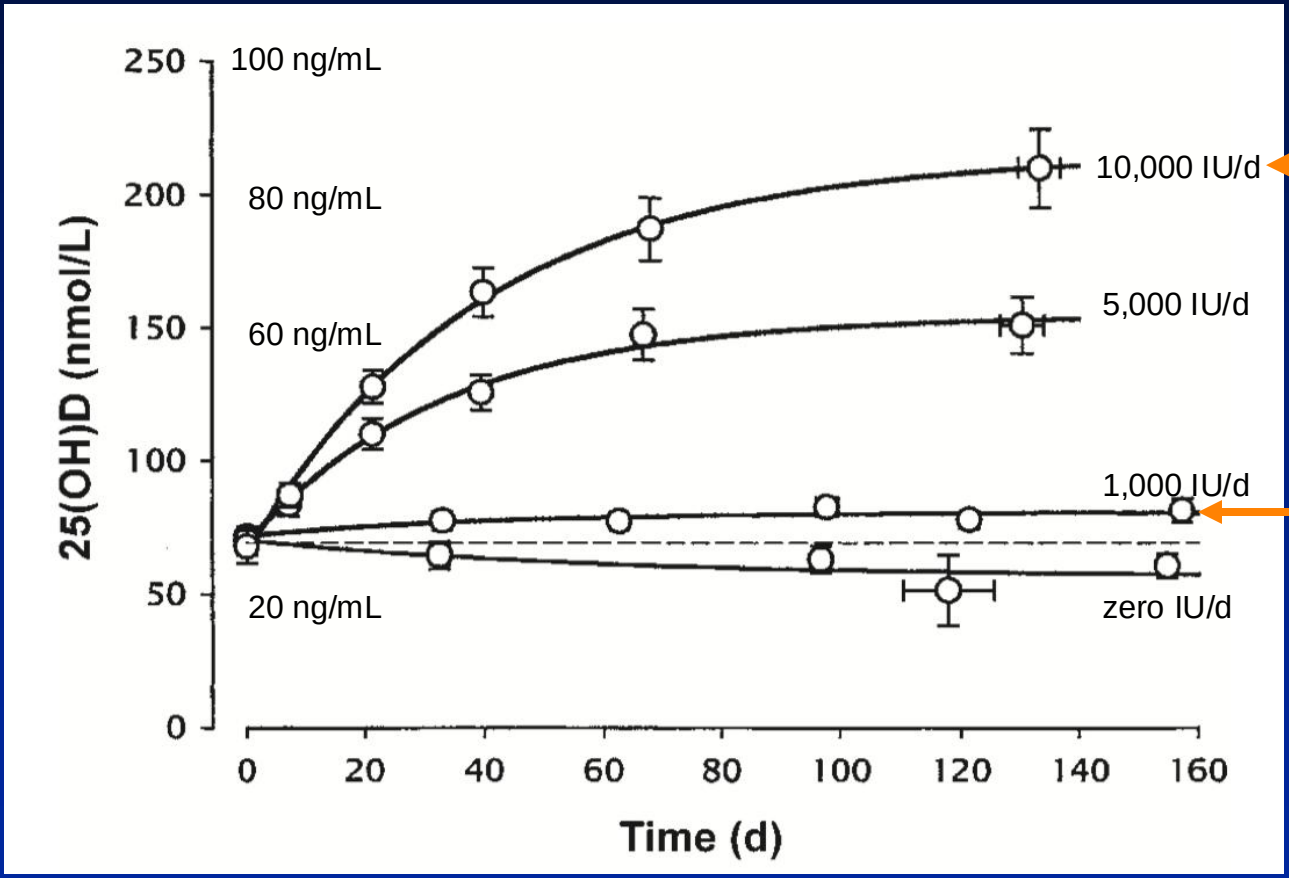
[2]Department of Medicine, Division of Endocrinology, Boston University Medical Center, Boston, MA, USA

ABSTRACT

The IOM recommendations for vitamin D fail in a major way on logic, on science, and on effective public health guidance. Moreover, by failing to use a physiological referent, the IOM approach constitutes precisely the wrong model for development of nutritional policy.

J Bone Miner Res. 2011 Mar;26(3):455-7

The Institute of Medicine (IOM) recommends 600 IU of vitamin D per day for people up to age 70, and 800 IU per day for people 71 and older.



10,000 daily: NOAEL

1,000 daily: minor change

https://academic.oup.com/ajcn/article/77/1/204/4689654

The importance of vitamin D in pregnancy

Vitamin D is activated by placental cells and plays fundamental roles in placental functions

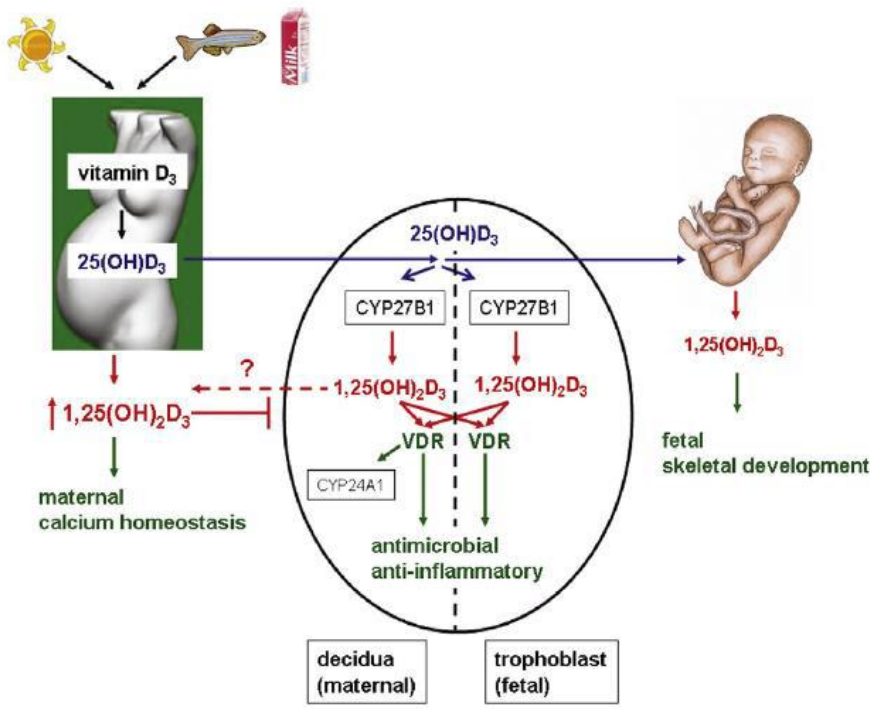


Fig. 1. Vitamin D metabolism and function during pregnancy. Schematic showing vitamin metabolism and key functional responses in maternal, placental and fetal systems. Conversion of pro-hormone 25-hydroxyvitamin D_3 ($25(OH)D_3$) to 1,25-dihydroxyvitamin D_3 ($1,25(OH)_2D_3$) in maternal kidneys catalyzed by the enzyme 25-hydroxyvitamin D-1α-hydroxylase (CYP27B1) supports elevated serum levels of $1,25(OH)_2D_3$ during pregnancy. However, this does not readily cross the placenta. Expression of CYP27B1 and the vitamin D receptor (VDR) in maternal and fetal components of the placenta supports extra-renal synthesis of $1,25(OH)_2D_3$ during pregnancy. In the fetal trophoblast, this is enhanced by gene silencing of the catabolic enzyme vitamin D 24-hydroxylase (CYP24A1). The putative function of enhanced placental synthesis of $1,25(OH)_2D_3$ appears to be immunomodulatory.

Liu NQ, Hewison M. Vitamin D, the placenta and pregnancy. Arch Biochem Biophys. 2012 Jul 1;523(1):37-47.

Effects of vitamin D status on maternal and fetal health (including childhood)

Table 1
Vitamin D and pregnancy: effects of vitamin D status and/or intake on maternal and fetal health.

Clinical problem	Reference
Maternal	
Preeclampsia	[194,197–201,237,238]
Bacterial vaginosis	[23,186,239]
Gestational diabetes	[18,240–242]
Preterm birth	[184,243,244]
Fetal/neonatal	
Small for gestational age	[245,246]
Fetal skeleton/bone	[247]
Neonatal bone mass	[216,248–250]
Childhood bone mass	[115,251]
Asthma	[218,235,252–255]
Type 1 diabetes	[230,231]
Multiple sclerosis	[232]
Autism	[256]
Maternal–fetal HIV transfer	[190]

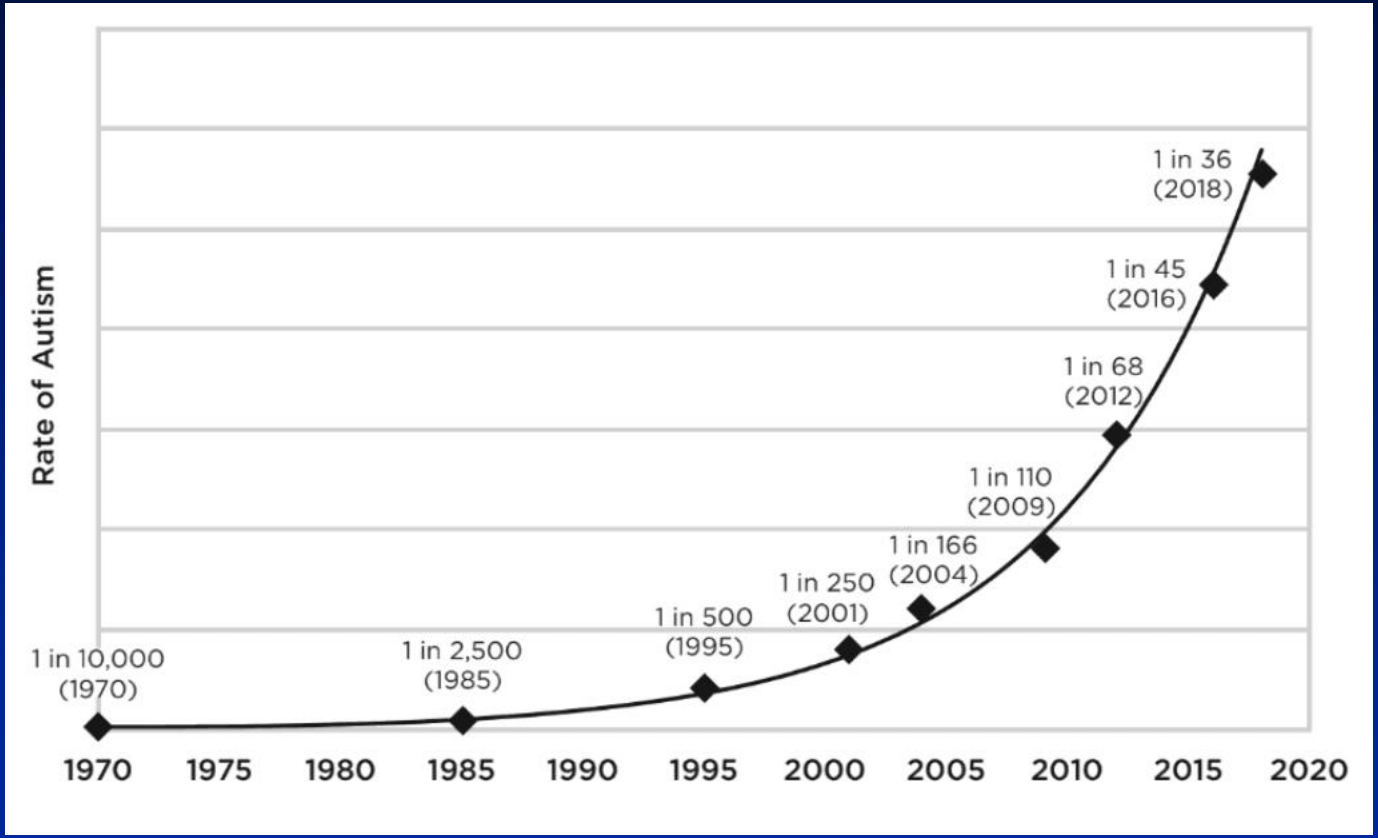
Liu NQ, Hewison M. Vitamin D, the placenta and pregnancy. Arch Biochem Biophys. 2012 Jul 1;523(1):37-47.

Pregnancy – Google Scholar (2025) – “vitamin D”:

- **& fertility:** 71,400 papers
- **& pregnancy:** 60,500 papers
- **& preeclampsia:** 27,000 papers
- **& premature birth:** 56,600 results
- **& fetal growth restriction:** 50,300 papers
- **& placental function:** 49,600 papers
- **& fetal brain development:** 131,000 papers
- **& fetal wellbeing:** 18,400 papers
- **& neonatal jaundice:** 18,200 papers
- **& neonatal sepsis:** 34,700 papers
- **& neonatal lung maturation:** 29,200 papers
- **& birth weight:** 193,000 papers

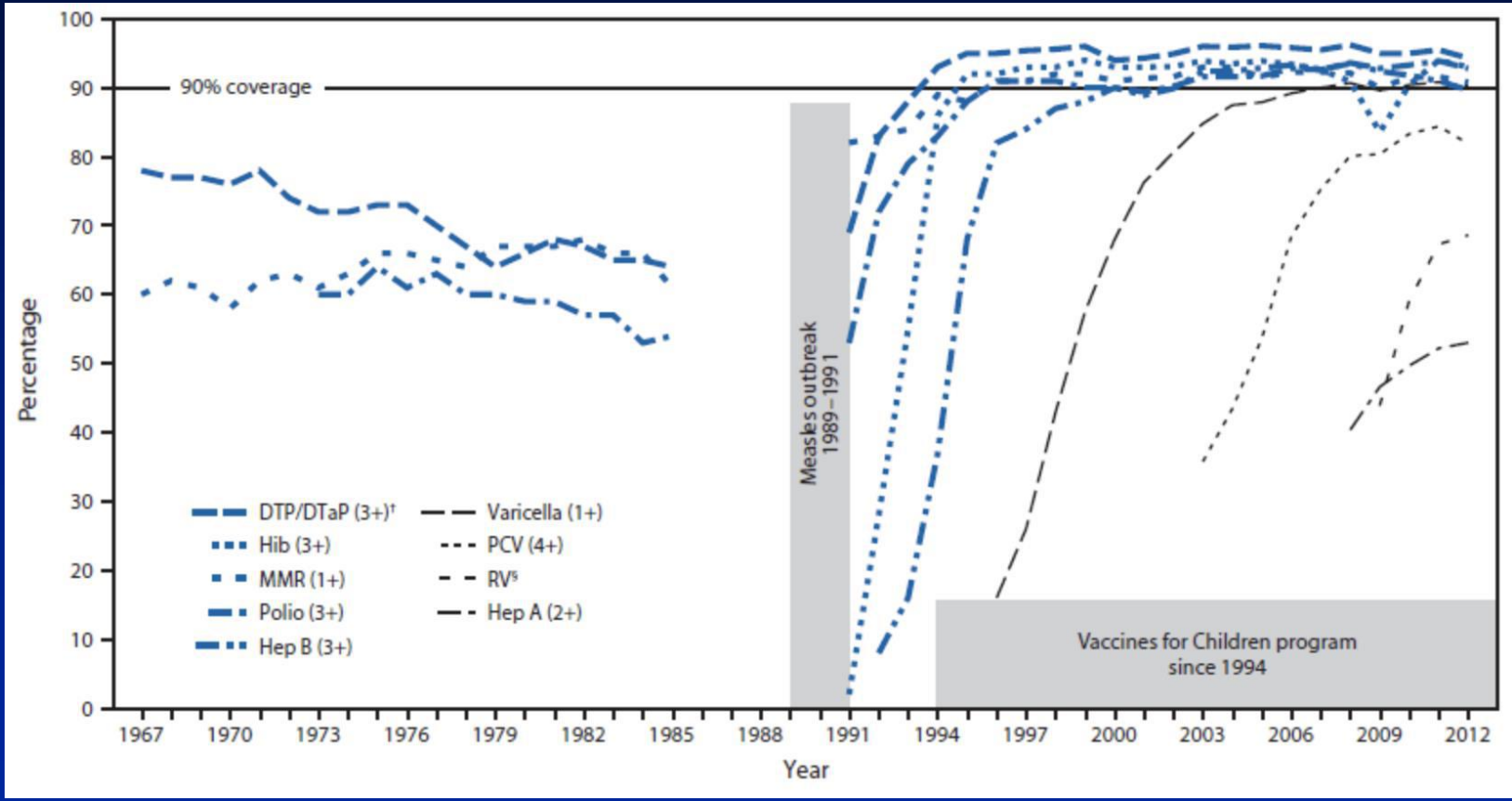
What is the root cause of the explosive rise in autism (ASD)?

Explosion of Autism



How to End the Autism Epidemic – J.B. Handley - Chelsea Green Publishing, 2018 - page 16

Vaccines for Children (VFF). As taxas de imunização para todas as crianças em idade pré-escolar aumentaram para pelo menos 90% para a maioria das vacinas na década de 1990



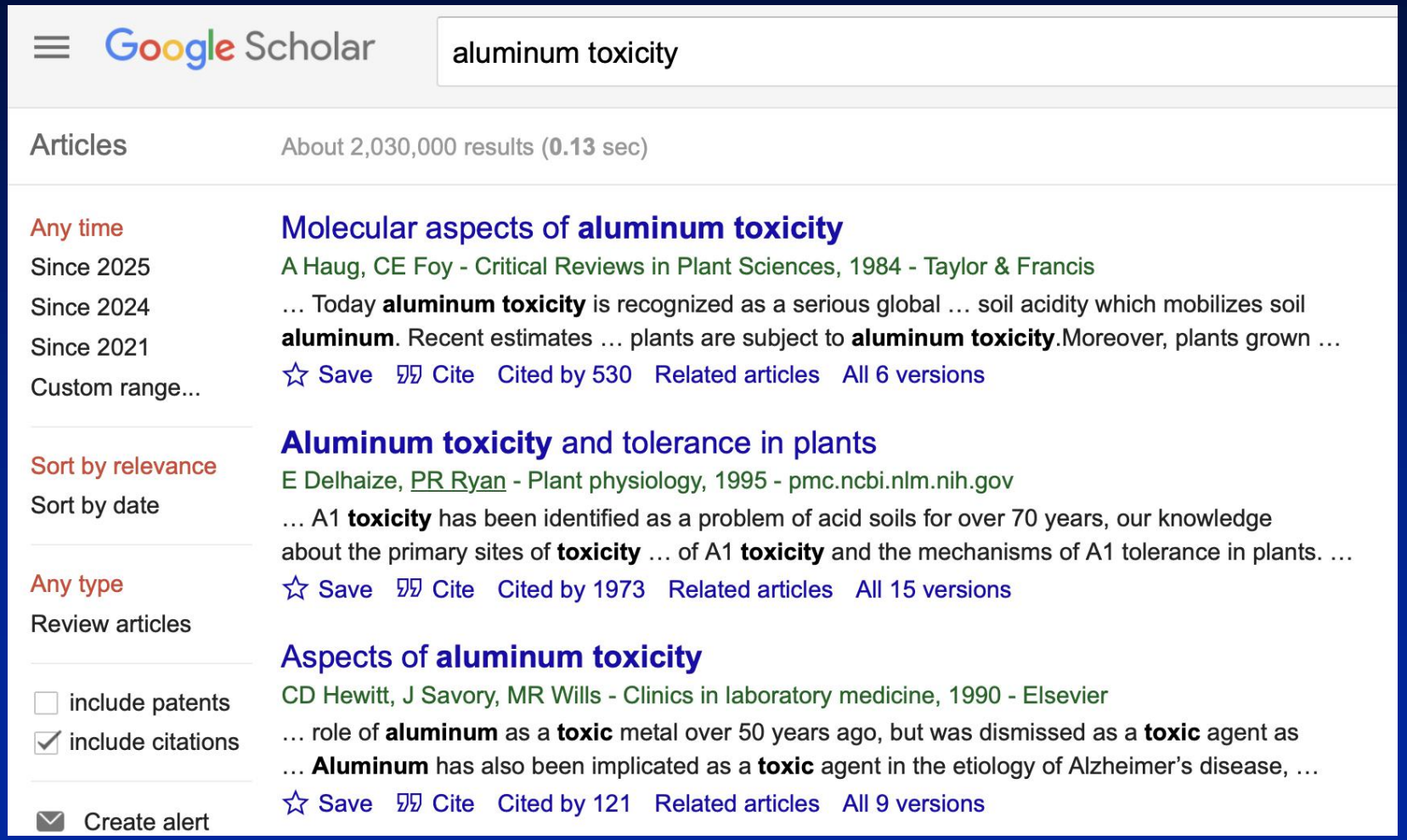
https://en.wikipedia.org/wiki/Vaccines_for_Children_Program

Several different adjuvants are used in U.S. vaccines.

Adjuvant	Composition	Vaccines
Aluminum	One or more of the following: amorphous aluminum hydroxyphosphate sulfate (AAHS), aluminum hydroxide, aluminum phosphate, potassium aluminum sulfate (Alum)	Anthrax, DT, DTaP (Daptacel), DTaP (Infanrix), DTaP-IPV (Kinrix), DTaP-IPV (Quadracel), DTaP-HepB-IPV (Pediarix), DTaP –IPV/Hib (Pentacel), Hep A (Havrix), Hep A (Vaqta), Hep B (Engerix-B), Hep B (Recombivax), HepA/Hep B (Twinrix), HIB (PedvaxHIB), HPV (Gardasil 9), Japanese encephalitis (Ixiaro), MenB (Bexsero, Trumenba), Pneumococcal (Prevnar 13), Td (Tenivac), Td (Mass Biologics), Tdap (Adacel), Tdap (Boostrix)
AS04	Monophosphoryl lipid A (MPL) + aluminum salt	Cervarix
MF59	Oil in water emulsion composed of squalene	Fluad
$AS01_B$	Monophosphoryl lipid A (MPL) and QS-21, a natural compound extracted from the Chilean soapbark tree, combined in a liposomal formulation	Shingrix
CpG 1018	Cytosine phosphoguanine (CpG), a synthetic form of DNA that mimics bacterial and viral genetic material	Heplisav-B
No adjuvant		ActHIB, chickenpox, live zoster (Zostavax), measles, mumps & rubella (MMR), meningococcal (Menactra, Menveo), rotavirus, seasonal influenza (except Fluad), single antigen polio (IPOL), yellow fever

https://www.cdc.gov/vaccinesafety/concerns/adjuvants.html

Google Scholar (2025):
aluminum & toxicity → 2,030,000 papers

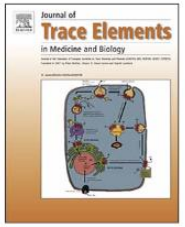


Journal of Trace Elements in Medicine and Biology 46 (2018) 76–82

Contents lists available at ScienceDirect

Journal of Trace Elements in Medicine and Biology

journal homepage: www.elsevier.com/locate/jtemb



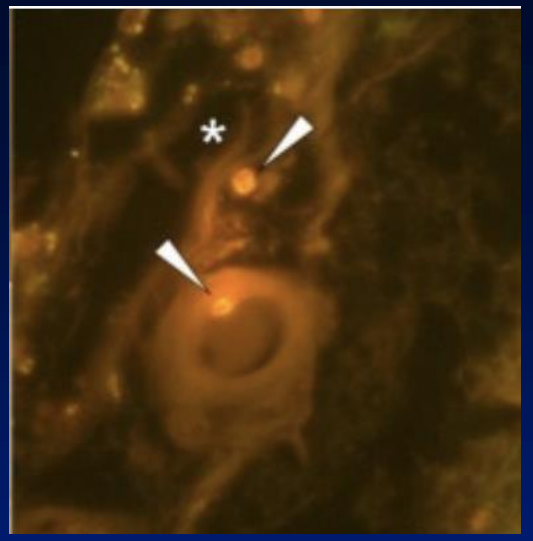
Aluminium in brain tissue in autism

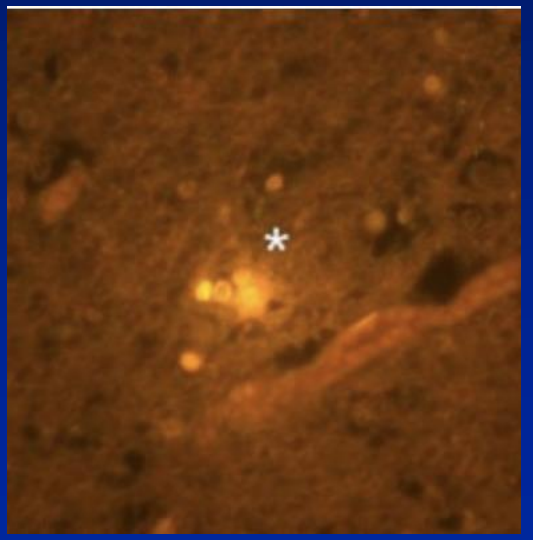
Matthew Mold[a], Dorcas Umar[b], Andrew King[c], Christopher Exley[a,*]

[a] The Birchall Centre, Lennard-Jones Laboratories, Keele University, Staffordshire, ST5 5BG, United Kingdom
[b] Life Sciences, Keele University, Staffordshire, ST5 5BG, United Kingdom
[c] Department of Clinical Neuropathology, Kings College Hospital, London, SE5 9RS, United Kingdom

https://www.sciencedirect.com/science/article/pii/S0946672X17308763

"…the fact that we found aluminium in every sample of brain tissue, frozen or fixed, does suggest very strongly that individuals with a diagnosis of ASD have extraordinarily high levels of aluminium in their brain tissue and that this aluminium is pre-eminently associated with non-neuronal cells including microglia and other inflammatory monocytes.."





https://www.sciencedirect.com/science/article/pii/S0946672X17308763

"Brain translocation of alum particles is linked to a Trojan horse mechanism previously described for infectious particles (HIV, HCV), that obeys to CCL2, signaling the major inflammatory monocyte chemoattractant."

frontiers in NEUROLOGY

REVIEW ARTICLE
published: 05 February 2015
doi: 10.3389/fneur.2015.00004

Biopersistence and brain translocation of aluminum adjuvants of vaccines

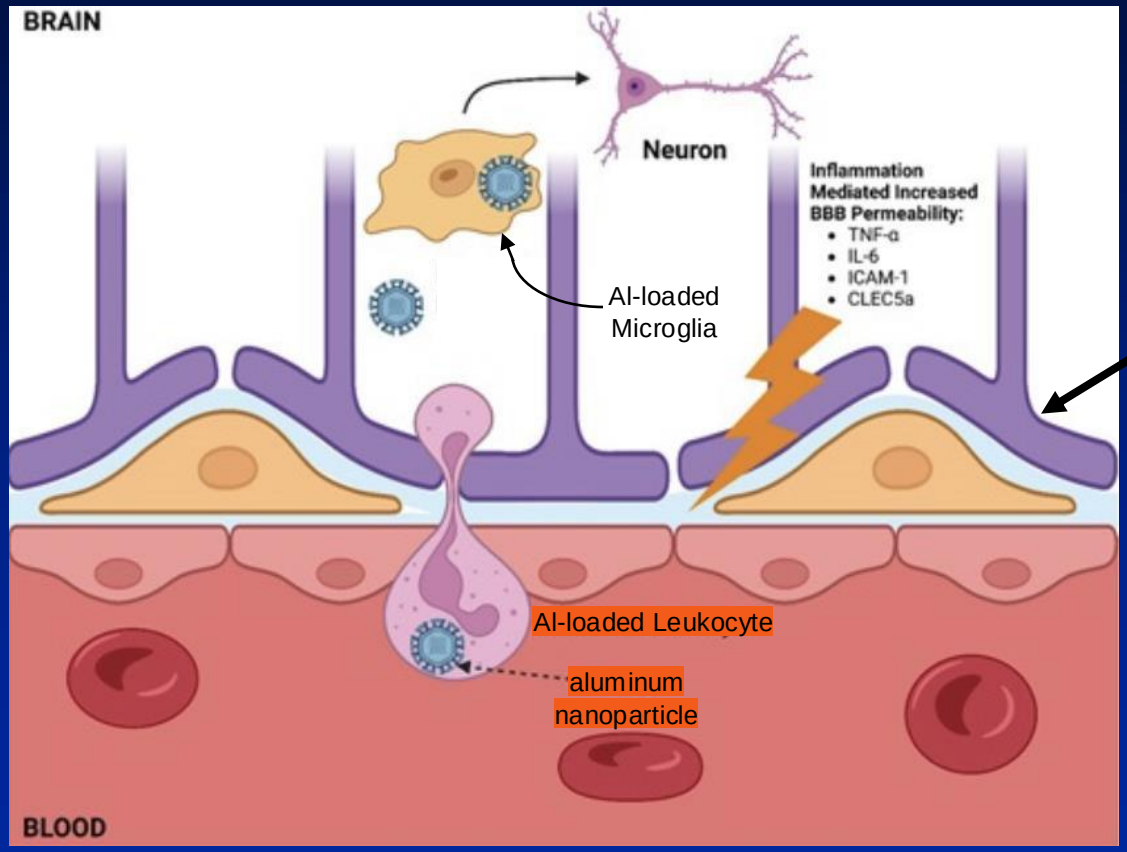
Romain Kroum Gherardi *, Housam Eidi, Guillemette Crépeaux, François Jerome Authier and Josette Cadusseau

Faculté de Médecine and Faculté des Sciences et Technologie, INSERM U955 Team 10, Université Paris Est-Créteil, Créteil, France

Gherardi RK et al. Biopersistence and brain translocation of aluminum adjuvants of vaccines. Front Neurol. 2015 Feb 5;6:4.

The Trojan horse mechanism: when vitamin D levels are low, microbes can survive and infiltrate the blood-brain and placental barriers within immune cells, infecting the brain and the fetus.

The Trojan horse mechanism: loaded leukocytes transport aluminum nanoparticles across the blood-brain barrier and the placenta



Modified from: Sriram Krishnaswamy et al, Annals of Medicine & Surgery 85(6):2761-2766, June 2023

Why are aluminum nanoparticles used in vaccines?

- aluminum causes inflammation, attracting immune cells to the injection site;
- aluminum nanoparticles containing antigens adsorbed to their surfaces are phagocytized (“engulfed”) by leucocytes, thereby triggering antibody synthesis → this is called “adjuvant effect of nanoparticles;

Aluminum nanoparticles cause inflammation of the brain tissue

- The chronic encephalitis associated with ASD can be demonstrated by measuring the circulating levels of Neuron-Specific Enolase (NSE);Brain inflammation disrupts the blood-brain barrier, leading to increased permeability of the BBB to toxins and microbes;
- The adjuvant effect of aluminum nanoparticles induces autoantibody synthesis against brain tissue.

"We have found that the neuron-specific enolase (NSE) was elevated above the normal clinical range (less than 16.3 ng/mL) in the vast majority of ASD kids tested in our study (40 of 41, or 97.5%)."

Open Access Article

Neuron-Specific Enolase (NSE) as a Biomarker for Autistic Spectrum Disease (ASD)

by Felician Stancioiu [1], Raluca Bogdan [2] and Radu Dumitrescu [2,*]

[1] Fundatia Bio-Forum, 040245 Bucharest, Romania
[2] Medicover Hospital Bucharest, 013982 Bucharest, Romania
* Author to whom correspondence should be addressed.

Life **2023**, *13*(8), 1736; **https://doi.org/10.3390/life13081736**

Submission received: 23 June 2023 / Revised: 10 August 2023 / Accepted: 11 August 2023 / Published: 13 August 2023

(This article belongs to the Special Issue **Physiology and Pathology: Feature Review Papers**)

Life (Basel). 2023 Aug 13;13(8):1736.

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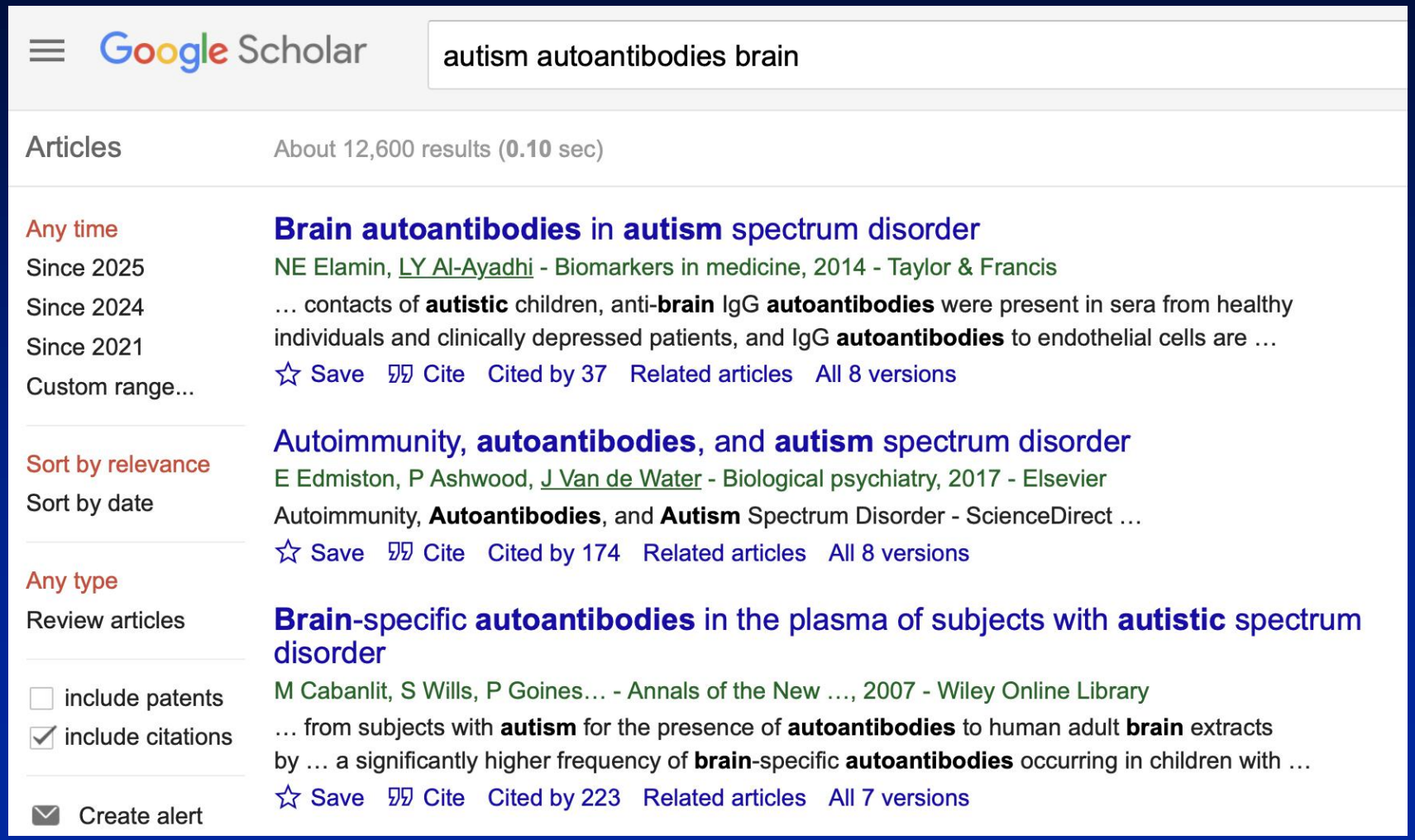
Google Scholar (2025): autism & autoantibodies & brain → 12,600 papers



"Multiple brain-specific autoantibodies are present at significantly higher frequency in children with autism"

Brain-Specific Autoantibodies in the Plasma of Subjects with Autistic Spectrum Disorder

MARICEL CABANLIT,[a] SHARIFIA WILLS,[a] PAULA GOINES,[a] PAUL ASHWOOD,[b] AND JUDY VAN DE WATER[a]

[a]*Division of Rheumatology, Allergy and Clinical Immunology, University of California, Davis, California, USA*

[b]*Department of Microbiology, and the MIND Institute, University of California, Davis, California, USA*

Ann N Y Acad Sci. 2007 Jun;1107:92-103

ASD fulfills the criteria to be classified as an Autoimmune/Inflammatory Syndrome Induced by Adjuvants (ASIA) reported by Shoenfeld and Agmon-Levin in 2011

Journal of Autoimmunity 36 (2011) 4–8

Contents lists available at ScienceDirect

Journal of Autoimmunity

journal homepage: www.elsevier.com/locate/jautimm

Review

'ASIA' – Autoimmune/inflammatory syndrome induced by adjuvants

Yehuda Shoenfeld [a,b,*], Nancy Agmon-Levin [a]

[a] The Zabludowicz Center for Autoimmune Diseases, Department of Medicine B' Sheba Medical Center, Tel-Hashomer, Israel
[b] Incumbent of the Laura Schwarz-kipp Chair for Research of Autoimmune Diseases, Sackler Faculty of Medicine, Tel-Aviv University, Israel

"…factors entailing an immune adjuvant activity such as infectious agents, silicone, aluminium salts and others were associated with defined and non-defined immune mediated diseases…"

J Autoimmun. 2011 Feb;36(1):4-8

Autism as an autoimmune disorder

AL-Ayadhi and Mostafa *Journal of Neuroinflammation* 2012, **9**:158
http://www.jneuroinflammation.com/content/9/1/158

JOURNAL OF NEUROINFLAMMATION

RESEARCH **Open Access**

Elevated serum levels of interleukin-17A in children with autism

Laila Yousef AL-Ayadhi[1] and Gehan Ahmed Mostafa[1,2,3*]

"Children with autism had significantly higher serum IL-17A levels than healthy controls (P <0.001)…"

"Serum IL-17A levels were raised in the group with autism, and the levels correlated significantly with the severity of autism."

Google Scholar (2025):
Vitamin D & autism → 27,700 papers

Aaron Siri (LinkedIn): “We created the below image to help visualize the CDC's vaccine schedule (and only until 12 months of age) pre-1986 Act (which gave pharma companies immunity for vaccine injuries) and today.

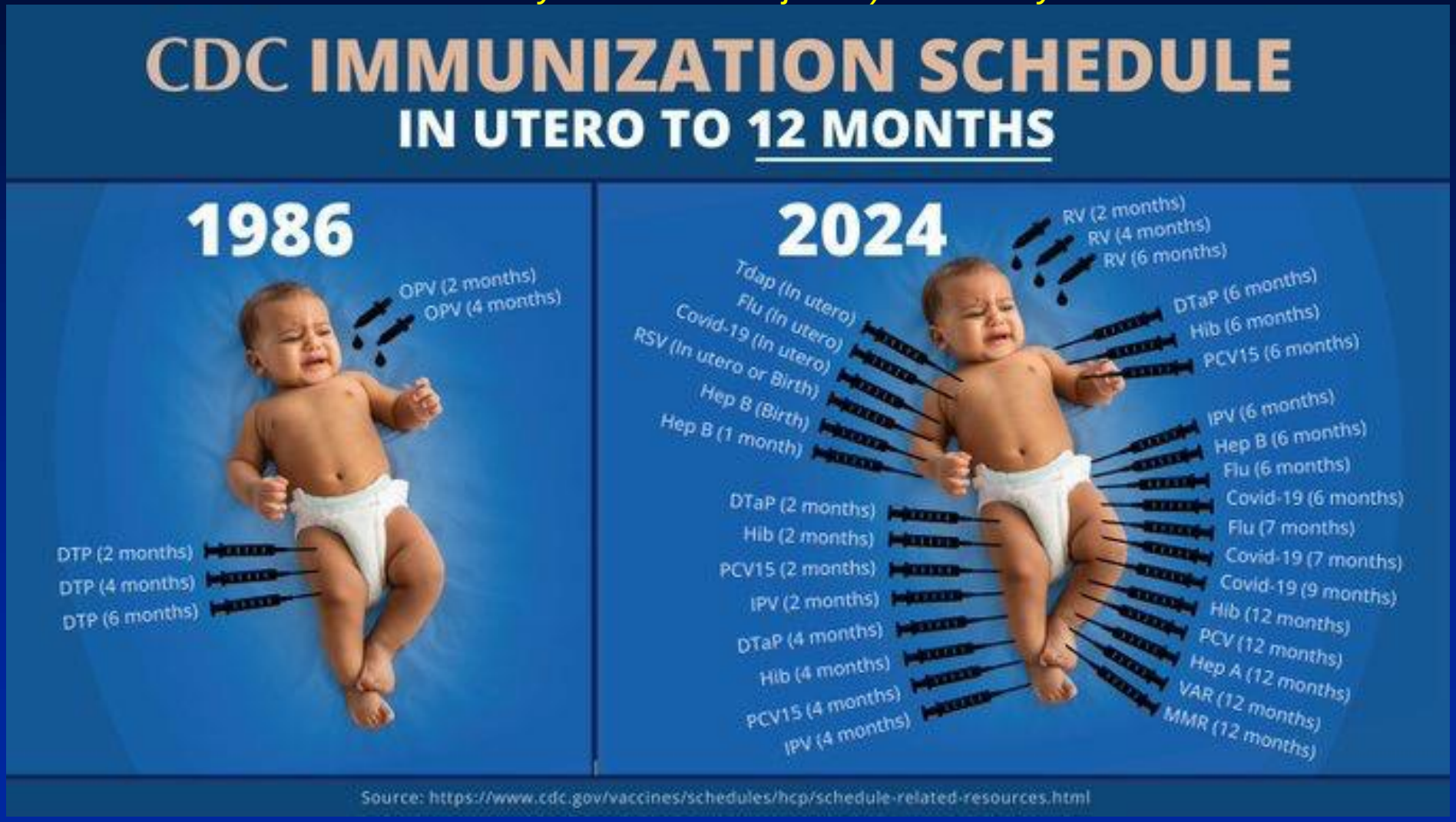


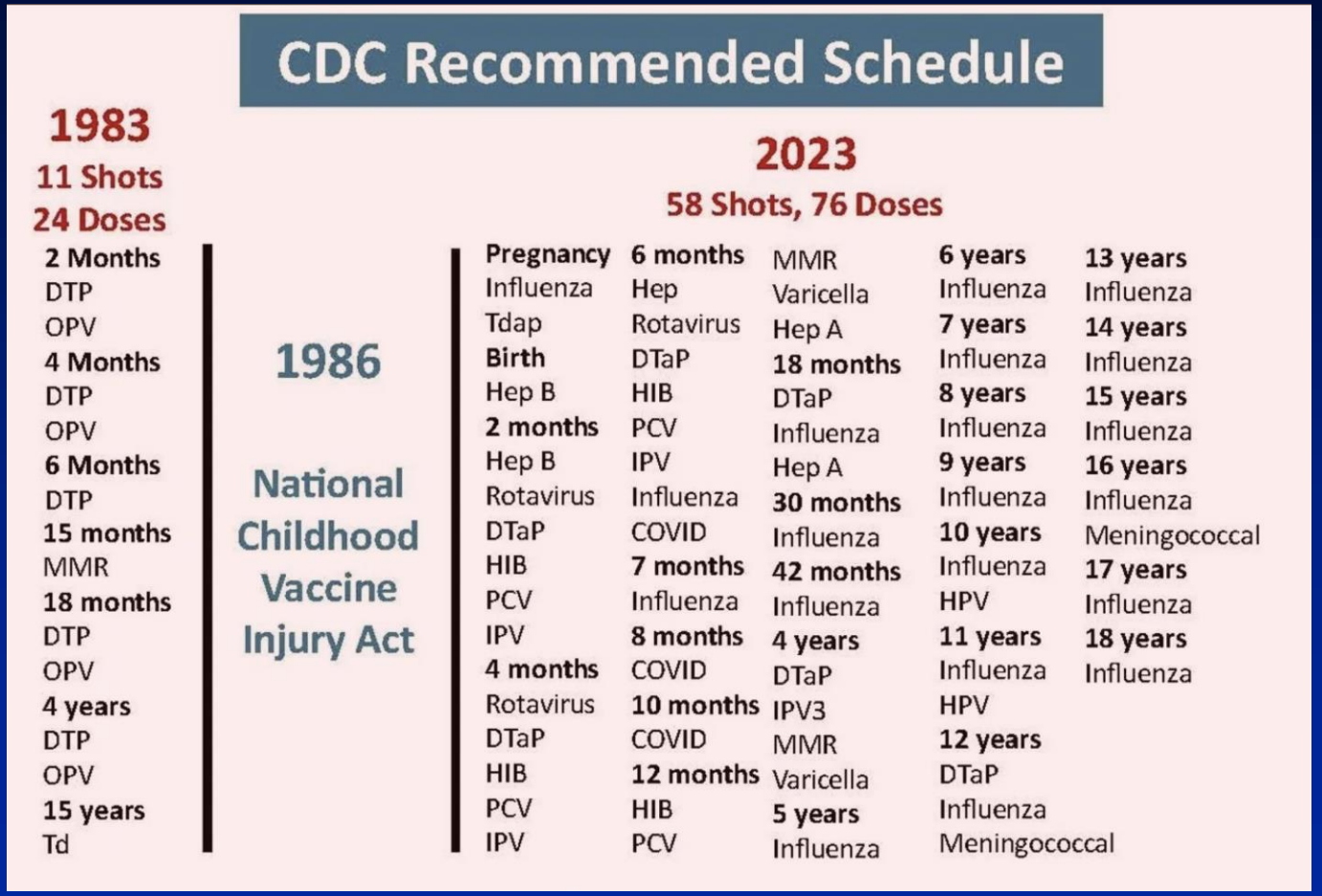
Table 5

Comparison of Al exposure from vaccines in children and adults. An infant's vaccine-derived Al exposure of 73.5 μg Al/kg bw is equivalent to that from 10 HB vaccines given in a single day to a 70 kg adult ((73.5 μg Al/kg bw x 70 kg)/(HB dose (500 μg Al)) = 5147/500 = 10.3). The vaccine-derived Al exposure in a 2 month old receiving 172.5 μg Al/kg bw is equivalent to that from 24 HB vaccines given in a single day to a 70 kg adult ((172.5 μg Al/kg bw x 70 kg)/(HB vaccine dose (500 μg Al)) = 12075/500 = 24.2).

	An adult receiving a single HB vaccine (adult dose)	An infant receiving a single HB vaccine at birth (pediatric dose)	A 2 month old receiving the recommended set of injections (mean exposure)
Al (μg)	500	250	862.5
Bw (kg)	70	3.4	5
Total Al μg/kg bw	7.1	73.5	172.5

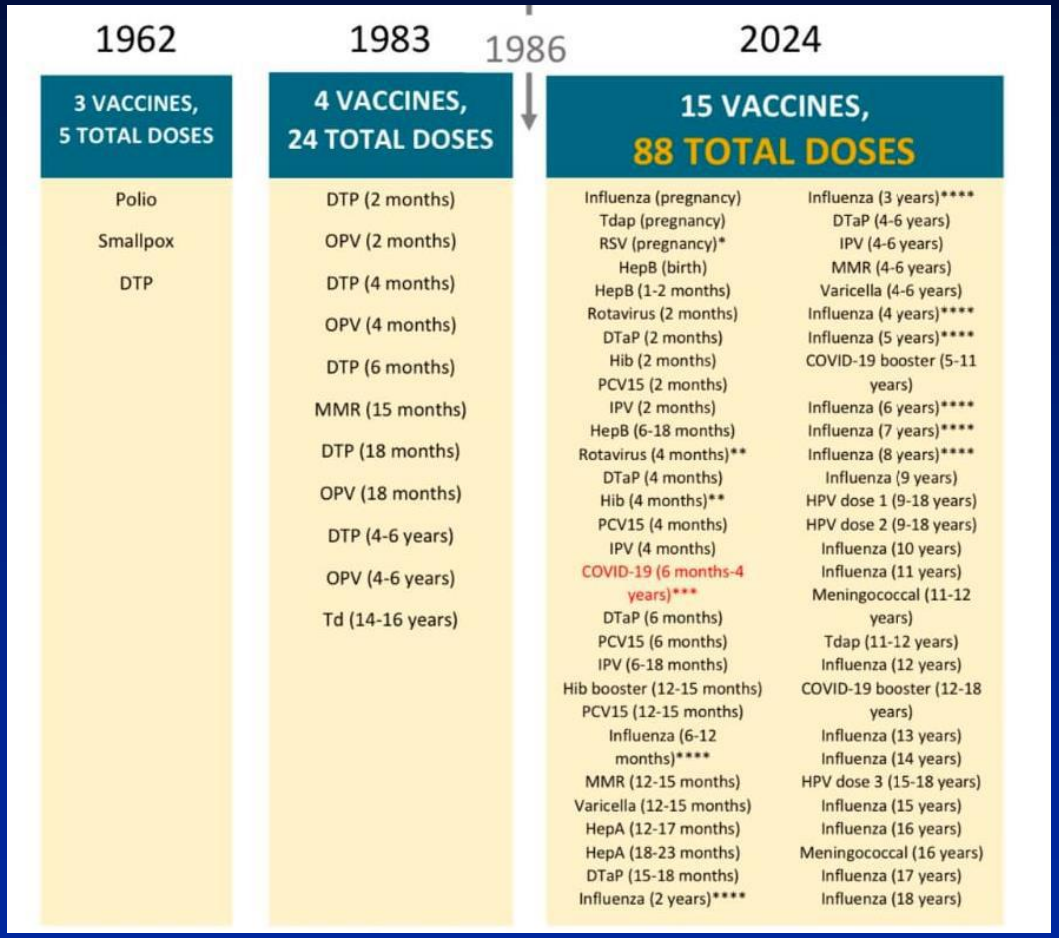
https://pubmed.ncbi.nlm.nih.gov/22099159/

2023 → 76 total doses



https://parentsforhealthchoice.com/vaccine-dose-history

2024 → 88 total doses



https://www.kshf.org

Prenatal brain poisoning with aluminum nanoparticles

The flu vaccine, Tdap (tetanus, diphtheria, and pertussis), and respiratory syncytial virus (RSV) contain aluminum nanoparticles that may cross the placental barrier and accumulate in the fetal brain.


Good Morning Sunshine!
The Earth Says Hello...