VITAMIN D

UpDates Vol. 2 - N. 2 - 2019

www.pacinimedicina.it

Copyright by
Pacini Editore srl

Managing Editor:
Patrizia Pacini

Publisher
Pacini Editore Srl
Via Gherardesca 1 • 56121 Pisa
Tel. 050 313011 • Fax 050 3130300
Info@pacinieditore.it
www.pacinieditore.it

B.U. Pacini Editore Medicina
Andrea Tognelli
Medical Project - Marketing Director
Tel. 050 3130255
atognelli@pacinieditore.it

Copy Editor
Lucia Castelli
Tel. 050 3130224
lcastelli@pacinieditore.it

Graphics and Layout
Massimo Arcidiacono
Tel. 050 3130231
marcidiacono@pacinieditore.it

Print
Industrie Grafiche Pacini • Pisa

EDITORIAL

Maurizio Rossini

Department of Medicine, Section of Rheumatology, University of Verona

Dear Colleagues,

As you will see in this issue, we are featuring an article by prof. Giannini relating to a "real world" Italian experience that demonstrates the utility – in terms of preventing recurring fractures and mortality – of anti-osteoporotic pharmacological treatment in patients suffering fragility fractures, especially if such treatment is associated with calcium and vitamin D supplementation. The results confirm those from the first studies coordinated by Silvano Adami, which were conducted over ten years ago: these showed that specific treatments for osteoporosis were more reliable and even more effective when combined with calcium and vitamin D.

And to think that just in the last few days we have been subjected to media messages that deny the clinical utility of vitamin D supplementation in osteoporotic patients! In my opinion, these messages do a great disservice to the patients themselves, in addition to compromising the credibility of the prescribing doctors. Moreover, such misinformation negatively affects the National Health Service (SSN), both in terms of preventable fractures and of costs for pharmacological treatments, whose effectiveness is compromised.

As I have indeed feared for some time (see my editorial in issue no. 3/4, vol. 1/2018), the uncritical and incompetent interpretation of recent meta-analyses – plagued, as we well know, by numerous biases – have led some to make erroneous conclusions, even in good faith. Specifically, these persons believe that the clinical contribution of vitamin D vis-à-vis musculoskeletal pathologies, and in particular osteoporosis, is irrelevant; they are therefore surprised that so many of the elderly suffering from this condition use these supplements. This skepticism clearly stems from unfamiliarity with the epidemiology of vitamin D deficiency and with the physiopathology of vitamin D, phospho-calcic and bone metabolism.

As is well known, epidemiology has shown a great prevalence of vitamin D deficiency in the elderly; given their physiopathology, this deficiency is justifiable and cannot be counteracted by increased exposure to sunlight, in light of the risks associated with the latter at an advanced age. Moreover, those familiar with the physiopathology of phospho-calcic and bone metabolism know that an important role is played by the frequency of vitamin D deficiency in the pathogenesis of osteoporosis in the elderly, given the related risks of secondary hyperparathyroidism and/or osteomalacia.

Now if the real aim (or prejudice) of this media campaign against vitamin D is to reduce the exorbitant expenses that we incur for vitamin D in Italy, then I am in partial agreement. Indeed I believe – as I stated in a previous editorial – that it is justifiable to attempt to reduce the present costs of vitamin D supplementation (and of monitoring its level) and even "to lower our expectations, particularly with regard to osteoporosis, by improving the suitability of the treatment…" Let me explain myself more carefully.

Lowering our expectations concerning vitamin D, in particular in treating osteoporosis, means admitting that vitamin D alone is not to be considered a suitable treatment for a developed stage of osteoporosis, especially when complicated by fragility fractures. You will certainly have noticed that over the last few years Italy has unfortunately seen a regression in the treatment of osteoporosis, in part because some doctors, for various debatable reasons, have substituted specific treatments for osteoporosis with vitamin D alone. These practitioners evidently forget that in clinical trials the former have demonstrated their clear

Corrispondenza
MAURIZIO ROSSINI
maurizio.rossini@univr.it

VITAMIN D - UpDates
2019;2(2):46-47

superiority with respect to supplementation alone. It is sad and embarrassing to see patients in our clinics who believe they are receiving adequate treatment with vitamin D alone, even when they have already suffered two or three fractures!
Then again, even the guidelines of SIOMMMS [1] are not completely reassuring on this point. While stating that "... an adequate supply of calcium and vitamin D represents the necessary precondition for any specific pharmacological treatment" and that "calcium and/or vitamin D deficiency is the most common cause of a failed response to pharmacological treatment of osteoporosis," they at the same time admit that "... the densitometric effects of vitamin D supplementation are nonetheless on average modest, proportional to the degree of deficiency; they have further only been demonstrated in relation to hip fracture. The anti-fracture effect of vitamin D is modest and has been established only for hip and non-vertebral but not vertebral fractures ...".
The other field in which I believe we can (and must) improve the suitability of treatment with vitamin D is that regarding extra-skeletal pathologies. In light of current scientific evidence, its use in these cases is in fact not always justifiable: this seems to me a valid conclusion with regard, for example, to cardiometabolic disorders. This is indeed the opinion of our colleague prof. Strazzullo, author of the other feature article of this issue. Nonetheless, as is shown by the numerous references which once again support the articles of this issue, there is increasing evidence that confirms the potential beneficial effects of correcting vitamin D deficiency in extra-skeletal contexts: among other considerations, developments in this regard justify the need for a means of keeping readers up to date, such as that provided by our Journal.
I therefore feel that it is necessary that we begin a candid debate with the Health Board Authorities on the costs and benefits of vitamin D supplementation. Otherwise, I fear that someone might "throw the baby out with the bathwater."
What do you think?
I hope you enjoy reading this issue.

References

1 Rossini M, Adami S, Bertoldo F, et al. *Guidelines for the diagnosis, prevention and management of osteoporosis*. Reumatismo 2016;68:1-39. doi: 10.4081/reumatismo.2016.870.

Native vitamin D optimizes anti-osteoporotic medication effects

Sandro Giannini

Internal Medicine 1, Department of Medicine, University of Padua

VITAMIN D UpDates

INTRODUCTION

Current treatments for osteoporosis use extremely effective drugs to reduce fracture risk [1]. It is well known, however, that in common clinical practice the expected therapeutic effect might not correspond to the one actually obtained. In fact, some patients have a suboptimal response to treatment in terms of fracture reduction and risk.

Such clinical picture is also known as inadequate response to anti-fracture therapy [2]. The possibility of an inadequate response to treatment seems to be correlated to multiple factors, including the advanced age of the patient, a non-optimal treatment compliance, a very high fracture risk at the beginning of treatment, and many others [2]. Nevertheless, for many years it has been known that untreated hypovitaminosis D is able to reduce the effects of osteoporotic medication in a clinically significant way.

THE ROLE OF HYPOVITAMINOSIS D AND OF ITS CORRECTION WITHIN OSTEOPOROTIC TREATMENT

The first evidence for the prevalence of hypovitaminosis D in patients treated for osteoporosis dates back several years [3]. A study on 1500 American women with postmenopausal osteoporosis, undergoing treatment to prevent fragility fractures, indeed showed that approximately 50% of these subjects had serum levels of 25(OH)VitD < 30 ng/mL and that about 10% had levels of 25(OH)VitD < 15 ng/mL. It is known that such low levels may be responsible for a skeletal clinical picture in which osteomalacia overlaps with osteoporosis [4]. It is not surprising, then, that hypovitaminosis D, if not corrected, might represent a risk factor for possible inadequate response to treatment.

Over the years, this hypothesis has been carefully explored in several studies, most of them conducted in Italy. Adami et al. showed that of the 900 subjects participating in the ICARO study treated with anti-osteoporotic medication, 25% had an inadequate response to treatment, which was defined as the occurrence of a new vertebral or non-vertebral fracture within 6 months from the beginning of the treatment [5]. This suboptimal response can be explained, in part, by the lack of a concomitant administration of calcium and vitamin D, an absence which could double fracture risk in these patients [5].

Another study by the same author provided even more interesting results [6]: in a population of about 1,500 women with postmenopausal osteoporosis undergoing treatment with anti-osteoporotic agents (with an adherence > 75%) for 13.1 months, the impact of vitamin D repletion was evaluated compared to its deficiency [serum 25(OH)VitD < 50 nmol/L] in terms of variations in bone density and risk of incident fractures. Less than 30% of the participating subjects in the multicentric Italian study were taking > 600 IU/day of vitamin D. Bone density increase was significantly higher in subjects with normal vitamin D serum levels and substantially absent in those with vitamin D depletion. Vitamin D depleted subjects had nearly double the risk of experiencing a new fracture compared to those with vitamin D repletion, even after adjusting for all available confounding factors [6].

Similar results were reported in a subsequent study in Spain on women with postmenopausal osteoporosis undergoing treatment with oral bisphosphonates and examined for about 12 months [7]. Even though there were no differences in the risk for new fragility fractures, patients with serum levels of 25(OH)VitD > 30 ng/mL showed an improvement in bone density, which was three times higher compared to patients with lower 25(OH)VitD levels dur-

Correspondence
SANDRO GIANNINI
sandro.giannini@unipd.it

VITAMIN D - UpDates
2019;2(2):48-51
https://doi.org/10.30455/2611-2876-2019-03e

ing treatment. Almost identical results were reported in an American study conducted in the same period on 200 women with postmenopausal osteoporosis undergoing treatment with oral and intravenous bisphosphonates; in this case, the definition of inadequate response to treatment was based on bone density loss and on the occurrence of new fractures during treatment [8]. Patients with a mean 25(OH)VitD ≥ 33 ng/mL had approximately 4.5-fold greater odds of a favorable response to therapy compared to those with lower levels. More consistent results were seen in two subsequent studies by Spanish authors. These trials examined very large samples of subjects and included only those with high compliance to anti-osteoporosis treatment. In these cases, the definition of inadequate response to treatment was only based on the occurrence of new fractures during treatment [9, 10]. In the first study, subjects with inadequate response to treatment had lower levels of vitamin D with respect to the population that had not experienced incident fractures, and double the proportion of subjects with levels of 25(OH) VitD < 20 ng/mL (49.2% *vs* 26.0 %, respectively) [9]. The second study screened about 7,500 subjects undergoing treatment with oral bisphosphonates [10]. Even with a compliance > 80%, fracture risk while in treatment was 2.69 times higher in subjects with vitamin D deficiency.

Additional evidence of equal significance then led to a more refined definition of the importance of correcting hypovitaminosis D in subjects undergoing anti-osteoporosis treatment. Nurmi-Luthje et al. investigated which factors could predict mortality following hip fracture in the elderly [11]. They highlighted that osteoporosis treatment associated with calcium and vitamin D intake could reduce mortality after hip fracture in both genders. At 36 months, they observed a 43% reduction in mortality in females who used calcium and vitamin D in concomitance with anti-osteoporotic drugs. Among 23,615 patients with a mean age of roughly 78 years who had suffered hip fracture, mortality within five years after the fracture was about 25% lower in subjects treated with calcium and vitamin D (or only with vitamin D) and in subjects who underwent therapy for the prevention of osteoporotic fractures, compared to untreated patients. The reduction was roughly 28% in subjects who combined anti-osteoporotic medication with vitamin D, compared to untreated ones [12].

THE MOST RECENT DATA FROM ITALY

Given the great interest in the data discussed here, we performed a study in order to verify whether calcium and/or vitamin D intake had an effect on anti-osteoporotic treatment in terms of the occurrence of new fractures and all-cause deaths [13]. Our investigation involved a sample of elderly persons from different Italian regions and with a prior fragility fracture.

Data were obtained from administrative databases (hospital discharge forms, medical exemption certificates and use of medicines prescribed through the National Health Service) of five Italian Local Health Boards (ASLs): Naples 3 South, Pescara, Udine, Verona and Frosinone. Data analyzed involved 3.3 million patients, representing about 5% of Italy's population. The study also included 3,475 patients, age ≥ 50 years, with both hip or vertebral fracture and concomitant osteoporosis, who were examined between January 2011 and December 2015.

On the basis of these same databanks, patients were characterized according to whether they were undergoing any type of pharmacological treatment as well as to the presence and degree of comorbidity during the year prior to the fracture. The same patients were followed for at least one year after the occurrence of their first fracture (the reference date), with the aim of assessing the incidence of new fractures or of death by any cause.

Participants in this study were elderly; after the occurrence of their first fracture, almost half (41.5%) were still untreated for osteoporosis. Patients who were untreated after their first fracture were older than treated ones (83.6 ± 8.7 *vs* 78.2 ± 8.7 years, p < 0.001). Among treated patients, 83.6% were taking those medications recommended by AIFA (the Italian state drug agency) in note 79, together with vitamin D and calcium supplementation, while only 16.4% were taking note 79 AIFA medications only. Patients following the combined therapy had a higher rate of adherence than those taking only the medications (Fig. 1).

Patients treated for osteoporosis after their first fracture had a lower likelihood of new fracture occurrence than untreated subjects (Fig. 2A). Cox analysis, adjusted for all possible confounding factors, demonstrated that treated patients had a 44.4% lower risk of new fracture compared to untreated subjects (HR = 0.556, 95% CI = 0.420-0.735, p < 0,001). Even more interesting is that subjects following the combined treatment (AIFA note 79 medications together with vitamin D and calcium supplementation) had a significantly lower risk of new fracture occurrence compared to those patients taking only the AIFA medications (Fig. 2B). The combined therapy was associated with a risk reduction of 64.4% for new fractures with respect to those patients who only used drugs for osteoporosis (HR = 0.356, 95% CI = 0.237-0.533, p < 0.001).

Analysis of all-cause deaths also produced interesting results. Patients treated for osteoporosis after their first fracture had a significantly lower all-cause mortality risk than those who were untreated (Fig. 3A). Cox analysis, again adjusted for all possible confounding factors, demonstrated that treated patients had a 64% lower mortality risk compared to untreated subjects (HR = 0.360, 95% CI =

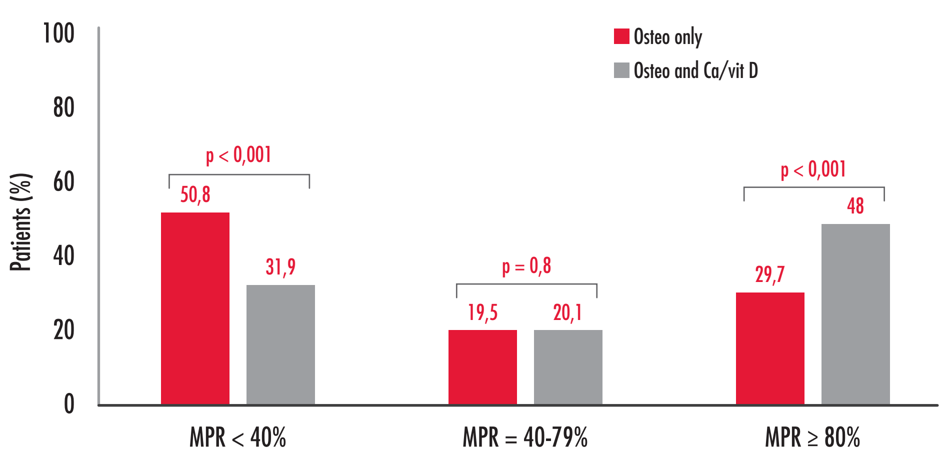

FIGURE 1.
Adherence to treatment during follow-up.

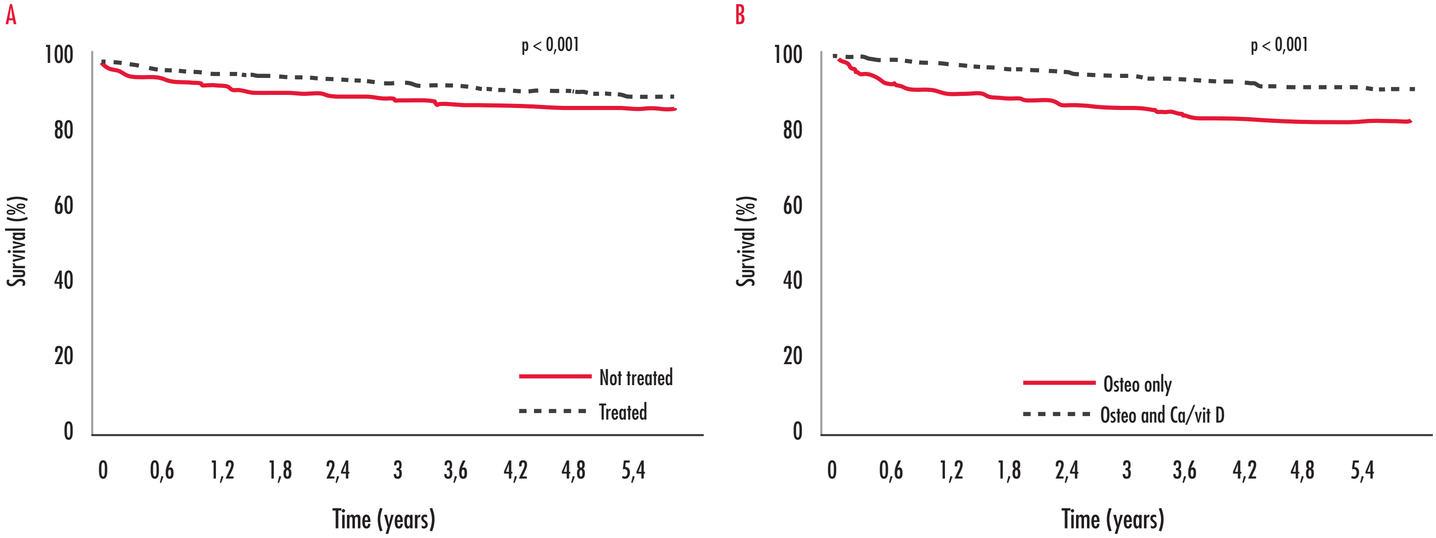

FIGURE 2.
Survival curves (Kaplan-Meier) without subsequent fracture in patients with previous fracture. **A)** Patients treated with osteoporosis medications *vs* not treated patients. **B)** Patients treated with AIFA note 79 medications only (osteo only) *vs* patients treated with AIFA note 79 medications and calcium/vitamin D (osteo and Ca/vit D).

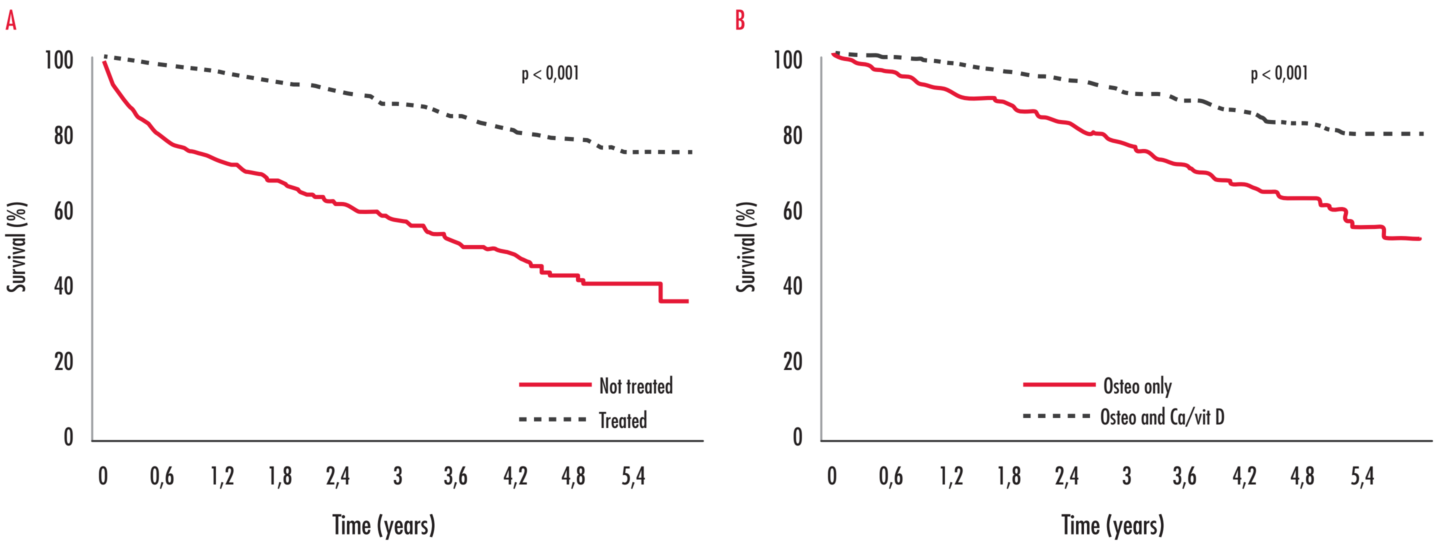

FIGURE 3.
Survival curves (Kaplan-Meier) for all-cause mortality in patients with previous fracture. **A)** Patients treated with osteoporosis medications *vs* not treated patients. **B)** Patients treated with AIFA note 79 medications only (osteo only) *vs* patients treated with AIFA note 79 medications and calcium/vitamin D (osteo and Ca/vit D).

0.310-0.418, $p < 0.001$). In addition, subjects following the combined therapy had a lower all-cause mortality risk than those patients taking only the AIFA note 79 medications (Fig. 3B). The combined treatment was associated with a 53% reduction of mortality risk with respect to those subjects who used only drugs for osteoporosis (HR = 0.471, 95% CI = 0.356-0.623, $p < 0.001$).

CONCLUSIONS

Osteoporosis treatment is without doubt associated with a significant reduction of the risk for new fractures, especially when used in high-risk individuals, such as those with previous fractures. An important additional datum in this regard, which has forcefully emerged from real-world evidence studies, shows that death after fracture also appears to be reduced if osteoporosis therapy is used. A more recent but equally clear and important datum coming from the literature is the fact that vitamin D has a significant beneficial effect in enhancing the anti-frac-

ture effect of anti-osteoporotic drugs and contributes to further reducing mortality due to hip fracture.
Although further investigations are needed to clarify the possible effects of vitamin D on patient survival, these data consolidate and reinforce the importance of correcting hypovitaminosis D in subjects with a high risk of fragility fracture.

References

1. Lorentzon M. *Treating osteoporosis to prevent fractures: current concepts and future developments.* J Intern Med 2019. doi: 10.1111/joim.12873 [Epub ahead of print].
2. Diez-Perez A, Adachi JD, Agnusdei D, et al.; IOF CSA Inadequate Responders Working Group. *Treatment failure in osteoporosis.* Osteoporos Int 2012;23:2769-74.
3. Holick MF, Siris ES, Binkley N, et al. *Prevalence of vitamin D hydroxyvitamin D concentrations among postmenopausal North American women receiving osteoporosis therapy.* J Clin Endocrinol Metab 2005;90:3215-24.
4. Binkley N, Ramamurthy R, Krueger D. *Low vitamin D status: definition, prevalence, consequences, and correction.* Endocrinol Metab Clin North Am 2010;39:287-301.
5. Adami S, Isaia G, Luisetto G, et al; ICARO Study Group. *Fracture incidence and characterization in patients on osteoporosis treatment: the ICARO study.* J Bone Miner Res 2006;21:1565-70.
6. Adami S, Giannini S, Bianchi G, et al. *Vitamin D status and response to treatment in post-menopausal osteoporosis.* Osteoporos Int 2009;20:239-44.
7. Peris P, Martínez-Ferrer A, Monegal A, et al. *25 hydroxyvitamin D serum levels influence adequate response to bisphosphonate treatment in postmenopausal osteoporosis.* Bone 2012;51:54-8.
8. Carmel AS, Shieh A, Bang H, et al. *The 25(OH)D level needed to maintain a favorable bisphosphonate response is ≥33 ng/ml.* Osteoporos Int 2012;23:2479-87.
9. Díez-Pérez A, Olmos JM, Nogués X,et al. *Risk factors for prediction of inadequate response to antiresorptives.* J Bone Miner Res 2012;27:817-24.
10. Prieto-Alhambra D, Pagès-Castellà A, Wallace G, et al. *Predictors of fracture while on treatment with oral bisphosphonates: a population-based cohort study.* J Bone Miner Res 2014;29:268-74.
11. Nurmi-Lüthje I, Lüthje P, Kaukonen JP, et al. *Post-fracture prescribed calcium and vitamin D supplements alone or, in females, with concomitant anti-osteoporotic drugs is associated with lower mortality in elderly hip fracture patients: a prospective analysis.* Drugs Aging 2009;26:409-21.
12. Nurmi-Lüthje I, Sund R, Juntunen M,et al. *Post-hip fracture use of prescribed calcium plus vitamin D or vitamin D supplements and antiosteoporotic drugs is associated with lower mortality: a nationwide study in Finland.* J Bone Miner Res 2011;26:1845-53.
13. Degli Esposti L, Girardi A, Saragoni S, et al; on the behalf of the Study group. *Use of antiosteoporotic drugs and calcium/vitamin D in patients with fragility fractures: impact on re-fracture and mortality risk.* Endocrine 2018. doi: 10.1007/s12020-018-1824-9 [Epub ahead of print].

Vitamin D and cardiometabolic disorders: state of the field review

VITAMIN D
UpDates

Pasquale Strazzullo

Department of Clinical Medicine and Surgery University of Naples Federico II

INTRODUCTION

For some time it has been known that calcium and phosphate homeostasis is essential for normal cellular physiology as well as for skeletal integrity [1]. Several recent epidemiological, clinical and experimental studies have provided a very impressive series of information about new and different biological functions concerning vitamin D and the vitamin D receptor, in addition to those traditionally recognized. These functions include the ability to influence cellular growth and differentiation to modulate immune response and to control the activity of other hormonal systems [2].
As a result, it has been suggested that vitamin D deficiency favors the development of high prevalence cardiometabolic risk factors, such as diabetes, hypertension and associated cardiovascular events [3, 4].

THE BIOLOGY OF VITAMIN D

In humans, about 80% of vitamin D (cholecalciferol) is synthesized in the skin from 7-dehydrocholesterol and the remaining 20% from diet. Vitamin D is then activated through two hydroxylation steps at positions 1 and 25, forming calcitriol (1,25-dihydroxycalciferol).
Recent studies have disproved the previous notion that biological activation of vitamin D occurred exclusively in the kidney by showing that most human tissues and cells also express the 1α- hydroxylase enzyme. They further indicate that the vitamin D receptor (VDR), which acts as a transcription factor, is expressed in at least 36 types of human cells, where it regulates – directly or indirectly – the expression of about 3% of the entire human genome.
In light of these findings, it appears that the vitamin D – VDR system is involved in a wide range of biological activities [2].

VITAMIN D STATUS

The evaluation of vitamin D status is based on circulating 25-hydroxyvitamin D [25(OH)VitD] levels [3]. In general, vitamin D deficiency is defined as levels of 25(OH)VitD < 20 ng/mL (or 50 nmol/L). However, since levels of circulating PTH are at their nadir when levels of 25(OH)VitD < 30 ng/mL, it is believed that 25(OH)VitD levels between 21 and 29 ng/mL indicates vitamin D deficiency, while levels ≥ 30 ng/mL (74 nmol/L) are considered adequate. Based on these criteria, about 15% of the world population, including children and adolescents, is either deficient or has vitamin D insufficiency, especially in persons who are overweight or obese. In addition, more than half of elderly subjects have suboptimal levels of 25(OH)VitD [3].

VITAMIN D AND CARDIOMETABOLIC DISORDERS: PHYSIOPATHOLOGICAL CONNECTIONS

Based on widespread evidence showing that a high number of human tissues and cells, including cardiomyocytes and smooth and endothelial muscle cells, express both VDR and the 1α-hydroxylase enzyme, it has been hypothesized that the biological system of vitamin D plays a role in the pathogenesis of many cardiometabolic disorders [2]. In many studies, vitamin D deficiency and/or insufficiency led to secondary hyperparathyroidism when high levels of PTH were associated with increased cardiovascular risk. The vitamin D/VDR biological system also acts as an endocrine and paracrine negative regulator of the renin-angiotensin-aldosterone system, which plays a central role in the regulation of blood pressure, fluid volume and electrolyte metabolism. The vitamin D/VDR system also regulates insulin and insulin receptor gene expression and, through the modulation of calbindin expression, controls intracellular calcium flux in inslet cells, which in turn affects insulin release. Calcitriol synthesized in endothelial cells seems

Correspondence
PASQUALE STRAZZULLO
strazzul@unina.it

VITAMIN D - UpDates
2019;2(2):52-57
https://doi.org/10.30455/2611-2876-2019-04e

to have a contrasting effect with respect to the end-products of advanced glycation and of various pro-atherosclerotic metabolites.

Furthermore, calcitriol regulates the expression of factors that promote osteoblast differentiation at the vessel wall, an action that can influence the development of vascular calcification. Calcitriol also inhibits foam cell formation and macrophage cholesterol uptake in diabetic subjects. Finally, calcitriol acts as modulator of both immune response and of cytokines biosynthesis [2, 5].

VITAMIN D AND CARDIOMETABOLIC DISORDERS: RESULTS OF OBSERVATIONAL STUDIES (TABLE I)

Many studies have provided support for the idea that vitamin D might have an impact on the risk and possibly on the course of several metabolic and cardiovascular disorders [5]. From the analysis of 28 studies on 99,745 participants, Parker et al. found that higher levels of 25(OH)VitD were associated to a significantly lower incidence of cardiovascular diseases, diabetes and metabolic syndrome, with an odds ratio (OR) of 0.57 and a confidence interval of 95% (CI 95%: 0.48-0.68) [6].

A meta-analysis conducted by Burgaz et al. on 18 studies (n = 78,028 participants) showed that 25(OH)VitD levels were inversely associated with hypertension [7]. In addition, the more recent meta-analysis by Kunutsor et al. again demonstrated an inverse correlation between 25(OH)VitD and the risk of incident hypertension in an apparently healthy population (n = 283,537), with a risk reduction equal to 12% for every increase of 10 ng/mL in vitamin D plasma levels [8]. Moreover, a meta-analysis of prospective studies by Song et al. (21 studies with 76,220 participants and 4,996 cases of incident type 2 diabetes) showed an inverse correlation between 25(OH)VitD and the risk of type 2 diabetes in different populations [9], with a risk reduction equal to 4% for every increase of 4 ng/mL 25(OH)VitD.

In the Framingham Offspring Study, Wang et al. showed that among 1,739 participants without prior cardiovascular disease (mean baseline age = 59 years; follow-up after 5.4 years) individuals with levels of 25(OH)VitD < 15 ng/mL had a multivariable hazard ratio (HR) of 1.62 (95% CI: 1.11 to 2.36) for incident cardiovascular events, including heart attack, angina pectoris, stroke, transient ischemic attack, intermittent claudication and heart failure, compared with those with 25(OH)VitD > or = 15 ng/mL. This effect was only evident in participants with hypertension [10].

In addition, a recent meta-analysis of 19 prospective studies of 65,994 participants and 6,123 cardiovascular events, performed by Wang et al., showed that there was a linear inverse association between 25(OH) VitD levels in the interval between 20 and 60 nmol/L and the risk of cardiovascular disease. In particular, comparison of the 25th and 75th percentile concentrations of 25(OH)VitD showed that the multivariable relative risk was equal to 1.38 (1.21-1.57) for coronary heart disease and to 1.64 (1.27-2.10) for stroke [11].

A recent small sample study performed by Messenger et al. on 813 males (the MrOS Study, mean baseline age = 74, median follow-up of 4.4 years) did not confirm these results: yet this study looked at a low number of subjects affected by hypovitaminosis D and a small number of incident cases of cardiovascular disease [12].

Several studies have also shown that vitamin D status might affect life expectancy in the general population. Liu et al. analyzed 13,131 subjects in the NHANES III trial (age ≥ 35 years, median follow-up of 8 years) and found that subjects with serum levels of 25(OH)VitD < 20 ng/mL had a 2.06 (1.01-4.25) higher mortality risk for heart failure than those subjects with serum levels of 25(OH)VitD ≥ 30 ng/mL. Furthermore, the risk ratio for all-causes early death (< 75 years) was 1.40 (1.17-1.68) for subjects with levels of 25(OH)VitD < 20 ng/mL, and 1.11 (0.93-1.33) for subjects with values between 20 and 29 ng/mL, compared to those with serum levels ≥ 30 ng/mL (p for trend < 0.001) [13]. The meta-analysis conducted by Wang et al., cited above, confirmed that subjects within the lowest category of 25(OH)VitD levels had an increased risk for cardiovascular disease-specific deaths, equal to 1.42 (1.19-1.71), compared to those within the highest category [11].

A meta-analysis of 14 prospective cohort studies with 62,548 participants (5,562 deaths) by Zittermann et al. confirmed a lower mortality risk for the highest compared to the lowest percentiles of 25(OH)VitD (0.71; 0.50-0.91), with optimal concentrations between 75 and 87.5 nmol/L [14]. The mortality risk related to serum levels of vitamin D was also investigated and analyzed in specific subsets of individuals. In the Whitehall study of quite elderly subjects (n = 5.409, mean baseline age = 77 years, follow-up of 13 years), an inverse correlation between 25(OH)VitD levels and relative risk of vascular and non-vascular mortality was observed. These data were confirmed in a meta-analysis by the same authors of 12 cohort studies with 42,565 participants [15]. In a small sample study on 289 patients with type 2 diabetes with a median follow-up of 15 years and 196 deaths (68%), severe vitamin D deficiency, with 25(OH) VitD < 13.9 nmol/L, was associated with an increased risk of cardiovascular (HR 1.95; 1.11-3.44) and all-causes mortality (HR 1.96; 1.29-2.98) [16]. Similar results were found by Dobnig et al. in patients who underwent coronary angiography [17].

VITAMIN D AND CARDIOMETABOLIC DISORDERS: EVIDENCE FROM INTERVENTIONAL STUDIES (TABLE II)

While observational studies have almost uniformly found inverse correlations between circulating levels of 25(OH)VitD and the risk of metabolic and/or cardiovascular diseases, only recently has evidence for a correlation between vitamin D and cardiometabolic disorders been found through randomized controlled trials and relative meta-analyses.

The meta-analysis by Li et al. provided evidence for the effects of vitamin D supplementation in patients with type 2 diabetes on the most important glycol metabolic parameters [18]. Analysis of 20 randomized controlled trials over 2 to 6 months on 2,703 patients showed a significant reduction in the HOMA index of insulin resistance in patients with hypovitaminosis D, without, however, significant improvements for other variables, such as body weight, fasting blood sugar levels or glycated hemoglobin. It is important to note that the quality of the evidence provided by the above-mentioned studies was on average considered low.

Another meta-analysis by Swart et al. examined randomized controlled trials concerning vitamin D supplementation in population samples of great heterogeneity (n = 2,994). Ranging in duration from 16 weeks to 1 year, these trials used individual data and set blood pressure and glycated hemoglobin levels as the main outcomes. Results from this meta-analysis showed that there were no significant effects of vitamin D supplementation on either of these two outcomes, while a significant reduction of LDL cholesterol levels was found [19].

TABLE I.
Vitamin D and Cardiometabolic Disorders: results from most important observational studies.

Author [ref.]	Type of study	Characteristics	Main results
Parker [6]	Meta-analysis	28 studies (n = 99,745 participants)	Inverse association between 25(OH)D and prevalence of cardiovascular diseases, diabetes and metabolic syndrome
Burgaz [7]	Meta-analysis	18 studies (n = 78,028 participants)	Inverse association between 25(OH)D and prevalence of hypertension
Kunutsor [8]	Meta-analysis	8 prospective studies (n = 283,537; 55,816 incident cases)	Reduction of incident hypertension risk equal to 12% for each 10 ng/mL 25(OH) D increment
Song [9]	Meta-analysis	21 prospective studies (n = 76,220 participants; 4,996 incident cases)	Reduction of diabetes risk equal to 4% for each 4 ng/mL 25(OH)D increment
Wang [10]	Prospective study	*Framingham Offspring Study* (n = 1,739 clinically healthy participants, mean age 59 years, medium follow-up 5.4 years)	For levels of 25(OH)D < 15 ng/mL HR multivariate of 1.62 (CI 95% 1.11-2.36) for incident cardiovascular events *vs* 25(OH) D ≥ 15 ng/mL (only in subjects with hypertension)
Wang [11]	Meta-analysis	19 prospective studies (n = 65,994 participants; 6,123 events)	For lowest category of 25(OH)D compared to highest category, RR equal to 1.52 (1.30-1.77) for all cardiovascular diseases, 1.42 (1.19-1.71) for cardiovascular deaths, 1.38 (1.21-1.57) for coronary disease and 1.64 (1.27-2.10) for stroke
Messenger [12]	Prospective study	MrOS study (n = 813 males, mean age 74 years, medium follow-up 4.4 years)	No association between 25(OH)D and incidence of cardiovascular diseases
Liu [13]	Prospective study	NHANES III (n = 13,131; age ≥ 35 years, medium follow-up 8 years)	For levels of 25(OH)D < 20 ng/mL, RR of heart failure death equal to 2.06 (1.01-4.25) compared to 25(OH)D ≥ 30 ng/mL Risk ratio for all-cause premature deaths equal to 1.40 (1.17-1.68) for 25(OH)D < 20 ng/mL and 1.11 (0.93-1.33) for values between 20 and 29 ng/mL, *vs* 25(OH)D ≥ 30 ng/mL (p for trend < 0.001)
Zittermann [14]	Meta-analysis	14 prospective studies (n = 62,548 and 5,562 deaths)	Mortality reduced risk (0.71, 0.50-0.91) for subjects in highest category *vs* those in lowest category of 25(OH)D, with an optimal concentration of 25(OH)D between 75 and 87.5 nmol/L
Tomson [15]	Prospective study	Whitehall (n = 5,409, mean age 77 years, medium follow-up 13 years)	Inverse correlation between 25(OH)D and relative risk of vascular and non-vascular death
Tomson [15]	Meta-analysis	12 prospective studies (n = 42,565)	For subjects in the highest quartile of 25(OH)D, reduction of mortality for vascular causes equal to 21% (13-28%) and of all mortality equal to 28% (24-32%) *vs* subjects in the lowest quartile
Joergensen [16]	Prospective study	(289 patients with type 2 diabetes, medium follow-up 15 years, 196 deaths)	For levels of 25(OH)D < 10th percentile (13.9 nmol/L), HR for cardiovascular deaths equal to 1.95 (1.11-3.44) and for all-cause deaths equal to 1.96 (1.29-2.98), compared to subjects with levels of equal to 25(OH)D > 13.9 nmol/L
Dobnig [17]	Prospective study	3,258 patients, mean age 62 years, scheduled for coronary angiography, medium follow-up 7.7 years, 737 deaths	For subjects in the lowest quartile of 25(OH)D, HR for all deaths equal to 2.08 (1.60-2.70) and for cardiovascular deaths equal to 2.22 (1.57-3.13)

Another meta-analysis which included observational and interventional studies on the correlation between 25(OH)VitD levels and fat mass percentage confirmed an inverse correlation between the latter and circulating levels of vitamin D; it did not, however, highlight any significant effect of vitamin D supplementation on fat mass percentage [20]. In another randomized controlled trial, vitamin D supplementation was given for 48 weeks to 127 type 2 diabetes patients (mean average age = 60 years) who were not selected for hypovitaminosis D and who had good glycol-metabolic control with metformin. Results did not show significant ef-

TABLE II.
Vitamin D and Cardiometabolic Disorders: results from most important observational studies.

Author [ref.]	Type of study	Characteristics	Main results
Li [18]	Meta-analysis	20 randomized controlled trials of vitamin D supplementation (n = 2,703 patients with type 2 diabetes, for a period of 2-6 months)	Supplementation with vitamin D followed by reduction of insulin-resistance HOMA index, particularly in patients with hypovitaminosis D, without, though, improvements in body weight, fasting blood sugar and glycated hemoglobin.
Swart [19]	Meta-analysis	12 randomized controlled trials of vitamin D supplementation (n = 2,994, length of therapy between 16 weeks and 1 year)	Ineffective supplementation for two main outcomes (blood pressure and glycated hemoglobin) Reduction of cholesterol LDL
Golzarand [20]	Meta-analysis	Observational studies and controlled clinical trials on relation between vitamin D supplementation and percentage of body fat.	Inverse correlation between levels of 25(OH)D and percentage of body fat, but no relation between vitamin D and percentage of body fat
Angellotti [21]	RCT	Randomized controlled trial on vitamin D supplementation for 48 weeks (n = 127 patients with type 2 diabetes, mean age 60 years, not selected for hypovitaminosis D and with good glycol metabolic control with metformin)	No effect on glycated hemoglobin and insulin secretion velocity
Cefalo [22]	RCT	Randomized controlled trial on 18 overweight, nondiabetic, vitamin D deficient volunteers following hypocaloric regime and vitamin D supplementation for 3 months	Increase of insulin sensitivity measured using hyperinsulinemic-euglycemic clamp in treated subjects but not in control group, with equal weight loss in both groups
Bislev [23]	RCT	Randomized controlled trial with vitamin D supplementation (n = 81 females in post-menopausal age with hypovitaminosis D and secondary hyperparathyroidism for 12 weeks)	Reduced PTH levels but no reduction in renin-angiotensin-aldosterone system activity or in levels of blood pressure, glycated hemoglobin, plasma lipids or vascular stiffness
Sluyter [24]	RCT	ViDA Study Randomized controlled trial with vitamin D supplementation (n = 517 adult subjects, for 1.1 years)	No significant effect on blood pressure parameters for all subjects, but significant favorable changes in vascular stiffness and central blood pressure parameters among a subset of participants with severe vitamin D deficiency
Manson [25]	RCT	VITAL Study (*Vitamin D and Omega 3 Trial*) Randomized controlled trial with vitamin D supplementation and/or omega 3 fatty acids (n = 25,871 subjects, age > 50 years, for over 5 years)	No significant effects on the incidence of overall or specific cardiovascular events, even in participants with levels of 25(OH)D < 20 ng/mL

fects on either glycated hemoglobin levels or on insulin secretion velocity, in spite of the significantly higher levels of circulating 25(OH)VitD [21].
In another clinical trial, 18 nondiabetic volunteers with both obesity and vitamin D deficiency were fed a hypocaloric diet combined with either a weekly administration of 25,000 IU of 25(OH)-hydroxycholecalciferol or a placebo for three months. A significant rise in vitamin D concentrations was associated with a considerable increase in insulin sensitivity, measured using a hyperinsulinemic-euglycemic clamp in subjects under active treatment compared to the placebo group. Body weight in both groups decreased equally [22].
In a controlled clinical trial on 81 postmenopausal women with hypovitaminosis D and secondary hyperparathyroidism, treatment with vitamin D for 12 weeks reduced PTH levels but did not reduce renin-angiotensin-aldosterone system activity or lower levels of blood pressure, glycated hemoglobin, lipids, lipoproteins or vascular stiffness [23].
As part of the ViDA Study, a total of 517 adults were recruited to receive, for 1.1 years, either an initial dose of 200,000 IU of vitamin D3 followed by monthly 100,000 IU doses, or a placebo. Results showed no significant changes in hemodynamic parameters in the total sample; among a subset of participants with severe vitamin D deficien-

cy, however, statistically significant favorable changes in vascular stiffness and central blood pressure parameters were observed [24].
Recently, results from VITAL (Vitamin D and Omega 3 Trial) have been published, a trial investigating the effects of daily vitamin D3 administration (2,000 IU) and/or omega 3 fatty acids (1 g) in 25,871 subjects for a period of over 5 years; the group studied was composed of men 50 years of age or older and women 55 or older. The primary endpoints were the incidence of cancer and of major cardiovascular events. These results showed that vitamin D supplementation was not associated with a lower risk of either of the primary or secondary endpoints (the latter represented by specific forms of cancer and cardiovascular events), even in the subset of participants with baseline values of 25(OH)VitD < 20 ng/mL [25].

CONCLUSIONS

Most observational studies, both transversal and prospective, suggest that there is an inverse correlation between vitamin D status (expressed as plasma levels of 25-hydroxycholecalciferol), on one hand, and cardiometabolic risk factors and cardiovascular morbidity and mortality, on the other, both in samples of the general population and in high risk patients (such as the elderly and patients with diabetes, hypertension and/or chronic kidney disease).
Results from several experimental studies provide biological plausibility for such statistical and epidemiological associations and for the hypothesis of the metabolic and cardiovascular effects of vitamin D.
Recently, many randomized controlled studies have been performed in the attempt to confirm this hypothesis. Some of these trials examined samples of people taken from the general population while others examined smaller groups of patients affected by specific morbid conditions. While on one hand some of these studies corroborated the possible positive effect of vitamin D supplementation in subjects with vitamin D deficiency relative to some risk factors (particularly high blood pressure and insulin resistance), on the other hand the largest trials did not confirm the positive effect of vitamin D supplementation on cardiovascular morbidity and mortality. At the same time, some possibility of a positive effect of vitamin D cannot be completely excluded for specific subsets of patients, or in therapeutic treatments of longer duration based on innovative approaches. At present, then, there is a clear need for further experimental research and for more controlled studies with specific aims.

Bibliography

1 Civitelli R, Ziambaras K. *Calcium and phosphate homeostasis: concerted interplay of new regulators*. J Endocrinol Invest 2011;34(Suppl 7):3-7.

2 Lockau L, Atkinson SA. *Vitamin D's role in health and disease: how does the present inform our understanding of the past?* Int J Paleopathol 2018;23:6-14.

3 Holick MF. The *vitamin D deficiency pandemic: approaches for diagnosis, treatment and prevention*. Rev Endocr Metab Disord 2017;18:153-65.

4 Zittermann A. *Vitamin D status, supplementation and cardiovascular disease*. Anticancer Res 2018;38:1179-86.

5 Rendina D, De Filippo G, Muscariello R, et al *Vitamin D and cardiometabolic disorders*. High Blood Press Cardiovasc Prev 2014;21:251-6.

6 Parker J, Hashmi O, Dutton D, et al. *Levels of vitamin D and cardiometabolic disorders: systematic review and meta-analysis*. Maturitas 2010;65:225-36.

7 Burgaz A, Orsini N, Larsson SC, et al. *Blood 25-hydroxyvitamin D concentration and hypertension: a meta-analysis*. J Hypertens 2011;29:636-45.

8 Kunutsor SK, Apekey TA, Steur M. *Vitamin D and risk of future hypertension: meta-analysis of 283,537 participants*. Eur J Epidemiol 2013;28:205-21.

9 Song Y, Wang L, Pittas AG, et al. *Blood 25-hydroxy vitamin D levels and incident type 2 diabetes: a meta-analysis of prospective studies*. Diabetes Care 2013;36:1422-8.

10 Wang TJ, Pencina MJ, Booth SL, et al. *Vitamin D deficiency and risk of cardiovascular disease*. Circulation 2008;117:503-11.

11 Wang L, Song Y, Manson JE, et al. *Circulating 25-hydroxy-vitamin D and risk of cardiovascular disease: a meta-analysis of prospective studies*. Circ Cardiovasc Qual Outcomes 2012;5:819-29.

12 Messenger W, Nielson CM, Li H, et al. *Serum and dietary vitamin D and cardiovascular disease risk in elderly men: a prospective cohort study*. Nutr Metab Cardiovasc Dis 2012;22:856-63.

13 Liu L, Chen M, Hankins SR, et al.; Drexel Cardiovascular Health Collaborative Education, Research, and Evaluation Group. *Serum 25-hydroxyvitamin D concentration and mortality from heart failure and cardiovascular disease, and premature mortality from all-cause in United States adults*. Am J Cardiol 2012;110:834-9.

14 Zittermann A, Iodice S, Pilz S, et al. *Vitamin D deficiency and mortality risk in the general population: a meta-analysis of prospective cohort studies*. Am J Clin Nutr 2012;95:91-100.

15 Tomson J, Emberson J, Hill M, et al. *Vitamin D and risk of death from vascular and non-vascular causes in the Whitehall study and meta-analyses of 12,000 deaths*. Eur Heart J 2013;34:1365-74.

16 Joergensen C, Gall MA, Schmedes A,et al. *Vitamin D levels and mortality in type 2 diabetes*. Diabetes Care 2010;33:2238-43.

17 Dobnig H, Pilz S, Scharnagl H, et al. *Independent association of low serum 25-hydroxyvitamin D and 1,25-dihydroxyvitamin D levels with all-cause and cardiovascular mortality*. Arch Intern Med 2008;168:1340-9.

18 Li X, Liu Y, Zheng Y, et al. *The effect of vitamin D supplementation on glycemic control in type 2 diabetes patients: a systematic review and meta-analysis*. Nutrients 2018;10:375. doi: 10.3390/nu10030375.

19 Swart KM, Lips P, Brouwer IA, et al. *Effects of vitamin D supplementation on markers for cardiovascular disease and type 2 diabetes: an individual participant data meta-analysis of randomized controlled trials*. Am J Clin Nutr 2018;107:1043-53.

20 Golzarand M, Hollis BW, Mirmiran P, et al. *Vitamin D supplementation and body fat mass: a systematic review and meta-analysis*. Eur J Clin Nutr 2018;72:1345-57.

21 Angellotti E, D'Alessio D, Dawson-Hughes B, et al. *Vitamin D supplementation in patients with type 2 diabetes: the vitamin D for established type 2 diabetes (DDM2) study*. J Endocrine Soc 2018;2:310-21.

22 Cefalo CMA, Conte C, Sorice GP, et al. *Effect of Vitamin D Supplementation on obesity-induced insulin resistance: a double-blind, randomized, placebo-controlled trial*. Obesity 2018;26:651-7.

23 Bislev LS, Langagergaard Rødbro L, Bech JN, et al. *The effect of vitamin D3 supplementation on markers of cardiovascular health in hyperparathyroid, vitamin D insufficient women: a randomized placebo-controlled trial*. Endocrine 2018;62:182-94.

[24] Sluyter JD, Camargo, Jr CA, et al. *Effect of monthly, high-dose, long-term vitamin D supplementation on central blood pressure parameters: a randomized controlled trial substudy*. J Am Heart Assoc 2017;6:e006802. doi: 10.1161/JAHA.117.006802.

[25] Manson JE, Cook NR, Lee I-Min, et al. for the VITAL Research Group. *Vitamin D supplements and prevention of cancer and cardiovascular disease*. N Engl J Med 2019;380:33-44.

BIBLIOGRAPHIC SELECTION

CARDIOLOGY

- Abbasalizad Farhangi M, Najafi M. Dietary total antioxidant capacity (TAC) among candidates for coronary artery bypass grafting (CABG) surgery: Emphasis to possible beneficial role of TAC on serum vitamin D. PLoS One. 2018 Dec 12;13(12):e0208806. doi: 10.1371/journal.pone.0208806. eCollection 2018.

- Anees MA, Ahmad MI, Chevli PA, et al. Association of vitamin D deficiency with electrocardiographic markers of left atrial abnormalities. Ann Noninvasive Electrocardiol. 2019 Jan 19:e12626. doi: 10.1111/anec.12626. [Epub ahead of print].

- Eslami O, Shidfar F, Akbari-Fakhrabadi M. Vitamin D and Cardiorespiratory Fitness in the General Population: A Systematic Review. Int J Vitam Nutr Res. 2018 Nov 30:1-12. doi: 10.1024/0300-9831/a000490. [Epub ahead of print].

- Granato T, Anastasi E, Viggiani V, et al. Serum 25-hydroxy vitamin D levels in essential hypertension. J Biol Regul Homeost Agents. 2018 Nov-Dec;32(6):1599-1604.

- Hadjadj L, Monori-Kiss A, Horváth EM, et al. Geometric, elastic and contractile-relaxation changes in coronary arterioles induced by Vitamin D deficiency in normal and hyperandrogenic female rats. Microvasc Res. 2019 Mar;122:78-84. doi: 10.1016/j.mvr.2018.11.011. Epub 2018 Nov 28.

- Iannuzzo G, Lupoli R, Forte F, et al. Response to Letter to the Editor: "Association of Vitamin D Deficiency With Peripheral Arterial Disease: A Meta-Analysis of Literature Studies". J Clin Endocrinol Metab. 2018 Dec 1;103(12):4448-4449. doi: 10.1210/jc.2018-01778.

- Javorski MJ, Kerolos MM, Fareed J, et al. Vitamin D and Postoperative Vasopressor Use in Cardiopulmonary Bypass. Clin Appl Thromb Hemost. 2018 Nov;24(8):1322-1326. doi: 10.1177/1076029618772357. Epub 2018 May 6.

- Kheiri B, Abdalla A, Osman M, et al. Correction to: Vitamin D deficiency and risk of cardiovascular diseases: a narrative review. Clin Hypertens. 2018 Dec 24;24:19. doi: 10.1186/s40885-018-0105-5. eCollection 2018.

- Kim J, Park HJ, Sung DJ. The Relationship between Plasma Vitamin D Concentration and Blood Pressure in Korean Middle-aged Males: A Cross-sectional Study. Iran J Public Health. 2018 Nov;47(11):1767-1768.

- Kolaszko A, Nowalany-Kozielska E, Ceranowicz P, et al. Corrigendum to "The Role of Parathyroid Hormone and Vitamin D Serum Concentrations in Patients with Cardiovascular Diseases". Dis Markers. 2018 Dec 2;2018:2046808. doi: 10.1155/2018/2046808. eCollection 2018.

- Liu Y, Peng W, Li Y, et al. Vitamin D Deficiency Harms Patients with Coronary Heart Disease by Enhancing Inflammation. Med Sci Monit. 2018 Dec 24;24:9376-9384. doi: 10.12659/MSM.911615.

- Marquina C, Mousa A, Scragg R, et al. Vitamin D and cardiometabolic disorders: a review of current evidence, genetic determinants and pathomechanisms. Obes Rev. 2019 Feb;20(2):262-277. doi: 10.1111/obr.12793. Epub 2018 Nov 18. Review.

- Obeid FA, Yost G, Bhat G, et al. Effect of Vitamin D Level on Clinical Outcomes in Patients Undergoing Left Ventricular Assist Device Implantation. Nutr Clin Pract. 2018 Dec;33(6):825-830. doi: 10.1002/ncp.10078. Epub 2018 Mar 30.

- Oberoi D, Mehrotra V, Rawat A. "Vitamin D" as a profile marker for cardiovascular diseases. Ann Card Anaesth. 2019 Jan-Mar;22(1):47-50. doi: 10.4103/aca.ACA_66_18.

- Omidi F, Hosseinsabet A. Is the longitudinal deformation of the left ventricle affected by vitamin D deficiency in nondiabetics? A 2D speckle-tracking echocardiographic study. Echocardiography. 2019 Jan;36(1):67-73. doi: 10.1111/echo.14205. Epub 2018 Nov 27.

- Raslan E, Soliman SSA, Nour ZA, et al. Asso-

VITAMIN D - UpDates
2019;2(2):58-80

ciation of Vitamin D Deficiency with Chronic Stable Angina: A Case Control Study. High Blood Press Cardiovasc Prev. 2018 Dec 26. doi: 10.1007/s40292-018-0295-7. [Epub ahead of print].

- Sanguankeo A, Upala S. Letter to the Editor: "Association of Vitamin D Deficiency With Peripheral Arterial Disease: A Meta-Analysis of Literature Studies". J Clin Endocrinol Metab. 2018 Dec 1;103(12):4447. doi: 10.1210/jc.2018-01668.
- Song YP, Chen HL. Comment on "Vitamin D Status Is Associated With Development of Hospital-Acquired Pressure Injuries in Critically Ill Surgical Patients". Nutr Clin Pract. 2019 Jan 15. doi: 10.1002/ncp.10246. [Epub ahead of print]
- Vázquez-Oliva G, Zamora A, Ramos R, et al. Analysis of Plasma Albumin, Vitamin D, and Apolipoproteins A and B as Predictive Coronary Risk Biomarkers in the REGICOR Study. Rev Esp Cardiol (Engl Ed). 2018 Nov;71(11):910-916. doi: 10.1016/j.rec.2018.01.027. English, Spanish.
- Wu WX, He DR. Low Vitamin D Levels Are Associated With the Development of Deep Venous Thromboembolic Events in Patients With Ischemic Stroke. Clin Appl Thromb Hemost. 2018 Dec;24(9_suppl):69S-75S. doi: 10.1177/1076029618786574. Epub 2018 Jul 22.
- Y D, Manjrekar PA, Adhikari P, et al. Comprehensive Review on Diabetes Associated Cardiovascular Complications - The Vitamin D Perspective. Cardiovasc Hematol Disord Drug Targets. 2019 Jan 14. doi: 10.2174/1871529X19666190114155302. [Epub ahead of print].
- Zittermann A, Ernst JB, Prokop S, et al. Daily Supplementation with 4000 IU Vitamin D3 for Three Years Does Not Modify Cardiovascular Risk Markers in Patients with Advanced Heart Failure: The Effect of Vitamin D on Mortality in Heart Failure Trial. Ann Nutr Metab. 2018 Dec 14;74(1):62-68. doi: 10.1159/000495662. [Epub ahead of print].
- Zittermann A, Ernst JB, Prokop S, et al. Vitamin D supplementation of 4000 IU daily and cardiac function in patients with advanced heart failure: The EVITA trial. Int J Cardiol. 2019 Jan 9. pii: S0167-5273(18)35579-7. doi: 10.1016/j.ijcard.2019.01.027. [Epub ahead of print].

DERMATOLOGY

- Blake SC, Harding CJ, Doyle Z. A qualitative discourse analysis of safe sun exposure and vitamin D in Australian print media. Australas J Dermatol. 2019 Jan 7. doi: 10.1111/ajd.12984. [Epub ahead of print]
- Cristi F, Perez-Mateluna G, Vera-Kellet C, et al. Vitamin D modulates the allergic phenotype of dendritic cells in children with atopic dermatitis. Exp Dermatol. 2019 Jan 9. doi: 10.1111/exd.13873. [Epub ahead of print].
- Datta P, Philipsen PA, Olsen P, et al. Pigment genes not skin pigmentation affect UVB-induced vitamin D. Photochem Photobiol Sci. 2019 Jan 11. doi: 10.1039/c8pp00320c. [Epub ahead of print].
- El-Taweel AE, Salem RM, Allam AH. Cigarette smoking reduces the efficacy of intralesional vitamin D in the treatment of warts. Dermatol Ther. 2019 Jan 9:e12816. doi: 10.1111/dth.12816. [Epub ahead of print].
- Gade VKV, Mony A, Munisamy M, et al. An investigation of vitamin D status in alopecia areata. Clin Exp Med. 2018 Nov;18(4):577-584. doi: 10.1007/s10238-018-0511-8. Epub 2018 Jun 4.
- Lee YH. Vitamin D receptor ApaI, TaqI, BsmI, and FokI polymorphisms and psoriasis susceptibility: an updated meta-analysis. Clin Exp Dermatol. 2018 Nov 25. doi: 10.1111/ced.13823. [Epub ahead of print].
- Oda Y, Hu L, Nguyen T, Fong C, et al. Vitamin D Receptor Is Required for Proliferation, Migration, and Differentiation of Epidermal Stem Cells and Progeny during Cutaneous Wound Repair. J Invest Dermatol. 2018 Nov;138(11):2423-2431. doi: 10.1016/j.jid.2018.04.033. Epub 2018 May 19.
- Paolino G, Moliterni E, Corsetti P, et al. Vitamin D and melanoma: state of the art and possible therapeutic uses. G Ital Dermatol Venereol. 2019 Feb;154(1):64-71. doi: 10.23736/S0392-0488.17.05801-1. Epub 2017 Dec 15.
- Rajatanavin N, Kanokrungsee S, Aekplakorn W. Vitamin D status in Thai dermatologists and working-age Thai population. J Dermatol. 2018 Dec 28. doi: 10.1111/1346-8138.14742. [Epub ahead of print].
- Rech MA, Colon Hidalgo D, Larson J, et al. Vitamin D in burn-injured patients. Burns. 2019 Feb;45(1):32-41. doi: 10.1016/j.burns.2018.04.015. Review.
- Singh S, Jha B, Tiwary NK, et al. Does using a high sun protection factor sunscreen on face, along with physical photoprotection advice, in patients with melasma, change serum vitamin D concentration in Indian conditions? A pragmatic pretest-posttest study. Indian J Dermatol Venereol Leprol. 2018 Nov 5. doi: 10.4103/ijdvl.IJDVL_575_17. [Epub ahead of print].
- Tang L, Fang W, Lin J, et al. Vitamin D protects human melanocytes against oxidative damage by activation of Wnt/β-catenin signaling. Lab Invest. 2018 Dec;98(12):1527-1537. doi: 10.1038/s41374-018-0126-4. Epub 2018 Sep 11.
- Tuchinda P, Kulthanan K, Chularojanamontri L, et al. Relationship between vitamin D and chronic spontaneous urticaria: a systematic review. Clin Transl Allergy. 2018 Dec 4;8:51. doi: 10.1186/s13601-018-0234-7. eCollection 2018.
- Wei J, Jaleel T, MacLeod AS, et al. Inverted U-shaped relationship between vitamin D and ever-reported eczema in US adults. Allergy. 2018 Dec 27. doi: 10.1111/all.13708. [Epub ahead of print].

ENDOCRINOLOGY

- Alatawi FS, Faridi UA, Alatawi MS. Effect of treatment with vitamin D plus calcium on oxidative stress in streptozotocin-induced diabetic rats. Saudi Pharm J. 2018 Dec;26(8):1208-1213. doi: 10.1016/j.jsps.2018.07.012. Epub 2018 Jul 20.
- Alejo Ramos M, Cano Rodríguez IM, Urioste Fondo AM, et al. Secondary Hyperparathyroidism in Patients with Biliopancreatic Diversion After 10 Years of Follow-up, and Relationship with Vitamin D and Serum Calcium. Obes Surg. 2018 Dec 6. doi: 10.1007/s11695-018-03624-3. [Epub ahead of print].
- Barzegari M, Sarbakhsh P, Mobasseri M, et al. The effects of vitamin D supplementa-

tion on lipid profiles and oxidative indices among diabetic nephropathy patients with marginal vitamin D status. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):542-547. doi: 10.1016/j.dsx.2018.11.008. Epub 2018 Nov 3.

- Bassatne A, Chakhtoura M, Saad R, et al. Vitamin D supplementation in obesity and during weight loss: A review of randomized controlled trials. Metabolism. 2019 Jan 4. pii: S0026-0495(19)30005-8. doi: 10.1016/j.metabol.2018.12.010. [Epub ahead of print] Review.
- Bonnet L, Hachemi MA, Karkeni E, et al. Diet induced obesity modifies vitamin D metabolism and adipose tissue storage in mice. J Steroid Biochem Mol Biol. 2019 Jan;185:39-46. doi: 10.1016/j.jsbmb.2018.07.006. Epub 2018 Jul 7.
- Çağlar S, Çağlar A, Pilten S, et al. Osteoprotegerin and 25-hydroxy vitamin D levels in patients with diabetic foot. Eklem Hastalik Cerrahisi. 2018 Dec;29(3):170-5. doi: 10.5606/ehc.2018.60797.
- Carlberg C, Neme A. Machine learning approaches infer vitamin D signaling: Critical impact of vitamin D receptor binding within topologically associated domains. J Steroid Biochem Mol Biol. 2019 Jan;185:103-109. doi: 10.1016/j.jsbmb.2018.07.015. Epub 2018 Jul 22. Review.
- Chen CH, Liu LK, Chen MJ, et al. Associations between vitamin D deficiency, musculoskeletal health, and cardiometabolic risk among community-living people in Taiwan: Age and sex-specific relationship. Medicine (Baltimore). 2018 Dec;97(52):e13886. doi: 10.1097/MD.0000000000013886.
- Dadoniene J, Čypienė A, Rinkūnienė E, et al. Vitamin D, cardiovascular and bone health in postmenopausal women with metabolic syndrome. Adv Clin Exp Med. 2018 Nov;27(11):1555-1560. doi: 10.17219/acem/75147.
- Deffain A, Scipioni F, De Rienzo B, et al. Preoperative vitamin D levels do not relate with the risk of hypocalcemia following total thyroidectomy. A cohort study. Minerva Chir. 2019 Feb;74(1):14-18. doi: 10.23736/S0026-4733.18.07456-4.
- Dong Y, Yang L, Luo W, et al. Mannose receptor C type 2 mediates 1,25(OH)2D3/vitamin D receptor-regulated collagen metabolism through collagen type 5, alpha 2 chain and matrix metalloproteinase 13 in murine MC3T3-E1 cells. Mol Cell Endocrinol. 2019 Jan 11. pii: S0303-7207(19)30007-3. doi: 10.1016/j.mce.2019.01.007. [Epub ahead of print].
- Esfandiari A, Pourghassem Gargari B, Noshad H, et al. The effects of vitamin D3 supplementation on some metabolic and inflammatory markers in diabetic nephropathy patients with marginal status of vitamin D: A randomized double blind placebo controlled clinical trial. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):278-283. doi: 10.1016/j.dsx.2018.09.013. Epub 2018 Sep 12.
- Farag HAM, Hosseinzadeh-Attar MJ, Muhammad BA, et al. Comparative effects of vitamin D and vitamin C supplementations with and without endurance physical activity on metabolic syndrome patients: a randomized controlled trial. Diabetol Metab Syndr. 2018 Nov 8;10:80. doi: 10.1186/s13098-018-0384-8. eCollection 2018.
- Gateva A, Assyov Y, Tsakova A, et al. Prediabetes is Characterized by Higher FGF23 Levels and Higher Prevalence of Vitamin D Deficiency Compared to Normal Glucose Tolerance Subjects. Horm Metab Res. 2018 Dec 20. doi: 10.1055/a-0813-3164. [Epub ahead of print].
- Gendy HIE, Sadik NA, Helmy MY, et al. Vitamin D receptor gene polymorphisms and 25(OH) vitamin D: Lack of association to glycemic control and metabolic parameters in type 2 diabetic Egyptian patients. J Clin Transl Endocrinol. 2018 Nov 29;15:25-29. doi: 10.1016/j.jcte.2018.11.005. eCollection 2019 Mar.
- Ghaderian B, Shirinpour Z, Aleali AM, et al. Vitamin D level in non-diabetic adult people with metabolic syndrome. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):236-238. doi: 10.1016/j.dsx.2018.08.003. Epub 2018 Aug 2.
- Ghadiri-Anari A, Mozafari Z, Gholami S, et al. Dose vitamin D supplementations improve peripheral diabetic neuropathy? A before-after clinical trial. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):890-893. doi: 10.1016/j.dsx.2018.12.014. Epub 2018 Dec 20.
- Ghavam S, Ahmadi MRH, Panah AD, et al. Evaluation of HbA1C and serum levels of vitamin D in diabetic patients. J Family Med Prim Care. 2018 Nov-Dec;7(6):1314-1318. doi: 10.4103/jfmpc.jfmpc_73_18.
- Gonzalez AM, Sell KM, Ghigiarelli JJ, et al. Effect of Multi-Ingredient Supplement Containing Satiereal, Naringin, and Vitamin D on Body Composition, Mood, and Satiety in Overweight Adults. J Diet Suppl. 2018 Nov 2;15(6):965-976. doi: 10.1080/19390211.2017.1407385. Epub 2018 Jan 16.
- Guo Y, Zhu L, Ge Y, et al. Improving effect of vitamin D supplementation on obesity-related diabetes in rats. Minerva Endocrinol. 2018 Dec 7. doi: 10.23736/S0391-1977.18.02914-0. [Epub ahead of print].
- Jacquillet G, Unwin RJ. Physiological regulation of phosphate by vitamin D, parathyroid hormone (PTH) and phosphate (Pi). Pflugers Arch. 2019 Jan;471(1):83-98. doi: 10.1007/s00424-018-2231-z. Epub 2018 Nov 5. Review.
- Jahn D, Dorbath D, Kircher S, et al. Beneficial Effects of Vitamin D Treatment in an Obese Mouse Model of Non-Alcoholic Steatohepatitis. Nutrients. 2019 Jan 3;11(1). pii: E77. doi: 10.3390/nu11010077.
- Jain SK, Parsanathan R, Achari AE, et al. Glutathione Stimulates Vitamin D Regulatory and Glucose-Metabolism Genes, Lowers Oxidative Stress and Inflammation, and Increases 25-Hydroxy-Vitamin D Levels in Blood: A Novel Approach to Treat 25-Hydroxyvitamin D Deficiency. Antioxid Redox Signal. 2018 Dec 10;29(17):1792-1807. doi: 10.1089/ars.2017.7462. Epub 2018 Oct 9.
- Jamilian M, Amirani E, Asemi Z. The effects of vitamin D and probiotic co-supplementation on glucose homeostasis, inflammation, oxidative stress and pregnancy outcomes in gestational diabetes: A randomized, double-blind, placebo-controlled trial. Clin Nutr. 2018 Nov 10. pii: S0261-5614(18)32523-8. doi: 10.1016/j.clnu.2018.10.028. [Epub ahead of print].
- Jiang X, Peng M, Chen S, et al. Vitamin D deficiency is associated with dyslipidemia: a cross-sectional study in 3,788 subjects. Curr Med Res Opin. 2018 Nov 27:1-10. doi:

10.1080/03007995.2018.1552849. [Epub ahead of print].

- Karras SN, Polyzos SA, Tsekmekidou X, et al. Adiponectin and vitamin D-binding protein concentrations are independently associated in apparently healthy women but not men: a validation cohort. Hormones (Athens). 2018 Nov 19. doi: 10.1007/s42000-018-0076-7. [Epub ahead of print]
- Kjalarsdottir L, Tersey SA, Vishwanath M, et al. 1,25-Dihydroxyvitamin D3 enhances glucose-stimulated insulin secretion in mouse and human islets: a role for transcriptional regulation of voltage-gated calcium channels by the vitamin D receptor. J Steroid Biochem Mol Biol. 2019 Jan;185:17-26. doi: 10.1016/j.jsbmb.2018.07.004. Epub 2018 Jul 30.
- Leitão J, Carvalhana S, Silva AP, et al. No Evidence for Lower Levels of Serum Vitamin D in the Presence of Hepatic Steatosis. A Study on the Portuguese General Population. Int J Med Sci. 2018 Nov 29;15(14):1778-1786. doi: 10.7150/ijms.26586. eCollection 2018.
- Lerchbaum E, Trummer C, Theiler-Schwetz V, et al. Effects of vitamin D supplementation on androgens in men with low testosterone levels: a randomized controlled trial. Eur J Nutr. 2018 Nov 20. doi: 10.1007/s00394-018-1858-z. [Epub ahead of print].
- Liu Q, Zheng X, Liu Z, et al. Vitamin D status is associated with 1,5-anhydro-D-glucitol status in type 2 diabetes mellitus patients. Appl Physiol Nutr Metab. 2019 Jan 11. doi: 10.1139/apnm-2018-0719. [Epub ahead of print].
- Makariou SE, Elisaf M, Challa A, et al. Effect of combined vitamin D administration plus dietary intervention on oxidative stress markers in patients with metabolic syndrome: A pilot randomized study. Clin Nutr ESPEN. 2019 Feb;29:198-202. doi: 10.1016/j.clnesp.2018.10.004. Epub 2018 Oct 24.
- Manzini G, Malhofer F, Weber T. Can preoperative vitamin D deficiency predict postoperative hypoparathyroidism following thyroid surgery? Langenbecks Arch Surg. 2019 Jan 14. doi: 10.1007/s00423-019-01748-3. [Epub ahead of print].
- Mousa A, Naderpoor N, Wilson K, et al. Vitamin D supplementation increases adipokine concentrations in overweight or obese adults. Eur J Nutr. 2019 Jan 16. doi: 10.1007/s00394-019-01899-5. [Epub ahead of print].
- Mutchie TR, Yu OB, Di Milo ES, et al. Alternative binding sites at the vitamin D receptor and their ligands. Mol Cell Endocrinol. 2019 Jan 14. pii: S0303-7207(19)30011-5. doi: 10.1016/j.mce.2019.01.011. [Epub ahead of print] Review.
- Nandi A, Wadhwani N, Joshi SR. Vitamin D deficiency influences fatty acid metabolism. Prostaglandins Leukot Essent Fatty Acids. 2019 Jan;140:57-63. doi: 10.1016/j.plefa.2018.11.014. Epub 2018 Nov 29.
- Nejatian N, Häfner AK, Shoghi F, et al. 5-Lipoxygenase (ALOX5): Genetic susceptibility to type 2 diabetes and vitamin D effects on monocytes. J Steroid Biochem Mol Biol. 2018 Dec 3. pii: S0960-0760(18)30424-2. doi: 10.1016/j.jsbmb.2018.10.022. [Epub ahead of print].
- Niroomand M, Fotouhi A, Irannejad N, et al. Does high-dose vitamin D supplementation impact insulin resistance and risk of development of diabetes in patients with pre-diabetes? A double-blind randomized clinical trial. Diabetes Res Clin Pract. 2018 Dec 21;148:1-9. doi: 10.1016/j.diabres.2018.12.008. [Epub ahead of print].
- Omar DF, Kamal MM, El-Hefnawy MH, et al. Serum Vitamin D and Its Upregulated Protein, Thioredoxin Interacting Protein, Are Associated With Beta-Cell Dysfunction in Adult Patients With Type 1 and Type 2 Diabetes. Can J Diabetes. 2018 Dec;42(6):588-594. doi: 10.1016/j.jcjd.2018.02.012. Epub 2018 Mar 2.
- Pantovic A, Zec M, Zekovic M, et al. Vitamin D Is Inversely Related to Obesity: Cross-Sectional Study in a Small Cohort of Serbian Adults. J Am Coll Nutr. 2019 Jan 11:1-10. doi: 10.1080/07315724.2018.1538828. [Epub ahead of print].
- Pramono A, Jocken JWE, Essers YPG, et al. Vitamin D and Tissue-Specific Insulin Sensitivity in Humans With Overweight/Obesity. J Clin Endocrinol Metab. 2019 Jan 1;104(1):49-56. doi: 10.1210/jc.2018-00995.
- Rak K, Bronkowska M. Immunomodulatory Effect of Vitamin D and Its Potential Role in the Prevention and Treatment of Type 1 Diabetes Mellitus-A Narrative Review. Molecules. 2018 Dec 24;24(1). pii: E53. doi: 10.3390/molecules24010053. Review.
- Rashidbeygi E, Rahimi MH, Mollahosseini M, et al. Associations of vitamin D status and metabolic dyslipidemia and hypertriglyceridemic waist phenotype in apparently healthy adults. Diabetes Metab Syndr. 2018 Nov;12(6):985-990. doi: 10.1016/j.dsx.2018.06.010. Epub 2018 Jun 28.
- Sahin E, Col Madendag I, Sahin ME, et al. Effect of vitamin D deficiency on the 75 g oral glucose tolerance test screening and insulin resistance. Gynecol Endocrinol. 2019 Jan 9:1-4. doi: 10.1080/09513590.2018.1554038. [Epub ahead of print].
- Saki F, Kasaee SR, Sadeghian F, et al. Investigating the effect of testosterone by itself and in combination with letrozole on 1,25-dihydroxy vitamin D and FGF23 in male rats. J Endocrinol Invest. 2019 Jan;42(1):19-25. doi: 10.1007/s40618-018-0875-3. Epub 2018 Mar 20.
- Sepidarkish M, Farsi F, Akbari-Fakhrabadi M, et al. The effect of vitamin D supplementation on oxidative stress parameters: A systematic review and meta-analysis of clinical trials. Pharmacol Res. 2018 Nov 15;139:141-152. doi: 10.1016/j.phrs.2018.11.011. [Epub ahead of print] Review.
- Tabrizi R, Akbari M, Lankarani KB, et al. The effects of vitamin D supplementation on endothelial activation among patients with metabolic syndrome and related disorders: a systematic review and meta-analysis of randomized controlled trials. Nutr Metab (Lond). 2018 Nov 29;15:85. doi: 10.1186/s12986-018-0320-9. eCollection 2018. Review.
- Tang H, Li D, Li Y, et al. Effects of Vitamin D Supplementation on Glucose and Insulin Homeostasis and Incident Diabetes among Nondiabetic Adults: A Meta-Analysis of Randomized Controlled Trials. Int J Endocrinol. 2018 Dec 3;2018:7908764. doi: 10.1155/2018/7908764. eCollection 2018.
- Urrunaga-Pastor D, Guarnizo-Poma M, Macollunco-Flores P, et al. Association be-

tween vitamin D deficiency and insulin resistance markers in euthyroid non-diabetic individuals. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):258-263. doi: 10.1016/j.dsx.2018.09.008. Epub 2018 Sep 8.

- Verrusio W, Magro VM, Renzi A, et al. Thyroid hormones, metabolic syndrome and Vitamin D in middle-aged and older euthyroid subjects: a preliminary study. Aging Clin Exp Res. 2018 Nov 7. doi: 10.1007/s40520-018-1071-1. [Epub ahead of print].
- Wang CM, Chang CS, Chang YF, et al. Inverse Relationship between Metabolic Syndrome and 25-Hydroxyvitamin D Concentration in Elderly People without Vitamin D deficiency. Sci Rep. 2018 Nov 19;8(1):17052. doi: 10.1038/s41598-018-35229-2.
- Warakomski J, Romuk E, Jarząb B, et al. Concentrations of Selected Adipokines, Interleukin-6, and Vitamin D in Patients with Papillary Thyroid Carcinoma in Respect to Thyroid Cancer Stages. Int J Endocrinol. 2018 Dec 3;2018:4921803. doi: 10.1155/2018/4921803. eCollection 2018.
- Wieder-Huszla S, Jurczak A, Szkup M, et al. Relationships between Vitamin D3 and Metabolic Syndrome. Int J Environ Res Public Health. 2019 Jan 9;16(2). pii: E175. doi: 10.3390/ijerph16020175.
- Xu J, Zhu XY, Sun H, et al. Low vitamin D levels are associated with cognitive impairment in patients with Hashimoto thyroiditis. BMC Endocr Disord. 2018 Nov 26;18(1):87. doi: 10.1186/s12902-018-0314-7.
- Yuzbashian E, Asghari G, Hedayati M, et al. Determinants of vitamin D receptor gene expression in visceral and subcutaneous adipose tissue in non-obese, obese, and morbidly obese subjects. J Steroid Biochem Mol Biol. 2018 Nov 6. pii: S0960-0760(18)30480-1. doi: 10.1016/j.jsbmb.2018.11.004. [Epub ahead of print].
- Zhao J, Wang H, Zhang Z, et al. Vitamin D deficiency as a risk factor for thyroid cancer: A meta-analysis of case-control studies. Nutrition. 2019 Jan;57:5-11. doi: 10.1016/j.nut.2018.04.015. Epub 2018 Jun 2. Review.
- Zheng JS, Imamura F, Sharp SJ, et al. Association of plasma vitamin D metabolites with incident type 2 diabetes: EPIC-InterAct case-cohort study. J Clin Endocrinol Metab. 2018 Nov 9. doi: 10.1210/jc.2018-01522. [Epub ahead of print].
- Zubair M, Ahmad J. Meta-analysis for assessing the healing process of ulcers among diabetic patients: Cases of HbA1c, lipid, S. Creatinine, Adiponectin, Cat D, HSP70, HSP47, 25-hydroxy vitamin D. Diabetes Metab Syndr. 2019 Jan - Feb;13(1):810-814. doi: 10.1016/j.dsx.2018.12.004. Epub 2018 Dec 8.

EPIDEMIOLOGY

- Akinkugbe AA, Moreno O, Brickhouse TH. Serum cotinine, vitamin D exposure levels and dental caries experience in U.S. adolescents. Community Dent Oral Epidemiol. 2018 Dec 10. doi: 10.1111/cdoe.12442. [Epub ahead of print].
- Alkoot MJ, Boland F, Brugha R, et al. The prevalence and risk factors of vitamin D inadequacy among male athletes in Kuwait: A cross-sectional study. J Steroid Biochem Mol Biol. 2018 Nov 6. pii: S0960-0760(18)30495-3. doi: 10.1016/j.jsbmb.2018.11.003. [Epub ahead of print].
- Aloia J, Mikhail M, Fazzari M, et al. Physical Performance and Vitamin D in Elderly Black Women - The PODA Randomized Clinical Trial. J Clin Endocrinol Metab. 2018 Nov 28. doi: 10.1210/jc.2018-01418. [Epub ahead of print].
- Blue MN, Trexler ET, Hirsch KR, et al. A profile of body composition, omega-3 and vitamin D in National Football League players. J Sports Med Phys Fitness. 2019 Jan;59(1):87-93. doi: 10.23736/S0022-4707.18.08122-7. Epub 2018 Mar 1.
- Daugaard S, Garde AH, Hansen ÅM, et al. Indoor, outdoor, and night work and blood concentrations of vitamin D and parathyroid hormone. Scand J Work Environ Health. 2018 Nov 1;44(6):647-657. doi: 10.5271/sjweh.3745. Epub 2018 Jun 17.
- Etzel TM, Braun JM, Buckley JP. Associations of serum perfluoroalkyl substance and vitamin D biomarker concentrations in NHANES, 2003-2010. Int J Hyg Environ Health. 2018 Nov 28. pii: S1438-4639(18)30779-X. doi: 10.1016/j.ijheh.2018.11.003. [Epub ahead of print].
- Faid F, Nikolic M, Milesevic J, et al. Assessment of vitamin D intake among Libyan women - adaptation and validation of specific food frequency questionnaire. Libyan J Med. 2018 Dec;13(1):1502028. doi: 10.1080/19932820.2018.1502028.
- Guo J, Lovegrove JA, Givens DI. A Narrative Review of The Role of Foods as Dietary Sources of Vitamin D of Ethnic Minority Populations with Darker Skin: The Underestimated Challenge. Nutrients. 2019 Jan 3;11(1). pii: E81. doi: 10.3390/nu11010081. Review.
- Hansen L, Tjønneland A, Køster B, et al. Vitamin D Status and Seasonal Variation among Danish Children and Adults: A Descriptive Study. Nutrients. 2018 Nov 20;10(11). pii: E1801. doi: 10.3390/nu10111801.
- Hong N, Lee YK, Rhee Y. Familial clustering of vitamin D deficiency via shared environment: The Korean National Health and Nutrition Examination Survey 2008-2012. Eur J Clin Nutr. 2018 Dec;72(12):1700-1708. doi: 10.1038/s41430-018-0157-3. Epub 2018 Apr 18.
- Kaminskyi OV, Pankiv VI, Pankiv IV, et al. Vitamin D content in population of radiologically contaminated areas in chernivtsi oblast (pilot project). Probl Radiac Med Radiobiol. 2018 Dec;23:442-451. doi: 10.33145/2304-8336-2018-23-442-451. English, Ukrainian.
- Khan AH. Seven Decades of Vitamin D research in Pakistan: Too little, too much or just right! J Pak Med Assoc. 2018 Dec;68(12):1742-1743.
- Lips P, de Jongh RT. Vitamin D deficiency in immigrants. Bone Rep. 2018 Jun 11;9:37-41. doi: 10.1016/j.bonr.2018.06.001. eCollection 2018 Dec.
- Marwaha RK, Dabas A. Interventions for Prevention and Control of Epidemic of Vitamin D Deficiency. Indian J Pediatr. 2019 Jan 16. doi: 10.1007/s12098-019-02857-z. [Epub ahead of print].
- Mechenro J, Venugopal G, Buvnesh Kumar M, et al. Vitamin D status in Kancheepuram District, Tamil Nadu, India. BMC Pub-

lic Health. 2018 Dec 5;18(1):1345. doi: 10.1186/s12889-018-6244-5.

- Mousavi SE, Amini H, Heydarpour P, et al. Air pollution, environmental chemicals, and smoking may trigger vitamin D deficiency: Evidence and potential mechanisms. Environ Int. 2019 Jan;122:67-90. doi: 10.1016/j.envint.2018.11.052. Epub 2018 Nov 30. Review.
- Okan F, Okan S, Zincir H. Effect of Sunlight Exposure on Vitamin D Status of Individuals Living in a Nursing Home and Their Own Homes. J Clin Densitom. 2018 Dec 21. pii: S1094-6950(18)30247-6. doi: 10.1016/j.jocd.2018.12.005. [Epub ahead of print].
- Pan T, Banerjee R, Dasgupta A, et al. Vitamin D status among women aged 40 years and above in a rural area of West Bengal: A community-based study. J Family Med Prim Care. 2018 Nov-Dec;7(6):1263-1267. doi: 10.4103/jfmpc.jfmpc_130_18.
- Pilz S, Zitterman A, Trummer C, et al. Vitamin D testing and treatment: a narrative review of current evidence. Endocr Connect. 2019 Jan 1. pii: EC-18-0432.R2. doi: 10.1530/EC-18-0432. [Epub ahead of print] Review.
- Singh I, Lavania M, Pathak VK, et al. VDR polymorphism, gene expression and vitamin D levels in leprosy patients from North Indian population. PLoS Negl Trop Dis. 2018 Nov 27;12(11):e0006823. doi: 10.1371/journal.pntd.0006823. eCollection 2018 Nov.
- Srinonprasert V, Chalermsri C, Chailurkit LO, et al. Vitamin D insufficiency predicts mortality among older men, but not women: A nationwide retrospective cohort from Thailand. Geriatr Gerontol Int. 2018 Dec;18(12):1585-1590. doi: 10.1111/ggi.13529. Epub 2018 Oct 2.
- Suberviola B, Lavin BA, Jimenez AF, et al. Vitamin D binding protein, but not vitamin D or vitamin D-related peptides, is associated with septic shock mortality. Enferm Infecc Microbiol Clin. 2018 Nov 20. pii: S0213-005X(18)30224-6. doi: 10.1016/j.eimc.2018.06.011. [Epub ahead of print] English, Spanish.
- Ten Haaf DSM, Balvers MGJ, Timmers S, et al. Determinants of vitamin D status in physically active elderly in the Netherlands. Eur J Nutr. 2018 Dec 6. doi: 10.1007/s00394-018-1856-1. [Epub ahead of print].
- Veselka B, van der Merwe AE, Hoogland MLP, et al. Gender-related vitamin D deficiency in a Dutch 19th century farming community. Int J Paleopathol. 2018 Dec;23:69-75. doi: 10.1016/j.ijpp.2017.11.001. Epub 2017 Nov 10.
- Watts R, Valme SR. Osteological evidence for juvenile vitamin D deficiency in a 19th century suburban population from Surrey, England. Int J Paleopathol. 2018 Dec;23:60-68. doi: 10.1016/j.ijpp.2018.01.007. Epub 2018 Feb 9.
- Zhao X, Yuan Y, Lin Y, et al. Vitamin D status of tuberculosis patients with diabetes mellitus in different economic areas and associated factors in China. PLoS One. 2018 Nov 1;13(11):e0206372. doi: 10.1371/journal.pone.0206372. eCollection 2018.

GASTROENTEROLOGY

- Assaad S, Costanian C, Jaffal L, et al. Association of TLR4 Polymorphisms, Expression, and Vitamin D with Helicobacter pylori Infection. J Pers Med. 2019 Jan 11;9(1). pii: E2. doi: 10.3390/jpm9010002.
- Buonomo AR, Scotto R, Zappulo E, et al. Severe Vitamin D Deficiency Increases Mortality Among Patients With Liver Cirrhosis Regardless of the Presence of HCC. In Vivo. 2019 Jan-Feb;33(1):177-182. doi: 10.21873/invivo.11456.
- Burrelli Scotti G, Afferri MT, De Carolis A, et al. Factors affecting vitamin D deficiency in active inflammatory bowel diseases. Dig Liver Dis. 2018 Dec 7. pii: S1590-8658(18)31275-1. doi: 10.1016/j.dld.2018.11.036. [Epub ahead of print].
- Chetcuti Zammit S, Ellul P, Girardin G, et al. Vitamin D deficiency in a European inflammatory bowel disease inception cohort: an Epi-IBD study. Eur J Gastroenterol Hepatol. 2018 Nov;30(11):1297-1303. doi: 10.1097/MEG.0000000000001238.
- Chetcuti Zammit S, Schembri J, Pisani A, et al. Vitamin D and Ulcerative Colitis: Is There a Relationship with Disease Extent? Dig Dis. 2018 Nov 1:1-6. doi: 10.1159/000494439. [Epub ahead of print].
- Dai C, Jiang M, Sun MJ. Prediagnostic Serum Vitamin D Levels and the Risk of Crohn's Disease and Ulcerative Colitis. Inflamm Bowel Dis. 2019 Jan 10;25(2):e6. doi: 10.1093/ibd/izy183.
- Drabińska N, Krupa-Kozak U, Abramowicz P, et al. Beneficial Effect of Oligofructose-Enriched Inulin on Vitamin D and E Status in Children with Celiac Disease on a Long-Term Gluten-Free Diet: A Preliminary Randomized, Placebo-Controlled Nutritional Intervention Study. Nutrients. 2018 Nov 15;10(11). pii: E1768. doi: 10.3390/nu10111768.
- Ebadi M, Bhanji RA, Mazurak VC, et al. Severe vitamin D deficiency is a prognostic biomarker in autoimmune hepatitis. Aliment Pharmacol Ther. 2019 Jan;49(2):173-182. doi: 10.1111/apt.15029. Epub 2018 Nov 28.
- Ebadi M, Czaja AJ, Montano-Loza AJ. Editorial: the role of vitamin D in autoimmune hepatitis-authors' reply. Aliment Pharmacol Ther. 2019 Feb;49(3):343-344. doi: 10.1111/apt.15091.
- El Shahawy MS, Hemida MH, El Metwaly I, et al. The effect of vitamin D deficiency on eradication rates of Helicobacter pylori infection. JGH Open. 2018 Aug 2;2(6):270-275. doi: 10.1002/jgh3.12081. eCollection 2018 Dec.
- Goyal H, Perisetti A, Rahman MR, et al. Vitamin D and Gastrointestinal Cancers: A Narrative Review. Dig Dis Sci. 2018 Dec 3. doi: 10.1007/s10620-018-5400-1. [Epub ahead of print] Review.
- Huang J, Chen T, Liu Y, et al. How would serum 25(OH)D level change in patients with inflammatory bowel disease depending on intestinal mucosa vitamin D receptor (VDR) and vitamin D1-alpha hydroxylase (CYP27B1)? Turk J Gastroenterol. 2018 Nov 15. doi: 10.5152/tjg.2018.17828. [Epub ahead of print].
- Jun JC, Yoon H, Choi YJ, et al. The effect of vitamin D administration on inflammatory markers in patients with inflammatory bowel disease. Intest Res. 2018 Nov 27. doi: 10.5217/ir.2018.00081. [Epub ahead of print].
- Kubesch A, Quenstedt L, Saleh M, et al. Vitamin D deficiency is associated with hepatic decompensation and inflammation

in patients with liver cirrhosis: A prospective cohort study. PLoS One. 2018 Nov 8;13(11):e0207162. doi: 10.1371/journal.pone.0207162. eCollection 2018.

- Li J, Chen N, Wang D, et al. Efficacy of vitamin D in treatment of inflammatory bowel disease: A meta-analysis. Medicine (Baltimore). 2018 Nov;97(46):e12662. doi: 10.1097/MD.0000000000012662. Review.
- Li J, Frederick AM, Jin Y, et al. The Prevention of a High Dose of Vitamin D or Its Combination with Sulforaphane on Intestinal Inflammation and Tumorigenesis in Apc1638N Mice Fed a High-Fat Diet. Mol Nutr Food Res. 2018 Nov 17:e1800824. doi: 10.1002/mnfr.201800824. [Epub ahead of print].
- Luger M, Kruschitz R, Winzer E, et al. Changes in Bone Mineral Density Following Weight Loss Induced by One-Anastomosis Gastric Bypass in Patients with Vitamin D Supplementation. Obes Surg. 2018 Nov;28(11):3454-3465. doi: 10.1007/s11695-018-3353-2.
- Massironi S, Cavalcoli F, Zilli A, et al. Relevance of vitamin D deficiency in patients with chronic autoimmune atrophic gastritis: a prospective study. BMC Gastroenterol. 2018 Nov 8;18(1):172. doi: 10.1186/s12876-018-0901-0.
- Miraglia Del Giudice M, Indolfi C, et al. Vitamin D: Immunomodulatory Aspects. J Clin Gastroenterol. 2018 Nov/Dec;52 Suppl 1, Proceedings from the 9th Probiotics, Prebiotics and New Foods, Nutraceuticals and Botanicals for Nutrition & Human and Microbiota Health Meeting, held in Rome, Italy from September 10 to 12, 2017:S86-S88. doi: 10.1097/MCG.0000000000001112.
- Mônaco-Ferreira DV, Leandro-Merhi VA, Aranha NC, et al. Vitamin D deficiency and paratohommonium increase in late postoperative gastric bypass in roux-en-y. Arq Bras Cir Dig. 2018 Dec 6;31(4):e1407. doi: 10.1590/0102-672020180001e1407. English, Portuguese.
- Nasiroglu Imga N, Efe C. Editorial: the role of vitamin D in autoimmune hepatitis. Aliment Pharmacol Ther. 2019 Feb;49(3):342-343. doi: 10.1111/apt.15075.
- O'Sullivan F, Raftery T, van Weele M, et al. Sunshine is an important determinant of vitamin D status even among high-dose supplement users: secondary analysis of a randomised controlled trial in Crohn's disease patients. Photochem Photobiol. 2019 Jan 16. doi: 10.1111/php.13086. [Epub ahead of print].
- Sun J. Dietary vitamin D, vitamin D receptor, and microbiome. Curr Opin Clin Nutr Metab Care. 2018 Nov;21(6):471-474. doi: 10.1097/MCO.0000000000000516.
- Trovato FM, Castrogiovanni P, Szychlinska MA, et al. Early effects of high-fat diet, extra-virgin olive oil and vitamin D in a sedentary rat model of non-alcoholic fatty liver disease. Histol Histopathol. 2018 Nov;33(11):1201-1213. doi: 10.14670/HH-18-008. Epub 2018 Jun 1.
- Udomsinprasert W, Jittikoon J. Vitamin D and liver fibrosis: Molecular mechanisms and clinical studies. Biomed Pharmacother. 2019 Jan;109:1351-1360. doi: 10.1016/j.biopha.2018.10.140. Epub 2018 Nov 10. Review.
- Xie CN, Yue M, Huang P, et al. Vitamin D binding protein polymorphisms influence susceptibility to hepatitis C virus infection in a high-risk Chinese population. Gene. 2018 Dec 30;679:405-411. doi: 10.1016/j.gene.2018.09.021. Epub 2018 Sep 12.
- Zhang H, Xue L, Li B, et al. Vitamin D Protects Against Alcohol-Induced Liver Cell Injury Within an NRF2-ALDH2 Feedback Loop. Mol Nutr Food Res. 2019 Jan 15:e1801014. doi: 10.1002/mnfr.201801014. [Epub ahead of print].
- Zhao G, Elhafiz M, Jiang J, et al. Adaptive homeostasis of the vitamin D-vitamin D nuclear receptor axis in 8-methoxypsoralen-induced hepatotoxicity. Toxicol Appl Pharmacol. 2019 Jan 1;362:150-158. doi: 10.1016/j.taap.2018.11.002. Epub 2018 Nov 10.

HEMATOLOGY

- Adegoke SA, Smith OS, Adeniyi AT, et al. Thrombospondin-1 and Vitamin D in Children With Sickle Cell Anemia. J Pediatr Hematol Oncol. 2018 Dec 4. doi: 10.1097/MPH.0000000000001368. [Epub ahead of print].
- Allegra S, Cusato J, De Francia S, et al. The effect of vitamin D pathway genes and deferasirox pharmacogenetics on liver iron in thalassaemia major patients. Pharmacogenomics J. 2019 Jan 17. doi: 10.1038/s41397-019-0071-7. [Epub ahead of print].
- Busch L, Mougiakakos D, Büttner-Herold M, et al. Lenalidomide enhances MOR202-dependent macrophage-mediated effector functions via the vitamin D pathway. Leukemia. 2018 Nov;32(11):2445-2458. doi: 10.1038/s41375-018-0114-0. Epub 2018 Mar 28.
- Grégoire-Pelchat P, Alos N, Ribault V, et al. Vitamin D Intake and Status of Children With Sickle Cell Disease in Montreal, Canada. J Pediatr Hematol Oncol. 2018 Nov;40(8):e531-e536. doi: 10.1097/MPH.0000000000001306.
- Kamel AM, El-Fishawi S, Rasekh EO, et al. Variability of contribution of vitamin D receptor gene polymorphisms to outcome of HLA-matched sibling allogeneic bone marrow transplantation. Leuk Lymphoma. 2018 Dec;59(12):2963-2972. doi: 10.1080/10428194.2018.1459608. Epub 2018 Jul 4.
- Nachliely M, Trachtenberg A, Khalfin B, et al. Dimethyl fumarate and vitamin D derivatives cooperatively enhance VDR and Nrf2 signaling in differentiating AML cells in vitro and inhibit leukemia progression in a xenograft mouse model. J Steroid Biochem Mol Biol. 2018 Nov 30. pii: S0960-0760(18)30602-2. doi: 10.1016/j.jsbmb.2018.11.017. [Epub ahead of print].
- Ros-Soto J, Anthias C, Madrigal A, et al. Vitamin D: is it important in haematopoietic stem cell transplantation? A review. Bone Marrow Transplant. 2018 Nov 6. doi: 10.1038/s41409-018-0377-0. [Epub ahead of print] Review.
- Wang X, Nachliely M, Harrison JS, et al. Participation of vitamin D-upregulated protein 1 (TXNIP)-ASK1-JNK1 signalosome in the enhancement of AML cell death by a post-cytotoxic differentiation regimen. J Steroid Biochem Mol Biol. 2018 Nov 30. pii: S0960-0760(18)30418-7. doi: 10.1016/j.jsbmb.2018.11.015. [Epub ahead of print].
- Young J, Welin E, Braeutigam C, et al. Im-

pact of a Vitamin D Replacement Algorithm in Children and Young Adults With Acute Lymphoblastic Leukemia. J Pediatr Hematol Oncol. 2018 Nov;40(8):594-597. doi: 10.1097/MPH.0000000000001204.

IMMUNOLOGY

- Annalora AJ, Jozic M, Marcus CB, et al. Alternative splicing of the vitamin D receptor modulates target gene expression and promotes ligand-independent functions. Toxicol Appl Pharmacol. 2019 Feb 1;364:55-67. doi: 10.1016/j.taap.2018.12.009. Epub 2018 Dec 12.
- Arboleda JF, Fernandez GJ, Urcuqui-Inchima S. Vitamin D-mediated attenuation of miR-155 in human macrophages infected with dengue virus: Implications for the cytokine response. Infect Genet Evol. 2019 Jan 9;69:12-21. doi: 10.1016/j.meegid.2018.12.033. [Epub ahead of print].
- Chen YH, Wang WM, Kao TW, et al. Inverse relationship between serum vitamin D level and measles antibody titer: A cross-sectional analysis of NHANES, 2001-2004. PLoS One. 2018 Nov 30;13(11):e0207798. doi: 10.1371/journal.pone.0207798. eCollection 2018.
- Chokuda E, Reynolds C, Das S. Association of Low Vitamin D Status with Complications of HIV and AIDS: A Literature Review. Infect Disord Drug Targets. 2018 Dec 21. doi: 10.2174/1871526519666181221122731. [Epub ahead of print].
- Das LM, Binko AM, Traylor ZP, et al. Vitamin D improves sunburns by increasing autophagy in M2 macrophages. Autophagy. 2019 Jan 21. doi: 10.1080/15548627.2019.1569298. [Epub ahead of print].
- Huang Y, Wang L, Jia XX, et al. Vitamin D alleviates airway remodeling in asthma by down-regulating the activity of Wnt/β-catenin signaling pathway. Int Immunopharmacol. 2019 Jan 4;68:88-94. doi: 10.1016/j.intimp.2018.12.061. [Epub ahead of print].
- Liu L, Li J, Deng C, Chen D. [Advances in the mechanism of vitamin D affecting autophagy]. Zhonghua Wei Zhong Bing Ji Jiu Yi Xue. 2018 Nov;30(11):1103-1106. doi: 10.3760/cma.j.issn.2095-4352.2018.011.019. Chinese.
- Neme A, Seuter S, Malinen M, et al. In vivo transcriptome changes of human white blood cells in response to vitamin D. J Steroid Biochem Mol Biol. 2018 Dec 8. pii: S0960-0760(18)30624-1. doi: 10.1016/j.jsbmb.2018.11.019. [Epub ahead of print].
- Nurminen V, Neme A, Seuter S, et al. Modulation of vitamin D signaling by the pioneer factor CEBPA. Biochim Biophys Acta Gene Regul Mech. 2019 Jan;1862(1):96-106. doi: 10.1016/j.bbagrm.2018.12.004. Epub 2018 Dec 11.
- Ricca C, Aillon A, Viano M, et al. Vitamin D inhibits the epithelial-mesenchymal transition by a negative feedback regulation of TGF-β activity. J Steroid Biochem Mol Biol. 2018 Nov 19. pii: S0960-0760(18)30690-3. doi: 10.1016/j.jsbmb.2018.11.006. [Epub ahead of print].
- Sassi F, Tamone C, D'Amelio P. Vitamin D: Nutrient, Hormone, and Immunomodulator. Nutrients. 2018 Nov 3;10(11). pii: E1656. doi: 10.3390/nu10111656. Review.
- Teymoori-Rad M, Mozhgani SH, Zarei-Ghobadi M, et al. Integrational analysis of miRNAs data sets as a plausible missing linker between Epstein-Barr virus and vitamin D in relapsing remitting MS patients. Gene. 2018 Dec 12;689:1-10. doi: 10.1016/j.gene.2018.12.004. [Epub ahead of print].
- Teymoori-Rad M, Shokri F, Salimi V, et al. The interplay between vitamin D and viral infections. Rev Med Virol. 2019 Jan 6:e2032. doi: 10.1002/rmv.2032. [Epub ahead of print] Review.
- van Splunter M, Perdijk O, Fick-Brinkhof H, et al. Bovine Lactoferrin Enhances TLR7-Mediated Responses in Plasmacytoid Dendritic Cells in Elderly Women: Results From a Nutritional Intervention Study With Bovine Lactoferrin, GOS and Vitamin D. Front Immunol. 2018 Nov 20;9:2677. doi: 10.3389/fimmu.2018.02677. eCollection 2018.
- Vanherwegen AS, Cook DP, Ferreira GB, et al. Vitamin D-modulated dendritic cells delay lethal graft-versus-host disease through induction of regulatory T cells. J Steroid Biochem Mol Biol. 2018 Dec 31. pii: S0960-0760(18)30607-1. doi: 10.1016/j.jsbmb.2018.12.013. [Epub ahead of print].
- Vanherwegen AS, Eelen G, Ferreira GB, et al. Vitamin D controls the capacity of human dendritic cells to induce functional regulatory T cells by regulation of glucose metabolism. J Steroid Biochem Mol Biol. 2018 Nov 24. pii: S0960-0760(18)30606-X. doi: 10.1016/j.jsbmb.2018.11.011. [Epub ahead of print].

LABORATORY

- Batista MC, Menegat FD, Ferreira CES, et al. Analytical and clinical validation of the new Roche Elecsys Vitamin D Total II assay. Clin Chem Lab Med. 2018 Nov 27;56(12):e298-e301. doi: 10.1515/cclm-2018-0406.
- Hamada N, Guo Y, Ji F, et al. Determination of vitamin D in oily drops using a column-switching system with an on-line clean-up by supercritical fluid chromatography. Talanta. 2018 Dec 1;190:9-14. doi: 10.1016/j.talanta.2018.07.063. Epub 2018 Jul 20.
- Mehramiz M, Khayyatzadeh SS, Esmaily H, et al. Associations of vitamin D binding protein variants with the vitamin D-induced increase in serum 25-hydroxyvitamin D. Clin Nutr ESPEN. 2019 Feb;29:59-64. doi: 10.1016/j.clnesp.2018.12.005. Epub 2018 Dec 28.
- Rabelo RS, Oliveira IF, da Silva VM, et al. Chitosan coated nanostructured lipid carriers (NLCs) for loading Vitamin D: A physical stability study. Int J Biol Macromol. 2018 Nov;119:902-912. doi: 10.1016/j.ijbiomac.2018.07.174. Epub 2018 Jul 29.
- Rola R, Kowalski K, Bieńkowski T, et al. Development of a method for multiple vitamin D metabolite measurements by liquid chromatography coupled with tandem mass spectrometry in dried blood spots. Analyst. 2018 Dec 17;144(1):299-309. doi: 10.1039/c8an01422a.
- Zhou JC, Zhu Y, Gong C, et al. The GC2 haplotype of the vitamin D binding protein is a risk factor for a low plasma 25-hydroxyvitamin D concentration in a Han Chinese population. Nutr Metab (Lond). 2019 Jan 14;16:5. doi: 10.1186/s12986-019-0332-0. eCollection 2019.

MISCELLANEOUS

- Akcan FA, Dündar Y, Akcan HB, et al. Eval-

uation of nasal mucociliary clearance time in patients with Vitamin-D deficiency. Eur Arch Otorhinolaryngol. 2019 Jan 14. doi: 10.1007/s00405-019-05286-y. [Epub ahead of print].

- Almajwal AM, Abulmeaty MMA, Feng H, et al. Stabilization of Vitamin D in Pea Protein Isolate Nanoemulsions Increases Its Bioefficacy in Rats. Nutrients. 2019 Jan 2;11(1). pii: E75. doi: 10.3390/nu11010075.
- Amrein K, Oudemans-van Straaten HM, Berger MM. Vitamin therapy in critically ill patients: focus on thiamine, vitamin C, and vitamin D. Intensive Care Med. 2018 Nov;44(11):1940-1944. doi: 10.1007/s00134-018-5107-y. Epub 2018 Mar 8.
- Ashenafi S, Amogne W, Kassa E, et al. Daily Nutritional Supplementation with Vitamin D_3 and Phenylbutyrate to Treatment-Naïve HIV Patients Tested in a Randomized Placebo-Controlled Trial. Nutrients. 2019 Jan 10;11(1). pii: E133. doi: 10.3390/nu11010133.
- Belsky JB, Wira CR, Jacob V, et al. A review of micronutrients in sepsis: the role of thiamine, l-carnitine, vitamin C, selenium and vitamin D. Nutr Res Rev. 2018 Dec;31(2):281-290. doi: 10.1017/S0954422418000124. Epub 2018 Jul 9.
- Cashman KD, Kiely M. Contribution of nutrition science to the vitamin D field-Clarity or confusion? J Steroid Biochem Mol Biol. 2018 Nov 2. pii: S0960-0760(18)30566-1. doi: 10.1016/j.jsbmb.2018.10.020. [Epub ahead of print] Review.
- Dai Q, Zhu X, Manson JE, et al. Magnesium status and supplementation influence vitamin D status and metabolism: results from a randomized trial. Am J Clin Nutr. 2018 Dec 1;108(6):1249-1258. doi: 10.1093/ajcn/nqy274.
- Dikci S, Öztürk E, Fırat PG, et al. The Association of Serum Vitamin D Levels with Pseudoexfoliation Glaucoma/Syndrome. Endocr Metab Immune Disord Drug Targets. 2018 Nov 27. doi: 10.2174/1871530319666181128105911. [Epub ahead of print].
- Giustina A, Adler RA, Binkley N, et al. Controversies in Vitamin D: Summary Statement From an International Conference. J Clin Endocrinol Metab. 2019 Feb 1;104(2):234-240. doi: 10.1210/jc.2018-01414.
- Göring H. Vitamin D in Nature: A Product of Synthesis and/or Degradation of Cell Membrane Components. Biochemistry (Mosc). 2018 Nov;83(11):1350-1357. doi: 10.1134/S0006297918110056. Review.
- Gupta R, Behera C, Paudwal G, et al. Recent Advances in Formulation Strategies for Efficient Delivery of Vitamin D. AAPS PharmSciTech. 2018 Dec 17;20(1):11. doi: 10.1208/s12249-018-1231-9.
- Hannemann A, Wallaschofski H, Nauck M, et al. Vitamin D and health care costs: Results from two independent population-based cohort studies. Clin Nutr. 2018 Dec;37(6 Pt A):2149-2155. doi: 10.1016/j.clnu.2017.10.014. Epub 2017 Oct 31.
- Hwang JS, Lee YP, Shin YJ. Vitamin D Enhances the Efficacy of Topical Artificial Tears in Patients With Dry Eye Disease. Cornea. 2018 Dec 7. doi: 10.1097/ICO.0000000000001822. [Epub ahead of print].
- Ives R. Rare paleopathological insights into vitamin D deficiency rickets, co-occurring illnesses, and documented cause of death in mid-19th century London, UK. Int J Paleopathol. 2018 Dec;23:76-87. doi: 10.1016/j.ijpp.2017.11.004. Epub 2017 Dec 6.
- Jablonski NG, Chaplin G. The roles of vitamin D and cutaneous vitamin D production in human evolution and health. Int J Paleopathol. 2018 Dec;23:54-59. doi: 10.1016/j.ijpp.2018.01.005. Epub 2018 Mar 29. Review.
- Jones G. The discovery and synthesis of the nutritional factor vitamin D. Int J Paleopathol. 2018 Dec;23:96-99. doi: 10.1016/j.ijpp.2018.01.002. Epub 2018 Jan 17. Review.
- Kamr AM, Dembek KA, Hildreth BE 3rd, et al. The FGF-23/klotho axis and its relationship with phosphorus, calcium, vitamin D, PTH, aldosterone, severity of disease, and outcome in hospitalised foals. Equine Vet J. 2018 Nov;50(6):739-746. doi: 10.1111/evj.12946. Epub 2018 May 11.
- Khayyatzadeh SS, Mehramiz M, Esmaeily H, et al. A variant in CYP2R1 predicts circulating vitamin D levels after supplementation with high-dose of vitamin D in healthy adolescent girls. J Cell Physiol. 2019 Jan 9. doi: 10.1002/jcp.28083. [Epub ahead of print].
- Kittaka A. Creation of Potent Vitamin D Receptor Agonists and Antagonists with 2α-(ω-Hydroxyalkylation) Concept to the seco-Steroid Skeleton. Chimia (Aarau). 2018 Dec 19;72(12):859-865. doi: 10.2533/chimia.2018.859.
- Lei XJ, Xu YL, Yang YQ, et al. Vitamin D receptor regulates high-level glucose induced retinal ganglion cell damage through STAT3 pathway. Eur Rev Med Pharmacol Sci. 2018 Nov;22(21):7509-7516. doi: 10.26355/eurrev_201811_16292.
- Liu S, Liu Q. Personalized magnesium intervention to improve vitamin D metabolism: applying a systems approach for precision nutrition in large randomized trials of diverse populations. Am J Clin Nutr. 2018 Dec 1;108(6):1159-1161. doi: 10.1093/ajcn/nqy294.
- Máčová L, Bičíková M, Hampl R. Impaired vitamin D sensitivity. Physiol Res. 2018 Nov 28;67(Supplementum 3):S391-S400. Review.
- Malihi Z, Wu Z, Lawes CMM, et al. Adverse events from large dose vitamin D supplementation taken for one year or longer. J Steroid Biochem Mol Biol. 2018 Dec 6. pii: S0960-0760(18)30469-2. doi: 10.1016/j.jsbmb.2018.12.002. [Epub ahead of print] Review.
- Manson JE, Cook NR, Lee IM, et al. Vitamin D Supplements and Prevention of Cancer and Cardiovascular Disease. N Engl J Med. 2019 Jan 3;380(1):33-44. doi: 10.1056/NEJMoa1809944. Epub 2018 Nov 10.
- Masters N. Overenthusiastic prescribing of vitamin D, the sunlight vitamin. Br J Gen Pract. 2018 Dec;68(677):567. doi: 10.3399/bjgp18X699941.
- Matsushima Y, Mizutani K, Yamaguchi Y, et al. Vitamin D is no substitute for the sun. J Allergy Clin Immunol. 2019 Jan 17. pii: S0091-6749(19)30028-4. doi: 10.1016/j.jaci.2019.01.004. [Epub ahead of print]
- Mayor S. Vitamin D does not reduce cancer

or cardiovascular events in healthy adults, trial finds. BMJ. 2018 Nov 12;363:k4776. doi: 10.1136/bmj.k4776.

- Mazokopakis EE, Papadomanolaki MG. Investigating the Influence of Vitamin D Replacement Therapy on Magnesium Status. J Am Osteopath Assoc. 2018 Dec 1;118(12):772-773. doi: 10.7556/jaoa.2018.167.
- Mielgo-Ayuso J, Calleja-González J, Urdampilleta A, et al. Effects of Vitamin D Supplementation on Haematological Values and Muscle Recovery in Elite Male Traditional Rowers. Nutrients. 2018 Dec 12;10(12). pii: E1968. doi: 10.3390/nu10121968.
- Misawa T, Tsuji G, Takahashi T, et al. Structural development of non-secosteroidal vitamin D receptor (VDR) ligands without any asymmetric carbon. Bioorg Med Chem. 2018 Dec 15;26(23-24):6146-6152. doi: 10.1016/j.bmc.2018.11.008. Epub 2018 Nov 9.
- Nair P, Venkatesh B, Hoechter DJ, et al. Vitamin D status and supplementation in adult patients receiving extracorporeal membrane oxygenation. Anaesth Intensive Care. 2018 Nov;46(6):589-595.
- Olds J, Oltman W, Makowski AJ, et al. SEASONAL VARIATION OF SERUM 25-HYDROXY-VITAMIN D IN TWO CAPTIVE EASTERN BLACK RHINOCEROS (DICEROS BICORNIS MICHAELI) HOUSED IN A NORTH AMERICAN ZOO. J Zoo Wildl Med. 2018 Dec;49(4):943-951. doi: 10.1638/2017-00090.1.
- Öztekin A, Öztekin C. Vitamin D levels in patients with recurrent aphthous stomatitis. BMC Oral Health. 2018 Nov 9;18(1):186. doi: 10.1186/s12903-018-0653-9.
- Petrilli CM, Henderson J, Keedy JM, et al. Reducing Unnecessary Vitamin D Screening in an Academic Health System: What Works and When. Am J Med. 2018 Dec;131(12):1444-1448. doi: 10.1016/j.amjmed.2018.06.025. Epub 2018 Jul 29.
- Pritchard L, Lewis S, Hickson M. Comparative effectiveness of vitamin D supplementation via buccal spray versus oral supplements on serum 25-hydroxyvitamin D concentrations in humans: a systematic review protocol. JBI Database System Rev Implement Rep. 2018 Dec 3. doi: 10.11124/JBISRIR-2017-003907. [Epub ahead of print].
- Rafii DC, Ali F, Farag A, et al. A prospective study of commonly utilized regimens of vitamin D replacement and maintenance therapy in adults. Endocr Pract. 2018 Nov 1. doi: 10.4158/EP-2018-0219. [Epub ahead of print].
- Reddy P, Edwards LR. Magnesium Supplementation in Vitamin D Deficiency. Am J Ther. 2019 Jan/Feb;26(1):e124-e132. doi: 10.1097/MJT.0000000000000538.
- Risco D, Gonçalves P, Bravo M, et al. Seasonal and dietary effects on Vitamin D deficiencies detected in wild boar from mid-western Spain. J Anim Physiol Anim Nutr (Berl). 2019 Jan 19. doi: 10.1111/jpn.13058. [Epub ahead of print].
- Rohmer J, Hadjadj J, Bouzerara A, et al. Serum 1,25(OH)2 Vitamin D and 25(OH) Vitamin D Ratio for the Diagnosis of Sarcoidosis-Related Uveitis. Ocul Immunol Inflamm. 2018 Nov 5:1-7. doi: 10.1080/09273948.2018.1537399. [Epub ahead of print].
- Romney ALT, Davis EM, Corona MM, et al. Temperature-dependent vitamin D signaling regulates developmental trajectory associated with diapause in an annual killifish. Proc Natl Acad Sci U S A. 2018 Dec 11;115(50):12763-12768. doi: 10.1073/pnas.1804590115. Epub 2018 Nov 16.
- Stabel JR, Reinhardt TA, Hempel RJ. Short communication: Vitamin D status and responses in dairy cows naturally infected with Mycobacterium avium ssp. paratuberculosis. J Dairy Sci. 2018 Dec 26. pii: S0022-0302(18)31129-9. doi: 10.3168/jds.2018-15241. [Epub ahead of print].
- Talebi H, Moallemi M, Ghorbani M. Evaluation of Saccule Function in Patients with Vitamin D Deficiency. J Audiol Otol. 2019 Jan;23(1):49-52. doi: 10.7874/jao.2018.00304. Epub 2018 Dec 7.
- Tang SM, Lau T, Rong SS, et al. Vitamin D and its pathway genes in myopia: systematic review and meta-analysis. Br J Ophthalmol. 2019 Jan;103(1):8-17. doi: 10.1136/bjophthalmol-2018-312159. Epub 2018 Jul 17.
- Uhl EW. The pathology of vitamin D deficiency in domesticated animals: An evolutionary and comparative overview. Int J Paleopathol. 2018 Dec;23:100-109. doi: 10.1016/j.ijpp.2018.03.001. Epub 2018 Mar 13. Review.
- Veleva BI, Caljouw MAA, van der Steen JT, et al. Vitamin D Supplementation in Older Persons: Guidelines Versus Practice. J Am Med Dir Assoc. 2018 Dec 19. pii: S1525-8610(18)30633-9. doi: 10.1016/j.jamda.2018.11.001. [Epub ahead of print]
- Yeşiltepe Mutlu G, Hatun Ş. Use of Vitamin D in Children and Adults: Frequently Asked Questions. J Clin Res Pediatr Endocrinol. 2018 Nov 29;10(4):301-306. doi: 10.4274/jcrpe.0012. Epub 2018 Apr 27.
- Zendehdel A, Arefi M. Molecular evidence of role of vitamin D deficiency in various extraskeletal diseases. J Cell Biochem. 2019 Jan 4. doi: 10.1002/jcb.28185. [Epub ahead of print].
- Ziegler TE, Kapoor A, Binkley NC, et al. Comparison of vitamin D metabolites in wild and captive baboons. Am J Primatol. 2018 Dec;80(12):e22935. doi: 10.1002/ajp.22935.
- Zmijewski MA. Vitamin D and Human Health. Int J Mol Sci. 2019 Jan 3;20(1). pii: E145. doi: 10.3390/ijms20010145.

NEUROLOGY

- Abdelsadek SE, El Saghier EO, Abdel Raheem SI. Serum 25(OH) vitamin D level and its relation to diabetic peripheral neuropathy in Egyptian patients with type 2 diabetes mellitus. Egypt J Neurol Psychiatr Neurosurg. 2018;54(1):36. doi: 10.1186/s41983-018-0036-9. Epub 2018 Nov 20.
- Akaltun İ. Trichotillomania Triggered by Vitamin D Deficiency and Resolving Dramatically With Vitamin D Therapy. Clin Neuropharmacol. 2019 Jan/Feb;42(1):20-21. doi: 10.1097/WNF.0000000000000317.
- AlJohri R, AlOkail M, Haq SH. Neuroprotective role of vitamin D in primary neuronal cortical culture. eNeurologicalSci. 2018 Dec 17;14:43-48. doi: 10.1016/j.ensci.2018.12.004. eCollection 2019 Mar.
- Ates Bulut E, Soysal P, Yavuz I, et al. Effect of Vitamin D on Cognitive Functions

in Older Adults: 24-Week Follow-Up Study. Am J Alzheimers Dis Other Demen. 2019 Jan 1:1533317518822274. doi: 10.1177/1533317518822274. [Epub ahead of print].

- Attilakos A, Tsirouda M, Dinopoulos A, et al. Corrigendum to "Vitamin D status in children with epilepsy treated with levetiracetam monotherapy", [Epilepsy Res. 148 (2018) 116]. Epilepsy Res. 2019 Jan;149:123. doi: 10.1016/j.eplepsyres.2018.11.005. Epub 2018 Nov 22.
- Attilakos A, Tsirouda M, Dinopoulos A, et al. Vitamin D status in children with epilepsy treated with levetiracetam monotherapy. Epilepsy Res. 2018 Dec;148:116. doi: 10.1016/j.eplepsyres.2018.09.003. Erratum in: Epilepsy Res. 2019 Jan;149:123.
- Bojović K, Stanković B, Kotur N, et al. Genetic predictors of celiac disease, lactose intolerance, and vitamin D function and presence of peptide morphins in urine of children with neurodevelopmental disorders. Nutr Neurosci. 2019 Jan;22(1):40-50. doi: 10.1080/1028415X.2017.1352121. Epub 2017 Jul 24.
- Chen H, Liu Y, Huang G, et al. Association between vitamin D status and cognitive impairment in acute ischemic stroke patients: a prospective cohort study. Clin Interv Aging. 2018 Dec 10;13:2503-2509. doi: 10.2147/CIA.S187142. eCollection 2018.
- Dursun E, Gezen-Ak D. Vitamin D basis of Alzheimer's disease: from genetics to biomarkers. Hormones (Athens). 2018 Nov 27. doi: 10.1007/s42000-018-0086-5. [Epub ahead of print] Review.
- Evans MA, Kim HA, De Silva TM, et al. Diet-induced vitamin D deficiency has no effect on acute post-stroke outcomes in young male mice. J Cereb Blood Flow Metab. 2018 Nov;38(11):1968-1978. doi: 10.1177/0271678X17719208. Epub 2017 Aug 23.
- Feng C, Tang N, Huang H, et al. 25-Hydroxy vitamin D level is associated with total MRI burden of cerebral small vessel disease in ischemic stroke patients. Int J Neurosci. 2018 Nov 22:1-6. doi: 10.1080/00207454.2018.1503182. [Epub ahead of print].
- Gezen-Ak D, Dursun E. Molecular basis of vitamin D action in neurodegeneration: the story of a team perspective. Hormones (Athens). 2018 Nov 27. doi: 10.1007/s42000-018-0087-4. [Epub ahead of print] Review.
- Gu Y, Zhu Z, Luan X, et al. Vitamin D status and its association with season, depression in stroke. Neurosci Lett. 2019 Jan 18;690:99-105. doi: 10.1016/j.neulet.2018.09.046. Epub 2018 Sep 24.
- Hajiluian G, Abbasalizad Farhangi M, Nameni G, et al. Oxidative stress-induced cognitive impairment in obesity can be reversed by vitamin D administration in rats. Nutr Neurosci. 2018 Dec;21(10):744-752. doi: 10.1080/1028415X.2017.1348436. Epub 2017 Jul 6.
- Häusler D, Weber MS. Vitamin D Supplementation in Central Nervous System Demyelinating Disease-Enough Is Enough. Int J Mol Sci. 2019 Jan 8;20(1). pii: E218. doi: 10.3390/ijms20010218. Review.
- Hu P, Li S, Tian N, et al. Acidosis enhances the self-renewal and mitochondrial respiration of stem cell-like glioma cells through CYP24A1-mediated reduction of vitamin D. Cell Death Dis. 2019 Jan 10;10(1):25. doi: 10.1038/s41419-018-1242-1.
- Jorde R, Kubiak J, Svartberg J, et al. Vitamin D supplementation has no effect on cognitive performance after four months in mid-aged and older subjects. J Neurol Sci. 2019 Jan 15;396:165-171. doi: 10.1016/j.jns.2018.11.020. Epub 2018 Nov 17.
- Kaur J, Ferguson SL, Freitas E, et al. Association of Vitamin D Status with Chronic Disease Risk Factors and Cognitive Dysfunction in 50-70 Year Old Adults. Nutrients. 2019 Jan 11;11(1). pii: E141. doi: 10.3390/nu11010141.
- Langer-Gould A, Lucas RM. Vitamin D deficiency is an etiological factor for MS - No. Mult Scler. 2018 Nov 30:1352458518808469. doi: 10.1177/1352458518808469. [Epub ahead of print]
- Larsson S, Voss U. Neuroprotective effects of vitamin D on high fat diet- and palmitic acid-induced enteric neuronal loss in mice. BMC Gastroenterol. 2018 Nov 21;18(1):175. doi: 10.1186/s12876-018-0905-9.
- Luo X, Ou R, Dutta R, et al. Association Between Serum Vitamin D Levels and Parkinson's Disease: A Systematic Review and Meta-Analysis. Front Neurol. 2018 Nov 12;9:909. doi: 10.3389/fneur.2018.00909. eCollection 2018.
- Manousaki D, Dudding T, Haworth S, et al. Low-Frequency Synonymous Coding Variation in CYP2R1 Has Large Effects on Vitamin D Levels and Risk of Multiple Sclerosis. Am J Hum Genet. 2018 Dec 6;103(6):1053. doi: 10.1016/j.ajhg.2018.11.010.
- Manousaki D, Richards JB. Vitamin D deficiency is an etiological factor for MS - Yes. Mult Scler. 2018 Nov 30:1352458518809301. doi: 10.1177/1352458518809301. [Epub ahead of print]
- Mowry EM, Azevedo CJ, McCulloch CE, et al. Body mass index, but not vitamin D status, is associated with brain volume change in MS. Neurology. 2018 Dec 11;91(24):e2256-e2264. doi: 10.1212/WNL.0000000000006644. Epub 2018 Nov 14.
- Oliveira ACR, Magalhães CA, Loures CMG, et al. BsmI polymorphism in the vitamin D receptor gene is associated with 25-hydroxy vitamin D levels in individuals with cognitive decline. Arq Neuropsiquiatr. 2018 Nov;76(11):760-766. doi: 10.1590/0004-282X20180116.
- Petschner P, Balogh N, Adori C, et al. Downregulation of the Vitamin D Receptor Regulated Gene Set in the Hippocampus After MDMA Treatment. Front Pharmacol. 2018 Dec 3;9:1373. doi: 10.3389/fphar.2018.01373. eCollection 2018.
- Ravindra VM, Guan J, Holland CM, et al. Vitamin D status in cervical spondylotic myelopathy: comparison of fusion rates and patient outcome measures. J Neurosurg Sci. 2019 Feb;63(1):36-41. doi: 10.23736/S0390-5616.16.03846-7. Epub 2016 Sep 2.
- Şahin S, Gürgen SG, Yazar U, et al. Vitamin D protects against hippocampal apoptosis related with seizures induced by kainic acid and pentylenetetrazol in rats. Epilepsy Res. 2019 Jan;149:107-116. doi: 10.1016/j.eplepsyres.2018.12.005. Epub 2018 Dec 15.
- Sayeed I, Turan N, Stein DG, et al. Vitamin D deficiency increases blood-brain barrier

dysfunction after ischemic stroke in male rats. Exp Neurol. 2019 Feb;312:63-71. doi: 10.1016/j.expneurol.2018.11.005. Epub 2018 Nov 28.

- Schnell DM, Walton RG, Vekaria HJ, et al. Vitamin D produces a perilipin 2-dependent increase in mitochondrial function in C2C12 myotubes. J Nutr Biochem. 2018 Nov 22;65:83-92. doi: 10.1016/j.jnutbio.2018.11.002. [Epub ahead of print].
- Simpson S Jr, van der Mei I. Vitamin D deficiency is an etiological factor for MS - Commentary. Mult Scler. 2018 Nov 30:1352458518815605. doi: 10.1177/1352458518815605. [Epub ahead of print]
- Wali SO, Abaalkhail B, Alhejaili F, et al. Efficacy of vitamin D replacement therapy in restless legs syndrome: a randomized control trial. Sleep Breath. 2018 Nov 14. doi: 10.1007/s11325-018-1751-2. [Epub ahead of print].
- Walia P, Goldstein RL, Teylan M, et al. Associations between vitamin D, adiposity, and respiratory symptoms in chronic spinal cord injury. J Spinal Cord Med. 2018 Nov;41(6):667-675. doi: 10.1080/10790268.2017.1374020. Epub 2017 Oct 9.
- Yu HM, Yao XD, Zhang RM, et al. Repression of let-7b-5p prevents the development of multifidus muscle dysfunction by promoting vitamin D accumulation via upregulation of electron transfer flavoprotein alpha subunit in a rat model of multifidus muscle injury. J Cell Biochem. 2018 Nov 1. doi: 10.1002/jcb.28020. [Epub ahead of print].

NEPHROLOGY

- Ali HM, Saenko VS, Pesegov SV, et al. [Vitamin D and urinary stone disease: the current state of problem]. Urologiia. 2018 Dec;(5):122-127. Russian.
- Cardoso MP, Pereira LAL. Native vitamin D in pre-dialysis chronic kidney disease. Nefrologia. 2019 Jan - Feb;39(1):18-28. doi: 10.1016/j.nefro.2018.07.004. Epub 2018 Sep 28. English, Spanish.
- Chao JY, Chien HC, Kuo TH, et al. Assessing the effect of oral activated vitamin D on overall survival in hemodialysis patients: a landmark analysis. BMC Nephrol. 2018 Nov 6;19(1):309. doi: 10.1186/s12882-018-1111-2.
- de Gruijl FR, Wolterbeek R, Pavel S, et al. Low wintertime pre-diagnostic vitamin D status is associated with an increased risk of internal malignancies in kidney transplant recipients. Photochem Photobiol Sci. 2018 Dec 5;17(12):1946-1955. doi: 10.1039/c7pp00404d.
- Eltablawy N, Ashour H, Rashed LA, et al. Vitamin D protection from rat diabetic nephropathy is partly mediated through Klotho expression and renin-angiotensin inhibition. Arch Physiol Biochem. 2018 Dec;124(5):461-467. doi: 10.1080/13813455.2018.1423624. Epub 2018 Jan 8.
- Feng M, Lv J, Huang FT, et al. Vitamin D deficiency in patients with stages 1 and 2 chronic kidney disease in Southern China. Niger J Clin Pract. 2018 Dec;21(12):1639-1644. doi: 10.4103/njcp.njcp_158_18.
- Hall RK, Scialla JJ. Vitamin D Receptor Agonists for Patients Undergoing Hemodialysis. JAMA. 2018 Dec 11;320(22):2319-2321. doi: 10.1001/jama.2018.17477.
- Hu SL, Joshi P, Kaplan M, et al. Vitamin D and cinacalcet are associated with increased survival in peritoneal dialysis but not with residual renal function preservation. Clin Nephrol. 2018 Nov;90(5):305-312. doi: 10.5414/CN109244.
- Ito E, Inaguma D, Koide S, et al. Effect of combined vitamin D receptor activator and lanthanum carbonate on serum fibroblast growth factor 23 level in predialysis patients (CVD-LAF study): design and method. Clin Exp Nephrol. 2018 Dec;22(6):1309-1314. doi: 10.1007/s10157-018-1584-0. Epub 2018 May 10.
- Jhee JH, Nam KH, An SY, et al. Severe vitamin D deficiency is a risk factor for renal hyperfiltration. Am J Clin Nutr. 2018 Dec 1;108(6):1342-1351. doi: 10.1093/ajcn/nqy194.
- Keung L, Perwad F. Vitamin D and kidney disease. Bone Rep. 2018 Jul 25;9:93-100. doi: 10.1016/j.bonr.2018.07.002. eCollection 2018 Dec.
- Kyun Choi C, Kweon SS, Lee YH, et al. Serum level vitamin D and parathyroid hormone, and mortality, with or without chronic kidney disease. J Bone Miner Metab. 2018 Dec 7. doi: 10.1007/s00774-018-0979-z. [Epub ahead of print].
- Lerch C, Shroff R, Wan M, et al. Effects of nutritional vitamin D supplementation on markers of bone and mineral metabolism in children with chronic kidney disease. Nephrol Dial Transplant. 2018 Dec 1;33(12):2208-2217. doi: 10.1093/ndt/gfy012.
- Li L, Wan Q, Yang S, et al. Impact of Vitamin D Receptor Gene Polymorphism on Chronic Renal Failure Susceptibility. Ther Apher Dial. 2018 Dec;22(6):575-587. doi: 10.1111/1744-9987.12714. Epub 2018 Jul 30.
- Liu C, Li H. Correlation of the severity of chronic kidney disease with serum inflammation, osteoporosis and vitamin D deficiency. Exp Ther Med. 2019 Jan;17(1):368-372. doi: 10.3892/etm.2018.6916. Epub 2018 Nov 1.
- Lu CL, Yeih DF, Hou YC, et al. The Emerging Role of Nutritional Vitamin D in Secondary Hyperparathyroidism in CKD. Nutrients. 2018 Dec 3;10(12). pii: E1890. doi: 10.3390/nu10121890. Review.
- Markland AD, Tangpricha V, Mark Beasley T, et al. Comparing Vitamin D Supplementation Versus Placebo for Urgency Urinary Incontinence: A Pilot Study. J Am Geriatr Soc. 2018 Dec 21. doi: 10.1111/jgs.15711. [Epub ahead of print].
- McCarron DA, Drueke TB. Vitamin D deficiency and chronic kidney disease risk: cause or merely association? Am J Clin Nutr. 2018 Dec 1;108(6):1164-1165. doi: 10.1093/ajcn/nqy299.
- Melamed ML, Chonchol M, Gutiérrez OM, et al. The Role of Vitamin D in CKD Stages 3 to 4: Report of a Scientific Workshop Sponsored by the National Kidney Foundation. Am J Kidney Dis. 2018 Dec;72(6):834-845. doi: 10.1053/j.ajkd.2018.06.031. Epub 2018 Oct 5.
- Mohammed MA, Aboulhoda BE, Mahmoud RH. Vitamin D attenuates gentamicin-induced acute renal damage via prevention of oxidative stress and DNA damage. Hum Exp Toxicol. 2018

Nov 20:960327118812166. doi: 10.1177/0960327118812166. [Epub ahead of print].

- Norris KC, Olabisi O, Barnett ME, et al. The Role of Vitamin D and Oxidative Stress in Chronic Kidney Disease. Int J Environ Res Public Health. 2018 Nov 30;15(12). pii: E2701. doi: 10.3390/ijerph15122701.
- Parsanathan R, Jain SK. Glutathione deficiency alters the vitamin D-metabolizing enzymes CYP27B1 and CYP24A1 in human renal proximal tubule epithelial cells and kidney of HFD-fed mice. Free Radic Biol Med. 2019 Feb 1;131:376-381. doi: 10.1016/j.freeradbiomed.2018.12.017. Epub 2018 Dec 19.
- Singh GV, Hampson G, Thomas K, et al. Vitamin D and kidney stones - is there an association? BJU Int. 2018 Dec 21. doi: 10.1111/bju.14658. [Epub ahead of print].
- Su G, Liu Z, Qin X, et al. Vitamin D deficiency and treatment versus risk of infection in end-stage renal disease patients under dialysis: a systematic review and meta-analysis. Nephrol Dial Transplant. 2019 Jan 1;34(1):146-156. doi: 10.1093/ndt/gfy216.
- Teumer A, Gambaro G, Corre T, et al. Negative effect of vitamin D on kidney function: a Mendelian randomization study. Nephrol Dial Transplant. 2018 Dec 1;33(12):2139-2145. doi: 10.1093/ndt/gfy074.
- Wickstrom JF, Sayles HR, Graeff-Armas LA, et al. The Likelihood of Self-reporting Balance Problems in Those With Advanced Chronic Kidney Disease, Slow Gait Speed, or Low Vitamin D. J Ren Nutr. 2018 Dec 20. pii: S1051-2276(18)30251-6. doi: 10.1053/j.jrn.2018.10.011. [Epub ahead of print].
- Yadav AK, Tiwana S, Steel M, et al. Vitamin D deficiency, endothelial function and bone biomarkers in post-kidney transplantation patients from North India. Int Urol Nephrol. 2019 Jan;51(1):181-186. doi: 10.1007/s11255-018-2014-7. Epub 2018 Nov 19.
- Zhang X, Zhao Y, Zhu X, et al. Active vitamin D regulates macrophage M1/M2 phenotypes via the STAT-1-TREM-1 pathway in diabetic nephropathy. J Cell Physiol. 2018 Nov 27. doi: 10.1002/jcp.27450. [Epub ahead of print].

OBSTETRICS GYNECOLOGY

- Abedi S, Taebi M, Nasr Esfahani MH. Effect of Vitamin D Supplementation on Intracytoplasmic Sperm Injection Outcomes: A Randomized Double-Blind Placebo-Controlled Trial. Int J Fertil Steril. 2019 Apr;13(1):18-23. doi: 10.22074/ijfs.2019.5470. Epub 2019 Jan 6.
- Ali M, Al-Hendy A, Yang Q. Vitamin D, a promising natural compound with anti-uterine fibroid characteristics. Fertil Steril. 2018 Dec 28. pii: S0015-0282(18)32166-6. doi: 10.1016/j.fertnstert.2018.11.004. [Epub ahead of print] No abstract available.
- Bakeer E, Radwan R, El Mandoury A, et al. Anti-Müllerian Hormone as a Diagnostic Marker in Egyptian Infertile Polycystic Ovary Syndrome Females: Correlations with Vitamin D, Total Testosterone, Dyslipidemia and Anthropometric Parameters. J Med Biochem. 2018 Dec 1;37(4):448-455. doi: 10.1515/jomb-2017-0068. eCollection 2018 Dec.
- Cabaset S, Krieger JP, Richard A, et al. Vitamin D status and its determinants in healthy pregnant women living in Switzerland in the first trimester of pregnancy. BMC Pregnancy Childbirth. 2019 Jan 8;19(1):10. doi: 10.1186/s12884-018-2150-1.
- Cetkovic N, Pellicano R, Bjelica A, et al. Polycystic ovary syndrome and vitamin D serum levels. Minerva Endocrinol. 2019 Mar;44(1):82-84. doi: 10.23736/S0391-1977.18.02887-0. Epub 2018 Jul 10.
- Cookson MW, Ryan SL, Seedorf GJ, et al. Antenatal Vitamin D Preserves Placental Vascular and Fetal Growth in Experimental Chorioamnionitis Due to Intra-amniotic Endotoxin Exposure. Am J Perinatol. 2018 Nov;35(13):1260-1270. doi: 10.1055/s-0038-1642033. Epub 2018 May 1.
- Damiati S. Serum Levels of Asymmetric and Symmetric Dimethylarginine in Women with Vitamin D Deficiency and History of Pregnancy Loss - A Pilot Study. J Med Biochem. 2018 Dec 1;37(4):441-447. doi: 10.1515/jomb-2017-0069. eCollection 2018 Dec.
- Ede G, Keskin U, Cemal Yenen M, et al. Lower vitamin D levels during the second trimester are associated with developing gestational diabetes mellitus: an observational cross-sectional study. Gynecol Endocrinol. 2019 Jan 1:1-4. doi: 10.1080/09513590.2018.1548593. [Epub ahead of print].
- Enkhmaa D, Tanz L, Ganmaa D, et al. Randomized trial of three doses of vitamin D to reduce deficiency in pregnant Mongolian women. EBioMedicine. 2018 Dec 11. pii: S2352-3964(18)30564-4. doi: 10.1016/j.ebiom.2018.11.060. [Epub ahead of print].
- Francis EC, Hinkle SN, Song Y, et al. Longitudinal Maternal Vitamin D Status during Pregnancy Is Associated with Neonatal Anthropometric Measures. Nutrients. 2018 Nov 2;10(11). pii: E1631. doi: 10.3390/nu10111631.
- Gonçalves DR, Braga A, Braga J, et al. Recurrent pregnancy loss and vitamin D: A review of the literature. Am J Reprod Immunol. 2018 Nov;80(5):e13022. doi: 10.1111/aji.13022. Epub 2018 Jul 27. Review.
- Grzesiak M, Waszkiewicz E, Wojtas M, et al. Expression of vitamin D receptor in the porcine uterus and effect of 1,25(OH)2D3 on progesterone and estradiol-17β secretion by uterine tissues in vitro. Theriogenology. 2019 Feb;125:102-108. doi: 10.1016/j.theriogenology.2018.10.026. Epub 2018 Oct 30.
- Hadjadj L, Pál É, Monori-Kiss A, et al. Vitamin D deficiency and androgen excess result eutrophic remodeling and reduced myogenic adaptation in small cerebral arterioles in female rats. Gynecol Endocrinol. 2019 Jan 9:1-6. doi: 10.1080/09513590.2018.1554037. [Epub ahead of print].
- Hewison M, Wagner CL, Hollis BW. Vitamin D Supplementation in Pregnancy and Lactation and Infant Growth. N Engl J Med. 2018 Nov 8;379(19):1880-1. doi: 10.1056/NEJMc1812157.
- Holland LC, Gabrielsen JS. A bone to pick with vitamin D deficiency and erectile dysfunction. Int J Impot Res. 2019 Jan 3. doi: 10.1038/s41443-018-0100-0. [Epub ahead of print]
- Hollis BW. Vitamin D status during pregnancy: The importance of getting it right. EBioMedicine. 2018 Dec 15. pii: S2352-

3964(18)30598-X. doi: 10.1016/j.ebiom.2018.12.021. [Epub ahead of print]

- Hong-Bi S, Yin X, Xiaowu Y, et al. High prevalence of vitamin D deficiency in pregnant women and its relationship with adverse pregnancy outcomes in Guizhou, China. J Int Med Res. 2018 Nov;46(11):4500-4505. doi: 10.1177/0300060518781477. Epub 2018 Oct 1.
- Hutabarat M, Wibowo N, Obermayer-Pietsch B, et al. Impact of vitamin D and vitamin D receptor on the trophoblast survival capacity in preeclampsia. PLoS One. 2018 Nov 8;13(11):e0206725. doi: 10.1371/journal.pone.0206725. eCollection 2018.
- Jalali-Chimeh F, Gholamrezaei A, Vafa M, et al. Effect of Vitamin D Therapy on Sexual Function in Women with Sexual Dysfunction and Vitamin D Deficiency: a Randomized, Double-blind, Placebo-controlled Clinical Trial. J Urol. 2018 Nov 2. pii: S0022-5347(18)44048-7. doi: 10.1016/j.juro.2018.10.019. [Epub ahead of print].
- Javed Z, Papageorgiou M, Deshmukh H, et al. A Randomized, Controlled Trial of Vitamin D Supplementation on Cardiovascular Risk Factors, Hormones, and Liver Markers in Women with Polycystic Ovary Syndrome. Nutrients. 2019 Jan 17;11(1). pii: E188. doi: 10.3390/nu11010188.
- Jędrzejuk D, Kuliczkowska-Płaksej J, Milewicz A, et al. Bisphenol A levels are inversely associated with serum vitamin D-binding protein and sex hormone-binding globulin levels in women with polycystic ovary syndrome: a pilot study. Pol Arch Intern Med. 2019 Jan 16. doi: 10.20452/pamw.4419. [Epub ahead of print]
- Johns LE, Ferguson KK, Cantonwine DE, et al. Erratum: "Urinary BPA and Phthalate Metabolite Concentrations and Plasma Vitamin D Levels in Pregnant Women: A Repeated Measures Analysis". Environ Health Perspect. 2019 Jan;127(1):19002. doi: 10.1289/EHP4855. No abstract available.
- Jueraitetibaike K, Ding Z, Wang DD, et al. The effect of vitamin D on sperm motility and the underlying mechanism. Asian J Androl. 2019 Jan 1. doi: 10.4103/aja.aja_105_18. [Epub ahead of print].
- Keller A, Stougård M, Frederiksen P, et al. In utero exposure to extra vitamin D from food fortification and the risk of subsequent development of gestational diabetes: the D-tect study. Nutr J. 2018 Nov 2;17(1):100. doi: 10.1186/s12937-018-0403-5.
- Khorasani ZM, Bonakdaran S, Rafieie HP. The relationship between vitamin D deficiency and insulin resistance in pregnant women with gestational diabetes. Curr Diabetes Rev. 2018 Nov 1. doi: 10.2174/1573399814666181102100816. [Epub ahead of print].
- Kısa B, Kansu-Celik H, Candar T, et al. Severe 25-OH vitamin D deficiency as a reason for adverse pregnancy outcomes. J Matern Fetal Neonatal Med. 2019 Jan 6:1-5. doi: 10.1080/14767058.2018.1554040. [Epub ahead of print].
- Krul-Poel YHM, Koenders PP, Steegers-Theunissen RP, et al. Vitamin D and metabolic disturbances in polycystic ovary syndrome (PCOS): A cross-sectional study. PLoS One. 2018 Dec 4;13(12):e0204748. doi: 10.1371/journal.pone.0204748. eCollection 2018.
- Kulia O. [STUDY OF THE INFLUENCE OF CALCIUM AND VITAMIN D PRESCRIPTION DURING THE PREGNANCY PERIOD ON THE STATE OF NEWBORNS' HEALTH AND ON THE ELECTROLYSITE BALANCE UMBILICAL CORD BLOOD]. Georgian Med News. 2018 Nov;(284):19-23. Russian.
- Kuliczkowska-Plaksej J, Pasquali R, Milewicz A, et al. Serum Vitamin D Binding Protein Level Associated with Metabolic Cardiovascular Risk Factors in Women with the Polycystic Ovary Syndrome. Horm Metab Res. 2019 Jan;51(1):54-61. doi: 10.1055/a-0759-7533. Epub 2018 Nov 8.
- Łagowska K, Bajerska J, Jamka M. The Role of Vitamin D Oral Supplementation in Insulin Resistance in Women with Polycystic Ovary Syndrome: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. Nutrients. 2018 Nov 2;10(11). pii: E1637. doi: 10.3390/nu10111637. Review.
- Łagowska K. The Relationship between Vitamin D Status and the Menstrual Cycle in Young Women: A Preliminary Study. Nutrients. 2018 Nov 11;10(11). pii: E1729. doi: 10.3390/nu10111729.
- Lamb AR, Lutenbacher M, Wallston KA, et al. Vitamin D deficiency and depressive symptoms in the perinatal period. Arch Womens Ment Health. 2018 Dec;21(6):745-755. doi: 10.1007/s00737-018-0852-z. Epub 2018 May 29.
- Liang F, Ren N, Zhang H, et al. A meta-analysis of the relationship between vitamin D receptor gene ApaI polymorphisms and polycystic ovary syndrome. Adv Clin Exp Med. 2018 Dec 20. doi: 10.17219/acem/85882. [Epub ahead of print].
- Mata-Greenwood E, Huber HF, Li C, et al. Role of pregnancy and obesity on vitamin D status, transport, and metabolism in baboons. Am J Physiol Endocrinol Metab. 2019 Jan 1;316(1):E63-E72. doi: 10.1152/ajpendo.00208.2018. Epub 2018 Nov 6.
- Merino O, Sánchez R, Gregorio BM, et al. Effects of Diet-Induced Obesity and Deficient in Vitamin D on Spermatozoa Function and DNA Integrity in Sprague-Dawley Rats. Biomed Res Int. 2018 Nov 25;2018:5479057. doi: 10.1155/2018/5479057. eCollection 2018.
- Mohamed SA, El Andaloussi A, Al-Hendy A, et al. Vitamin D and corticotropin-releasing hormone in term and preterm birth: potential contributions to preterm labor and birth outcome. J Matern Fetal Neonatal Med. 2018 Nov;31(21):2911-2917. doi: 10.1080/14767058.2017.1359534. Epub 2017 Aug 7.
- Oluwole AA, Okunade KS, Okojie OE. Maternal serum vitamin D levels and preterm delivery among low-risk parturients in Lagos, Nigeria. Int J Gynaecol Obstet. 2019 Feb;144(2):216-220. doi: 10.1002/ijgo.12719. Epub 2018 Dec 10.
- Omran A, Mousa H, Abdalla MO, et al. Maternal and neonatal vitamin D deficiency and transient tachypnea of the newborn in full term neonates. J Perinat Med. 2018 Nov 27;46(9):1057-1060. doi: 10.1515/jpm-2017-0280.
- Özkaya F, Demirel A. Vitamin D deficiency in infertile patients. Arch Esp Urol. 2018 Dec;71(10):850-855.
- Rezavand N, Tabarok S, Rahimi Z, et al. The effect of VDR gene polymorphisms and vitamin D level on blood pressure, risk of

preeclampsia, gestational age, and body mass index. J Cell Biochem. 2018 Nov 11. doi: 10.1002/jcb.27934. [Epub ahead of print].

- Roth DE, Gernand AD, Al Mahmud A. Vitamin D Supplementation in Pregnancy and Lactation and Infant Growth. N Engl J Med. 2018 Nov 8;379(19):1881. doi: 10.1056/NEJMc1812157.
- Shao B, Jiang S, Muyiduli X, et al. Vitamin D pathway gene polymorphisms influenced vitamin D level among pregnant women. Clin Nutr. 2018 Dec;37(6 Pt A):2230-2237. doi: 10.1016/j.clnu.2017.10.024. Epub 2017 Nov 7.
- Stoutjesdijk E, Schaafsma A, Kema IP, et al. Influence of daily 10-85 microgram vitamin D supplements during pregnancy and lactation on maternal vitamin D status and mature milk anti rachitic activity. Br J Nutr. 2018 Dec 11:1-35. doi: 10.1017/S0007114518003598. [Epub ahead of print]
- Szpunar MJ. Association of antepartum vitamin D deficiency with postpartum depression: a clinical perspective. Public Health Nutr. 2019 Jan 18:1-6. doi: 10.1017/S136898001800366X. [Epub ahead of print].
- Theodore S, de Costa C, McLean A, et al. Vitamin D supplementation in pregnant women with diabetes in Far North Queensland. Aust J Rural Health. 2018 Dec;26(6):451-452. doi: 10.1111/ajr.12437. Epub 2018 May 30.
- Wang B, Cruz Ithier M, Parobchak N, et al. Vitamin D stimulates multiple microRNAs to inhibit CRH and other pro-labor genes in human placenta. Endocr Connect. 2018 Nov 1. pii: EC-18-0345.R2. doi: 10.1530/EC-18-0345. [Epub ahead of print].
- Wang J, Liu N, Sun W, et al. Association between vitamin D deficiency and antepartum and postpartum depression: a systematic review and meta-analysis of longitudinal studies. Arch Gynecol Obstet. 2018 Dec;298(6):1045-1059. doi: 10.1007/s00404-018-4902-6. Epub 2018 Sep 27. Review.
- Wang JX, Yu Y, Han MT, et al. [The effect of inadequate Vitamin D on sperm quality]. Zhonghua Yi Xue Za Zhi. 2018 Dec 11;98(46):3746-3750. doi: 10.3760/cma.j.issn.0376-2491.2018.46.005. Chinese.
- Wei Y, Chen P, Chen Q, et al. Serum vitamin D levels and erectile dysfunction: A systematic review and meta-analysis. Andrologia. 2018 Dec 6:e13211. doi: 10.1111/and.13211. [Epub ahead of print].
- Xu J, Lawson MS, Xu F, et al. Vitamin D3 Regulates Follicular Development and Intrafollicular Vitamin D Biosynthesis and Signaling in the Primate Ovary. Front Physiol. 2018 Nov 14;9:1600. doi: 10.3389/fphys.2018.01600. eCollection 2018.
- Yang Y, Li Z, Yan G, et al. Effect of different doses of vitamin D supplementation on preterm infants - an updated meta-analysis. J Matern Fetal Neonatal Med. 2018 Nov;31(22):3065-3074. doi: 10.1080/14767058.2017.1363731. Epub 2017 Oct 5. Review.
- Zhao J, Liu S, Wang Y, et al. Vitamin D improves the outcome of in vitro fertilization (IVF) in infertile women with polycystic ovary syndrome and insulin resistance. Minerva Med. 2019 Jan 4. doi: 10.23736/S0026-4806.18.05946-3. [Epub ahead of print].

ONCOLOGY

- Andersen MR, Sweet E, Hager S, et al. Effects of Vitamin D Use on Health-Related Quality of Life of Breast Cancer Patients in Early Survivorship. Integr Cancer Ther. 2019 Jan 7:1534735418822056. doi: 10.1177/1534735418822056. [Epub ahead of print].
- Corachán A, Ferrero H, Aguilar A, et al. Inhibition of tumor cell proliferation in human uterine leiomyomas by vitamin D via Wnt/β-catenin pathway. Fertil Steril. 2018 Nov 17. pii: S0015-0282(18)32096-X. doi: 10.1016/j.fertnstert.2018.10.008. [Epub ahead of print].
- Delmonico L, Costa MASM, Azevedo CM, et al. Low Levels of Vitamin D in a Cohort of Women with Impalpable Breast Lesions from Rio de Janeiro/Brazil. Asian Pac J Cancer Prev. 2018 Nov 29;19(11):3087-3092.
- Fathi N, Ahmadian E, Shahi S, et al. Role of vitamin D and vitamin D receptor (VDR) in oral cancer. Biomed Pharmacother. 2019 Jan;109:391-401. doi: 10.1016/j.biopha.2018.10.102. Epub 2018 Nov 3. Review.
- Ferguson LR. Calcium and/or vitamin D supplementation: could they affect your risks of colorectal cancer development or progression? Ann Transl Med. 2018 Nov;6(Suppl 1):S4. doi: 10.21037/atm.2018.08.29.
- Ferrer-Mayorga G, Larriba MJ, Crespo P, et al. Mechanisms of action of vitamin D in colon cancer. J Steroid Biochem Mol Biol. 2019 Jan;185:1-6. doi: 10.1016/j.jsbmb.2018.07.002. Epub 2018 Jul 4. Review.
- Gao Y, Um CY, Fedirko V, et al. Effects of supplemental vitamin D and calcium on markers of proliferation, differentiation, and apoptosis in the normal colorectal mucosa of colorectal adenoma patients. PLoS One. 2018 Dec 17;13(12):e0208762. doi: 10.1371/journal.pone.0208762. eCollection 2018.
- Haidari F, Abiri B, Iravani M, et al. The Effects of UVB and Vitamin D on Decreasing Risk of Colorectal Cancer Incidence and Mortality: A Review of the Epidemiology, Clinical Trials, and Mechanisms. Nutr Cancer. 2018 Dec 27:1-9. doi: 10.1080/01635581.2018.1521444. [Epub ahead of print].
- Jiang X, Dimou NL, Al-Dabhani K, et al. Circulating vitamin D concentrations and risk of breast and prostate cancer: a Mendelian randomization study. Int J Epidemiol. 2018 Dec 28. doi: 10.1093/ije/dyy284. [Epub ahead of print].
- Kurucu N, Şahin G, Sarı N, et al. Association of vitamin D receptor gene polymorphisms with osteosarcoma risk and prognosis. J Bone Oncol. 2018 Nov 30;14:100208. doi: 10.1016/j.jbo.2018.100208. eCollection 2019 Feb.
- Kwan AK, Um CY, Rutherford RE, et al. Effects of vitamin D and calcium on expression of MSH2 and transforming growth factors in normal-appearing colorectal mucosa of sporadic colorectal adenoma patients: A randomized clinical trial. Mol Carcinog. 2018 Nov 30. doi: 10.1002/mc.22945. [Epub ahead of print].
- LaRocca CJ, Warner SG. A New Role for Vitamin D: The Enhancement of Oncolytic

Viral Therapy in Pancreatic Cancer. Biomedicines. 2018 Nov 5;6(4). pii: E104. doi: 10.3390/biomedicines6040104. Review.

- Li J, Li B, Jiang Q, et al. Do genetic polymorphisms of the vitamin D receptor contribute to breast/ovarian cancer? A systematic review and network meta-analysis. Gene. 2018 Nov 30;677:211-227. doi: 10.1016/j.gene.2018.07.070. Epub 2018 Jul 29. Review.
- Madden JM, Duffy MJ, Zgaga L, et al. Trends in vitamin D supplement use in a general female and breast cancer population in Ireland: A repeated cross-sectional study. PLoS One. 2018 Dec 13;13(12):e0209033. doi: 10.1371/journal.pone.0209033. eCollection 2018.
- Madden JM, Murphy L, Zgaga L, et al. De novo vitamin D supplement use post-diagnosis is associated with breast cancer survival. Breast Cancer Res Treat. 2018 Nov;172(1):179-190. doi: 10.1007/s10549-018-4896-6. Epub 2018 Jul 23.
- Minisola S, Ferrone F, Danese V, et al. Controversies Surrounding Vitamin D: Focus on Supplementation and Cancer. Int J Environ Res Public Health. 2019 Jan 11;16(2). pii: E189. doi: 10.3390/ijerph16020189. Review.
- Moossavi M, Parsamanesh N, Mohammadoo-Khorasani M, et al. Positive correlation between vitamin D receptor gene FokI polymorphism and colorectal cancer susceptibility in South-Khorasan of Iran. J Cell Biochem. 2018 Nov;119(10):8190-8194. doi: 10.1002/jcb.26826. Epub 2018 Jun 28.
- Olson KC, Kulling Larkin PM, Signorelli R, et al. Vitamin D pathway activation selectively deactivates signal transducer and activator of transcription (STAT) proteins and inflammatory cytokine production in natural killer leukemic large granular lymphocytes. Cytokine. 2018 Nov;111:551-562. doi: 10.1016/j.cyto.2018.09.016. Epub 2018 Nov 17.
- Ong JS, Gharahkhani P, An J, et al. Vitamin D and overall cancer risk and cancer mortality: a Mendelian randomization study. Hum Mol Genet. 2018 Dec 15;27(24):4315-4322. doi: 10.1093/hmg/ddy307.
- Ratnadiwakara M, Rooke M, Ohms SJ, et al. The SuprMam1 breast cancer susceptibility locus disrupts the vitamin D/ calcium/ parathyroid hormone pathway and alters bone structure in congenic mice. J Steroid Biochem Mol Biol. 2018 Dec 7. pii: S0960-0760(18)30380-7. doi: 10.1016/j.jsbmb.2018.12.004. [Epub ahead of print].
- Salehi-Tabar R, Memari B, Wong H, et al. The tumor suppressor FBW7 and the vitamin D receptor are mutual cofactors in protein turnover and transcriptional regulation. Mol Cancer Res. 2019 Jan 3. pii: molcanres.0991.2018. doi: 10.1158/1541-7786.MCR-18-0991. [Epub ahead of print].
- Scragg R, Khaw KT, Toop L, e al. Monthly High-Dose Vitamin D Supplementation and Cancer Risk: A Post Hoc Analysis of the Vitamin D Assessment Randomized Clinical Trial. JAMA Oncol. 2018 Nov 1;4(11):e182178. doi: 10.1001/jamaoncol.2018.2178. Epub 2018 Nov 8.
- Shahvazi S, Soltani S, Ahmadi SM, et al. The Effect of Vitamin D Supplementation on Prostate Cancer: A Systematic Review and Meta-Analysis of Clinical Trials. Horm Metab Res. 2019 Jan;51(1):11-21. doi: 10.1055/a-0774-8809. Epub 2018 Dec 6.
- Sheng L, Turner AG, Barratt K, et al. Mammary-specific Ablation of Cyp24a1 Inhibits Development, Reduces Proliferation and Increases Sensitivity to Vitamin D. J Steroid Biochem Mol Biol. 2019 Jan 14. pii: S0960-0760(18)30585-5. doi: 10.1016/j.jsbmb.2019.01.005. [Epub ahead of print].
- Song ZY, Yao Q, Zhuo Z, Ma Z, Chen G. Circulating vitamin D level and mortality in prostate cancer patients: a dose-response meta-analysis. Endocr Connect. 2018 Dec 1;7(12):R294-R303. doi: 10.1530/EC-18-0283. Review.
- Travis RC, Perez-Cornago A, Appleby PN, et al. A Collaborative Analysis of Individual Participant Data from 19 Prospective Studies Assesses Circulating Vitamin D and Prostate Cancer Risk. Cancer Res. 2019 Jan 1;79(1):274-285. doi: 10.1158/0008-5472.CAN-18-2318. Epub 2018 Nov 13.
- Um CY, Prizment A, Hong CP, et al. Associations of Calcium, Vitamin D, and Dairy Product Intakes with Colorectal Cancer Risk among Older Women: The Iowa Women's Health Study. Nutr Cancer. 2018 Dec 20:1-10. doi: 10.1080/01635581.2018.1539188. [Epub ahead of print].
- Vallès X, Alonso MH, López-Caleya JF, et al. Colorectal cancer, sun exposure and dietary vitamin D and calcium intake in the MCC-Spain study. Environ Int. 2018 Dec;121(Pt 1):428-434. doi: 10.1016/j.envint.2018.09.030. Epub 2018 Sep 25.
- Vojdeman FJ, Madsen CM, Frederiksen K, et al. Vitamin D levels and cancer incidence in 217,244 individuals from primary health care in Denmark. Int J Cancer. 2019 Jan 7. doi: 10.1002/ijc.32105. [Epub ahead of print].
- Yokosawa EB, Arthur AE, Rentschler KM, et al. Vitamin D intake and survival and recurrence in head and neck cancer patients. Laryngoscope. 2018 Nov;128(11):E371-E376. doi: 10.1002/lary.27256. Epub 2018 May 14.
- Yuan C, Shui IM, Wilson KM, et al. Circulating 25-hydroxyvitamin D, vitamin D binding protein and risk of advanced and lethal prostate cancer. Int J Cancer. 2018 Nov 9. doi: 10.1002/ijc.31966. [Epub ahead of print].
- Zhang P, Schatz A, Adeyemi B, et al. Vitamin D and Testosterone Co-ordinately Modulate Intracellular Zinc Levels and Energy Metabolism in Prostate Cancer Cells. J Steroid Biochem Mol Biol. 2019 Jan 18. pii: S0960-0760(18)30617-4. doi: 10.1016/j.jsbmb.2019.01.006. [Epub ahead of print].

PEDIATRICS

- Abdel-Hady H, Yahia S, Megahed A, et al. Vitamin D and Inflammatory Mediators in Preterm Infants with Late-Onset Sepsis: A Randomized Controlled Trial. J Pediatr Gastroenterol Nutr. 2019 Jan 4. doi: 10.1097/MPG.0000000000002238. [Epub ahead of print].
- Alonso MA, Mantecón L, Santos F. Vitamin D deficiency in children: a challenging diagnosis! Pediatr Res. 2019 Jan 17. doi: 10.1038/s41390-019-0289-8. [Epub ahead of print] Review.

- Bičíková M, Máčová L, Ostatníková D, et al. Vitamin D in autistic children and healthy controls. Physiol Res. 2019 Jan 10. [Epub ahead of print].
- Cho Y, Lee Y, Choi Y, et al. Association of the Vitamin D Level and Quality of School Life in Adolescents with Irritable Bowel Syndrome. J Clin Med. 2018 Dec 1;7(12). pii: E500. doi: 10.3390/jcm7120500.
- Chowdhury R, Taneja S, Bhandari N, et al. Vitamin D deficiency and mild to moderate anemia in young North Indian children: A secondary data analysis. Nutrition. 2019 Jan;57:63-68. doi: 10.1016/j.nut.2018.05.034. Epub 2018 Jul 11.
- Cillero AI, Martínez-Morillo E, Mantecón L, et al. Phenotyping and relative quantification of vitamin D binding protein in a paediatric population by using liquid chromatography-tandem mass spectrometry. Ann Clin Biochem. 2019 Jan;56(1):56-63. doi: 10.1177/0004563218780135. Epub 2018 Jun 17.
- Demir K, Döneray H, Kara C, et al. Comparison of Treatment Regimens for the Management of Severe Hypercalcemia due to Vitamin D Intoxication in Children. J Clin Res Pediatr Endocrinol. 2018 Nov 5. doi: 10.4274/jcrpe.0131. [Epub ahead of print].
- Devereux G, Craig L, Seaton A, et al. Maternal vitamin D and E intakes in pregnancy and asthma to age 15 years: A cohort study. Pediatr Pulmonol. 2019 Jan;54(1):11-19. doi: 10.1002/ppul.24184. Epub 2018 Nov 13.
- Esmaeili Dooki M, Moslemi L, Moghadamnia AA, et al. Children With Vitamin D Deficiency: Is A Wrist X-Ray Necessary? Arch Iran Med. 2018 Dec 1;21(12):589-594.
- Fernández Bustillo JM, Fernández Pombo A, Gómez Bahamonde R, et al. Vitamin D levels in a pediatric population of a primary care centre: a public health problem? BMC Res Notes. 2018 Nov 8;11(1):801. doi: 10.1186/s13104-018-3903-7.
- Filgueiras MS, Rocha NP, Novaes JF, et al. Vitamin D status, oxidative stress, and inflammation in children and adolescents: A systematic review. Crit Rev Food Sci Nutr. 2018 Dec 30:1-10. doi: 10.1080/10408398.2018.1546671. [Epub ahead of print].
- Fink C, Peters RL, Koplin JJ, et al. Factors Affecting Vitamin D Status in Infants. Children (Basel). 2019 Jan 8;6(1). pii: E7. doi: 10.3390/children6010007. Review.
- Grant WB, Boucher BJ. Genetic and non-genetic effects of increased sun and vitamin D exposure: role in the observed healthy changes in cardiometabolic risk factors in Iranian children. Public Health Nutr. 2018 Dec;21(17):3125-3128. doi: 10.1017/S1368980018001180. Epub 2018 Jun 6.
- Hagag AA, El Frargy MS, El-Latif AEA. Vitamin D as an Adjuvant Therapy in Neonatal Hypoxia: Is it Beneficial? Endocr Metab Immune Disord Drug Targets. 2018 Dec 4. doi: 10.2174/18715303196661812041 51044. [Epub ahead of print].
- Hernigou P, Auregan JC, Dubory A. Vitamin D: part II; cod liver oil, ultraviolet radiation, and eradication of rickets. Int Orthop. 2019 Jan 9. doi: 10.1007/s00264-019-04288-z. [Epub ahead of print].
- Hocaoglu-Emre FS, Saribal D, Oğuz O. Vitamin D deficiency and insufficiency According to the Current Criteria for Children: Vitamin D status of elementary school children in Turkey. J Clin Res Pediatr Endocrinol. 2018 Dec 28. doi: 10.4274/jcrpe.0272. [Epub ahead of print].
- Kaaviyaa AT, Krishna V, Arunprasath TS, et al. Vitamin D Deficiency as a Factor Influencing Asthma Control in Children. Indian Pediatr. 2018 Nov 15;55(11):969-971.
- Karin Z, Gilic B, Supe Domic D, et al. Vitamin D Status and Analysis of Specific Correlates in Preschool Children: A Cross-Sectional Study in Southern Croatia. Int J Environ Res Public Health. 2018 Nov 8;15(11). pii: E2503. doi: 10.3390/ijerph15112503.
- Kaymak Cihan M, Ünver Korğalı E. Is there an association between vitamin D level and iron deficiency in children? Arch Argent Pediatr. 2018 Dec 1;116(6):e736-e743. doi: 10.5546/aap.2018.eng.e736. English, Spanish.
- Kim JS. Factors Associated with Vitamin D Status Among Korean Female Adolescents. J Pediatr Nurs. 2018 Nov 28. pii: S0882-5963(18)30401-9. doi: 10.1016/j.pedn.2018.11.005. [Epub ahead of print].
- Kumar J, Singh A. Vitamin D Supplementation in Childhood - A Review of Guidelines: Correspondence. Indian J Pediatr. 2018 Dec;85(12):1147-1148. doi: 10.1007/s12098-018-2716-y. Epub 2018 Jul 4.
- Li W, Qin Z, Gao J, et al. Vitamin D supplementation during pregnancy and the risk of wheezing in offspring: a systematic review and dose-response meta-analysis. J Asthma. 2018 Nov 5:1-8. doi: 10.1080/02770903.2018.1536142. [Epub ahead of print].
- Liang X, Chen M, Qu P, et al. The Association of Vitamin A and Vitamin D with Hypertension in Children: A Case-Control Study. Int J Hypertens. 2018 Dec 6;2018:9295147. doi: 10.1155/2018/9295147. eCollection 2018.
- Litonjua AA. Vitamin D and childhood asthma: causation and contribution to disease activity. Curr Opin Allergy Clin Immunol. 2019 Jan 2. doi: 10.1097/ACI.0000000000000509. [Epub ahead of print].
- Litonjua AA. Vitamin D reduces risk of recurrent wheezing in premature black infants. J Pediatr. 2018 Nov;202:330-333. doi: 10.1016/j.jpeds.2018.08.052.
- Masoud MS, Alokail MS, Yakout SM, et al. Vitamin D Supplementation Modestly Reduces Serum Iron Indices of Healthy Arab Adolescents. Nutrients. 2018 Dec 2;10(12). pii: E1870. doi: 10.3390/nu10121870.
- Merrikhi A, Ziaei E, Shahsanai A, et al. Is Vitamin D Supplementation Effective in Prevention of Recurrent Urinary Tract Infections in the Pediatrics? A Randomized Triple-Masked Controlled Trial. Adv Biomed Res. 2018 Nov 30;7:150. doi: 10.4103/abr.abr_149_18. eCollection 2018.
- Mirzakhani H, Al-Garawi AA, Carey VJ, et al. Expression network analysis reveals cord blood vitamin D-associated genes affecting risk of early life wheeze. Thorax. 2019 Feb;74(2):200-202. doi: 10.1136/thoraxjnl-2018-211962. Epub 2018 Jul 18.
- Mirzakhani H, Carey VJ, Zeiger R, et al. Impact of parental asthma, prenatal maternal asthma control, and vitamin D status on risk of asthma and recurrent wheeze in 3-year-old children. Clin Exp Allergy. 2018 Nov 21. doi: 10.1111/cea.13320. [Epub ahead of print].

- Nicolescu RC, Lombet J, Cavalier E. Vitamin D-Resistant Rickets and Cinacalcet-One More Favorable Experience. Front Pediatr. 2018 Nov 28;6:376. doi: 10.3389/fped.2018.00376. eCollection 2018.
- Oliveira MS, Matsunaga NY, Rodrigues MLE, et al. Lung disease and vitamin D levels in cystic fibrosis infants and preschoolers. Pediatr Pulmonol. 2019 Jan 20. doi: 10.1002/ppul.24260. [Epub ahead of print].
- Palframan KM, Robinson SL, Mora-Plazas M, et al. Vitamin D-binding protein is inversely associated with the incidence of gastrointestinal and ear infections in school-age children. Epidemiol Infect. 2018 Nov;146(15):1996-2002. doi: 10.1017/S0950268818002066. Epub 2018 Jul 30.
- Prasad R, Sharma A, Das BK, et al. Serum Retinol, Vitamin D and Zinc Levels in Under Five Children with Acute Lower Respiratory Tract Infections. Indian J Pediatr. 2018 Dec 13. doi: 10.1007/s12098-018-2805-y. [Epub ahead of print]
- Savonius O, Pelkonen T, Roine I, et al. Vitamin D was not associated with survival or cerebrospinal fluid cathelicidin levels in children with bacterial meningitis. Acta Paediatr. 2018 Dec;107(12):2131-2136. doi: 10.1111/apa.14393. Epub 2018 May 31.
- Seth A. Do Healthy Pre-pubertal Girls Need Supplementation with Vitamin D? Indian Pediatr. 2018 Nov 15;55(11):943-944.
- Sochorová L, Hanzlíková L, Černá M, et al. Assessment of vitamin D status in Czech children. Cent Eur J Public Health. 2018 Dec;26(4):260-264. doi: 10.21101/cejph.a5386.
- Szmigielska A, Pańczyk-Tomaszewska M, Borowiec M, et al. Vitamin D and Calcium Homeostasis in Infants with Urolithiasis. Adv Exp Med Biol. 2019 Jan 12. doi: 10.1007/5584_2018_310. [Epub ahead of print].
- Vijayakumar M, Bhatia V, George B. Vitamin D status of children in Kerala, southern India. Public Health Nutr. 2019 Jan 10:1-5. doi: 10.1017/S1368980018003622. [Epub ahead of print].
- Viraraghavan VR, Seth A, Aneja S, et al. Effect of high dose vitamin d supplementation on vitamin d nutrition status of pre-pubertal children on anti-epileptic drugs - A randomized controlled trial. Clin Nutr ESPEN. 2019 Feb;29:36-40. doi: 10.1016/j.clnesp.2018.11.007. Epub 2018 Nov 23.
- Wei F, Wang Z, Wang J, et al. Serum vitamin D levels among children aged 0-12 years in the First Affiliated Hospital of Harbin Medical University, China. J Public Health (Oxf). 2018 Dec 1;40(4):721-726. doi: 10.1093/pubmed/fdy055.
- Zhou L, Taylor-Miller T, Zacharin M, et al. Extreme hypercalcaemia due to accidental vitamin D intoxication. J Paediatr Child Health. 2019 Jan;55(1):104-106. doi: 10.1111/jpc.14127. Epub 2018 Jul 19.
- Ziaei-Kajbaf T, Aminzadeh M, Fatahinezhad E, et al. Vitamin D status in diabetic children and adolescents. Diabetes Metab Syndr. 2018 Nov;12(6):849-852. doi: 10.1016/j.dsx.2018.03.007. Epub 2018 Mar 16.

PNEUMOLOGY

- Ahmad S. Vitamin D for Acute Respiratory Distress Syndrome: Sunshine or Shade? Crit Care Med. 2018 Dec;46(12):2064-2065. doi: 10.1097/CCM.0000000000003418.
- Arihiro S, Nakashima A, Matsuoka M, et al. Randomized Trial of Vitamin D Supplementation to Prevent Seasonal Influenza and Upper Respiratory Infection in Patients With Inflammatory Bowel Disease. Inflamm Bowel Dis. 2019 Jan 2. doi: 10.1093/ibd/izy346. [Epub ahead of print].
- Bolcas PE, Brandt EB, Zhang Z, et al. Vitamin D supplementation attenuates asthma development following traffic-related particulate matter exposure. J Allergy Clin Immunol. 2019 Jan;143(1):386-394.e3. doi: 10.1016/j.jaci.2018.04.042. Epub 2018 Jun 21.
- Chen H, Lu R, Zhang YG, et al. Vitamin D Receptor Deletion Leads to the Destruction of Tight and Adherens Junctions in Lungs. Tissue Barriers. 2018 Nov 8:1-13. doi: 10.1080/21688370.2018.1540904. [Epub ahead of print].
- Chen Y, Xu T. Association of vitamin D receptor expression with inflammatory changes and prognosis of asthma. Exp Ther Med. 2018 Dec;16(6):5096-5102. doi: 10.3892/etm.2018.6867. Epub 2018 Oct 16.
- Deng YC, Tang XC, Yuan YH, et al. [Dynamic change in vitamin D level in infants/toddlers with severe pneumonia and a correlation analysis]. Zhongguo Dang Dai Er Ke Za Zhi. 2018 Nov;20(11):911-916. Chinese.
- Dodamani MH, Muthu V, Thakur R, et al. A randomized trial of vitamin D in acute-stage allergic bronchopulmonary aspergillosis complicating asthma. Mycoses. 2018 Dec 18. doi: 10.1111/myc.12879. [Epub ahead of print].
- Greiller CL, Suri R, Jolliffe DA, et al. Vitamin D attenuates rhinovirus-induced expression of intercellular adhesion molecule-1 (ICAM-1) and platelet-activating factor receptor (PAFR) in respiratory epithelial cells. J Steroid Biochem Mol Biol. 2018 Nov 23. pii: S0960-0760(18)30543-0. doi: 10.1016/j.jsbmb.2018.11.013. [Epub ahead of print].
- Guijarro T, Magro-Lopez E, Manso J, et al. Detrimental pro-senescence effects of vitamin D on lung fibrosis. Mol Med. 2018 Dec 19;24(1):64. doi: 10.1186/s10020-018-0064-z.
- Hueniken K, Aglipay M, Birken CS, et al. Effect of High-Dose Vitamin D Supplementation on Upper Respiratory Tract Infection Symptom Severity in Healthy Children. Pediatr Infect Dis J. 2018 Nov 5. doi: 10.1097/INF.0000000000002225. [Epub ahead of print].
- Jolliffe DA, Greenberg L, Hooper RL, et al. Vitamin D to prevent exacerbations of COPD: systematic review and meta-analysis of individual participant data from randomised controlled trials. Thorax. 2019 Jan 10. pii: thoraxjnl-2018-212092. doi: 10.1136/thoraxjnl-2018-212092. [Epub ahead of print].
- Le TN. Updates in vitamin D therapy in cystic fibrosis. Curr Opin Endocrinol Diabetes Obes. 2018 Dec;25(6):361-365. doi: 10.1097/MED.0000000000000439.
- Liu HJ, Henske EP. Vitamin D binding protein: a new biomarker of disease severity in lymphangioleiomyomatosis. Eur Respir J. 2018 Nov 1;52(5). pii: 1801886. doi:

10.1183/13993003.01886-2018. Print 2018 Nov.

- Miller S, Coveney C, Johnson J, et al. The vitamin D binding protein axis modifies disease severity in lymphangioleiomyomatosis. Eur Respir J. 2018 Nov 1;52(5). pii: 1800951. doi: 10.1183/13993003.00951-2018. Print 2018 Nov.
- Ogunsakin O, Sriyotha P, Burns T, et al. Diallyl Disulfide inhibits ethanol-induced pulmonary cell vitamin D and antimicrobial peptide Cathelicidin depletion. Alcohol. 2018 Dec 20. pii: S0741-8329(18)30176-9. doi: 10.1016/j.alcohol.2018.12.003. [Epub ahead of print].
- Park S, Lee MG, Hong SB, et al. Effect of vitamin D deficiency in Korean patients with acute respiratory distress syndrome. Korean J Intern Med. 2018 Nov;33(6):1129-1136. doi: 10.3904/kjim.2017.380. Epub 2018 Jun 20.
- Ragia G, Archontogeorgis K, Simmaco M, et al. Genetics of Obstructive Sleep Apnea: Vitamin D Receptor Gene Variation Affects Both Vitamin D Serum Concentration and Disease Susceptibility. OMICS. 2019 Jan;23(1):45-53. doi: 10.1089/omi.2018.0184. Epub 2018 Dec 18.
- Serré J, Mathyssen C, Ajime TT, et al. Airway infection with Nontypeable Haemophilus influenzae is more rapidly eradicated in vitamin D deficient mice. J Steroid Biochem Mol Biol. 2018 Nov 3. pii: S0960-0760(18)30454-0. doi: 10.1016/j.jsbmb.2018.10.021. [Epub ahead of print].
- Serré J, Mathyssen C, Ajime TT, et al. Data on inflammatory cytokines and pathways involved in clearance of Nontypeable Haemophilus influenzae from the lungs during cigarette smoking and vitamin D deficiency. Data Brief. 2018 Dec 18;22:703-708. doi: 10.1016/j.dib.2018.12.048. eCollection 2019 Feb.
- Timmers NKLM, Stellato RK, van der Ent CK, et al. Vitamin D intake, serum 25-hydroxy vitamin D and pulmonary function in paediatric patients with cystic fibrosis: a longitudinal approach. Br J Nutr. 2019 Jan;121(2):195-201. doi: 10.1017/S0007114518003021. Epub 2018 Nov 16.
- Tomaszewska M, Sarnowska E, Rusetska N, et al. Role of Vitamin D and Its Receptors in the Pathophysiology of Chronic Rhinosinusitis. J Am Coll Nutr. 2018 Nov 2:1-11. doi: 10.1080/07315724.2018.1503102. [Epub ahead of print].
- Tzilas V, Bouros E, Barbayianni I, et al. Vitamin D prevents experimental lung fibrosis and predicts survival in patients with idiopathic pulmonary fibrosis. Pulm Pharmacol Ther. 2019 Jan 16. pii: S1094-5539(18)30233-5. doi: 10.1016/j.pupt.2019.01.003. [Epub ahead of print].
- Win SS, Camargo CA Jr, Khaw KT, et al. Cross-sectional associations of vitamin D status with asthma prevalence, exacerbations, and control in New Zealand adults. J Steroid Biochem Mol Biol. 2018 Nov 30. pii: S0960-0760(18)30348-0. doi: 10.1016/j.jsbmb.2018.11.016. [Epub ahead of print].
- Yaghoobi MH, Taher A, Seifrabie MA, et al. Serum vitamin D level was not associated with severity of ventilator associated pneumonia. Rom J Intern Med. 2018 Nov 15. pii: /j/rjim.ahead-of-print/rjim-2018-0033/rjim-2018-0033.xml. doi: 10.2478/rjim-2018-0033. [Epub ahead of print].

PSYCHIATRY

- Altun H, Kurutaş EB, Şahin N, et al. The Levels of Vitamin D, Vitamin D Receptor, Homocysteine and Complex B Vitamin in Children with Autism Spectrum Disorders. Clin Psychopharmacol Neurosci. 2018 Nov 30;16(4):383-390. doi: 10.9758/cpn.2018.16.4.383.
- Arastoo AA, Khojastehkia H, Rahimi Z, et al. Evaluation of serum 25-Hydroxy vitamin D levels in children with autism Spectrum disorder. Ital J Pediatr. 2018 Dec 17;44(1):150. doi: 10.1186/s13052-018-0587-5.
- Bozdogan ST, Kutuk MO, Tufan E, et al. No Association between Polymorphisms of Vitamin D and Oxytocin Receptor Genes and Autistic Spectrum Disorder in a Sample of Turkish Children. Clin Psychopharmacol Neurosci. 2018 Nov 30;16(4):415-421. doi: 10.9758/cpn.2018.16.4.415.
- Briggs R, McCarroll K, O'Halloran A, et al. Vitamin D Deficiency Is Associated With an Increased Likelihood of Incident Depression in Community-Dwelling Older Adults. J Am Med Dir Assoc. 2018 Nov 20. pii: S1525-8610(18)30579-6. doi: 10.1016/j.jamda.2018.10.006. [Epub ahead of print].
- de Koning EJ, Elstgeest LEM, Comijs HC, et al. Vitamin D Status and Depressive Symptoms in Older Adults: A Role for Physical Functioning? Am J Geriatr Psychiatry. 2018 Nov;26(11):1131-1143. doi: 10.1016/j.jagp.2018.03.004. Epub 2018 Mar 12.
- Dehbokri N, Noorazar G, Ghaffari A, et al. Effect of vitamin D treatment in children with attention-deficit hyperactivity disorder. World J Pediatr. 2018 Nov 19. doi: 10.1007/s12519-018-0209-8. [Epub ahead of print].
- di Michele F. Vitamin D supplementation in obsessive-compulsive disorder. Psychiatry Res. 2018 Dec;270:1174. doi: 10.1016/j.psychres.2018.06.059. Epub 2018 Jul 5.
- Eyles DW, Trzaskowski M, Vinkhuyzen AAE, et al. The association between neonatal vitamin D status and risk of schizophrenia. Sci Rep. 2018 Dec 6;8(1):17692. doi: 10.1038/s41598-018-35418-z.
- Gu Y, Luan X, Ren W, et al. Impact of seasons on stroke-related depression, mediated by vitamin D status. BMC Psychiatry. 2018 Nov 8;18(1):359. doi: 10.1186/s12888-018-1944-z.
- Infante M, Sears B, Rizzo AM, et al. Omega-3 PUFAs and vitamin D co-supplementation as a safe-effective therapeutic approach for core symptoms of autism spectrum disorder: case report and literature review. Nutr Neurosci. 2018 Dec 13:1-12. doi: 10.1080/1028415X.2018.1557385. [Epub ahead of print].
- Jorde R, Kubiak J. No improvement in depressive symptoms by vitamin D supplementation: results from a randomised controlled trial. J Nutr Sci. 2018 Nov 22;7:e30. doi: 10.1017/jns.2018.19. eCollection 2018.
- Mazahery H, Conlon CA, Beck KL, et al. A Randomised-Controlled Trial of Vitamin D and Omega-3 Long Chain Polyunsaturated Fatty Acids in the Treatment of Core Symptoms of Autism Spectrum Disorder in Children. J Autism Dev Disord. 2019 Jan 3. doi: 10.1007/s10803-018-3860-y. [Epub ahead of print].

- Muscogiuri G, Barrea L, Scannapieco M, et al. The lullaby of the sun: the role of vitamin D in sleep disturbance. Sleep Med. 2018 Nov 24;54:262-265. doi: 10.1016/j.sleep.2018.10.033. [Epub ahead of print] Review.
- Okereke OI. The Challenging Task of Addressing the Role of Vitamin D in Late-life Depression: Considerations of Measures, Confounders, Mediators, and Moderators. Am J Geriatr Psychiatry. 2018 Nov;26(11):1144-1146. doi: 10.1016/j.jagp.2018.08.010. Epub 2018 Aug 25.
- van den Berg KS, Arts MHL, Collard RM, et al. Vitamin D deficiency and course of frailty in a depressed older population. Aging Ment Health. 2018 Nov 15:1-7. doi: 10.1080/13607863.2018.1515885. [Epub ahead of print].

RHEUMATOLOGY

- [No authors listed] The Effect of Vitamin D Supplementation on Inflammatory and Hemostatic Markers and Disease Activity in Patients with Systemic Lupus Erythematosus: A Randomized Placebo-controlled Trial. J Rheumatol. 2018 Dec;45(12):1713. doi: 10.3899/jrheum.111594.RET1.
- [No authors listed]. Erratum: Vitamin D and skeletal health during growth: the functional muscle-bone unit. Am J Clin Nutr. 2018 Dec 1;108(6):1356. doi: 10.1093/ajcn/nqy292.
- [No authors listed]. Vitamin D supplementation and its influence on muscle strength and mobility in community-dwelling older persons: a systematic review and meta-analysis. J Hum Nutr Diet. 2018 Dec;31(6):825-826. doi: 10.1111/jhn.12605.
- Aloia J, Fazzari M, Islam S, et al. Vitamin D Supplementation in Elderly Black Women Does Not Prevent Bone Loss: A Randomized Controlled Trial. J Bone Miner Res. 2018 Nov;33(11):1916-1922. doi: 10.1002/jbmr.3521. Epub 2018 Jul 19.
- Aloia JF. Reply to: Towards a Consensus on Vitamin D Supplementation and Bone Health. J Bone Miner Res. 2018 Dec 14. doi: 10.1002/jbmr.3633. [Epub ahead of print]
- Antinozzi C, Marampon F, Sgrò P, et al. Comparative study of testosterone and vitamin D analogue, elocalcitol, on insulin-controlled signal transduction pathway regulation in human skeletal muscle cells. J Endocrinol Invest. 2019 Jan 1. doi: 10.1007/s40618-018-0998-6. [Epub ahead of print].
- Aspray TJ, Chadwick T, Francis RM, et al. Randomized controlled trial of vitamin D supplementation in older people to optimize bone health. Am J Clin Nutr. 2019 Jan 8. doi: 10.1093/ajcn/nqy280. [Epub ahead of print].
- Assimos DG. Re: Vitamin D, Calcium, or Combined Supplementation for the Primary Prevention of Fractures in Community-Dwelling Adults. J Urol. 2019 Jan 15. doi: 10.1097/01.JU.0000553270.08001.75. [Epub ahead of print]
- Beyer K, Lie SA, Kjellevold M, et al. Marine ω-3, vitamin D levels, disease outcome and periodontal status in rheumatoid arthritis outpatients. Nutrition. 2018 Nov;55-56:116-124. doi: 10.1016/j.nut.2018.03.054. Epub 2018 Apr 4.
- Bikle DD, Bouillon R. Vitamin D and bone and beyond. Bone Rep. 2018 Jul 4;9:120-121. doi: 10.1016/j.bonr.2018.07.003. eCollection 2018 Dec.
- Björk A, Ribom E, Johansson G, et al. Variations in the vitamin D receptor gene are not associated with measures of muscle strength, physical performance, or falls in elderly men. Data from MrOS Sweden. J Steroid Biochem Mol Biol. 2018 Nov 23. pii: S0960-0760(18)30336-4. doi: 10.1016/j.jsbmb.2018.11.014. [Epub ahead of print].
- Bolland MJ, Avenell A, Grey A. Enough data to draw conclusions about vitamin D and bone health. BMJ. 2018 Nov 15;363:k4755. doi: 10.1136/bmj.k4755.
- Brickley MB, Mays S, George M, et al. Analysis of patterning in the occurrence of skeletal lesions used as indicators of vitamin D deficiency in subadult and adult skeletal remains. Int J Paleopathol. 2018 Dec;23:43-53. doi: 10.1016/j.ijpp.2018.01.001. Epub 2018 Jan 17.
- Cao S, Tian XL, Yu WX, et al. Oleanolic Acid and Ursolic Acid Improve Bone Properties and Calcium Balance and Modulate Vitamin D Metabolism in Aged Female Rats. Front Pharmacol. 2018 Dec 4;9:1435. doi: 10.3389/fphar.2018.01435. eCollection 2018.
- Carswell AT, Oliver SJ, Wentz LM, et al. Influence of Vitamin D Supplementation by Sunlight or Oral D3 on Exercise Performance. Med Sci Sports Exerc. 2018 Dec;50(12):2555-2564. doi: 10.1249/MSS.0000000000001721.
- Chiodini I, Gennari L. Falls, fractures and vitamin D: a never-ending story? Nat Rev Rheumatol. 2019 Jan;15(1):6-8. doi: 10.1038/s41584-018-0135-0.
- Cuellar WA, Blizzard L, Hides JA, et al. Vitamin D supplements for trunk muscle morphology in older adults: secondary analysis of a randomized controlled trial. J Cachexia Sarcopenia Muscle. 2018 Nov 22. doi: 10.1002/jcsm.12364. [Epub ahead of print].
- Dalle Carbonare L, Valenti MT, Del Forno F, et al. Vitamin D Daily versus Monthly Administration: Bone Turnover and Adipose Tissue Influences. Nutrients. 2018 Dec 6;10(12). pii: E1934. doi: 10.3390/nu10121934.
- Degli Esposti L, Girardi A, Saragoni S, et al. Use of antiosteoporotic drugs and calcium/vitamin D in patients with fragility fractures: impact on re-fracture and mortality risk. Endocrine. 2018 Dec 4. doi: 10.1007/s12020-018-1824-9. [Epub ahead of print].
- Deng M, Tang L, Huang D, et al. Vitamin D deficiency in connective tissue disease-associated interstitial lung disease. Clin Exp Rheumatol. 2018 Nov-Dec;36(6):1049-1055. Epub 2018 May 24.
- El Hajj C, Fares S, Chardigny JM, et al. Vitamin D supplementation and muscle strength in pre-sarcopenic elderly Lebanese people: a randomized controlled trial. Arch Osteoporos. 2018 Dec 19;14(1):4. doi: 10.1007/s11657-018-0553-2.
- Ersoy B, Kizilay DÖ, Yilmaz SK, et al. Bone mineral density, vitamin D status, and calcium intake in healthy female university students from different socioeconomic groups in Turkey. Arch Osteoporos. 2018 Dec 4;13(1):135. doi: 10.1007/s11657-018-0482-0.

- Fischer V, Haffner-Luntzer M, Prystaz K, et al. Publisher Correction: Calcium and vitamin-D deficiency marginally impairs fracture healing but aggravates posttraumatic bone loss in osteoporotic mice. Sci Rep. 2018 Nov 16;8(1):17205. doi: 10.1038/s41598-018-35539-5.
- Frighi V, Morovat A, Andrews TM, et al. Vitamin D, bone mineral density and risk of fracture in people with intellectual disabilities. J Intellect Disabil Res. 2018 Dec 19. doi: 10.1111/jir.12581. [Epub ahead of print].
- Garcia-Alfaro P, Garcia S, Rodríguez I, et al. Factors related to muscle strength in postmenopausal women aged younger than 65 years with normal vitamin D status. Climacteric. 2019 Jan 17:1-5. doi: 10.1080/13697137.2018.1554645. [Epub ahead of print].
- Goldman AL, Donlon CM, Cook NR, et al. VITamin D and OmegA-3 TriaL (VITAL) bone health ancillary study: clinical factors associated with trabecular bone score in women and men. Osteoporos Int. 2018 Nov;29(11):2505-2515. doi: 10.1007/s00198-018-4633-3. Epub 2018 Jul 18.
- Granlund L, Norberg M, Ramnemark A, et al. Vitamin D is associated with lower limb muscle strength and grip strength in Middle Eastern- and African-born immigrants in Sweden. Nutr Res. 2018 Nov;59:29-35. doi: 10.1016/j.nutres.2018.07.009. Epub 2018 Jul 12.
- Gu J, Wang C, Zhang H, et al. No association between the vitamin D pathway gene polymorphisms and bone biomarkers response to calcium and low dose calcitriol supplementation in postmenopausal Chinese women: a one-year prospective study. Biomarkers. 2018 Nov;23(7):664-669. doi: 10.1080/1354750X.2018.1474259. Epub 2018 May 18.
- Guła Z, Kopczyńska A, Hańska K, et al. Vitamin D serum concentration is not related to the activity of spondyloarthritis - preliminary study. Reumatologia. 2018;56(6):388-391. doi: 10.5114/reum.2018.80717. Epub 2018 Dec 23.
- Havens PL, Tamhane A, Stephensen CB, et al. Association of Vitamin D Insufficiency and Protective Tenofovir Diphosphate Concentrations with Bone Toxicity in Adolescent Boys and Young Men Using Tenofovir Disoproxil Fumarate/Emtricitabine for HIV Pre-Exposure Prophylaxis. AIDS Res Hum Retroviruses. 2018 Nov 5. doi: 10.1089/AID.2018.0096. [Epub ahead of print].
- Huovinen J, Hussain MH, Niemelä M, et al. Pharmacokinetics of intra-articular vitamin D analogue calcipotriol in sheep and metabolism in human synovial and mesenchymal stromal cells. J Steroid Biochem Mol Biol. 2018 Dec 15. pii: S0960-0760(18)30332-7. doi: 10.1016/j.jsbmb.2018.12.006. [Epub ahead of print].
- Kaspiris A, Savvidou OD, Chrronopoulos E, et al. Juvenile transient bone marrow oedema of the foot associated with Vitamin D deficiency: A case study and an overview of pathogenesis and treatment. Foot (Edinb). 2019 Jan 4;38:50-53. doi: 10.1016/j.foot.2019.01.002. [Epub ahead of print].
- Kinoshita M, Ishijima M, Kaneko H, et al. The increase in bone mineral density by bisphosphonate with active vitamin D analog is associated with the serum calcium level within the reference interval in postmenopausal osteoporosis. Mod Rheumatol. 2019 Jan;29(1):157-164. doi: 10.1080/14397595.2018.1442671. Epub 2018 Mar 9.
- Kruger MC, Chan YM, Lau LT, et al. Calcium and vitamin D fortified milk reduces bone turnover and improves bone density in postmenopausal women over 1 year. Eur J Nutr. 2018 Dec;57(8):2785-2794. doi: 10.1007/s00394-017-1544-6. Epub 2017 Oct 3.
- Lelli D, Pérez Bazan LM, Calle Egusquiza A, et al. 25(OH) vitamin D and functional outcomes in older adults admitted to rehabilitation units: the safari study. Osteoporos Int. 2019 Jan 16. doi: 10.1007/s00198-019-04845-7. [Epub ahead of print].
- Lewis JR, Sim M, Daly RM. The vitamin D and calcium controversy: an update. Curr Opin Rheumatol. 2018 Dec 27. doi: 10.1097/BOR.0000000000000584. [Epub ahead of print].
- Li D, Jeffery LE, Jenkinson C, et al. Serum and synovial fluid vitamin D metabolites and rheumatoid arthritis. J Steroid Biochem Mol Biol. 2019 Jan 3. pii: S0960-0760(18)30486-2. doi: 10.1016/j.jsbmb.2018.10.008. [Epub ahead of print].
- Liu Y, Wen H. Impact of vitamin D deficiency on clinical parameters in treatment-naïve rheumatoid arthritis patients. Z Rheumatol. 2018 Nov;77(9):833-840. doi: 10.1007/s00393-018-0426-5.
- Maier GS, Lazovic D, Maus U, et al. Vitamin D Deficiency: The Missing Etiological Factor in the Development of Juvenile Osteochondrosis Dissecans? J Pediatr Orthop. 2019 Jan;39(1):51-54. doi: 10.1097/BPO.0000000000000921.
- Mammoli F, Castiglioni S, Parenti S, et al. Magnesium Is a Key Regulator of the Balance between Osteoclast and Osteoblast Differentiation in the Presence of Vitamin D_3. Int J Mol Sci. 2019 Jan 17;20(2). pii: E385. doi: 10.3390/ijms20020385.
- Mangano KM, Noel SE, Sahni S, et al. Higher Dairy Intakes Are Associated with Higher Bone Mineral Density among Adults with Sufficient Vitamin D Status: Results from the Boston Puerto Rican Osteoporosis Study. J Nutr. 2019 Jan 2. doi: 10.1093/jn/nxy234. [Epub ahead of print].
- Mays S, Brickley MB. Vitamin D deficiency in bioarchaeology and beyond: The study of rickets and osteomalacia in the past. Int J Paleopathol. 2018 Dec;23:1-5. doi: 10.1016/j.ijpp.2018.05.004. Epub 2018 Jul 27.
- Mellor-Pita S, Tutor-Ureta P, Rosado S, et al. Calcium and vitamin D supplement intake may increase arterial stiffness in systemic lupus erythematosus patients. Clin Rheumatol. 2019 Jan 9. doi: 10.1007/s10067-018-04416-x. [Epub ahead of print].
- Meng D, Ding X, Lan J, et al. Association of vitamin D receptor ApaI gene polymorphism with osteoporosis susceptibility in postmenopausal Han Chinese women in Xinjiang. Biomed Rep. 2018 Dec;9(6):483-490. doi: 10.3892/br.2018.1155. Epub 2018 Oct 3.
- Minisola S, Marin F, Kendler DL, et al. Serum 25-hydroxy-vitamin D and the risk of fractures in the teriparatide versus risedronate VERO clinical trial. Arch Osteoporos. 2019 Jan 18;14(1):10. doi: 10.1007/s11657-019-0561-x.
- Oehler N, Mussawy H, Schmidt T, et al. Identification of vitamin D and other bone metabolism parameters as risk factors for primary bone marrow oedema syndrome. BMC Musculoskelet Disord. 2018 Dec

22;19(1):451. doi: 10.1186/s12891-018-2379-x.

- Pazianas M. Effectiveness of calcium and vitamin D supplementation in osteoporosis. Ann N Y Acad Sci. 2018 Dec;1433(1):5-6. doi: 10.1111/nyas.13658. Epub 2018 Mar 25.
- Penner J, Ferrand RA, Richards C, et al. The impact of vitamin D supplementation on musculoskeletal health outcomes in children, adolescents, and young adults living with HIV: A systematic review. PLoS One. 2018 Nov 15;13(11):e0207022. doi: 10.1371/journal.pone.0207022. eCollection 2018.
- Pereda CA, Nishishinya MB, Roldan EJA. 25-Hydroxyvitamin D serum levels in rheumatic female patients in southeast Spain: The paradigm of daily optimal sunshine levels and inadequate vitamin D status. Endocrinol Diabetes Nutr. 2018 Dec 9. pii: S2530-0164(18)30234-9. doi: 10.1016/j.endinu.2018.08.012. [Epub ahead of print] English, Spanish.
- Ranathunga R, Hill TR, Mathers JC, et al. No effect of monthly supplementation with 12000 IU, 24000 IU or 48000 IU vitamin D3 for one year on muscle function: The vitamin D in older people study. J Steroid Biochem Mol Biol. 2018 Dec 21. pii: S0960-0760(18)30494-1. doi: 10.1016/j.jsbmb.2018.12.008. [Epub ahead of print].
- Rangarajan R, Mondal S, Thankachan P, et al. Assessing bone mineral changes in response to vitamin D supplementation using natural variability in stable isotopes of Calcium in Urine. Sci Rep. 2018 Nov 13;8(1):16751. doi: 10.1038/s41598-018-34568-4.
- Retraction: Paper "Differential Effect of Vitamin K and Vitamin D Supplementation on Bone Mass in Young Rats Fed Normal or Low Calcium Diet" by Iwamoto J, et al. [Yonsei Med J 2004;45(2):314-324]. Yonsei Med J. 2019 Jan;60(1):116. doi: 10.3349/ymj.2019.60.1.116.
- Sarkissian A, Sivaraman V, Bout-Tabaku S, et al. Bone turnover markers in relation to vitamin D status and disease activity in adults with systemic lupus erythematosus. Lupus. 2018 Dec 3:961203318815593. doi: 10.1177/0961203318815593. [Epub ahead of print].
- Schlögl M, Chocano-Bedoya P, Dawson-Hughes B, et al. Effect of Monthly Vitamin D on Chronic Pain Among Community-Dwelling Seniors: A Randomized, Double-Blind Controlled Trial. J Am Med Dir Assoc. 2018 Nov 3. pii: S1525-8610(18)30495-X. doi: 10.1016/j.jamda.2018.09.004. [Epub ahead of print].
- Scimeca M, Centofanti F, Celi M, et al. Vitamin D Receptor in Muscle Atrophy of Elderly Patients: A Key Element of Osteoporosis-Sarcopenia Connection. Aging Dis. 2018 Dec 4;9(6):952-964. doi: 10.14336/AD.2018.0215. eCollection 2018 Dec.
- Sengler C, Zink J, Klotsche J, et al. Vitamin D deficiency is associated with higher disease activity and the risk for uveitis in juvenile idiopathic arthritis - data from a German inception cohort. Arthritis Res Ther. 2018 Dec 13;20(1):276. doi: 10.1186/s13075-018-1765-y.
- Songpatanasilp T, Rojanasthien S, Sugkraroek P, et al. Open-label study of treatment with alendronate sodium plus vitamin D in men and women with osteoporosis in Thailand. BMC Musculoskelet Disord. 2018 Nov 6;19(1):392. doi: 10.1186/s12891-018-2309-y.
- Soubrier M, Lambert C, Combe B, et al. A randomised, double-blind, placebo-controlled study assessing the efficacy of high doses of vitamin D on functional disability in patients with rheumatoid arthritis. Clin Exp Rheumatol. 2018 Nov-Dec;36(6):1056-1060. Epub 2018 Jul 18.
- Sugiyama T. Vitamin D status and bone health: a possible inverse association. BMJ. 2019 Jan 11;364:l111. doi: 10.1136/bmj.l111.
- Sun JY, Zhao M, Hou Y, et al. Circulating serum vitamin D levels and total body bone mineral density: A Mendelian randomization study. J Cell Mol Med. 2019 Jan 13. doi: 10.1111/jcmm.14153. [Epub ahead of print].
- Suzuki T, Nakamura Y, Kato H. Calcium and vitamin D supplementation with 3-year denosumab treatment is beneficial to enhance bone mineral density in postmenopausal patients with osteoporosis and rheumatoid arthritis. Ther Clin Risk Manag. 2018 Dec 18;15:15-22. doi: 10.2147/TCRM.S182858. eCollection 2019.
- Tangestani H, Djafarian K, Emamat H, et al. Efficacy of vitamin D fortified foods on bone mineral density and serum bone biomarkers: A systematic review and meta-analysis of interventional studies. Crit Rev Food Sci Nutr. 2019 Jan 13:1-10. doi: 10.1080/10408398.2018.1558172. [Epub ahead of print].
- Thambiah SC, Wong TH, Gupta ED, et al. Calculation of free and bioavailable vitamin D and its association with bone mineral density in Malaysian women. Malays J Pathol. 2018 Dec;40(3):287-294.
- Thomas JE, Bhat AK, Rao M, et al. Use of Vitamin D Supplements in Osteoarthritis: An Observational Study in a Tertiary Health Care Facility. J Am Coll Nutr. 2018 Nov 28:1-8. doi: 10.1080/07315724.2018.1494641. [Epub ahead of print].
- Veronese N, La Tegola L, Mattera M, et al. Vitamin D Intake and Magnetic Resonance Parameters for Knee Osteoarthritis: Data from the Osteoarthritis Initiative. Calcif Tissue Int. 2018 Nov;103(5):522-528. doi: 10.1007/s00223-018-0448-7. Epub 2018 Jun 25.
- Wakefield CB, Yumol JL, Sacco SM, et al. Bone structure is largely unchanged in growing male CD-1 mice fed lower levels of vitamin D and calcium than in the AIN-93G diet. Bone Rep. 2018 Dec 30;10:100191. doi: 10.1016/j.bonr.2018.100191. eCollection 2019 Jun.
- Wang XR, Xiao JP, Zhang JJ, et al. Decreased serum/plasma vitamin D levels in SLE patients: A Meta-analysis. Curr Pharm Des. 2019 Jan 11. doi: 10.2174/1381612825666190111145848. [Epub ahead of print].
- Wang Y, Buckendahl P, Sharma K, et al. Expression of vitamin D hydroxylases and bone quality in obese mice consuming saturated or monounsaturated enriched high-fat diets. Nutr Res. 2018 Dec;60:106-115. doi: 10.1016/j.nutres.2018.08.006. Epub 2018 Sep 5.
- Watthanasuntorn K, Abid H, Gnanajothy R. Severe hypocalcaemia following denosumab in a patient with cancer with vitamin D deficiency. BMJ Case Rep. 2018 Dec 13;11(1). pii: e226727. doi: 10.1136/bcr-2018-226727.

- Xia Z, Man Q, Li L, et al. Vitamin D receptor gene polymorphisms modify the association of serum 25-hydroxyvitamin D levels with handgrip strength in the elderly in Northern China. Nutrition. 2019 Jan;57:202-207. doi: 10.1016/j.nut.2018.05.025. Epub 2018 Jun 18.
- Yu Q, Qiao Y, Liu D, et al. Vitamin D protects podocytes from autoantibodies induced injury in lupus nephritis by reducing aberrant autophagy. Arthritis Res Ther. 2019 Jan 11;21(1):19. doi: 10.1186/s13075-018-1803-9.
- Zheng S, Tu L, Cicuttini F, et al. Effect of Vitamin D Supplementation on Depressive Symptoms in Patients With Knee Osteoarthritis. J Am Med Dir Assoc. 2018 Nov 3. pii: S1525-8610(18)30497-3. doi: 10.1016/j.jamda.2018.09.006. [Epub ahead of print].
- Zheng S, Wang B, Han W, et al. Vitamin D supplementation and inflammatory and metabolic biomarkers in patients with knee osteoarthritis: post hoc analysis of a randomised controlled trial - Corrigendum. Br J Nutr. 2019 Jan;121(1):118-119. doi: 10.1017/S0007114518002702. Epub 2018 Nov 15.
- Zhou T, Sun D, Heianza Y, et al. Genetically determined vitamin D levels and change in bone density during a weight-loss diet intervention: the Preventing Overweight Using Novel Dietary Strategies (POUNDS Lost) Trial. Am J Clin Nutr. 2018 Nov 1;108(5):1129-1134. doi: 10.1093/ajcn/nqy197.