

Vitamin D နှင့် အမေးများသော မေးခွန်းများ

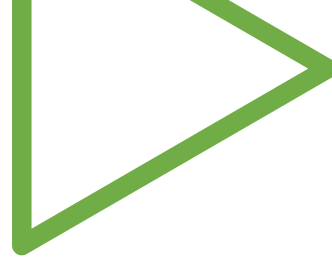
Vitamin D & Frequently Asked Questions

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- တနေ့ Vitamin D ဘယ်လောက်အားသောက်သင့်ပါလဲ?
- နေ့တိုင်း Vitamin D ဘယ်လောက်သောက်ရင်လုံလောက်ပါသလဲ?
- 5000.iu ဆိုရင်တစ်နေ့ဘယ်နှစ်လုံးသောက်ရပါမလဲ?
- တနေ့ လိုအပ်ချက်က ဘယ်လောက်ပါလဲ?
- Vit. D က ကိုယ်ထဲမှာဘယ်လောက်ရှိတယ်ဆိုတာ တိုင်းတာလို့ရနိုင်ပါသလား?

- Vitamin D ရရန်နေရောင်ခံရင်ရောရနိုင်ပါသလား။
ဆေးသောက်ရန်လိုအပ်ပါသလား။
- Vitamin D အတွက် နေရောင်ခံပေးရမယ်ဆို အချိန်လေးပြောပြပေးပါ။
- Vit D deficiency ရဲ့ body impacts များ သိချင်ပါတယ်။
- Vitamin D ကို လိုအပ်သည်ထက် အလွန်အကျွံ သောက်သုံးမိပါက မည်သို့သော ရောဂါများဖြစ်လာနိုင်ပါသလဲ?

• ဘယ်လိုလူတွေမှာ ဆေးသောက်ဖို့ လိုအပ်ပါလဲ?

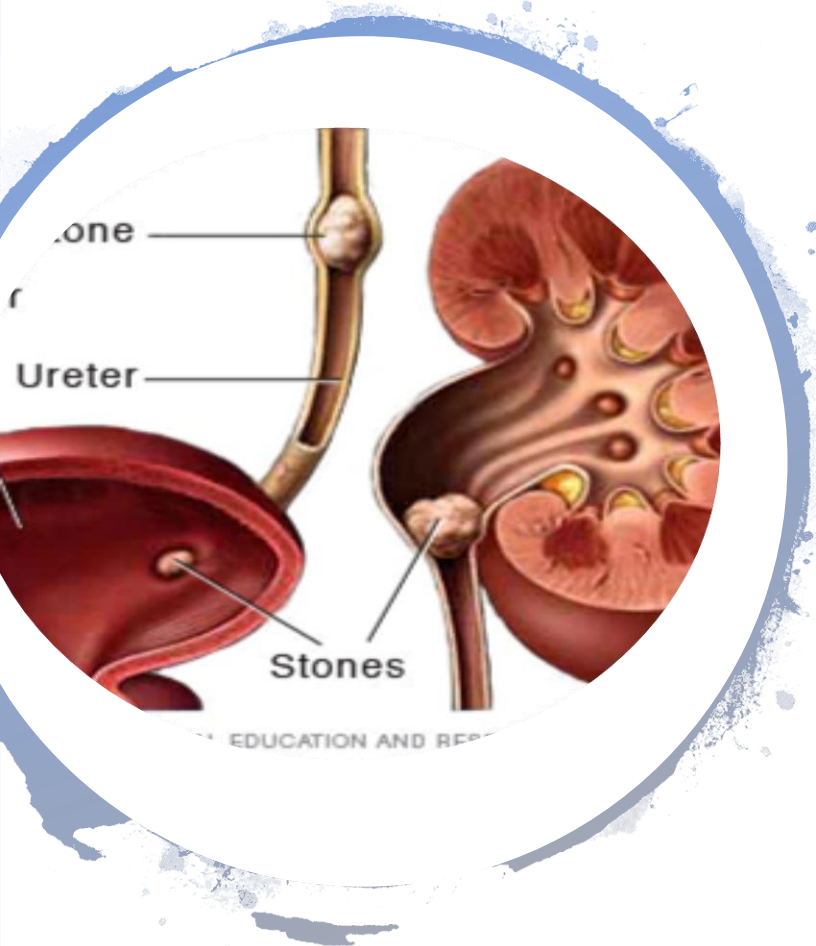


ဗီတာမင် D ချို့တဲ့နိုင်သော အုပ်စု

- နို့စို့ကလေးငယ်များ
- သက်ကြီးရွယ်အိုများ
- နေရောင်နှင့် ထိတွေ့မှု နည်းသော လူများ
- အသားအရောင် မည်းသော သူများ
- ဘာသာရေး ဆိုင်ရာ ပုဂ္ဂိုလ်များ
- အူလမ်းကြောင်း ပြဿနာရှိသော လူနာများ/ ခွဲစိတ်ခံဖူးသော
- တချို့ဆေးဝါးများ - ART, Anticonvulsant
- နာတာရှည် ကျောက်ကပ် ဝေဒနာရှင်များ
- အရိုးပွ အရိုးပါး လူနာများ
- အသည်း ရောဂါ လူနာများ

ဗီတာမင် D မသောက်သုံးသင့်သော လူနာများ

- သွေးတွင်း ကယ်လ်စီယမ်ဓာတ် များနေသော လူများ
- Sarcoidosis
- Parathyroid disease



Can we use the recommended dose / usual dose of Vitamin D to a patient who also has both severely Vit D deficient and Renal stone ?

Vitamin D နှင့် ကျောက်ကပ်/ဆီး ကျောက်တည်ခြင်း



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Vitamin D Intake and the Risk of Incident Kidney Stones

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- a prospective analysis of 193,551 participants of the Health Professionals Follow-up Study (HPFS), Nurses' Health Study (NHS) I and II.
- Participants were divided into categories of
 - total (<100, 100–199, 200–399, 400–599, 600–999, $\geq 1,000$ IU/day)&
 - supplemental (none, <400, 400–599, 600–999, $\geq 1,000$ IU/day) vit D intake.

During a follow-up of 3,316,846 person-years, there were 6,576 incident kidney stone events

Results

- no statistically significant association between intake of vitamin D and risk of stones in HPFS (HR for $\geq 1,000$ vs < 100 IU/day 1.08, 95% CI 0.80, 1.47, p-value for trend = 0.92) and NHS I (HR 0.99, 95% CI 0.73, 1.35, p-value for trend = 0.70),
- whereas there was a suggestion of higher risk in NHS II (HR 1.18, 95% CI 0.94, 1.48, p-value for trend = 0.02).
- Similar results were found for supplemental vitamin D intake.

Conclusions

- Vitamin D intake in typical amounts was *not statistically associated with risk of kidney stone formation*, though higher risk with higher doses than those studied here cannot be excluded.

International Urology and Nephrology (2019) 51:101–111

<https://doi.org/10.1007/s11255-018-1965-z>

NEPHROLOGY - REVIEW



Vitamin D and calcium kidney stones: a review and a proposal

Sanaz Tavasoli¹  · Maryam Taheri¹ 

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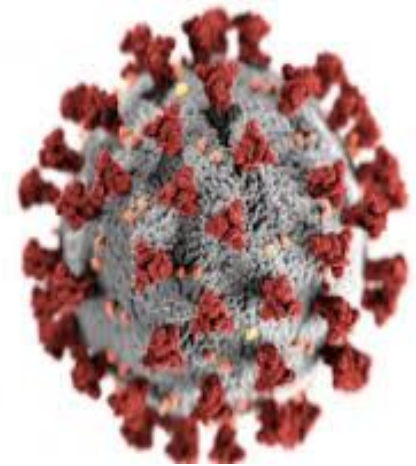
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- no consensus on the management of vitamin D deficiency in patients with renal calculi
- the vitamin D deficiency is highly prevalent among kidney stone formers
- review the relationship between calcium stones and vitamin D, and propose a mechanism for the association between vitamin D deficiency and calcium-based calculi according to the substantial role of inflammation and oxidative stress in calcium stone formation and also the pro-inflammatory effect of vitamin D deficiency

Conclusion

- Although higher serum vitamin D was previously considered as a risk factor for Ca stone formation,. *vitamin D deficiency may also exacerbate kidney stone formation or severity*
- The suggested mechanisms for this association are secondary hyperparathyroidism and the similar risk factors for vitamin D deficiency and Ca stone formation.

- ယနေ့ကာလတွင် Vitamin D ပမာဏကို
တိုးမြှင့်ပြီး short term- high dose
သောက်သုံးခြင်းက ကိုဗစ်ရောဂါကို
ကာကွယ်ပေးနိုင်ခြင်းရှိမရှိ?





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“Effect of calcifediol treatment and best available therapy versus best available therapy on intensive care unit admission and mortality among patients hospitalized for COVID-19: A pilot randomized clinical study”

Marta Entrenas Castillo^a, Luis Manuel Entrenas Costa^{a,*}, José Manuel Vaquero Barrios^a,
Juan Francisco Alcalá Díaz^b, José López Miranda^b, Roger Bouillon^c,
José Manuel Quesada Gomez^d



- 76 consecutive patients hospitalized with COVID-19 infection (clinical picture of acute respiratory)infection
- All hospitalized patients received as best available therapy the same standard care, of a combination of hydroxychloroquine (400 mg every 12 h on the first day, and 200 mg every 12 h for the following 5 days), azithromycin (500 mg orally for 5 days).
- Eligible patients were allocated at a 2 calcifediol:1 no calcifediol ratio on the day of admission to take oral calcifediol (0.532 mg), or not
- Patients in the calcifediol treatment group continued with oral calcifediol (0.266 mg) on day 3 and 7, and then weekly until discharge or ICU admission. Outcomes of effectiveness included rate of ICU admission and deaths.

Results:

- Of 50 patients treated with calcifediol, 1 required admission to the ICU (2%), while of 26 untreated patients, 13 required admission (50 %)
- Of the patients treated with calcifediol, none died, and all were discharged, without complications.
- The 13 patients not treated with calcifediol, who were not admitted to the ICU, were discharged.
- Of the 13 patients admitted to the ICU, two died and the remaining 11 were discharged

Conclusion:

- administration of a high dose of Calcifediol or 25-hydroxyvitamin D, significantly reduced the need for ICU treatment of patients requiring hospitalization due to proven COVID-19.
- Calcifediol seems to be able to reduce severity of the disease, but larger trials with groups properly matched will be required to show a definitive answer.

[News](#) > [Medscape Medical News](#)

Vitamin D Deficiency in COVID-19 Quadruples Death Rate

Becky McCall

December 11, 2020

 [32 Read Comments](#)

Vitamin D deficiency on admission to hospital was associated with a 3.7-fold increase in the odds of dying from COVID-19, according to an observational study looking back at data from the first wave of the pandemic.

NICE National Institute for
Health and Care Excellence



sacn
Scientific Advisory Committee on Nutrition



COVID-19 rapid guideline: vitamin D

NICE guideline

Published: 17 December 2020

www.nice.org.uk/guidance/ng187

Recommendations

→ Adults (including women who are pregnant or breastfeeding), young people and children over 4 years should consider taking a daily supplement containing **10 micrograms (400 IU)** of vitamin D between October and early March

→ Adults, young people and children over 4 years should consider taking a daily supplement containing **10 micrograms (400 IU)** of vitamin D throughout the year:

- if they have little or no sunshine exposure
- if they have dark skin

❖ **Do not offer** a vitamin D supplement to people solely to prevent COVID-19, except as part of a clinical trial.

❖ **Do not offer** a vitamin D supplement to people solely to treat COVID-19, except as part of a clinical trial.

'Not Enough Evidence' to Recommend Vitamin D for COVID-19 Treatment

Peter Russell

December 17, 2020

SPECIAL ALERT

Coronavirus Resource Centre

Find all the latest UK news, expert opinion, and guidance on COVID-19.



There is currently insufficient evidence to recommend vitamin D for the prevention or treatment of COVID-19.

However, experts confirmed current advice to take vitamin D supplements to help in the prevention of respiratory viruses.

The National Institute for Health and Care Research (NIHR) funded the review. The review was undertaken in collaboration with Public Health England (PHE) and the Scientific Advisory Group on Nutrition (SACN).

Data reviewed by the panel included the best available scientific evidence published so far, including both observational studies and randomised controlled trials.

Evidence Is 'Inconsistent'

Covid-19 ကာကွယ်ရန်နှင့် ကုသရန်
အတွက် Vitamin D ကို
အသုံးပြုရန် လုံလောက်သော အထောက်
အထား မရှိပါ။



Role of vitamin D in type 2 DM

ဗီတာမင်ဒီနှင့် ဆီးချိုသွေးချို

- ခန္ဓာကိုယ်၌ insulin sensitivity ကိုကောင်းစေနိုင်။
- Insulin resistance ကျစေနိုင်။
- Vitamin D သည် pancreas မှ insulin ထုတ်ပေးခြင်းကို အထောက်အကူပြုပေးသည်။

Efficacy of oral vitamin D on glycated haemoglobin (HbA1c) in type 2 diabetics having vitamin D deficiency — A randomized controlled trial

Dur Muhammad Khan,¹ Asif Jamil,² Fawad Ahmad Randhawa,³ Nasir Farooq Butt,⁴ Uzma Malik⁵

Abstract

Objective: To study the efficacy of oral vitamin D in improving glycaemic control of patients with type 2 diabetes by reducing glycated haemoglobin levels.

Method: This randomised control trial was carried out at Mayo Hospital, Lahore, from February 5 to August 5, 2016, and comprised type 2 diabetes patients aged 40-70 years visiting the outpatient clinics. They were randomly divided into two groups by using the lottery method. Group A received oral vitamin D along with metformin and group B received metformin only. Blood samples of both the groups were tested for glycated haemoglobin at three months to assess the change. SPSS 21 was used for data analysis.




Results: There were 140 patients divided into two groups of 70(50%) each. Mean age in Group A was 54.80±8.55 years and 58.40±7.98 years in Group B. No significant difference was seen in glycated haemoglobin levels at baseline ($p>0.05$). However, after 3 months post-treatment the levels significantly differed ($p<0.05$) in favour of Group A.

Conclusion: Vitamin D supplementation had a significant effect in lowering glycated haemoglobin level in patients with type 2 diabetes.

Keywords: Vitamin D, HbA1c, Diabetes mellitus, Type 2, Supplementation. (JPMA 68: 694; 2018)

Research Article

Effects of Vitamin D Supplementation on Glucose and Insulin Homeostasis and Incident Diabetes among Nondiabetic Adults: A Meta-Analysis of Randomized Controlled Trials

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DOI: <http://dx.doi.org/10.18203/2319-2003.ijbcp20160763>

Research Article

A study to assess the effect of vitamin D supplementation on insulin resistance and glycaemic control in type 2 diabetes mellitus patients

Parminder K. Dhillon^{1*}, Jaswant Rai¹, B. S. Bal², Navyug R. Singh¹



Effect of Vitamin D Supplementation on Glycemic Control in Patients With Type 2 Diabetes (SUNNY Trial): A Randomized Placebo-Controlled Trial

Diabetes Care 2015;38:1420–1426 | DOI: 10.2337/dc15-0323

Yvonne H.M. Krul-Poel,¹ Sanne Westra,¹ Edwin ten Boekel,² Marieke M. ter Wee,³ Natasja M. van Schoor,⁴ Hans van Wijland,⁵ Frank Stam,¹ Paul T.A.M. Lips,⁶ and Suat Simsek^{1,6}

Effect of vitamin D3 (Cholecalciferol) supplementation on insulin resistance and glycemic control in vitamin D insufficient or deficient patients with T2DM { Dr Wah Wah Linn }

164 patients with T2DM were recruited to obtain total of 60 vitamin D insufficient or deficient patients with type 2 diabetes mellitus with inadequate glycemic control (HbA1c 7.0% - 8.0%).

Among 60 vitamin D insufficient or deficient patients with T2DM, each of 30 patients was randomly assigned into supplemented group (oral vitamin D 3 (Cholecalciferol) 60,000 IU per week for 8 weeks) and unsupplemented group by using blocked randomization procedure.

Usual medical care with standard anti-diabetic agents was given to both groups.

Determination of serum 25(OH) vitamin D levels, insulin resistance (HOMA-IR) and glycemic control (HbA1c) was done in both groups at baseline and after 8 weeks

Conclusion

- supplementation of vitamin D 3 (Cholecalciferol) 60,000 IU per week for 8 weeks duration along with standard anti-diabetic agents improved insulin resistance and glycemic control significantly in vitamin D insufficient or deficient patients with inadequate controlled T2DM.



Published in final edited form as:

J Clin Endocrinol Metab. 2007 June ; 92(6): 2017–2029.

The Role of Vitamin D and Calcium in type 2 diabetes. A systematic Review and Meta-Analysis*

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1Division of Endocrinology, Diabetes and Metabolism, Tufts-New England Medical Center, Boston, MA

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3Harvard School of Public Health and Channing Laboratory, Boston, MA

4Bone Metabolism Laboratory, Jean Mayer US Department of Agriculture Human Nutrition Research Center on Aging, Tufts University, Boston, MA

Pittas et al. concluded that insufficient vitamin D and calcium appears to hinder glycemic control and that supplementing both nutrients may be necessary to optimize glucose metabolism

Association of A1C Levels With Vitamin D Status in U.S. Adults

Data from the National Health and Nutrition Examination Survey

JATUPOL KOSITSAWAT, MD, DMSC, MPH^{1,2}
VINCENT L. FREEMAN, MD, MPH³

BEN S. GERBER, MD, MPH^{4,5}
STEPHEN GERACI, MD⁶

Diasorin RIA method for 25(OH)D measurement, and Elecsys parathyroid (PTH)

RESEARCH DESIGN AND METHODS

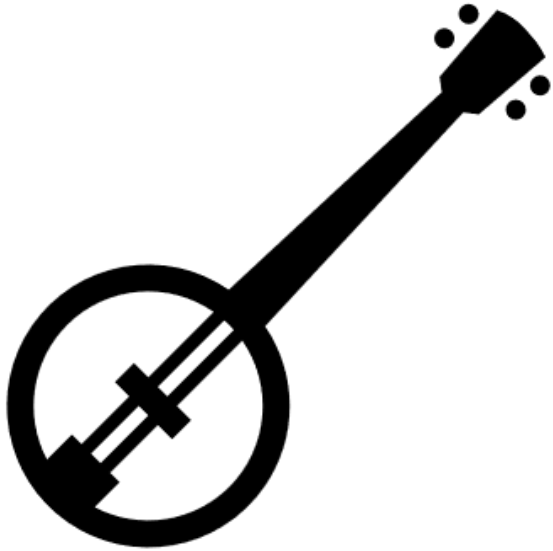
- association between serum 25 hydroxyvitamin D [25(OH)D] and A1C levels in 9,773 adults (age >18 years old) in the 2003–2006 National Health and Nutrition Examination Survey.

RESULTS

- Serum 25(OH)D levels were inversely associated with A1C levels in subjects age 35–74 years ($P = 0.0045$) and those who did not report a history of diabetes ($P = 0.0282$).

CONCLUSIONS

- a mechanistic link between serum vitamin D concentrations, glucose homeostasis, and the evolution of diabetes in a large segment of the U.S. adult population.
- **Screening people with elevated A1C levels for vitamin D insufficiency should be considered.**



သွေးကျဲဆေးသောက်နေရတာ VitaminD
သောက်လို့ရပါသလား?



သွေးကျဲဆေး

(1) Antiplatelet- Aspirin, Clopidogrel

(2) Ar

Vitamin D Drugs interaction

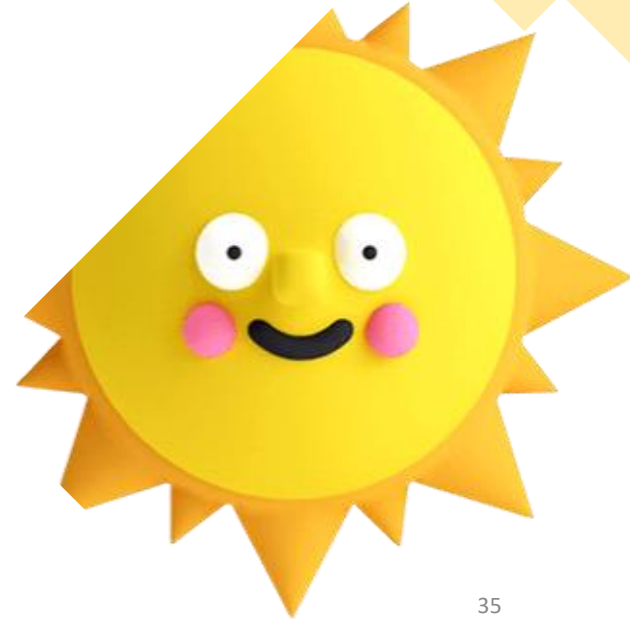
(Vitamin D နှင့်တွဲ မသောက်သင့်သော ဆေးများ)

Medicines and herbs with potential to reduce vitamin D level

- anti-inflammatory drugs – corticosteroids
- antibiotics – rifampin (rifampicin) and isoniazid
- anti-seizure drugs – phenobarbital, carbamazepine, phenytoin
- anti-cancer drugs – Taxol and related compound
- antifungal agents – clotrimazole and ketoconazole
- anti-HIV drugs-efavirenz,AZT
- Long-term use of high doses of stimulant laxatives
- herbs – St. John's wort or its extracts

Optimal Vit D3 level for cancer patients
သိချင်ပါတယ်။

Vitamin D & Cancer



MECHANISMS OF THE ANTICANCER EFFECTS OF CALCITRIOL

- Growth Arrest and Differentiation
- Apoptosis
- Inhibition of Invasion and Metastasis
- Antiinflammatory Effects
- Regulation of prostaglandin metabolism and signaling
- Inhibition of Angiogenesis

- Both prospective and retrospective studies indicate that blood levels of *Vit D < 20 ng/mL are associated with a 30% to 50% increased risk* of colon, prostate, and breast cancer as well as higher mortality rates from these diseases
- A four-year, double-blind, placebo-controlled trial of calcium and vitamin D supplementation found that improving vitamin D status by supplementing with *calcium and 1,100 IU of vitamin D3/day substantially reduced all-cancer risk* in postmenopausal women
- However, some studies indicate that blood levels as high as *60 to 80 ng/mL may be necessary to reduce cancer risk*, and that an intake of 9,600 IU/day is estimated to be the supplemental dose needed to ensure that 97.5% of the population achieve a serum calcidiol measure of at least 40 ng/mL.

- In reviewing the latest evidence to establish vitamin D recommendations, **the Institute of Medicine (IOM)** stated that while the theory that vitamin D may help prevent cancer is biologically plausible, **evidence is lacking**.
- A meta-analysis done for the US Preventive Services Task Force, (Annals of Intl Med 2011) concluded that while a *few clinical trials have suggested that high doses of vitamin D (1,000 IU/day) could reduce the total risk of cancer, more research is needed*.
-

- Although the preclinical data are persuasive and the epidemiologic data intriguing, *no well-designed clinical trial of optimal administration of vitamin D as a cancer therapy* has ever been conducted.

Take Home Message

ဗီတာမင် ဒီ တနေ့တာ လိုအပ်ချက်

(Vitamin D Daily Requirement)

Recommended Daily Dosage

ကလေး အသက် ၁၂ လ အထိ → 400 IU (10 mcg/day)

အသက် ၁ နှစ် မှ ၇၀ နှစ် အထိ → 600 IU (15 mcg/day)

အသက် ၇၀ နှစ် အထက် → 800 IU (20 mcg/day)

ကိုယ်ဝန်ဆောင်နှင့် နို့တိုက်မိခင်များ → 600 IU (15 mcg)/day

{ 1 mcg = 40 international units (IU) }

Vitamin D level - Total Serum [25(OH)D] (Reference Ranges)

Deficiency
≤ 20 ng/ml

Insufficiency
21-29 ng/ml

Optimal Range ≥ 30 ng/ml

Toxicity > 150 ng/ml

The Endocrine Society	The Institute of Medicine (Health and Medicine Division of the National Academies)	The Mayo Clinic	The American Association of Clinical Endocrinologists
Deficiency: ≤ 20 ng/ml	Deficiency: < 12 ng/ml	Severe deficiency: <10 ng/ml	Deficiency: < 30 ng/ml
Insufficiency: 21-29 ng/ml	Insufficiency: 12-20 ng/ml	Mild to moderate Deficiency: 10-24 ng/ml	Optimal: 30-50 ng/ml
Optimal: ≥ 30 ng/ml	Optimal: ≥ 20 ng/ml	Optimal: 25-80 ng/ml	



THANK YOU