

## MEDICAL POLICY – 2.04.507

# Testing Serum Vitamin D Levels

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Effective Date: Mar. 1, 2026

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Replaces: 2.04.135

RELATED MEDICAL POLICIES:

None

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## Introduction

Vitamin D is an important nutrient for maintaining good health. It is especially important for good bone health and calcium metabolism. Many studies and articles have been published in scientific journals and in lay magazines about the benefits of vitamin D. Despite all of this interest, there is very little data about optimal levels of vitamin D, and most published studies are of low quality. The endocrine society and public health experts strongly recommend against measuring vitamin D levels in healthy individuals. Vitamin D is found in some foods, has been added to other foods (cereals and milk), and is increased with exposure to the sun. The U.S. National Institutes of Health (NIH) has recommended vitamin D supplementation for Americans based on age (600 IU per day for ages 1 to 70 years of age). Testing for vitamin D levels is covered when a person has signs or symptoms of vitamin D deficiency or risk factors for vitamin D deficiency.

Claims for vitamin D tests are reviewed after submission based on the diagnosis listed. The diagnoses considered medically necessary and that are covered are listed in this medical policy.

**Note:** The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

## Policy Coverage Criteria

| Testing Condition                           | Medical Necessity   |
|---|---|
| <p><b>Asymptomatic</b></p>                  | <p><b>Testing vitamin D levels is considered medically necessary for asymptomatic individuals when:</b></p> <ul style="list-style-type: none"> <li>• The individual has risk factors for vitamin D deficiency:               <ul style="list-style-type: none"> <li>○ Chronic kidney disease, stage greater or equal than 3</li> <li>○ Cirrhosis/chronic liver disease</li> <li>○ Malabsorption states (e.g., cystic fibrosis, inflammatory bowel disease, Crohn’s disease, bariatric surgery, radiation enteritis, short bowel syndrome, pancreatitis, amyloidosis, celiac sprue)</li> <li>○ Osteomalacia</li> <li>○ Osteoporosis</li> <li>○ Rickets</li> <li>○ Hypo-or hyper-calcemia</li> <li>○ Granulomatous diseases (e.g., sarcoidosis, tuberculosis, histoplasmosis, coccidiomycosis, berylliosis)</li> <li>○ Vitamin D deficiency, on replacement</li> <li>○ Obstructive jaundice/biliary tract disease</li> <li>○ Osteogenesis imperfecta</li> <li>○ Osteosclerosis/osteopetrosis</li> <li>○ Chronic use of anticonvulsant medication or corticosteroids</li> <li>○ Parathyroid disorders</li> <li>○ Osteopenia</li> </ul> </li> </ul> <p><b>Testing vitamin D levels is considered not medically necessary for asymptomatic individuals when criteria in this policy are not met.</b></p> |
| <p><b>Institutionalized individuals</b></p> | <p><b>Testing vitamin D levels in asymptomatic individuals may be considered medically necessary in the following populations:</b></p> <ul style="list-style-type: none"> <li>• Individuals receiving some degree of medical care who reside at any of the following:               <ul style="list-style-type: none"> <li>○ Long-term care facilities</li> <li>○ Long term hospital stays</li> <li>○ Nursing homes</li> </ul> </li> </ul>  |



|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>○ Assisted living facilities</li> </ul>   |
| <b>Testing Condition</b>                                   | <b>Medical Necessity</b>   |
| <b>Symptomatic vitamin D deficiency</b>                    | <p><b>Testing vitamin D levels may be considered medically necessary when the individual presents with signs and symptoms of vitamin D deficiency.</b></p> <ul style="list-style-type: none"> <li>• Signs and symptoms of vitamin D deficiency are largely manifested by changes in bone health and biochemical markers associated with bone production and resorption <ul style="list-style-type: none"> <li>○ In most cases, a clinical diagnosis of an abnormality in bone health (e.g., rickets, osteomalacia, osteoporosis) will lead to a decision to test vitamin D levels.</li> <li>○ Symptoms related to the clinical condition may be present, such as pain or low-impact fractures, but these symptoms are usually not indications for testing prior to a specific diagnosis</li> <li>○ Some biochemical markers of bone health may indicate an increased risk for vitamin D deficiency, as such testing of vitamin D levels may therefore be appropriate. These biochemical markers include unexplained abnormalities in the following: <ul style="list-style-type: none"> <li>▪ In serum calcium</li> <li>▪ Phosphorous</li> <li>▪ Alkaline phosphatase</li> <li>▪ Parathyroid hormone</li> </ul> </li> </ul> </li> </ul> |
| <b>Symptomatic vitamin D toxicity (hypervitaminosis D)</b> | <p><b>Testing vitamin D levels may be considered medically necessary when the individual presents with signs and symptoms of vitamin D toxicity (hypervitaminosis D)</b></p> <ul style="list-style-type: none"> <li>• Signs and symptoms of vitamin D toxicity generally result from induced hypercalcemia. <ul style="list-style-type: none"> <li>○ Acute intoxication can cause the following symptoms: <ul style="list-style-type: none"> <li>▪ Anorexia</li> <li>▪ Confusion</li> <li>▪ Polydipsia</li> <li>▪ Polyuria</li> <li>▪ Vomiting</li> <li>▪ Weakness</li> </ul> </li> <li>○ Chronic intoxication can cause the following: <ul style="list-style-type: none"> <li>▪ Bone demineralization</li> </ul> </li> </ul> </li> </ul>  |



|                       |   |
|-----------------------|---|
|                       | <ul style="list-style-type: none"> <li>▪ Bone pain</li> <li>▪ Kidney stones</li> </ul>  |
| <b>Repeat testing</b> | <p><b>A repeat test may be appropriate to determine whether supplementation has been successful in restoring normal serum levels when the initial test was for a medically necessary indication (as noted above).</b></p> <p><b>More than 1 repeat test may be indicated in cases where supplementation has not been successful in restoring levels, documented by continued or recurrent signs and symptoms (as noted above), which may indicate ongoing deficiency, and/or inadequate absorption.</b></p> |

## Coding

The following codes are specific to vitamin D testing and related to medically necessary diagnoses:

| Code                                    | Descriptor  |
|---|---|
| <b>CPT</b>                              |   |
| 0038U                                   | Vitamin D, 25 hydroxy D2 and D3, by LC-MS/MS, serum microsample, quantitative |
| 82306                                   | Vitamin D; 25 hydroxy, includes fraction(s), if performed                     |
| 82652                                   | Vitamin D; 1, 25 dihydroxy, includes fraction(s), if performed                |
| <b>ICD-10 Diagnosis Codes - Covered</b> |   |
| A15.0-A15.8                             | Tuberculosis of respiratory system  |
| A17.0-A17.89                            | Tuberculosis of nervous system  |
| A18.01-A18.09                           | Tuberculosis of bone and joints   |
| A18.11-A18.2                            | Tuberculosis of genitourinary system  |
| A18.31-A18.39                           | Tuberculosis of intestines, peritoneum, and mesenteric glands                 |
| A18.4                                   | Tuberculosis of skin and subcutaneous tissue                                  |
| A18.51-A18.7                            | Tuberculosis of eye, ear and adrenal glands                                   |
| A18.81-A18.89                           | Tuberculosis of other specified organs  |
| A19.0-A19.8                             | Miliary tuberculosis  |



| Code            | Descriptor   |
|-----------------|--|
| A28.1           | Cat-scratch disease  |
| B20             | Human immunodeficiency virus (HIV) disease                   |
| B38.0-B38.89    | Coccidiomycosis  |
| B39.0-B39.89    | Histoplasmosis   |
| B41.0           | Pulmonary paracoccidioidomycosis                             |
| B41.7           | Disseminated paracoccidioidomycosis                          |
| B59             | Pneumocystosis   |
| D71             | Functional disorders of polymorphonuclear neutrophils        |
| D86.0-D86.3     | Sarcoidosis  |
| D86.81-D86.89   | Sarcoidosis of other sites                                   |
| E05.00 – E05.91 | Thyrotoxicosis   |
| E20.0 – E20.9   | Hypoparathyroidism   |
| E21.0 – E21.5   | Hyperparathyroidism and other disorders of parathyroid gland |
| E41             | Nutritional marasmus   |
| E43             | Unspecified severe protein-calorie malnutrition              |
| E55.0-E55.9     | Vitamin D deficiency   |
| E64.3           | Sequelae of rickets  |
| E67.3           | Hypervitaminosis D   |
| K67.8-K68       | Hyperalimentation  |
| E72.0 – E72.09  | Disorders of amino-acid transport                            |
| E74.21          | Galactosemia   |
| E83.30 – E83.39 | Disorder of phosphorus metabolism and phosphatases           |
| E83.50 – E83.59 | Disorders of calcium metabolism                              |
| E84.0-E84.8     | Cystic fibrosis  |
| E85.0-E85.89    | Amyloidosis  |
| E89.2           | Postprocedural hypoparathyroidism                            |
| I12.0-I12.9     | Hypertensive chronic kidney disease                          |



| Code           | Descriptor  |
|----------------|---|
| I13.0-I13.2    | Hypertensive heart and chronic kidney disease     |
| J63.2          | Berylliosis                                       |
| K50.00-K50.818 | Crohn's disease of small intestine                |
| K50.10-K50.118 | Crohn's disease of large intestine                |
| K50.80-K50.818 | Crohn's disease of both small and large intestine |
| K50.90-K50.918 | Crohn's disease, unspecified                      |
| K51.00-K51.018 | Ulcerative colitis                                |
| K51.20-K51.218 | Ulcerative (chronic) proctitis                    |
| K51.30-K51.318 | Ulcerative (chronic) rectosigmoiditis             |
| K51.40-K51.418 | Inflammatory polyps of colon                      |
| K51.50-K51.518 | Left-sided colitis                                |
| K51.80-K51.818 | Other ulcerative colitis                          |
| K51.90-K51.918 | Ulcerative colitis, unspecified                   |
| K52.0          | Gastroenteritis and colitis due to radiation      |
| K70.0 – K70.41 | Alcoholic liver disease                           |
| K71.0-K71.8    | Toxic liver disease                               |
| K72.00-K72.91  | Hepatic failure                                   |
| K73.0-K73.8    | Chronic hepatitis                                 |
| K74.00-K74.69  | Fibrosis and cirrhosis of liver                   |
| K75.3-K75.89   | Other inflammatory liver disease                  |
| K76.0-K76.89   | Other diseases of liver                           |
| K77            | Liver disorders in diseases classified elsewhere  |
| K83.1 – K83.8  | Other diseases of biliary tract                   |
| K86.0-K86.89   | Other diseases of pancreas                        |
| K90.0 – K90.3  | Intestinal malabsorption                          |
| K90.41-K90.49  | Malabsorption due to intolerance                  |



| Code           | Descriptor  |
|----------------|---|
| K90.821-K90.89 | Other intestinal malabsorption                                    |
| K91.2          | Postsurgical malabsorption  |
| M80.00 – M81.8 | Osteoporosis, with current pathological fracture                  |
| M83.0 – M83.9  | Adult osteomalacia  |
| M85.80 – M85.9 | Other specified disorders of bone density and structure           |
| N18.30 – N18.9 | Chronic kidney disease  |
| N20.0 – N20.8  | Calculus of kidney and ureter                                     |
| N22            | Calculus of urinary tract in diseases classified elsewhere        |
| N25.0          | Renal osteodystrophy  |
| N25.81         | Secondary hyperparathyroidism of renal origin                     |
| P71.0 – P71.1  | Transitory neonatal disorders of calcium and magnesium metabolism |
| P71.3-P71.8    | Transitory neonatal disorders of calcium and magnesium metabolism |
| Q78.0          | Osteogenesis imperfecta   |
| Q78.2          | Osteopetrosis   |
| Z79.52         | Long term (current) use of systemic steroids                      |
| Z79.899        | Other long term (current) drug therapy                            |

## Related Information

### Benefit Application

Consistent with federal mandates, vitamin D supplements are covered as preventive care for individuals age 65 and older (without cost sharing) when the member’s contract is subject to those mandates. A written prescription is needed for coverage.

The USPSTF recommends exercise or physical therapy and vitamin D supplementation to prevent falls in community-dwelling adults aged 65 years or older who are at increased risk for falls. (Grade B recommendation)



**Note:** The USPSTF does not recommend routine testing of vitamin D levels as a preventive strategy (see [Practice Guidelines and Position Statements](#)).

## Evidence Review

### Description

Vitamin D, also known as calciferol, is a fat-soluble vitamin that has a variety of physiologic effects, most prominently in calcium homeostasis and bone metabolism. In addition to the role it plays in bone metabolism, other physiologic effects include inhibition of smooth muscle proliferation, regulation of the renin-angiotensin system, a decrease in coagulation, and a decrease in inflammatory markers.<sup>1</sup>

### Background

#### Vitamin D

Vitamin D deficiency is best assessed by measuring serum levels of 25-hydroxyvitamin D. However, there is no consensus on the minimum vitamin D level or on the optimal serum level for overall health. A 2011 Institute of Medicine (IOM) report concluded that a serum level of 20 ng/mL is sufficient for most healthy adults.<sup>2</sup> Some experts, such as the Bone Health and Osteoporosis Foundation (formerly the National Osteoporosis Foundation) have recommend a higher level (30 ng/mL) in some individual populations.<sup>3</sup>

Vitamin D deficiency, as defined by suboptimal serum levels, is common in the US. In the National Health and Nutrition Examination Survey covering the period of 2011 to 2014, 5% of patients aged 1 year and older were at risk of vitamin D deficiency (25-hydroxyvitamin D levels <12 ng/mL) and 18.3% of patients were at risk of vitamin D inadequacy (25-hydroxyvitamin D levels 12 to 19.6 ng/mL).<sup>4</sup> Vitamin D deficiency occurs most commonly as a result of inadequate dietary intake coupled with inadequate sun exposure. Evidence from the National Nutrition Monitoring System and the National Health and Nutrition Examination Survey has indicated that the average vitamin D consumption is below recommended levels of intake. Yetley (2008) estimated that average daily intake for US adults ranged from 228 to 335 IU/d, depending on gender and ethnicity.<sup>5</sup> This level is below the average daily requirement, estimated by IOM (400



IU/d for healthy adults) and well below IOM's required daily allowance (estimated to be 600 IU for nonelderly adults and 800 IU for elderly adults).

Vitamin D deficiency may occur less commonly for other reasons. Kidney or liver disease can cause deficiency as a result of impaired conversion of inactive vitamin D to its active products. In rare situations, there is vitamin D resistance at the tissue level, which causes a functional vitamin D deficiency despite "adequate" serum levels.

The safe upper level for serum vitamin D is also not standardized. The IOM report concluded that there is potential harm associated with levels greater than 50 ng/mL and recommended that serum levels be maintained in the 20- to 40-ng/mL range.<sup>2</sup> However, conclusions on this point have differed. A 2011 Agency for Healthcare Research and Quality (AHRQ) systematic review on vitamin D and bone health concluded that "There is little evidence from existing trials that vitamin D above current reference intakes is harmful."<sup>6</sup> The Women's Health Initiative concluded that hypercalcemia and hypercalciuria in patients receiving calcium and vitamin D were not associated with adverse clinical events.<sup>7</sup> The Women's Health Initiative did find a small increase in kidney stones for women aged 50 to 79 years who received vitamin D and calcium.

Associations of vitamin D levels with various aspects of health have been noted over the last several decades,<sup>8-12</sup> and these findings have led to the question of whether supplementation improves health outcomes. For example, a relation between vitamin D levels and overall mortality has been reported in most observational studies examining this association.<sup>13,14</sup> Mortality is lowest at vitamin D levels in the 25- to 40-nmol/L range. At lower levels of serum vitamin D, mortality increases steeply, and overall mortality in the lowest quintile was more than three times that in the middle quintiles. Theodoratou et al (2014) identified 107 systematic reviews of observational studies examining the association between vitamin D levels and more than 100 different outcomes.<sup>15</sup>

## Vitamin D Replacement

The Institute of Medicine (IOM) (now the National Academy of Medicine [NAM]) has recommended reference values for the intake of vitamin D and serum levels, based on available literature and expert consensus.<sup>2</sup> Recommended daily allowances are 600 IU/d for individuals between 1 and 70 years of age and 800 IU/d for individuals older than 70 years.

Estimates of vitamin D requirements are complicated by the many other factors that affect serum levels. Sun exposure is the most prominent of factors that affect serum levels, and this is because individuals can meet their vitamin D needs entirely through adequate sun exposure. Other factors such as age, skin pigmentation, obesity, physical activity, and nutritional status



also affect vitamin D levels and can result in variable dietary intake requirements to maintain adequate serum levels.

Excessive intake of vitamin D can be toxic. Toxic effects are usually due to hypercalcemia and may include confusion, weakness, polyuria, polydipsia, anorexia, and vomiting. In addition, high levels of vitamin D may promote calcium deposition and has the potential to exacerbate conditions such as calcium kidney stones and atherosclerotic vascular disease.

The IOM defined three parameters of nutritional needs for vitamin D, on the assumption of minimal sun exposure. These parameters were the estimated average requirement, defined as the minimum intake required to maintain adequate levels; the recommended daily allowance, defined as the optimal dose for replacement therapy; and the upper-level intake, defined as the maximum daily dose to avoid toxicity. These recommendations are summarized in [Table 1](#).

**Table 1. Institute of Medicine Recommendations for Vitamin D Dietary Intake<sup>2</sup>**

| Patient Group     | Estimated Average Requirement, IU/d | Recommended Daily Allowance, IU/d | Upper Limit Intake, IU/d |
|-------------------|-------------------------------------|-----------------------------------|--------------------------|
| 1 to 3 years old  | 400                                 | 600                               | 2500                     |
| 4 to 8 years old  | 400                                 | 600                               | 3000                     |
| 9 to 70 years old | 400                                 | 600                               | 4000                     |
| >70 years old     | 400                                 | 800                               | 4000                     |

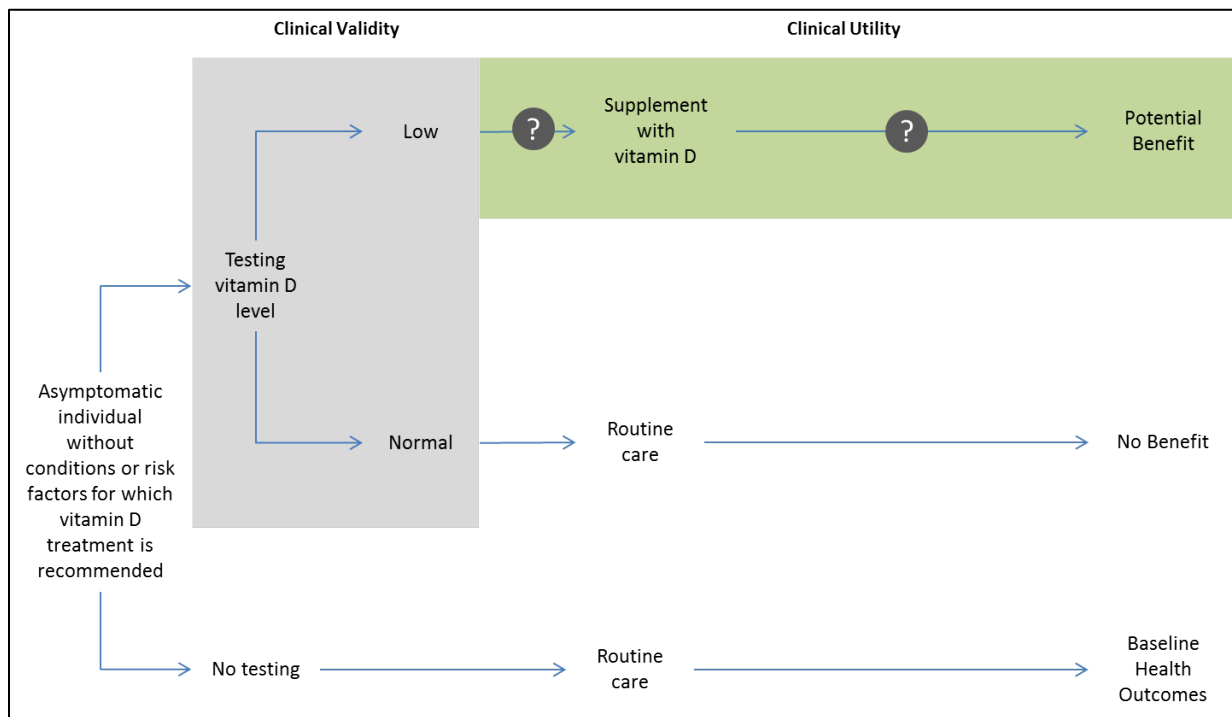
Adapted from Institute of Medicine (2011)<sup>2</sup>

## Analytic Framework

[Figure 1](#) summarizes the approach to this policy. The diagram demonstrates the framework for how vitamin D testing affects outcomes. Using this framework, the main question is whether testing individuals for vitamin D deficiency improves outcomes.



**Figure 1. Analytic Framework**



Based on this analytic framework, the most relevant studies for showing the clinical utility of vitamin D testing are trials that directly compare care including testing vitamin D levels against care without testing vitamin D levels. Should vitamin D screening in an asymptomatic, general population be shown to be effective, guidelines would then be needed to establish criteria for screening, screening intervals, and appropriate follow-up for positive tests. Indirect evidence of the utility of vitamin D testing would include evidence of the effectiveness of supplementation from trials testing supplementation to no supplementation in individuals who are vitamin D deficient. Many of the existing randomized controlled trials (RCTs), including the largest trial (Women’s Health Initiative), did not test vitamin D levels prior to treatment. Rather, they treated all individuals enrolled regardless of vitamin D levels. Results of some of the main systematic reviews that take this approach will be reviewed, but this evidence is indirect and must be extrapolated from the treatment of all individuals to treatment of individuals who are vitamin D deficient.

## Summary of Evidence

For individuals who are asymptomatic without conditions or risk factors for which vitamin D treatment is recommended who receive testing of vitamin D levels, the evidence includes no



randomized controlled trials (RCTs) of clinical utility (i.e., evidence that patient care including testing vitamin D levels vs care without testing vitamin D levels improves outcomes). The relevant outcomes are overall survival, test validity, symptoms, morbid events, and treatment-related morbidity. Indirect evidence of the potential utility of testing includes many RCTs and systematic reviews of vitamin D supplementation. There is a lack of standardized vitamin D testing strategies and cutoffs for vitamin D deficiency are not standardized or evidence-based. In addition, despite the large quantity of evidence, considerable uncertainty remains about the beneficial health effects of vitamin D supplementation. Many RCTs have included participants who were not vitamin D deficient at baseline and did not stratify results by baseline 25-hydroxyvitamin D level. Nonwhite race/ethnic groups are underrepresented in RCTs but have an increased risk of vitamin D deficiency. For skeletal health, there may be a small effect of vitamin D supplementation on falls, but there does not appear to be an impact on reducing fractures for the general population. The effect on fracture reduction may be significant in elderly women, and with higher doses of vitamin D. However, high doses of vitamin D may be associated with safety concerns in individuals at risk for falls. For individuals with asthma, there may be a reduction in severe exacerbations with vitamin D supplementation, but there does not appear to be an effect on other asthma outcomes. For individuals who are pregnant, vitamin D supplementation may improve certain maternal and fetal outcomes. For overall mortality, there is also no benefit to the general population. RCTs evaluating extraskeletal, cancer, cardiovascular, and multiple sclerosis outcomes have not reported a statistically significant benefit for vitamin D supplementation. Although vitamin D toxicity and adverse events appear to be rare, few data on risks have been reported. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

## Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this review are listed in [Table 2](#).

**Table 2. Summary of Key Trials**

| NCT No.        | Trial Name | Planned Enrollment | Completion Date |
|----------------|------------|--------------------|-----------------|
| <b>Ongoing</b> |            |                    |                 |



| NCT No.                     | Trial Name   | Planned Enrollment | Completion Date              |
|-----------------------------|--|--------------------|------------------------------|
| <a href="#">NCT06896669</a> | Synergistic Effects of VitaminD and Calcium Supplementation on Hyperglycemia and Dyslipidemia in Patients With Gestational Diabetes  | 60                 | Dec 2025                     |
| <a href="#">NCT07017920</a> | The Relationship Among Vitamin Deficiency/Insufficiency, Vitamin Supplementation, and Hypertensive Disorders of Pregnancy  | 594                | Dec 2027                     |
| <a href="#">NCT05431920</a> | Effects of Vitamin D3 Supplementation in Asthma Control, Pulmonary Function and Th17 Inflammatory Biomarkers in Adolescents With Asthma, Obesity and Vitamin D Deficiency: a Randomized Clinical Trial | 264                | Aug 2024                     |
| <a href="#">NCT05043116</a> | High-dose Vitamin D Supplement for the Prevention of Acute Asthma-like Symptoms in Preschool Children - a Double-blind, Randomized, Controlled Trial   | 320                | Oct 2031                     |
| <a href="#">NCT05329428</a> | PREDIN: Pregnancy and Vitamin D Intervention Study - A Randomized Controlled Trial   | 102                | Dec 2024                     |
| <a href="#">NCT05208827</a> | A Multicenter Randomized Controlled Study of Vitamin D Supplementation in Pregnant Women for the Prevention of Gestational Diabetes.   | 1600               | Jan 2025<br>(unknown status) |
| <a href="#">NCT04291313</a> | Vitamin D Deficiency in Pregnancy - Identifying Associations and Mechanisms Linking Maternal Vitamin D Deficiency to Placental Dysfunction and Adverse Pregnancy Outcomes                              | 2000               | May 2023<br>(unknown status) |
| <a href="#">NCT00856947</a> | Vitamin D Supplementation During Pregnancy for Prevention of Asthma in Childhood: An Interventional Trial in the ABC (Asthma Begins in Childhood) Cohort   | 600                | Jul 2027                     |
| <b>Unpublished</b>          |  |                    |                              |
| <a href="#">NCT04117581</a> | A Daily 5000 IU Vitamin D Supplement for the Improvement of Lung Function and Asthma Control in Adults With Asthma: a Randomised Controlled Trial  | 32 (actual)        | Apr 2022                     |

NCT: national clinical trial

## Practice Guidelines and Position Statements

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the policy conclusions.



Guidelines or position statements will be considered for inclusion if they were issued by, or jointly by, a US professional society, an international society with US representation, or the National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

## **American College of Obstetrics and Gynecology**

The American College of Obstetrics and Gynecology (2011, reaffirmed 2024) issued a committee opinion on the testing of vitamin D levels and vitamin D supplementation in pregnant women.<sup>174</sup> The following recommendation was made concerning testing vitamin D levels:

“At this time there is insufficient evidence to support a recommendation for screening all pregnant women for vitamin D deficiency. For pregnant women thought to be at increased risk of vitamin D deficiency, maternal serum 25-hydroxyvitamin D levels can be considered and should be interpreted in the context of the individual clinical circumstance. When vitamin D deficiency is identified during pregnancy, most experts agree that 1,000-2,000 international units per day of vitamin D is safe.”

## **Bone Health and Osteoporosis Foundation**

The Bone Health and Osteoporosis Foundation updated recommendations for the prevention and treatment of osteoporosis in 2021.<sup>3</sup> They recommended monitoring serum 25-hydroxy vitamin D levels in postmenopausal women and men 50 years of age and older, and vitamin D supplementation as necessary to maintain levels between 30 and 50 ng/mL.

## **Endocrine Society**

In 2024, the Endocrine Society published clinical practice guidelines on Vitamin D for the prevention of disease.<sup>175</sup> The 2024 guideline updates and replaces a 2011 Endocrine Society guideline on the evaluation, treatment, and prevention of vitamin D deficiency. The 2024 guideline suggests against routine testing vitamin D levels in the following populations who do not otherwise have established indications for 25(OH)D testing (eg, hypocalcemia):

- General adult population younger than age 50 years, aged 50 to 74 years, and aged 75 years and older



- Pregnant individuals
- Healthy adults
- Adults with dark complexion
- Adults with obesity

For these populations, the guideline notes that: "25(OH)D levels that provide outcome-specific benefits have not been established in clinical trials."

## US Preventive Services Task Force Recommendations

The US Preventive Services Task Force published an updated recommendation<sup>176</sup>, and associated evidence report and systematic review in 2021<sup>177</sup> on vitamin D screening. The Task Force concluded that the current evidence was insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic individuals (grade I [insufficient evidence]).

## Medicare National Coverage

There is no national coverage determination.

## Regulatory Status

The US Food and Drug Administration (FDA) has cleared a number of immunoassays for in vitro diagnostic devices for the quantitative measurement of total 25-hydroxyvitamin D through the 510(k) process.

Clinical laboratories may develop and validate tests in-house and market them as a laboratory service; laboratory-developed tests must meet the general regulatory standards of the Clinical Laboratory Improvement Amendments (CLIA). Lab tests for vitamin D are available under the auspices of the CLIA. Laboratories that offer laboratory-developed tests must be licensed by the CLIA for high-complexity testing. To date, the FDA has chosen not to require any regulatory review of this test.



## References

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## History

| Date     | Comments   |
|----------|--|
| 6/12/12  | New policy, add to Pathology/Laboratory section. Approved with 90-day hold for provider notification; the effective date is November 12, 2012. Policy not applicable to Oregon at this time.   |
| 02/11/13 | Policy became effective in Oregon.   |
| 06/10/13 | Replace policy. Indications put in alphabetical order. Literature review through April 2013 resulted in addition of practice guidelines from the National Osteoporosis Foundation and USPSTF. Reference 6-7 added, others renumbered. Policy statement |



| Date     | Comments  |
|----------|---|
|          | unchanged. Benefit Application updated with recommendations from the USPSTF and language supporting federal preventative care mandates on coverage of vitamin D supplementation for those aged 65 years and older. A single policy will now be maintained; the Oregon version will no longer be maintained, as it was the same policy with only a different effective date (2/11/13) following approval 6/12/12 and a hold for provider notification. |
| 06/13/14 | Annual Review. No change in policy statements.  |
| 08/13/14 | Coding update: duplicate codes removed from ICD-9 diagnosis section; codes incorrectly listed corrected; 27549 and 275.40 added.  |
| 02/25/15 | Annual Review. Policy updated with a literature review through January, 2015. References 9-12 added; others renumbered. Policy statements unchanged.  |
| 04/13/15 | Coding update. ICD-9 diagnosis code descriptors updated.  |
| 07/14/15 | Interim Review. Added rationale and reference 3 and renumbered others. Updated diagnosis codes, removing several and adding ICD-10 diagnosis codes.   |
| 01/12/16 | Delete policy, replaced with 2.04.135 (BC version).   |
| 02/04/16 | Coding update. Added ICD10 diagnosis code E74.21.   |
| 02/19/16 | Coding update. Minor clarifications to osteomalacia code range and correction to code K70.0.  |
| 08/01/16 | Interim Update, approved July 12, 2016. Policy published in new template with introduction added. Clarified institutional information. Intent remains the same.   |
| 03/01/17 | Annual review, approved February 14, 2017. Policy updated literature review through October 10, 2016; references 14-16, 29, 31-36, 43, and 45 added. Policy statements unchanged.   |
| 08/15/17 | Minor formatting updates.   |
| 03/01/18 | Annual Review, approved February 6, 2018. Policy updated with literature review through October 2017; references 32-34 and 36-48 added; notes 15 and 62 updated. Policy statements unchanged.   |
| 10/01/18 | Coding update. Updated diagnosis code range for "other diseases of biliary tract" from K83.0 – 8.39 to K83.1 – K83.9.   |
| 12/01/18 | Interim Review, approved November 6, 2018. Clarified policy statements regarding repeat testing. Added diagnosis code range L92.0 – L92.9.  |
| 02/01/19 | Annual Review, approved January 22, 2019. Policy updated, literature review through October 2018; reference 58 added; reference 57, 59, and 61 updated. Policy statements unchanged. Coding update, added diagnosis ranges A15.0, B38.0-B38.9, B39.0-B39.9, E84.0-E84.9, E85.0-E85.9, J63.2, K50.00-K50.919, K51.00-K51.919, K52.0, K86.0-K86.9, and Z98.84. Added code 0038U.  |



| Date     | Comments   |
|----------|--|
| 03/01/20 | Annual Review, approved February 4, 2020. Policy updated literature review through October 2019; references on Guidelines updated. Policy statements unchanged.  |
| 03/01/21 | Annual Review, approved February 2, 2021. Policy updated literature review through October 14, 2019; references on Guidelines updated. Policy statements unchanged.  |
| 03/01/22 | Annual Review, approved February 7, 2022. Policy updated with literature review through October 20, 2021; references added. Policy statements unchanged.   |
| 03/01/23 | Policy renumbered, approved February 14, 2023 from 2.04.135 to 2.04.507 Testing Serum Vitamin D Levels. Policy statements unchanged. Policy updated with literature review through October 24, 2022; references added. Changed the wording from "patient" to "individual" throughout the policy for standardization.   |
| 05/01/23 | Coding update. Added ICD-10-CM codes A28.1, B20, B41.0, B41.7, B41.9, B59, E05.00-E05.91, M88.0, M88.1, M88.811, M88.812, M88.821, M88.822, M88.831, M88.832, M88.841, M88.842, M88.851, M88.852, M88.861, M88.862, M88.871, M88.88, M88.89, M88.9, Z79.51, Z94.0-Z94.9, Z98.0 to coding table.  |
| 03/01/24 | Annual Review, approved February 12, 2024. Policy updated with literature review through October 16, 2023; references added. Policy statements unchanged.  |
| 03/01/25 | Annual Review, approved February 24, 2025. Policy updated with literature review through October 15, 2024; references added. Policy statements unchanged. Some content reformatted for greater visibility, policy intent unchanged. Added ICD-10 CM codes A15.4-A15.8, A17.0-A17.89, A18.01-A18.09, A18.11-A18.2, A18.31-A18.39, A18.4, A18.51-A18.7, A18.81-A18.89, A19.0-A19.8, E64.3, E67.8, E68, I12.0, I12.9, I13.0, I13.10-I13.11, I13.2, N25.0. Removed ICD-10 CM codes B38.9, B39.9, B41.9, D86.9, E84.9, E85.9, K50.019, K550.119, K50.819, K51.019, K51.218, K51.318, K51.418, K51.519, K51.819, K51.919, K70.9, K71.9, K73.9, K75.0-K75.2, K75.9, K76.9, K83.9, K86.9, K90.9, L92.0-L92.9, M88.0-M88.9, N18.1-N18.2, N20.9, P71.2, P71.9, Z79.51, Z94.0-Z94.9, Z98.0, Z98.84. |
| 03/01/26 | Annual Review, approved February 9, 2026. Policy updated with literature review through November 3, 2025; references added, reference updated. Policy statements unchanged.  |

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2026 Premera All Rights Reserved.

**Scope:** Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member



benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.

