



# Medical Coverage Policy

Effective Date .....8/15/2024

Next Review Date .....3/15/2025

Coverage Policy Number..... 0526

## Vitamin D Testing

### Table of Contents

Overview ..... 2

Coverage Policy..... 2

Health Equity Considerations..... 2

General Background ..... 2

Medicare Coverage Determinations ..... 10

Appendix..... 10

Coding Information..... 11

References ..... 26

Revision Details ..... 32

### Related Coverage Resources

[Bone Mineral Density Measurement Preventive Care Services](#)

#### **INSTRUCTIONS FOR USE**

*The following Coverage Policy applies to health benefit plans administered by Cigna Companies. Certain Cigna Companies and/or lines of business only provide utilization review services to clients and do not make coverage determinations. References to standard benefit plan language and coverage determinations do not apply to those clients. Coverage Policies are intended to provide guidance in interpreting certain standard benefit plans administered by Cigna Companies. Please note, the terms of a customer’s particular benefit plan document [Group Service Agreement, Evidence of Coverage, Certificate of Coverage, Summary Plan Description (SPD) or similar plan document] may differ significantly from the standard benefit plans upon which these Coverage Policies are based. For example, a customer’s benefit plan document may contain a specific exclusion related to a topic addressed in a Coverage Policy. In the event of a conflict, a customer’s benefit plan document always supersedes the information in the Coverage Policies. In the absence of a controlling federal or state coverage mandate, benefits are ultimately determined by the terms of the applicable benefit plan document. Coverage determinations in each specific instance require consideration of 1) the terms of the applicable benefit plan document in effect on the date of service; 2) any applicable laws/regulations; 3) any relevant collateral source materials including Coverage Policies and; 4) the specific facts of the particular situation. Each coverage request should be reviewed on its own merits. Medical directors are expected to exercise clinical judgment where appropriate and have discretion in making individual coverage determinations. Where coverage for care or services does not depend on specific circumstances, reimbursement will only be provided if a requested service(s) is submitted in accordance with the relevant criteria outlined in the applicable Coverage Policy, including covered diagnosis and/or procedure code(s). Reimbursement is not allowed for services when billed for conditions or diagnoses that are not covered under this Coverage Policy (see “Coding Information” below). When billing, providers must use the most appropriate codes as of the effective date of the submission. Claims submitted for services that are not accompanied by covered code(s) under the applicable Coverage Policy*

*will be denied as not covered. Coverage Policies relate exclusively to the administration of health benefit plans. Coverage Policies are not recommendations for treatment and should never be used as treatment guidelines. In certain markets, delegated vendor guidelines may be used to support medical necessity and other coverage determinations.*

## Overview

This Coverage Policy addresses serum Vitamin D testing.

## Coverage Policy

**Vitamin D testing is considered medically necessary in a non-pregnant individual age 18 – 64 years for any of the following:**

- condition or medical diagnosis associated with Vitamin D deficiency (See Appendix)
- previously documented Vitamin D deficiency
- known or suspected excessive Vitamin D blood levels (i.e., toxicity)

**Vitamin D testing for any other indication including screening in the general population is not covered or reimbursable.**

**Vitamin D testing (CPT® 82306) more frequently than twice in 12 rolling months is not covered or reimbursable for any diagnosis other than chronic kidney disease (CKD) or intestinal malabsorption.**

**Vitamin D testing utilizing both CPT® 82306 and CPT® 82652 in combination is not covered or reimbursable.**

## Health Equity Considerations

Health equity is the highest level of health for all people; health inequity is the avoidable difference in health status or distribution of health resources due to the social conditions in which people are born, grow, live, work, and age.

Social determinants of health are the conditions in the environment that affect a wide range of health, functioning, and quality of life outcomes and risks. Examples include safe housing, transportation, and neighborhoods; racism, discrimination and violence; education, job opportunities and income; access to nutritious foods and physical activity opportunities; access to clean air and water; and language and literacy skills.

## General Background

Vitamin D is a fat-soluble vitamin. Very few foods naturally contain Vitamin D (fatty fish and eggs are the exception), so Vitamin D is obtained primarily through fortified foods or supplements and dermal synthesis from exposure to sunlight. Vitamin D has two forms, ergocalciferol (Vitamin D2) and cholecalciferol (Vitamin D3), and several metabolites.

Vitamin D from the diet or sunlight is biologically inactive and requires enzymatic conversion to active metabolites. Vitamin D is converted enzymatically:

- in the liver to 25-hydroxyvitamin D (25[OH]D), the major circulating form of Vitamin D; and then
- in the kidney to 1,25-dihydroxyvitamin D (1,25[OH]2D), the active form of Vitamin D.

The concentration of 25(OH)D is almost 1000-fold that of 1,25(OH)2D, and the half-life of 25(OH)D is much longer, implying that its concentration is more stable.

The most common type of vitamin D deficiency is 25-OH vitamin D. A much smaller percentage of 1, 25-dihydroxy vitamin D deficiency exists; mostly, in those with renal disease. Although it is not the active form of the hormone, 25-OH vitamin D is more commonly measured. It better reflects the sum total of vitamin D produced endogenously and absorbed from the diet than does the level of the active hormone 1, 25-dihydroxy vitamin D. Deficiency of 1, 25-dihydroxy vitamin D, which is present at much lower concentrations, does not necessarily reflect deficiency of 25-OH vitamin D. Its measurement should be limited to specific diseases such as acquired and inherited disorders in the metabolism of 25(OH)D and phosphate, including chronic kidney disease.

#### 25(OH)D (CPT® code 82306)

The best laboratory indicator of Vitamin D adequacy is the serum 25(OH)D concentration. It is the measurement of choice to diagnose Vitamin D deficiency and to assess Vitamin D status. The lower limit of normal for 25(OH)D levels varies depending on the geographic location and sunlight exposure of the reference population. There is no consensus on the optimal 25(OH)D concentration for skeletal or extraskeletal health. The Institute of Medicine (IOM) concluded that a serum 25(OH)D concentration of 20 ng/mL (50 nmol/L) is sufficient for most individuals. Other experts (Endocrine Society, National Osteoporosis Foundation, and American Geriatrics Society) suggest that a minimum level of 30 ng/mL (75 nmol/L) is necessary in older adults to minimize the risk of falls and fracture. Additionally, 25(OH)D measurements have had wide spread variation in the results. Serum 25-OH-D assays fall into two main categories: (1) those based on a separation step of chromatography, the most popular of which is liquid chromatography–tandem mass spectrometry (LC-MS/MS) and (2) nonchromatographic methods based on antibody or protein binding, such as radioimmunoassays.

Serum 25(OH)D should be assessed in persons at risk for Vitamin D deficiency or insufficiency. Vitamin D deficiency may result from:

- inadequate exposure to sunlight or intake of Vitamin D
- reduced absorption of Vitamin D (e.g., malabsorption syndromes)
- medications or disorders that affect the metabolism of Vitamin D and phosphate (e.g., glucocorticoids, chronic kidney disease)
- resistance to the effects of Vitamin D

Vitamin D Toxicity: Another reason to measure serum 25(OH)D is when there is a suspicion of excessive Vitamin D blood levels (toxicity). Because vitamin D increases calcium absorption in the gastrointestinal tract, vitamin D toxicity results in marked hypercalcemia (total calcium greater than 11.1 mg/dL, beyond the normal range of 8.4 to 10.2 mg/dL), hypercalciuria, and high serum 25(OH)D levels (typically greater than 375 nmol/l [150 ng/mL]) [155]. Hypercalcemia, in turn, can lead to nausea, vomiting, muscle weakness, neuropsychiatric disturbances, pain, loss of appetite, dehydration, polyuria, excessive thirst, and kidney stones (National Institute of Health, 2020).

#### 1,25(OH)2D (CPT® code 82652)

Serum 1,25(OH)2D is not suitable to assess Vitamin D status because it is kept within reference limits as long as possible by hormonal mechanisms (e.g., parathyroid hormone for stimulation and serum calcium and phosphate for suppression). Also, it has a short half-life measured in hours. Levels of 1,25(OH)2D do not typically decrease until vitamin D deficiency is severe.

Serum measurement of 1,25(OH)<sub>2</sub>D is useful in monitoring certain conditions, such as acquired and inherited disorders in the metabolism of 25(OH)D and phosphate, including chronic kidney disease, hereditary phosphate-losing disorders, oncogenic osteomalacia, pseudovitamin D-deficiency rickets, Vitamin D-resistant rickets, as well as chronic granuloma-forming disorders such as sarcoidosis and some lymphomas (Dawson-Hughes/UpToDate, et al., 2023; National Institute of Health, 2020; Enko, et al., 2015; Jones, 2015; Holick, et al., 2011; Lip, et al., 2007).

### **Literature Review**

There is a paucity of evidence evaluating the benefit and harm of testing for Vitamin D. Peer-reviewed scientific literature primarily investigates the effects of Vitamin D supplementation, not testing.

Kahwati et al. (2021) conducted a systematic review for the U.S. Preventive Services Task Force (USPSTF) to assess the evidence about screening for vitamin D deficiency in adults. No studies evaluated the direct benefits or harms of screening for vitamin D deficiency. Because no studies were identified that evaluated screening for vitamin D deficiency, the evidence report was limited to an evaluation of the benefits and harms of vitamin D treatment among participants at risk for deficiency based on low serum vitamin D levels. Among asymptomatic, community-dwelling populations with low vitamin D levels, the evidence suggests that treatment with vitamin D has no effect on mortality or the incidence of fractures, falls, depression, diabetes, cardiovascular disease, cancer, or adverse events. The evidence is inconclusive about the effect of treatment on physical functioning and infection.

The Agency for Healthcare Research and Quality (AHRQ) published a technology assessment (Newberry, et al., 2014) updating a previous technology assessment (Chung, et al., 2009) that assessed numerous factors related to Vitamin D. Data from nearly 250 new studies published between 2009 and 2013 was reviewed. The report concluded that it is not possible to specify a relationship between vitamin D and health outcomes other than bone health. Similarly, the Food and Nutrition Board (FNB) committee at the National Academies of Sciences, Engineering, and Medicine (NASEM) found that the evidence was inadequate or too contradictory to conclude that the vitamin had any effect on a long list of potential health outcomes (e.g., on resistance to chronic diseases or functional measures), except for measures related to bone health (National Institute of Health Office of Dietary Supplements, Fact Sheet for Health Professionals on Vitamin D; Updated September 18, 2023).

The Washington State Health Care Authority Health Technology Assessment Program (HTA) published a technology assessment on Vitamin D Screening and Testing in 2012. It was determined that no definitive conclusions can be drawn about the effectiveness of Vitamin D screening or testing since no trials have been conducted to directly assess the impact of screening or testing on health outcomes, patient behavior, or clinical decision making. However, for some populations and outcomes, an association between serum levels and health outcomes and/or a positive effect of supplementation on health outcomes has been demonstrated. Thus, Vitamin D screening has potential utility for identifying individuals who could benefit from the preventive or disease-modifying effects of supplementation in these clinical situations. Both Vitamin D screening/testing and Vitamin D supplementation are generally safe interventions.

### **Professional Societies/Organizations**

#### **Endocrine Society**

The Endocrine Society published a Clinical Practice Guideline on Vitamin D for the Prevention of Disease (Demay, et al., 2024). They state:

In contrast to previous guidelines that broadly addressed the evaluation, treatment, and prevention of vitamin D deficiency, with an emphasis on the care of patients who are at risk for deficiency (Holick, et al., 2011), the goal of this (2024) Guideline Development Panel was to establish clinical guidelines for the use of vitamin D to lower the risk of disease in individuals without established indications for vitamin D treatment or 25(OH)D testing.

The Endocrine Society lists recommendations for Vitamin D supplementation and testing. These are their Recommendations for Vitamin D testing:

- In the general adult population younger than age 50 years, we suggest against routine 25(OH)D testing. (2, Very low\*)
- In the general population aged 50 to 74 years, we suggest against routine 25(OH)D testing. (2, Very low)
- In the general population aged 75 years and older, we suggest against routine testing for 25(OH)D levels. (2, Very low)
- During pregnancy, we suggest against routine 25(OH) D testing. (2, Very low)
- In healthy adults, we suggest against routine screening for 25(OH)D levels. (2, Very low)
- In adults with dark complexion, we suggest against routine screening for 25(OH)D levels. (2, Very low)
- In adults with obesity, we suggest against routine screening for 25(OH)D levels. (2, Very low)

\*GRADE strength of recommendation classifications

1 = Strong recommendation for or against

2 = Conditional recommendation for or against

GRADE certainty of evidence classifications

High = We are very confident that the true effect lies close to that of the estimate of the effect.

Moderate = We are moderately confident in the effect estimate; the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.

Low = Our confidence in the effect estimate is limited; the true effect may be substantially different from the estimate of the effect.

Very Low = We have very little confidence in the effect estimate; the true effect is likely to be substantially different from the estimate of effect.

The Endocrine Society Clinical Practice Guideline on Evaluation, Treatment, and Prevention of Vitamin D Deficiency (Holick, et al., 2011) makes the following recommendations specific to Vitamin D testing:

- Recommend screening for Vitamin D deficiency in individuals at risk for deficiency.
- Do not recommend population screening for Vitamin D deficiency in individuals who are not at risk.
- Recommend using the serum circulating 25-hydroxyvitamin D [25(OH)D] level, measured by a reliable assay, to evaluate Vitamin D status in patients who are at risk for Vitamin D deficiency.
- Vitamin D deficiency is defined as a 25(OH)D below 20 ng/ml (50 nmol/liter), and Vitamin D insufficiency as a 25(OH)D of 21–29 ng/ml (525–725 nmol/liter).
- Recommend against using the serum 1,25-dihydroxyvitamin D [1,25(OH)2D] assay to evaluate vitamin D status in patients who are at risk for vitamin D deficiency. Recommend using it only in monitoring certain conditions, such as acquired and inherited disorders of vitamin D and phosphate metabolism

Rationale/Evidence: There is no evidence demonstrating benefits of screening for Vitamin D deficiency at a population level. Such evidence would require demonstration of the feasibility and cost-effectiveness of such a screening strategy, as well as benefits in terms of important health outcomes. In the absence of this evidence, it is premature to recommend screening at large at this time.

Currently, 25(OH)D measurement is reasonable in groups of people at high risk for Vitamin D deficiency and in whom a prompt response to optimization of Vitamin D status could be expected (Holick et al., Table 2).

Indications for 25(OH)D measurement (candidates for screening) (Holick et al., Table 2):

- Rickets
- Osteomalacia
- Osteoporosis
- Chronic kidney disease
- Hepatic failure
- Malabsorption syndromes
  - Cystic fibrosis
  - Inflammatory bowel disease
  - Crohn's disease
  - Bariatric surgery
  - Radiation enteritis
- Hyperparathyroidism
- Medications
  - Antiseizure medications
  - Glucocorticoids
  - AIDS/HIV medications
  - Antifungals, e.g. ketoconazole
  - Cholestyramine
- African-American and Hispanic children and adults
- Pregnant and lactating women
- Older adults with history of falls
- Older adults with history of nontraumatic fractures
- Obese children and adults (BMI > 30 kg/m<sup>2</sup>)
- Granuloma-forming disorders
  - Sarcoidosis
  - Tuberculosis
  - Histoplasmosis
  - Coccidiomycosis
  - Berylliosis
- Some lymphomas

(Holick, et al., 2011)

The Endocrine Society, in conjunction with the American Society for Bone and Mineral Research (ASBMR), Endocrine Society, American Association of Clinical Endocrinologists (AACE), European Calcified Tissue Society (ECTS), the National Osteoporosis Foundation (NOF), and the International Osteoporosis Foundation (IOF), released 'Joint guidance on vitamin D in the era of COVID-19' on July 09, 2020. It does not address testing for Vitamin D.

The Endocrine Society Guideline on Pharmacological Management of Osteoporosis in Postmenopausal Women including Section 8 on Calcium and Vitamin D, does not address testing for Vitamin D (Eastell, et al., 2019; Shoback, et al., 2020).

The Endocrine Society Clinical Practice Guideline on Pediatric Obesity-Assessment, Treatment, and Prevention (Styne, 2017) states the following re pediatric bariatric surgery: Vitamin deficiencies are common, including deficiencies of vitamins B12, B1, and folate, as Roux-en-Y gastric bypass and vertical sleeve gastrectomy both reduce the surface of the distal portion of the stomach, resulting in inadequate secretion of intrinsic factor. Annual screening is recommended for patients at risk for developing vitamin deficiencies.

### **U.S. Preventive Services Task Force (USPSTF)**

The 2021 Final Recommendation Statement on Screening for Vitamin D Deficiency in Adults states:

- For asymptomatic, community-dwelling, non-pregnant adults: The USPSTF found that the evidence is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency. (Insufficient)
- This applies to community-dwelling, non-pregnant adults who have no signs or symptoms of vitamin D deficiency or conditions for which vitamin D treatment is recommended. It does not apply to persons who are hospitalized or living in institutions such as nursing homes.
- This recommendation is consistent with the 2014 USPSTF statement.

In summary, there is insufficient evidence to recommend for or against screening for vitamin D deficiency.

### **American Academy of Neurology (AAN)**

The AAN published a Practice Guideline titled Disease-modifying therapies for Adults with Multiple Sclerosis does not address testing for Vitamin D (Rae-Grant, et al., 2018; Reaffirmed September 18, 2021).

The AAN Summary of evidence-based guideline on Complementary and Alternative medicine in Multiple Sclerosis does not address testing for Vitamin D (Yadav, et al., 2014; Reaffirmed February 25, 2023).

The Consensus-based Care Recommendations for Adults with Myotonic Dystrophy Type 2 (Schoser, et al., 2019) lists Vitamin D under 'Severe Symptoms, Endocrine and Metabolic', under 'Recommendations to test for'. The Consensus-based Care Recommendations for Children with Myotonic Dystrophy Type 1 (Johnson, et al., 2019) does not address testing for Vitamin D.

### **American Academy of Pediatrics (AAP)**

The AAP Committee on Nutrition (Golden, et al., 2014) states that evidence is insufficient to recommend universal screening for Vitamin D deficiency. The AAP report advises screening for Vitamin D deficiency "only in children and adolescents with conditions associated with reduced bone mass and/or recurrent low-impact fractures. More evidence is needed before recommendations can be made regarding screening of healthy black and Hispanic children or children with obesity. The recommended screening is measuring serum 25-OH-D concentration, and it is important to be sure this test is chosen instead of measurement of the 1,25-OH<sub>2</sub>-D concentration, which has little, if any, predictive value related to bone health."

### **American Association of Clinical Endocrinologists (AACE)**

The AACE and American College of Endocrinology (ACE) published a Clinical Practice Guidelines for the Diagnosis and Treatment of Postmenopausal Osteoporosis (Camacho, et al., 2020) which includes the following recommendation:

- R10. Measure serum 25-hydroxyvitamin D (25[OH]D) in patients who are at risk for vitamin D insufficiency, particularly those with osteoporosis (Grade B)(Grade A, Strong; Grade B, Intermediate; Grade C, Weak; Grade D, No conclusive evidence/expert opinion).

The AACE, American College of Endocrinology, Obesity Society, American Society for Metabolic & Bariatric Surgery (ASMBS), Obesity Medicine Association, and American Society of Anesthesiologists Clinical Practice Guidelines for the Perioperative nutrition, metabolic, and nonsurgical support of patients undergoing Bariatric procedures recommends:

- Baseline and annual postoperative evaluation for vitamin D deficiency is recommended after Roux-en-Y gastric bypass, sleeve gastrectomy, or laparoscopic biliopancreatic diversion without or with duodenal switch (Recommendation 53) (Grade B [strong]; BEL 2 [best evidence level 1= highest, 4 = lowest]) (Mechanick, et al., 2020).

The AACE/ACE Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity does not address testing for Vitamin D (Garvey, 2016).

### **American Association of Endocrine Surgeons (AAES)**

The AAES Guidelines for the Definitive Surgical Management of Thyroid Disease in Adults states 'Check vitamin D 25-OH level and if low, replete preoperatively' (Patel, et al., 2020).

The AAES Guideline for Definitive Management of Primary Hyperparathyroidism (Wilhelm, et al., 2016) includes the following recommendation: 1-1: The biochemical evaluation of suspected primary hyperparathyroidism should include serum total calcium, PTH, creatinine, and 25-hydroxyvitamin D levels (strong recommendation; moderate quality evidence).

### **American College of Cardiology (ACC)/American Heart Association (AHA)**

The 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease does not address Vitamin D testing (Arnett, et al., 2019).

The 2013 ACC/AHA Guideline for the Management of Overweight and Obesity in Adults does not address testing for Vitamin D (Jensen, 2013).

### **American College of Gastroenterology (ACG)**

The ACG Guidelines Update: Diagnosis and Management of Celiac Disease (CD) notes that Vitamin D testing may be included in the diagnosis of CD. Additionally, the ACG states Blood tests at follow-up should be individualized to verify correction of laboratory tests that were abnormal at baseline (Rubio-Tapia, et al., 2023).

The ACG Clinical Guideline: Chronic Pancreatitis (Gardner, et al., 2020) states that 'patients with chronic pancreatitis should have periodic evaluation for malnutrition, including tests for osteoporosis and fat-soluble vitamin deficiency'.

The ACG Clinical Guideline Management of Crohn's Disease recommendations include "Routine laboratory investigation: Initial laboratory investigation should include evaluation for inflammation, anemia, dehydration, and malnutrition" (Lichtenstein, et al., 2018).

The ACG Clinical Guideline on Primary Sclerosing Cholangitis (Lindor, et al., 2015) provides this recommendation: Patients with advanced liver disease should be screened and monitored for fat-soluble vitamin deficiencies. Fat-soluble vitamin deficiencies can occur in late stages of primary sclerosing cholangitis when patient becomes jaundiced. Levels of Vitamins A, E, and D should be assessed in patients with advanced disease (Conditional recommendation, moderate quality of evidence).



The following ACG guidelines do not address testing for Vitamin D:

- Diagnosis and Management of Gastrointestinal Subepithelial Lesions (Jacobson, et al., 2023)
- Gastroparesis (Camilleri, et al., 2022)
- Prevention, Diagnosis, and Treatment of Clostridioides difficile Infections (Kelly, et al., 2021)
- Upper Gastrointestinal and Ulcer Bleeding (Laine, et al., 2021)
- Management of Irritable Bowel Syndrome (Lacy, et al., 2021)

### **American College of Obstetricians and Gynecologists (ACOG)**

The ACOG Clinical Practice Guideline on Management of Postmenopausal Osteoporosis (2022), under Initial Evaluation for Secondary Osteoporosis (Box 2), lists '25-hydroxyvitamin D'.

The ACOG Committee Opinion on Vitamin D screening and supplementation during pregnancy (2011, reaffirmed 2024) states that 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.

The ACOG Clinical Practice Guidelines on Osteoporosis Prevention, Screening, and Diagnosis (2021) cites the Endocrines Society and USPSTF, noting that they state there is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic adults.

### **American College of Physicians**

The American College of Physicians Clinical Practice Guideline Pharmacologic Treatment of Primary Osteoporosis or Low Bone Mass to Prevent Fractures in Adults (Qaseem, et al., 2023) does not address testing for Vitamin D.

### **American College of Rheumatology (ACR)**

The ACR Guideline Summary for the Prevention and Treatment of Glucocorticoid-Induced Osteoporosis (Updated July 9, 2023) does not address testing for Vitamin D. The ACR Guideline for the Treatment of Rheumatoid Arthritis (Fraenkel, et al., 2021) does not address testing for Vitamin D.

### **American Gastroenterological Association (AGA)**

The AGA Clinical Practice Update on Management of Refractory Celiac Disease: Expert Review states that Celiac disease may be associated with both micronutrient and macronutrient deficiencies, recommending micronutrient status should also be evaluated objectively by testing for deficiency of fat-soluble vitamins (D) (Green, et al., 2022).

The AGA Clinical Practice Update on the Epidemiology, Evaluation, and Management of Exocrine Pancreatic Insufficiency (EPI) (Whitcomb, et al., 2023) notes the following:

- BEST PRACTICE ADVICE 15: EPI should be monitored, and baseline measurements of nutritional status should be obtained (body mass index, quality-of-life measure, and fat-soluble vitamin levels).

The following AGA guidelines do not address testing for Vitamin D:

- AGA Clinical Practice Update: Diagnosis and Management of Nonalcoholic Fatty Liver Disease in Lean Individuals: Expert Review (Sept 2022)
- AGA Clinical Practice Guidelines on the Medical Management of Moderate to Severe Luminal and Perianal Fistulizing Crohn's Disease (Feuerstein, et al., 2021).

- AGA Clinical Practice Guidelines on the Management of Moderate to Severe Ulcerative Colitis (Feuerstein, et al., 2020)
- AGA Institute Guideline on Initial Management of Acute Pancreatitis (Crockett, et. al., 2017)
- AGA Institute Guideline on the Management of Crohn’s Disease After Surgical Resection (Nguyen, et al., 2016/2017)

**Bone Health & Osteoporosis FOUNDATION™**

The Bone Health & Osteoporosis FOUNDATION™ (previously known as the National Osteoporosis Foundation [NOF]) Clinician’s Guide to Prevention and Treatment of Osteoporosis (LeBoff, et al., 2022) notes the following specific to Vitamin D testing:

Synopsis of major recommendations to the clinician:

Note: These recommendations apply to postmenopausal women and men aged 50 years and older.

- Universal recommendations
  - Monitor serum 25-hydroxyvitamin D levels.
- Diagnostic studies for exclusion of secondary causes of osteoporosis (Table 3)
  - 25(OH) vitamin D

**American Society for Clinical Pathology**

The ASCP document titled ‘Twenty Things Physicians and Patients Should Question’ states “Don’t perform population-based screening for 25-OH-Vitamin D deficiency” (2014).

**Medicare Coverage Determinations**

	<b>Contractor</b>	<b>Determination Name/Number</b>	<b>Revision Effective Date</b>
NCD	National	No Coverage Determination found	
LCD		Numerous LCDs.	

Note: Please review the current Medicare Policy for the most up-to-date information. (NCD = National Coverage Determination; LCD = Local Coverage Determination)

**Appendix**

**Condition or medical diagnosis associated with Vitamin D deficiency:**

- Rickets
- Osteomalacia
- Osteoporosis
- Chronic kidney disease
- Hepatic failure
- Malabsorption syndromes:
  - Cystic fibrosis
  - Inflammatory bowel disease
  - Crohn's disease
  - Bariatric surgery
  - Radiation enteritis
- Hyperparathyroidism
- Medications:
  - Antiseizure medications
  - Glucocorticoids

- AIDS/HIV medications
- Antifungals, e.g. ketoconazole
- Cholestyramine
- Older adults with history of falls
- Older adults with history of nontraumatic fractures
- Obese children and adults (BMI > 30 kg/m<sup>2</sup>)
- Granuloma-forming disorders:
  - Sarcoidosis
  - Tuberculosis
  - Histoplasmosis
  - Coccidiomycosis
  - Berylliosis
- Lymphomas

## Coding Information

### Notes:

1. This list of codes may not be all-inclusive since the American Medical Association (AMA) and Centers for Medicare & Medicaid Services (CMS) code updates may occur more frequently than policy updates.
2. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

**Considered Medically Necessary when criteria in the applicable policy statements listed above are met:**

CPT®* Codes	Description
82306	Vitamin D; 25 hydroxy, includes fraction(s), if performed
0038U	Vitamin D, 25 hydroxy D2 and D3, by LC-MS/MS, serum microsample, quantitative

ICD-10-CM Diagnosis Codes	Description
A15.0	Tuberculosis of lung
A15.4	Tuberculosis of intrathoracic lymph nodes
A15.5	Tuberculosis of larynx, trachea and bronchus
A15.6	Tuberculous pleurisy
A15.7	Primary respiratory tuberculosis
A15.8	Other respiratory tuberculosis
A15.9	Respiratory tuberculosis unspecified
A17.0	Tuberculous meningitis
A17.1	Meningeal tuberculoma
A17.81	Tuberculoma of brain and spinal cord
A17.82	Tuberculous meningoencephalitis
A17.83	Tuberculous neuritis
A17.89	Other tuberculosis of nervous system
A17.9	Tuberculosis of nervous system, unspecified
A18.01	Tuberculosis of spine
A18.02	Tuberculous arthritis of other joints

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
A18.03	Tuberculosis of other bones
A18.09	Other musculoskeletal tuberculosis
A18.10	Tuberculosis of genitourinary system, unspecified
A18.11	Tuberculosis of kidney and ureter
A18.12	Tuberculosis of bladder
A18.13	Tuberculosis of other urinary organs
A18.14	Tuberculosis of prostate
A18.15	Tuberculosis of other male genital organs
A18.16	Tuberculosis of cervix
A18.17	Tuberculous female pelvic inflammatory disease
A18.18	Tuberculosis of other female genital organs
A18.2	Tuberculous peripheral lymphadenopathy
A18.31	Tuberculous peritonitis
A18.32	Tuberculous enteritis
A18.39	Retroperitoneal tuberculosis
A18.4	Tuberculosis of skin and subcutaneous tissue
A18.50	Tuberculosis of eye, unspecified
A18.51	Tuberculous episcleritis
A18.52	Tuberculous keratitis
A18.53	Tuberculous chorioretinitis
A18.54	Tuberculous iridocyclitis
A18.59	Other tuberculosis of eye
A18.6	Tuberculosis of (inner) (middle) ear
A18.7	Tuberculosis of adrenal glands
A18.81	Tuberculosis of thyroid gland
A18.82	Tuberculosis of other endocrine glands
A18.83	Tuberculosis of digestive tract organs, not elsewhere classified
A18.84	Tuberculosis of heart
A18.85	Tuberculosis of spleen
A18.89	Tuberculosis of other sites
A19.0	Acute miliary tuberculosis of a single specified site
A19.1	Acute miliary tuberculosis of multiple sites
A19.2	Acute miliary tuberculosis, unspecified
A19.8	Other miliary tuberculosis
A19.9	Miliary tuberculosis, unspecified
C22.0	Liver Cell Carcinoma
C22.1	Intrahepatic bile duct carcinoma
C22.2	Hepatoblastoma
C22.3	Angiosarcoma of liver
C22.4	Other sarcomas of liver
C22.7	Other specified carcinomas of liver
C22.8	Malignant neoplasm of liver, primary, unspecified as to type
C22.9	Malignant neoplasm of liver, not specified as primary or secondary
C23	Malignant neoplasm of gallbladder
C24.0	Malignant neoplasm of extrahepatic bile duct
C24.1	Malignant neoplasm of ampulla of Vater
C24.8	Malignant neoplasm of overlapping sites of biliary tract
C24.9	Malignant neoplasm of biliary tract, unspecified

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
C25.0	Malignant neoplasm of head of pancreas
C25.1	Malignant neoplasm of body of pancreas
C25.2	Malignant neoplasm of tail of pancreas
C25.3	Malignant neoplasm of pancreatic duct
C25.4	Malignant neoplasm of endocrine pancreas
C25.7	Malignant neoplasm of other parts of pancreas
C25.8	Malignant neoplasm of overlapping sites of pancreas
C25.9	Malignant neoplasm of pancreas, unspecified
C26.0	Malignant neoplasm of intestinal tract, part unspecified
C26.1	Malignant neoplasm of spleen
C26.9	Malignant neoplasm of ill-defined sites within the digestive system
D13.0	Benign neoplasm of esophagus
D13.1	Benign neoplasm of stomach
D13.2	Benign neoplasm of duodenum
D13.30	Benign neoplasm of unspecified part of small intestine
D13.39	Benign neoplasm of other parts of small intestine
D13.4	Benign neoplasm of liver
D13.5	Benign neoplasm of extrahepatic bile ducts
D13.6	Benign neoplasm of pancreas
D13.7	Benign neoplasm of endocrine pancreas
D13.9	Benign neoplasm of ill-defined sites within the digestive system
D86.1	Sarcoidosis of lymph nodes
D86.2	Sarcoidosis of lung with sarcoidosis of lymph nodes
D86.3	Sarcoidosis of skin
D86.81	Sarcoid meningitis
D86.82	Multiple cranial nerve palsies in sarcoidosis
D86.83	Sarcoid iridocyclitis
D86.84	Sarcoid pyelonephritis
D86.85	Sarcoid myocarditis
D86.86	Sarcoid arthropathy
D86.87	Sarcoid myositis
D86.89	Sarcoidosis of other sites
E00.0	Congenital iodine-deficiency syndrome, neurological type
E00.1	Congenital iodine-deficiency syndrome, myxedematous type
E00.2	Congenital iodine-deficiency syndrome, mixed type
E00.9	Congenital iodine-deficiency syndrome, unspecified
E01.0	Iodine-deficiency related diffuse (endemic) goiter
E01.1	Iodine-deficiency related multinodular (endemic) goiter
E01.2	Iodine-deficiency related (endemic) goiter, unspecified
E01.8	Other iodine-deficiency related thyroid disorders and allied conditions
E02	Subclinical iodine-deficiency hypothyroidism
E03.0	Congenital hypothyroidism with diffuse goiter
E03.1	Congenital hypothyroidism without goiter
E03.2	Hypothyroidism due to medicaments and other exogenous substances
E03.3	Postinfectious hypothyroidism
E03.4	Atrophy of thyroid (acquired)
E03.5	Myxedema coma

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
E03.8	Other specified hypothyroidism
E03.9	Hypothyroidism, unspecified
E04.0-E04.9	Other nontoxic goiter
E05.00- E05.91	Thyrotoxicosis [hyperthyroidism]
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication
E09.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy
E09.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease
E09.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication
E10.21	Type 1 diabetes mellitus with diabetic nephropathy
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication
E11.00- E11.9	Type 2 diabetes mellitus
E13.21	Other specified diabetes mellitus with diabetic nephropathy
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease
E13.29	Other specified diabetes mellitus with other diabetic kidney complication
E20.0	Idiopathic hypoparathyroidism
E20.1	Pseudohypoparathyroidism
E20.8	Other hypoparathyroidism (Code deleted 09/30/2023)
E20.810	Autosomal dominant hypocalcemia
E20.811	Secondary hypoparathyroidism in diseases classified elsewhere
E20.812	Autoimmune hypoparathyroidism
E20.818	Other specified hypoparathyroidism due to impaired parathyroid hormone secretion
E20.819	Hypoparathyroidism due to impaired parathyroid hormone secretion, unspecified
E20.89	Other specified hypoparathyroidism
E20.9	Hypoparathyroidism, unspecified
E21.0	Primary hyperparathyroidism
E21.1	Secondary hyperparathyroidism, not elsewhere classified
E21.2	Other hyperparathyroidism
E21.3	Hyperparathyroidism, unspecified
E21.4	Other specified disorders of parathyroid gland
E21.5	Disorder of parathyroid gland, unspecified
E24.0	Pituitary-dependent Cushing's disease
E24.1	Nelson's syndrome
E24.2	Drug-induced Cushing's syndrome
E24.3	Ectopic ACTH syndrome
E24.4	Alcohol-induced pseudo-Cushing's syndrome
E24.8	Other Cushing's syndrome
E24.9	Cushing's syndrome, unspecified
E41	Nutritional marasmus
E55.0	Rickets, active

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
E55.9	Vitamin D deficiency, unspecified
E64.3	Sequelae of rickets
E66.01- E66.9	Overweight and obesity
E67.2	Megavitamin-B6 syndrome
E67.3	Hypervitaminosis D
E67.8	Other specified hyperalimentation
E68	Sequelae of hyperalimentation
E78.00	Pure hypercholesterolemia, unspecified
E78.01	Familial hypercholesterolemia
E78.2	Mixed hyperlipidemia
E78.5	Hyperlipidemia, unspecified
E83.30- E83.39	Disorders of phosphorus metabolism and phosphatases
E83.50- E83.59	Disorders of calcium metabolism
E84.0	Cystic fibrosis with pulmonary manifestations
E84.11	Meconium ileus in cystic fibrosis
E84.19	Cystic fibrosis with other intestinal manifestations
E84.8	Cystic fibrosis with other manifestations
E84.9	Cystic fibrosis, unspecified
E89.2	Postprocedural hypoparathyroidism
I10	Essential (primary) hypertension
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
K50.00- K50.919	Crohn's disease [regional enteritis]
K51.00- K51.019	Ulcerative (chronic) pancolitis
K51.20- K51.219	Ulcerative (chronic) proctitis
K51.30- K51.319	Ulcerative (chronic) rectosigmoiditis
K51.40- K51.419	Inflammatory polyps of colon
K51.50- K51.519	Left sided colitis
K51.80	Other ulcerative colitis without complications

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
K51.811	Other ulcerative colitis with rectal bleeding
K51.812	Other ulcerative colitis with intestinal obstruction
K51.813	Other ulcerative colitis with fistula
K51.814	Other ulcerative colitis with abscess
K51.818	Other ulcerative colitis with other complication
K51.819	Other ulcerative colitis with unspecified complications
K51.90	Ulcerative colitis, unspecified, without complications
K51.911	Ulcerative colitis, unspecified with rectal bleeding
K51.912	Ulcerative colitis, unspecified with intestinal obstruction
K51.913	Ulcerative colitis, unspecified with fistula
K51.914	Ulcerative colitis, unspecified with abscess
K51.918	Ulcerative colitis, unspecified with other complication
K51.919	Ulcerative colitis, unspecified with unspecified complications
K52.0	Gastroenteritis and colitis due to radiation
K70.2	Alcoholic fibrosis and sclerosis of liver
K70.30- K70.31	Alcoholic cirrhosis of liver
K74.00	Hepatic fibrosis, unspecified
K74.01	Hepatic fibrosis, early fibrosis
K74.02	Hepatic fibrosis, advanced fibrosis
K74.1	Hepatic sclerosis
K74.2	Hepatic fibrosis with hepatic sclerosis
K74.3	Primary biliary cirrhosis
K74.4	Secondary biliary cirrhosis
K74.5	Biliary cirrhosis, unspecified
K74.60	Unspecified cirrhosis of liver
K74.69	Other cirrhosis of liver
K75.81	Nonalcoholic steatohepatitis (NASH)
K76.0	Fatty (change of) liver, not elsewhere classified
K76.89	Other specified diseases of liver
K82.0	Obstruction of gallbladder
K82.8	Other specified diseases of gallbladder
K82.9	Disease of gallbladder, unspecified
K83.01	Primary sclerosing cholangitis
K83.09	Other cholangitis
K83.1	Obstruction of bile duct
K83.2	Perforation of bile duct
K83.3	Fistula of bile duct
K83.4	Spasm of sphincter of Oddi
K83.5	Biliary cyst
K83.8	Other specified diseases of biliary tract
K83.9	Disease of biliary tract, unspecified
K85.10- K85.12	Biliary acute pancreatitis
K86.0	Alcohol-induced chronic pancreatitis
K86.1	Other chronic pancreatitis
K86.2	Cyst of pancreas
K86.3	Pseudocyst of pancreas



<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
K86.81	Exocrine pancreatic insufficiency
K86.89	Other specified diseases of pancreas
K86.9	Disease of pancreas, unspecified
K87	Disorders of gallbladder, biliary tract and pancreas in diseases classified elsewhere
K90.0	Celiac disease
K90.1	Tropical sprue
K90.2	Blind loop syndrome, not elsewhere classified
K90.3	Pancreatic steatorrhea
K90.41	Non-celiac gluten sensitivity
K90.49	Malabsorption due to intolerance, not elsewhere classified
K90.89	Other intestinal malabsorption
K90.9	Intestinal malabsorption, unspecified
K91.2	Postsurgical malabsorption, not elsewhere classified
L90.0	Lichen sclerosus et atrophicus
L94.0	Localized scleroderma [morphea]
L94.1	Linear scleroderma
L94.3	Sclerodactyly
M05.00- M05.09	Felty's syndrome
M05.10- M05.19	Rheumatoid lung disease with rheumatoid arthritis
M05.20- M05.29	Rheumatoid vasculitis with rheumatoid arthritis
M05.30- M05.39	Rheumatoid heart disease with rheumatoid arthritis
M05.40- M05.49	Rheumatoid myopathy with rheumatoid arthritis
M05.50- M05.59	Rheumatoid polyneuropathy with rheumatoid arthritis
M05.60- M05.69	Rheumatoid arthritis with involvement of other organs and systems
M05.70- M05.79	Rheumatoid arthritis with rheumatoid factor without organ or systems involvement
M05.80- M05.89	Other rheumatoid arthritis with rheumatoid factor
M05.9	Rheumatoid arthritis with rheumatoid factor, unspecified
M06.00- M06.09	Rheumatoid arthritis without rheumatoid factor
M06.1	Adult-onset Still's disease
M06.20- M06.29	Rheumatoid bursitis
M06.30- M06.39	Rheumatoid nodule
M06.4	Inflammatory polyarthropathy
M06.80- M06.89	Other specified rheumatoid arthritis
M06.9	Rheumatoid arthritis, unspecified

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
M32.0	Drug-induced systemic lupus erythematosus
M32.10	Systemic lupus erythematosus, organ or system involvement unspecified
M32.11	Endocarditis in systemic lupus erythematosus
M32.12	Pericarditis in systemic lupus erythematosus
M32.13	Lung involvement in systemic lupus erythematosus
M32.14	Glomerular disease in systemic lupus erythematosus
M32.15	Tubulo-interstitial neuropathy in systemic lupus erythematosus
M32.19	Other organ or system involvement in systemic lupus erythematosus
M32.8	Other forms of systemic lupus erythematosus
M32.9	Systemic lupus erythematosus, unspecified
M33.01- M33.09	Juvenile dermatomyositis
M33.11- M33.19	Other dermatomyositis
M33.91- M33.99	Dermatopolymyositis
M36.0	Dermato(poly)myositis in neoplastic disease
M80.011A- M80.012S	Age-related osteoporosis with current pathological fracture, shoulder
M80.021A- M80.022S	Age-related osteoporosis with current pathological fracture, humerus
M80.031A- M80.032S	Age-related osteoporosis with current pathological fracture, forearm
M80.041A- M80.042S	Age-related osteoporosis with current pathological fracture, hand
M80.051A- M80.052S	Age-related osteoporosis with current pathological fracture, femur
M80.061A- M80.062S	Age-related osteoporosis with current pathological fracture, lower leg
M80.071A- M80.072S	Age-related osteoporosis with current pathological fracture, ankle and foot
M80.08XA- M80.08XS	Age-related osteoporosis with current pathological fracture, vertebra(e)
M80.0B1A- M80.0B9S	Age-related osteoporosis with current pathological fracture, pelvis
M80.8B1A- M80.8B9S	Other osteoporosis with current pathological fracture, pelvis
M80.811A- M80.812S	Other osteoporosis with current pathological fracture, shoulder
M80.821A- M80.822S	Other osteoporosis with current pathological fracture, humerus
M80.831A- M80.832S	Other osteoporosis with current pathological fracture, forearm
M80.841A- M80.842S	Other osteoporosis with current pathological fracture, hand
M80.851A- M80.852S	Other osteoporosis with current pathological fracture, femur

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
M80.861A- M80.862S	Other osteoporosis with current pathological fracture, lower leg
M80.871A- M80.872S	Other osteoporosis with current pathological fracture, ankle and foot
M80.88XA- M80.88XS	Other osteoporosis with current pathological fracture, vertebra(e)
M81.0	Age-related osteoporosis without current pathological fracture
M81.6	Localized osteoporosis [Lequesne]
M81.8	Other osteoporosis without current pathological fracture
M83.0	Puerperal osteomalacia
M83.1	Senile osteomalacia
M83.2	Adult osteomalacia due to malabsorption
M83.3	Adult osteomalacia due to malnutrition
M83.4	Aluminum bone disease
M83.5	Other drug-induced osteomalacia in adults
M83.8	Other adult osteomalacia
M83.9	Adult osteomalacia, unspecified
M85.80	Other specified disorders of bone density and structure, unspecified site
M85.811	Other specified disorders of bone density and structure, right shoulder
M85.812	Other specified disorders of bone density and structure, left shoulder
M85.821	Other specified disorders of bone density and structure, right upper arm
M85.822	Other specified disorders of bone density and structure, left upper arm
M85.831	Other specified disorders of bone density and structure, right forearm
M85.832	Other specified disorders of bone density and structure, left forearm
M85.841	Other specified disorders of bone density and structure, right hand
M85.842	Other specified disorders of bone density and structure, left hand
M85.851	Other specified disorders of bone density and structure, right thigh
M85.852	Other specified disorders of bone density and structure, left thigh
M85.861	Other specified disorders of bone density and structure, right lower leg
M85.862	Other specified disorders of bone density and structure, left lower leg
M85.871	Other specified disorders of bone density and structure, right ankle and foot
M85.872	Other specified disorders of bone density and structure, left ankle and foot
M85.88	Other specified disorders of bone density and structure, other site
M85.89	Other specified disorders of bone density and structure, multiple sites
M85.9	Disorder of bone density and structure, unspecified
M88.0	Osteitis deformans of skull
M88.1	Osteitis deformans of vertebrae
M88.811	Osteitis deformans of right shoulder
M88.812	Osteitis deformans of left shoulder
M88.821	Osteitis deformans of right upper arm
M88.822	Osteitis deformans of left upper arm
M88.831	Osteitis deformans of right forearm
M88.832	Osteitis deformans of left forearm
M88.841	Osteitis deformans of right hand
M88.842	Osteitis deformans of left hand
M88.851	Osteitis deformans of right thigh
M88.852	Osteitis deformans of left thigh
M88.861	Osteitis deformans of right lower leg

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
M88.862	Osteitis deformans of left lower leg
M88.871	Osteitis deformans of right ankle and foot
M88.872	Osteitis deformans of left ankle and foot
M88.88	Osteitis deformans of other bones
M88.89	Osteitis deformans of multiple sites
M88.9	Osteitis deformans of unspecified bone
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.30	Chronic kidney disease, stage 3 unspecified
N18.31	Chronic kidney disease, stage 3a
N18.32	Chronic kidney disease, stage 3b
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
N18.9	Chronic kidney disease, unspecified
N25.81	Secondary hyperparathyroidism of renal origin
O99.841- O99.845	Bariatric surgery status complicating pregnancy, childbirth and the puerperium
Q78.0	Osteogenesis imperfecta
Q78.2	Osteopetrosis
R53.81- R53.83	Other malaise and fatigue
T30.0	Burn of unspecified body region, unspecified degree
T30.4	Corrosion of unspecified body region, unspecified degree
Z32.00	Encounter for pregnancy test, result unknown
Z32.01	Encounter for pregnancy test, result positive
Z32.02	Encounter for pregnancy test, result negative
Z32.2	Encounter for childbirth instruction
Z32.3	Encounter for childcare instruction
Z33.1	Pregnant state, incidental
Z33.2	Encounter for elective termination of pregnancy
Z33.3	Pregnant state, gestational carrier
Z34.00- Z34.93	Encounter for supervision of normal pregnancy
Z36.0	Encounter for antenatal screening for chromosomal anomalies
Z36.1	Encounter for antenatal screening for raised alphafetoprotein level
Z36.2	Encounter for other antenatal screening follow-up
Z36.3	Encounter for antenatal screening for malformations
Z36.4	Encounter for antenatal screening for fetal growth retardation
Z36.5	Encounter for antenatal screening for isoimmunization
Z36.81	Encounter for antenatal screening for hydrops fetalis
Z36.82	Encounter for antenatal screening for nuchal translucency
Z36.83	Encounter for fetal screening for congenital cardiac abnormalities
Z36.84	Encounter for antenatal screening for fetal lung maturity
Z36.85	Encounter for antenatal screening for Streptococcus B
Z36.86	Encounter for antenatal screening for cervical length
Z36.87	Encounter for antenatal screening for uncertain dates

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
Z36.88	Encounter for antenatal screening for fetal macrosomia
Z36.89	Encounter for other specified antenatal screening
Z36.8A	Encounter for antenatal screening for other genetic defects
Z36.9	Encounter for antenatal screening, unspecified
Z3A.00- Z3A.49	Weeks of gestation
Z37.0	Single live birth
Z37.1	Single stillbirth
Z37.2	Twins, both liveborn
Z37.3	Twins, one liveborn and one stillborn
Z37.4	Twins, both stillborn
Z37.50	Multiple births, unspecified, all liveborn
Z37.51	Triplets, all liveborn
Z37.52	Quadruplets, all liveborn
Z37.53	Quintuplets, all liveborn
Z37.54	Sextuplets, all liveborn
Z37.59	Other multiple births, all liveborn
Z37.60	Multiple births, unspecified, some liveborn
Z37.61	Triplets, some liveborn
Z37.62	Quadruplets, some liveborn
Z37.63	Quintuplets, some liveborn
Z37.64	Sextuplets, some liveborn
Z37.69	Other multiple births, some liveborn
Z37.7	Other multiple births, all stillborn
Z37.9	Outcome of delivery, unspecified
Z38.00- Z38.8	Liveborn infants according to place of birth and type of delivery
Z39.0	Encounter for care and examination of mother immediately after delivery
Z39.1	Encounter for care and examination of lactating mother
Z39.2	Encounter for routine postpartum follow-up
Z79.3	Long term (current) use of hormonal contraceptives
Z79.51- Z79.52	Long term (current) use of steroids
Z79.811	Long term (current) use of aromatase inhibitors
Z79.891	Long term (current) use of opiate analgesic
Z79.899	Other long term (current) drug therapy
Z98.84	Bariatric surgery status

**Not Covered or Reimbursable:**

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
	All other codes

**Considered Medically Necessary when criteria in the applicable policy statements listed above are met:**

<b>CPT®*</b> <b>Codes</b>	<b>Description</b>
82652	Vitamin D; 1, 25 dihydroxy, includes fraction(s), if performed

<b>ICD-10-CM</b> <b>Diagnosis</b> <b>Codes</b>	<b>Description</b>
A15.0	Tuberculosis of lung
A15.4	Tuberculosis of intrathoracic lymph nodes
A15.5	Tuberculosis of larynx, trachea and bronchus
A15.6	Tuberculous pleurisy
A15.7	Primary respiratory tuberculosis
A15.8	Other respiratory tuberculosis
A15.9	Respiratory tuberculosis unspecified
A17.0	Tuberculous meningitis
A17.1	Meningeal tuberculoma
A17.81	Tuberculoma of brain and spinal cord
A17.82	Tuberculous meningoencephalitis
A17.83	Tuberculous neuritis
A17.89	Other tuberculosis of nervous system
A17.9	Tuberculosis of nervous system, unspecified
A18.01	Tuberculosis of spine
A18.02	Tuberculous arthritis of other joints
A18.03	Tuberculosis of other bones
A18.09	Other musculoskeletal tuberculosis
A18.10	Tuberculosis of genitourinary system, unspecified
A18.11	Tuberculosis of kidney and ureter
A18.12	Tuberculosis of bladder
A18.13	Tuberculosis of other urinary organs
A18.14	Tuberculosis of prostate
A18.15	Tuberculosis of other male genital organs
A18.16	Tuberculosis of cervix
A18.17	Tuberculous female pelvic inflammatory disease
A18.18	Tuberculosis of other female genital organs
A18.2	Tuberculous peripheral lymphadenopathy
A18.31	Tuberculous peritonitis
A18.32	Tuberculous enteritis
A18.39	Retroperitoneal tuberculosis
A18.4	Tuberculosis of skin and subcutaneous tissue
A18.50	Tuberculosis of eye, unspecified
A18.51	Tuberculous episcleritis
A18.52	Tuberculous keratitis
A18.53	Tuberculous chorioretinitis
A18.54	Tuberculous iridocyclitis
A18.59	Other tuberculosis of eye
A18.6	Tuberculosis of (inner) (middle) ear
A18.7	Tuberculosis of adrenal glands
A18.81	Tuberculosis of thyroid gland
A18.82	Tuberculosis of other endocrine glands
A18.83	Tuberculosis of digestive tract organs, not elsewhere classified
A18.84	Tuberculosis of heart

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
A18.85	Tuberculosis of spleen
A18.89	Tuberculosis of other sites
A19.0	Acute miliary tuberculosis of a single specified site
A19.1	Acute miliary tuberculosis of multiple sites
A19.2	Acute miliary tuberculosis, unspecified
A19.8	Other miliary tuberculosis
A19.9	Miliary tuberculosis, unspecified
C83.80- C83.89	Other non-follicular lymphoma
C84.00- C84.09	Mycosis fungoides
C84.10- C84.19	Sezary disease
C88.4	Extranodal marginal zone B-cell lymphoma of mucosa-associated lymphoid tissue [MALT-lymphoma]
D86.0	Sarcoidosis of lung
D86.1	Sarcoidosis of lymph nodes
D86.2	Sarcoidosis of lung with sarcoidosis of lymph nodes
D86.3	Sarcoidosis of skin
D86.81	Sarcoid meningitis
D86.82	Multiple cranial nerve palsies in sarcoidosis
D86.83	Sarcoid iridocyclitis
D86.84	Sarcoid pyelonephritis
D86.85	Sarcoid myocarditis
D86.86	Sarcoid arthropathy
D86.87	Sarcoid myositis
D86.89	Sarcoidosis of other sites
E08.21	Diabetes mellitus due to underlying condition with diabetic nephropathy
E08.22	Diabetes mellitus due to underlying condition with diabetic chronic kidney disease
E08.29	Diabetes mellitus due to underlying condition with other diabetic kidney complication
E09.21	Drug or chemical induced diabetes mellitus with diabetic nephropathy
E09.22	Drug or chemical induced diabetes mellitus with diabetic chronic kidney disease
E09.29	Drug or chemical induced diabetes mellitus with other diabetic kidney complication
E10.21	Type 1 diabetes mellitus with diabetic nephropathy
E10.22	Type 1 diabetes mellitus with diabetic chronic kidney disease
E10.29	Type 1 diabetes mellitus with other diabetic kidney complication
E11.21	Type 2 diabetes mellitus with diabetic nephropathy
E11.22	Type 2 diabetes mellitus with diabetic chronic kidney disease
E11.29	Type 2 diabetes mellitus with other diabetic kidney complication
E13.21	Other specified diabetes mellitus with diabetic nephropathy
E13.22	Other specified diabetes mellitus with diabetic chronic kidney disease
E13.29	Other specified diabetes mellitus with other diabetic kidney complication
E20.0	Idiopathic hypoparathyroidism
E20.1	Pseudohypoparathyroidism
E20.8	Other hypoparathyroidism (Code deleted 09/30/2023)

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
E20.810	Autosomal dominant hypocalcemia
E20.811	Secondary hypoparathyroidism in diseases classified elsewhere
E20.812	Autoimmune hypoparathyroidism
E20.818	Other specified hypoparathyroidism due to impaired parathyroid hormone secretion
E20.819	Hypoparathyroidism due to impaired parathyroid hormone secretion, unspecified
E20.89	Other specified hypoparathyroidism
E20.9	Hypoparathyroidism, unspecified
E21.0-E21.5	Hyperparathyroidism and other disorders of parathyroid gland
E21.0	Primary hyperparathyroidism
E21.1	Secondary hyperparathyroidism, not elsewhere classified
E21.2	Other hyperparathyroidism
E21.3	Hyperparathyroidism, unspecified
E21.4	Other specified disorders of parathyroid gland
E21.5	Disorder of parathyroid gland, unspecified
E55.0	Rickets, active
E55.9	Vitamin D deficiency, unspecified
E64.3	Sequelae of rickets
E67.2	Megavitamin-B6 syndrome
E67.8	Other specified hyperalimentation
E68	Sequelae of hyperalimentation
E83.30- E83.39	Disorders of phosphorus metabolism and phosphatases
E83.50- E83.59	Disorders of calcium metabolism
E89.2	Postprocedural hypoparathyroidism
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
M83.0	Puerperal osteomalacia
M83.1	Senile osteomalacia
M83.2	Adult osteomalacia due to malabsorption
M83.3	Adult osteomalacia due to malnutrition
M83.4	Aluminum bone disease
M83.5	Other drug-induced osteomalacia in adults
M83.8	Other adult osteomalacia
M83.9	Adult osteomalacia, unspecified
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)



<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
N18.30	Chronic kidney disease, stage 3 unspecified
N18.31	Chronic kidney disease, stage 3a
N18.32	Chronic kidney disease, stage 3b
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
N18.9	Chronic kidney disease, unspecified
N25.81	Secondary hyperparathyroidism of renal origin
Q78.0	Osteogenesis imperfecta
Q78.2	Osteopetrosis
Z32.00	Encounter for pregnancy test, result unknown
Z32.01	Encounter for pregnancy test, result positive
Z32.02	Encounter for pregnancy test, result negative
Z32.2	Encounter for childbirth instruction
Z32.3	Encounter for childcare instruction
Z33.1	Pregnant state, incidental
Z33.2	Encounter for elective termination of pregnancy
Z33.3	Pregnant state, gestational carrier
Z34.00- Z34.93	Encounter for supervision of normal pregnancy
Z36.0	Encounter for antenatal screening for chromosomal anomalies
Z36.1	Encounter for antenatal screening for raised alphafetoprotein level
Z36.2	Encounter for other antenatal screening follow-up
Z36.3	Encounter for antenatal screening for malformations
Z36.4	Encounter for antenatal screening for fetal growth retardation
Z36.5	Encounter for antenatal screening for isoimmunization
Z36.81	Encounter for antenatal screening for hydrops fetalis
Z36.82	Encounter for antenatal screening for nuchal translucency
Z36.83	Encounter for fetal screening for congenital cardiac abnormalities
Z36.84	Encounter for antenatal screening for fetal lung maturity
Z36.85	Encounter for antenatal screening for Streptococcus B
Z36.86	Encounter for antenatal screening for cervical length
Z36.87	Encounter for antenatal screening for uncertain dates
Z36.88	Encounter for antenatal screening for fetal macrosomia
Z36.89	Encounter for other specified antenatal screening
Z36.8A	Encounter for antenatal screening for other genetic defects
Z36.9	Encounter for antenatal screening, unspecified
Z3A.00- Z3A.49	Weeks of gestation
Z37.0	Single live birth
Z37.1	Single stillbirth
Z37.2	Twins, both liveborn
Z37.3	Twins, one liveborn and one stillborn
Z37.4	Twins, both stillborn
Z37.50	Multiple births, unspecified, all liveborn
Z37.51	Triplets, all liveborn
Z37.52	Quadruplets, all liveborn
Z37.53	Quintuplets, all liveborn

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
Z37.54	Sextuplets, all liveborn
Z37.59	Other multiple births, all liveborn
Z37.60	Multiple births, unspecified, some liveborn
Z37.61	Triples, some liveborn
Z37.62	Quadruplets, some liveborn
Z37.63	Quintuplets, some liveborn
Z37.64	Sextuplets, some liveborn
Z37.69	Other multiple births, some liveborn
Z37.7	Other multiple births, all stillborn
Z37.9	Outcome of delivery, unspecified
Z38.00- Z38.8	Liveborn infants according to place of birth and type of delivery
Z39.0	Encounter for care and examination of mother immediately after delivery
Z39.1	Encounter for care and examination of lactating mother
Z39.2	Encounter for routine postpartum follow-up

**Not Covered or Reimbursable:**

<b>ICD-10-CM Diagnosis Codes</b>	<b>Description</b>
	All other diagnosis codes

**\*Current Procedural Terminology (CPT®) ©2023 American Medical Association: Chicago, IL.**

## References

1. ACOG Committee on Obstetric Practice. ACOG Committee Opinion No. 495: Vitamin D: Screening and supplementation during pregnancy. *Obstet Gynecol.* 2011 Jul;118(1):197-8. Reaffirmed 2024. Accessed Jan 2024. Available at URL address:  
<https://www.acog.org/clinical/clinical-guidance/committee-opinion>  
<https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2011/07/vitamin-d-screening-and-supplementation-during-pregnancy>
2. American Academy of Neurology. Policy and Guidelines. Accessed Jan 2024. Available at URL address:  
<https://www.aan.com/practice/guidelines> (Guidelines)  
<https://www.aan.com/policy-and-guidelines/> (Position Statements)
3. American Association of Clinical Endocrinologists. AACE/ACE CLINICAL PRACTICE GUIDELINES. Accessed Jan 2024. Available at URL address:  
<https://pro.aace.com/resources>  
<https://pro.aace.com/clinical-guidance>
4. American Association of Endocrine Surgeons. Practice Guidelines. Accessed Jan 2024. Available at URL address: <https://www.endocrinesurgery.org/practice-guidelines-tools>  
[https://collectedmed.com/index.php/article/article/demo\\_article\\_display/8449/82/1/1](https://collectedmed.com/index.php/article/article/demo_article_display/8449/82/1/1)

5. American College of Gastroenterology. Clinical Guidelines. Accessed Jan 2024. Available at URL address: <https://gi.org/guidelines/>
6. American College of Obstetricians and Gynecologists' Committee on Clinical Practice Guidelines–Gynecology. Osteoporosis Prevention, Screening, and Diagnosis: ACOG Clinical Practice Guideline No. 1. *Obstet Gynecol.* 2021 Sep 1;138(3):494-506. Accessed Jan 2024. Available at URL address: <https://www.acog.org/clinical/clinical-guidance/clinical-practice-guideline/articles/2021/09/osteoporosis-prevention-screening-and-diagnosis>
7. ACOG Committee on Clinical Practice Guidelines–Gynecology. Management of Postmenopausal Osteoporosis: ACOG Clinical Practice Guideline No. 2. *Obstet Gynecol.* 2022 Apr 1;139(4):698-717. Erratum in: *Obstet Gynecol.* 2022 Jul 1;140(1):138. Accessed Jan 2024. Available at URL address: <https://www.acog.org/clinical/clinical-guidance/clinical-practice-guideline/articles/2022/04/management-of-postmenopausal-osteoporosis>
8. American College of Rheumatology. Clinical Practice Guidelines. Accessed Jan 2024. Available at URL address: <https://www.rheumatology.org/Practice-Quality/Clinical-Support/Clinical-Practice-Guidelines>  
<https://www.rheumatology.org/Practice-Quality/Clinical-Support/Clinical-Practice-Guidelines/Glucocorticoid-Induced-Osteoporosis>
9. American Gastroenterological Association. Accessed Jan 2024. Available at URL address: <https://gastro.org/guidelines/>
10. American Geriatrics Society Workgroup on Vitamin D Supplementation for Older Adults. Recommendations abstracted from the American Geriatrics Society Consensus Statement on vitamin D for Prevention of Falls and Their Consequences. *J Am Geriatr Soc.* 2014 Jan;62(1):147-52. Accessed Jan 2024. Status: INACTIVE. Available at URL address: <https://geriatricscareonline.org/ProductTypeStore/guidelines-recommendations-position-statements-/8/>
11. American Society for Clinical Pathology. Twenty Things Physicians and Patients Should Question. American Society for Clinical Pathology. Released February 21, 2014. Accessed Jan 2024. Available at URL address: <https://www.ascp.org/content/docs/default-source/get-involved-pdfs/20-things-to-question.pdf?sfvrsn=4>
12. American Thyroid Association. Guidelines and Surgical Statements. Accessed Jan 2024. Available at URL address: <https://www.thyroid.org/professionals/ata-professional-guidelines/>
13. Ames BN, Grant WB, Willett WC. Does the High Prevalence of Vitamin D Deficiency in African Americans Contribute to Health Disparities? *Nutrients.* 2021 Feb 3;13(2):499.
14. Barbarawi M, Kheiri B, Zayed Y, Barbarawi O, Dhillon H, et al. Vitamin D Supplementation and Cardiovascular Disease Risks in More Than 83 000 Individuals in 21 Randomized Clinical Trials: A Meta-analysis. *JAMA Cardiol.* 2019 Aug 1;4(8):765-776. doi: 10.1001/jamacardio.2019.1870. Erratum in: *JAMA Cardiol.* 2019 Nov 6; : PMID: 31215980; PMCID: PMC6584896.
15. Bone Health & Osteoporosis FOUNDATION™ (previously known as the National Osteoporosis Foundation [NOF]). Clinical Guidelines. Clinician's guide to Prevention and

Treatment of Osteoporosis.2022. Accessed Jan 2024. Available at URL address: <https://www.bonesource.org/clinical-guidelines> (LeBoff, et al., 2022)

16. Camacho PM, Petak SM, Binkley N, Diab DL, Eldeiry LS, et al. AMERICAN ASSOCIATION OF CLINICAL ENDOCRINOLOGISTS/AMERICAN COLLEGE OF ENDOCRINOLOGY CLINICAL PRACTICE GUIDELINES FOR THE DIAGNOSIS AND TREATMENT OF POSTMENOPAUSAL OSTEOPOROSIS-2020 UPDATE. *Endocr Pract*. 2020 May;26(Suppl 1):1-46. Accessed Jan 2024. Available at URL address: <https://pro.aace.com/disease-state-resources/bone-and-parathyroid/clinical-practice-guidelines/clinical-practice>
17. Chandler PD, Chen WY, Ajala ON, Hazra A, Cook N, Bubes V, Lee IM, Giovannucci EL, Willett W, Buring JE, Manson JE; VITAL Research Group. Effect of Vitamin D3 Supplements on Development of Advanced Cancer: A Secondary Analysis of the VITAL Randomized Clinical Trial. *JAMA Netw Open*. 2020 Nov 2;3(11):e2025850.
18. Chung M, Balk EM, Brendel M, Ip S, Lau J, Lee J, et al. Vitamin D and calcium: a systematic review of health outcomes. *Evid Rep Technol Assess (Full Rep)*. 2009 Aug;(183):1-420. (See Newberry, et al., 2014)
19. Crockett SD, Wani S, Gardner TB, Falck-Ytter Y, Barkun AN; American Gastroenterological Association Institute Clinical Guidelines Committee. American Gastroenterological Association Institute Guideline on Initial Management of Acute Pancreatitis. *Gastroenterology*. 2018 Mar;154(4):1096-1101.
20. Dawson-Hughes B. Vitamin D deficiency in adults: Definition, clinical manifestations, and treatment. In: UpToDate, Rosen CJ (Eds), UpToDate, Waltham, MA. Literature review current through Dec 2023. Topic last updated: Sep 30, 2023.
21. Dawson-Hughes B. Causes of vitamin D deficiency and resistance. In: UpToDate, Rosen CJ (Ed), UpToDate, Waltham, MA. Literature review current through Dec 2023. Topic last updated: May 16, 2023.
22. Demay MB, Pittas AG, Bikle DD, Diab DL, Kiely ME, et al. Vitamin D for the Prevention of Disease: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab*. 2024 Jun 3:dgae290. doi: 10.1210/clinem/dgae290. Epub ahead of print. PMID: 38828931.
23. Eastell R, Rosen CJ, Black DM, Cheung AM, Murad MH, Shoback D. Pharmacological Management of Osteoporosis in Postmenopausal Women: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab*. 2019 May 1;104(5):1595-1622. (See Shoback, 2020)
24. El-Hajj Fuleihan G, Clines GA, Hu MI, Marcocci C, Murad MH, Piggott T, Van Poznak C, Wu JY, Drake MT. Treatment of Hypercalcemia of Malignancy in Adults: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab*. 2023 Feb 15;108(3):507-528.
25. Endocrine Society. Guidelines and Clinical Practice. Accessed Jan 2022. Available at URL address: <https://www.endocrine.org/clinical-practice-guidelines/guidelines-by-year>
26. Endocrine Society. Press release. Joint guidance on vitamin D in the era of COVID-19. July 09, 2020. Accessed January 2024. Available at URL address: <https://www.endocrine.org/news-and-advocacy/news-room/2020/joint-guidance-on-vitamin-d>

27. Enko D, Kriegshäuser G, Stolba R, Worf E, Halwachs-Baumann G. Method evaluation study of a new generation of vitamin D assays. *Biochem Med (Zagreb)*. 2015 Jun 5;25(2):203-12
28. Feuerstein JD, Isaacs KL, Schneider Y, Siddique SM, Falck-Ytter Y, Singh S; AGA Institute Clinical Guidelines Committee. AGA Clinical Practice Guidelines on the Management of Moderate to Severe Ulcerative Colitis. *Gastroenterology*. 2020 Apr;158(5):1450-1461. Accessed Jan 2024. Available at URL address: <https://gastro.org/clinical-guidance/>
29. Feuerstein JD, Ho EY, Shmidt E, Singh H, Falck-Ytter Y, American Gastroenterological Association Institute Clinical Guidelines Committee, et al. AGA Clinical Practice Guidelines on the Medical Management of Moderate to Severe Luminal and Perianal Fistulizing Crohn's Disease. *Gastroenterology*. 2021 Jun;160(7):2496-2508 Accessed Jan 2024. Available at URL address: <https://gastro.org/clinical-guidance/>
30. Fraenkel L, Bathon JM, England BR, St Clair EW, Arayssi T, et al. 2021 American College of Rheumatology Guideline for the Treatment of Rheumatoid Arthritis. *Arthritis Care Res (Hoboken)*. 2021 Jul;73(7):924-939.
31. Gardner TB, Adler DG, Forsmark CE, Sauer BG, Taylor JR, Whitcomb DC. ACG Clinical Guideline: Chronic Pancreatitis. *Am J Gastroenterol*. 2020 Mar;115(3):322-339. Accessed Jan 2024. Available at URL address: <https://gi.org/guidelines/>
32. Garvey WT, Mechanick JI, Brett EM, Garber AJ, Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines, et al. American Association of Clinical Endocrinologists and American College of Endocrinology Comprehensive Clinical Practice Guidelines for Medical Care of Patients with Obesity. *Endocr Pract*. 2016 Jul;22 Suppl 3:1-203.
33. Green PHR, Paski S, Ko CW, Rubio-Tapia A. AGA Clinical Practice Update on Management of Refractory Celiac Disease: Expert Review. *Gastroenterology*. 2022 Nov;163(5):1461-1469. Accessed Jan 2024. Available at URL address: <https://gastro.org/clinical-guidance/>
34. Golden NH, Abrams SA; Committee on Nutrition. Optimizing bone health in children and adolescents. *Pediatrics*. 2014 Oct;134(4):e1229-43.
35. Holick MF, Binkley NC, Bischoff-Ferrari HA, Gordon CM, Endocrine Society, et al. Evaluation, treatment, and prevention of vitamin D deficiency: an Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab*. 2011 Jul;96(7):1911-30.
36. Institute of Medicine (US) Committee to Review Dietary Reference Intakes for Vitamin D and Calcium. *Dietary Reference Intakes for Calcium and Vitamin D*. Ross AC, Taylor CL, Yaktine AL, Del Valle HB, editors. Washington (DC): National Academies Press (US); 2011. Accessed Jan 2024. Available at URL address: <https://pubmed.ncbi.nlm.nih.gov/21796828/>
37. Jensen MD, Ryan DH, Apovian CM, Ard JD, Comuzzie AG, American College of Cardiology/American Heart Association Task Force on Practice Guidelines; Obesity Society, et al. 2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. *J Am Coll Cardiol*. 2014 Jul 1;63(25 Pt B):2985-3023. Erratum in *J Am Coll Cardiol*. 2014 Jul 1;63(25 Pt B):3029-3030.
38. Johnson NE, Aldana EZ, Angeard N, Ashizawa T, Berggren KN, et al. Consensus-based care recommendations for congenital and childhood-onset myotonic dystrophy type 1. *Neurol Clin Pract*. 2019 Oct;9(5):443-454.

39. Jones G. Interpreting vitamin D assay results: proceed with caution. *Clin J Am Soc Nephrol*. 2015 Feb 6;10(2):331-4.
40. Kahwati LC, LeBlanc E, Weber RP, Giger K, Clark R, Suvada K, Guisinger A, Viswanathan M. Screening for Vitamin D Deficiency in Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*. 2021 Apr 13;325(14):1443-1463.
41. LeBoff MS, Chou SH, Ratliff KA, Cook NR, Khurana B, Kim E, et al. Supplemental Vitamin D and Incident Fractures in Midlife and Older Adults. *N Engl J Med*. 2022 Jul 28;387(4):299-309.
42. LeBoff MS, Greenspan SL, Insogna KL, Lewiecki EM, Saag KG, Singer AJ, Siris ES. The clinician's guide to prevention and treatment of osteoporosis. *Osteoporos Int*. 2022 Oct;33(10):2049-2102.
43. LeBoff MS, Greenspan SL, Insogna KL, Lewiecki EM, Saag KG, Singer AJ, Siris ES. Correction to: The clinician's guide to prevention and treatment of osteoporosis. *Osteoporos Int*. 2022 Oct;33(10):2243. doi: 10.1007/s00198-022-06479-8. Erratum for: *Osteoporos Int*. 2022 Oct;33(10):2049-2102.
44. Lichtenstein GR, Loftus EV, Isaacs KL, Regueiro MD, Gerson LB, et al. ACG Clinical Guideline: Management of Crohn's Disease in Adults. *Am J Gastroenterol*. 2018 Apr;113(4):481-517. Erratum in: *Am J Gastroenterol*. 2018 Jul;113(7):1101. Accessed Jan 2024. Available at URL address: <https://gi.org/guidelines/>
45. Lindor KD, Kowdley KV, Harrison ME, American College of Gastroenterology. ACG Clinical Guideline: Primary Sclerosing Cholangitis. *Am J Gastroenterol*. 2015 May;110(5):646-59; quiz 660. Accessed Jan 2024. Available at URL address: <https://gi.org/guidelines/>
46. Lips P. Relative value of 25(OH)D and 1,25(OH)2D measurements. *J Bone Miner Res*. 2007 Nov;22(11):1668-71.
47. Manson JE, Cook NR, Lee IM, Christen W, Bassuk SS, VITAL Research Group, et al. Vitamin D Supplements and Prevention of Cancer and Cardiovascular Disease. *N Engl J Med*. 2019 Jan 3;380(1):33-44.
48. Mechanick JI, Apovian C, Brethauer S, Timothy Garvey W, Joffe AM, et al. Clinical Practice Guidelines for the Perioperative Nutrition, Metabolic, and Nonsurgical Support of Patients Undergoing Bariatric Procedures - 2019 Update: Cosponsored by American Association of Clinical Endocrinologists/American College of Endocrinology, The Obesity Society, American Society for Metabolic and Bariatric Surgery, Obesity Medicine Association, and American Society of Anesthesiologists. *Obesity (Silver Spring)*. 2020 Apr;28(4):O1-O58. Accessed Jan 2024. Available at URL address: <https://pro.ace.com/clinical-guidance>
49. National Institutes of Health. MedlinePlus. Medical Encyclopedia. Malabsorption. Page last updated 5/06/2022. Accessed Jan 2024. Available at URL address: <https://medlineplus.gov/ency/article/000299.htm>
50. National Institute of Health. Office of Dietary Supplements. Health Information. Fact Sheet for Health Professionals. Vitamin D. Updated September 18, 2023. Accessed Jan 2024. Available at URL address: <https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>

51. Nieman LK, Biller BM, Findling JW, Murad MH, Endocrine Society, et al. Treatment of Cushing's Syndrome: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab.* 2015 Aug;100(8):2807-31. Accessed Jan 2024. Available at URL address: <https://www.endocrine.org/guidelines-and-clinical-practice/clinical-practice-guidelines> <https://www.endocrine.org/clinical-practice-guidelines/treatment-of-cushing-syndrome>
52. Newberry SJ, Chung M, Shekelle PG, Booth MS, Liu JL, Maher AR, et al. Vitamin D and calcium: a systematic review of health outcomes (Update). Evidence report/technology assessment No. 217. AHRQ Publication No. 14-E004-EF. Rockville, MD: Agency for Healthcare Research and Quality, 2014. Archived Sept 15, 2014. Accessed Jan 2024. Available at URL address: <https://effectivehealthcare.ahrq.gov/products/vitamin-d-calcium> [https://www.ahrq.gov/research/findings/evidence-based-reports/search.html?search\\_api\\_views\\_fulltext](https://www.ahrq.gov/research/findings/evidence-based-reports/search.html?search_api_views_fulltext)
53. Nguyen GC, Loftus EV Jr, Hirano I, Falck-Ytter Y, Singh S, Sultan S; AGA Institute Clinical Guidelines Committee. American Gastroenterological Association Institute Guideline on the Management of Crohn's Disease After Surgical Resection. *Gastroenterology.* 2017 Jan;152(1):271-275. Accessed Jan 2024. Available at URL address: <https://gastro.org/clinical-guidance/>
54. Patel KN, Yip L, Lubitz CC, Grubbs EG, Miller BS, et al. The American Association of Endocrine Surgeons Guidelines for the Definitive Surgical Management of Thyroid Disease in Adults. *Ann Surg.* 2020 Mar;271(3):e21-e93.
55. Rae-Grant A, Day GS, Marrie RA, Rabinstein A, Cree BAC, et al. Practice guideline recommendations summary: Disease-modifying therapies for adults with multiple sclerosis: Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology. *Neurology.* 2018 Apr 24;90(17):777-788. Erratum in: *Neurology.* 2019 Jan 8;92(2):112. Reaffirmed on September 18, 2021. Accessed Jan 2024. Available at URL address: <https://www.aan.com/Guidelines/home/GuidelineDetail/898>
56. Rubio-Tapia A, Hill ID, Semrad C, Kelly CP, Lebwohl B. American College of Gastroenterology Guidelines Update: Diagnosis and Management of Celiac Disease. *Am J Gastroenterol.* 2023 Jan 1;118(1):59-76.
57. Shoback D, Rosen CJ, Black DM, Cheung AM, Murad MH, Eastell R. Pharmacological Management of Osteoporosis in Postmenopausal Women: An Endocrine Society Guideline Update. *J Clin Endocrinol Metab.* 2020 Mar 1;105(3):dgaa048. <https://www.endocrine.org/clinical-practice-guidelines/osteoporosis-in-postmenopausal-women>
58. Styne DM, Arslanian SA, Connor EL, Farooqi IS, Murad MH, et al. Pediatric Obesity- Assessment, Treatment, and Prevention: An Endocrine Society Clinical Practice Guideline. *J Clin Endocrinol Metab.* 2017 Mar 1;102(3):709-757.
59. U.S. Preventive Services Task Force (USPSTF). Final Recommendation Statement: Vitamin D Deficiency in Adults: Screening. April 13, 2021. Accessed Jan 2024. Available at URL address: <https://www.uspreventiveservicestaskforce.org/uspstf/document/RecommendationStatementFinal/vitamin-d-deficiency-screening>

60. Washington State Health Care Authority. Health Technology Assessment Program (HTA). Vitamin D Screening and Testing. Final Evidence Report November 16, 2012. Accessed Jan 2024. Available at URL address:  
<https://www.hca.wa.gov/about-hca/programs-and-initiatives/health-technology-assessment/vitamin-d-screening-and-testing>  
<https://www.hca.wa.gov/about-hca/programs-and-initiatives/health-technology-assessment>
61. Whitcomb DC, Buchner AM, Forsmark CE. AGA Clinical Practice Update on the Epidemiology, Evaluation, and Management of Exocrine Pancreatic Insufficiency: Expert Review. *Gastroenterology*. 2023 Nov;165(5):1292-1301. Accessed Jan 2024. Available at URL address: <https://gastro.org/clinical-guidance/>
62. Wilhelm SM, Wang TS, Ruan DT, Lee JA, Asa SL, Duh QY, et al. The American Association of Endocrine Surgeons Guidelines for Definitive Management of Primary Hyperparathyroidism. *JAMA Surg*. 2016 Oct 1;151(10):959-968. Accessed Jan 2024. Available at URL address:  
[https://collectedmed.com/index.php/article/article/demo\\_article\\_display/8449/82/1/1](https://collectedmed.com/index.php/article/article/demo_article_display/8449/82/1/1)
63. Yadav V, Bever C Jr, Bowen J, Bowling A, Weinstock-Guttman B, et al. Summary of evidence-based guideline: complementary and alternative medicine in multiple sclerosis: report of the guideline development subcommittee of the American Academy of Neurology. *Neurology*. 2014 Mar 25;82(12):1083-92. Reaffirmed on February 25, 2023. Accessed Jan 2024. Available at URL address:  
<https://www.aan.com/Guidelines/Home/GuidelineDetail/641>

## Revision Details

Type of Revision	Summary of Changes	Date
Focused review	<ul style="list-style-type: none"> <li>No policy statement changes.</li> </ul>	8/15/2024
Annual review	<ul style="list-style-type: none"> <li>No policy statement changes.</li> </ul>	3/15/2024
Focused review	<ul style="list-style-type: none"> <li>Revised frequency policy statement.</li> </ul>	12/03/2023

“Cigna Companies” refers to operating subsidiaries of The Cigna Group. All products and services are provided exclusively by or through such operating subsidiaries, including Cigna Health and Life Insurance Company, Connecticut General Life Insurance Company, Evernorth Behavioral Health, Inc., Cigna Health Management, Inc., and HMO or service company subsidiaries of The Cigna Group. © 2024 The Cigna Group.