Clinical Policy: Measurement of Serum 1,25-dihydroxyvitamin D

Reference Number: LA.CP.MP.152 Coding Implications
Date of Last Revision: 10/23 Revision Log

See Important Reminder at the end of this policy for important regulatory and legal information.

Description

Vitamin D is metabolized in the liver to 25-hydroxyvitamin D [25(OH)D], also known as calcidiol), and then in the kidney to 1,25-dihydroxyvitamin D [1,25(OH)2D], also known as calcitriol. 25(OH)D is the major circulating form of vitamin D while 1,25(OH)2D is the active form of vitamin D. In individuals at risk for vitamin D deficiency, the best method for determining a person's vitamin D status is to measure a 25(OH)D concentration. Measurement of 1,25(OH)2D is not useful for monitoring the vitamin D status, as it does not reflect vitamin D reserves.[1] This policy addresses when measurement of 1,25(OH)2D is appropriate and medically necessary.

Policy/Criteria

I. It is the policy of Louisiana Healthcare Connections that measurement of serum 1,25(OH)2D (CPT 82652) is **medically necessary** for monitoring certain conditions, such as acquired and inherited disorders of vitamin D and phosphate metabolism, including any of the following indications:
   A. Chronic kidney disease;
   B. Hereditary phosphate-losing disorders;
   C. Oncogenic osteomalacia;
   D. Pseudovitamin D-deficiency rickets;
   E. Vitamin D-resistant rickets;
   F. Chronic granuloma-forming disorders (e.g., sarcoidosis and some lymphomas);
   G. Hyperparathyroidism.

II. It is the policy of Louisiana Healthcare Connections that measurement of serum 1,25(OH)2D for routine screening of average risk, asymptomatic individuals is **not medically necessary.**

Background

Vitamin D or calciferol, is a fat-soluble vitamin that plays an important role in calcium homeostasis and bone health. Vitamin D comes in two forms, D_2 and D_3. It is unique among hormones because the major source of vitamin D is exposure to natural sunlight. Very few foods naturally contain, or are fortified with, vitamin D, thus, the major cause of vitamin D deficiency is inadequate exposure to sunlight.

The optimal serum 25(OH)D concentration for skeletal health is controversial, however, experts agree that levels lower than 20 ng/mL are suboptimal for skeletal health.[5] Vitamin D deficiency is defined by the Endocrine Society as a 25(OH)D below 20 ng/ml (50 nmol/liter).[1] Vitamin D deficiency results in abnormalities in calcium, phosphorus, and bone metabolism. It causes a decrease in the efficiency of intestinal calcium and phosphorus absorption of dietary calcium and phosphorus, resulting in an increase in parathyroid hormone (PTH) levels. Secondary hyperparathyroidism maintains serum calcium in the normal range at the expense of mobilizing calcium from the skeleton and increasing phosphorus wasting in the kidneys.

Screening for Vitamin D deficiency is recommended for individuals at risk, such as those with osteomalacia, osteoporosis, chronic kidney disease, hepatic failure, malabsorption syndromes, hyperparathyroidism, African American and Hispanic children and adults, pregnant or lactating women, older adults with history of falls or non-traumatic fractures, obese children or adults (BMI greater than 30 kg/m^2), granuloma-forming disorders, and some lymphomas.[1]

Circulating 25(OH)D is the best indicator to monitor for vitamin D status as it is the main circulating form of vitamin D and has a half-life of two to three weeks. In contrast, 1,25(OH)2D, has a much shorter half-life of about four hours, circulates in much lower concentrations than 25(OH)D, and is susceptible to fluctuations induced by PTH in response to subtle changes in calcium levels. Serum 1,25(OH)2D is frequently either normal or even elevated in those with vitamin D deficiency, due to secondary hyperparathyroidism.[1]

The Endocrine Society
The Endocrine Society recommends 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 and in whom a prompt response to optimization of vitamin D status could be expected. They note further, 1,25(OH)2D measurement does not reflect vitamin D status as levels are tightly regulated by serum levels of PTH, calcium, and phosphate. Serum 1,25(OH)2D does not reflect vitamin D reserves, and measurement of 1,25(OH)2D is not useful for monitoring the vitamin D status of patients. Serum 1,25(OH)2D is frequently either normal or even elevated in those with vitamin D deficiency, due to secondary hyperparathyroidism. Measurement of 1,25(OH)2D is useful in 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.[1]

United States Preventive Services Task Force (USPSTF)
The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for vitamin D deficiency in asymptomatic community-dwelling, nonpregnant adults.[2]

American College of Obstetricians and Gynecologists (ACOG)
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.[3]

Coding Implications
This clinical policy references Current Procedural Terminology (CPT®). CPT® is a registered trademark of the American Medical Association. All CPT codes and descriptions are copyrighted 2022, American Medical Association. All rights reserved. CPT codes and CPT descriptions are from the current manuals and those included herein are not intended to be all-inclusive and are included for informational purposes only. Codes referenced in this clinical policy are for informational purposes only and may not support medical necessity. Inclusion or exclusion of any

codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

CPT® Codes	Description
82652	Vitamin D; 1, 25 dihydroxy, includes fraction(s), if performed

HCPCS Codes	Description
N/A	

ICD-10-CM Diagnosis Codes that Support Coverage Criteria

ICD-10-CM Code	Description
A15.0 through A19.9	Tuberculosis
C81.00 through C81.99	Hodgkin lymphoma
C82.00 through C82.99	Follicular lymphoma
C83.00 through C83.99	Non-follicular lymphoma
C84.00 through C84.99	Mature T/NK-cell lymphomas
C88.0 through C88.9	Malignant immunoproliferative diseases and certain other B-cell lymphomas
D86.0 through D86.9	Sarcoidosis
E20.0	Idiopathic hypoparathyroidism
E20.8	Other hypoparathyroidism
E21.0 through E21.5	Hyperparathyroidism and other disorders of parathyroid gland
E55.0	Rickets, active
E83.30 through E83.39	Disorder of phosphorus metabolism and phoshatases
E83.50 through E83.59	Disorders of calcium metabolism
E89.2	Postprocedural hypoparathyroidism
M83.8	Other adult osteomalacia
M83.9	Adult osteomalacia, unspecified
N18.1 through N18.9	Chronic kidney disease (CKD)
N25.0	Renal osteodystrophy
N25.81	Secondary hyperparathyroidism of renal origin
P37.0	Congenital tuberculosis

Reviews, Revisions, and Approvals	Revision Date	Approval Date
Converted corporate to local policy.	08/15/2020	
Annual review. Expanded ICD-10 code range for tuberculosis from A15.0-A15.5 to A15.0-A19.9. Added N25.81 as a code supporting coverage criteria. Changed "review date" in the header to "date of last revision" and "date" in the revision log header to "revision date." References reviewed, reformatted, and updated. Added "and may not support medical necessity" to coding implications. Reviewed by specialist.	2/22	4/14/22
Annual review. References reviewed and updated.	10/22	1/14/23
Annual review. Added criteria I.G. Hyperparathyroidism. Added ICD-10 codes E89.2, M83.8, and M83.9. References reviewed and updated. Internal and external specialist review.	10/23	1/5/24

References

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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. LHCC makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved.

The purpose of this clinical policy is to provide a guide to medical necessity, which is a component of the guidelines used to assist in making coverage decisions and administering benefits. It does not constitute a contract or guarantee regarding payment or results. Coverage decisions and the administration of benefits are subject to all terms, conditions, exclusions, and limitations of the coverage documents (e.g., evidence of coverage, certificate of coverage, policy, contract of insurance, etc.), as well as to state and federal requirements and applicable LHCC administrative policies and procedures.

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Providers referred to in this clinical policy are independent contractors who exercise independent judgment and over whom LHCC has no control or right of control. Providers are not agents or employees of LHCC.

members/enrollees and their representatives agree to be bound by such terms and conditions by providing services to members/enrollees and/or submitting claims for payment for such services.