



Vitamin D Testing

LOB(s): <input checked="" type="checkbox"/> Commercial <input checked="" type="checkbox"/> Medicare	State(s): <input checked="" type="checkbox"/> Idaho <input checked="" type="checkbox"/> Montana <input checked="" type="checkbox"/> Oregon <input checked="" type="checkbox"/> Washington <input type="checkbox"/> Other:
<input checked="" type="checkbox"/> Medicaid	<input checked="" type="checkbox"/> Oregon

Enterprise Policy

PacificSource is committed to assessing and applying current regulatory standards, widely-used treatment guidelines, and evidenced-based clinical literature when developing clinical criteria for coverage determination. Each policy contains a list of sources (references) that serves as the summary of evidence used in the development and adoption of the criteria. The evidence was considered to ensure the criteria provide clinical benefits that promote patient safety and/or access to appropriate care. Each clinical policy is reviewed, updated as needed, and readopted, at least annually, to reflect changes in regulation, new evidence, and advancements in healthcare.

Clinical Guidelines are written when necessary to provide guidance to providers and members in order to outline and clarify coverage criteria in accordance with the terms of the Member’s policy. This Clinical Guideline only applies to PacificSource Health Plans, PacificSource Community Health Plans, and PacificSource Community Solutions in Idaho, Montana, Oregon, and Washington. Because of the changing nature of medicine, this list is subject to revision and update without notice. This document is designed for informational purposes only and is not an authorization or contract. Coverage determinations are made on a case-by-case basis and subject to the terms, conditions, limitations, and exclusions of the Member’s policy. Member policies differ in benefits and to the extent a conflict exists between the Clinical Guideline and the Member’s policy, the Member’s policy language shall control. Clinical Guidelines do not constitute medical advice nor guarantee coverage.

Background

Vitamin D is a fat-soluble vitamin that performs an important role in calcium homeostasis and bone metabolism and also affects many other cellular regulatory functions outside the skeletal system. Vitamin D requirements may vary by individual; thus, no one serum vitamin D level cut point defines deficiency, and no consensus exists regarding the precise serum levels of vitamin D that represent optimal health or sufficiency.

Serum 25-OHD is the best index for vitamin D status; while serum 1,25-OH(2)D provides no information about vitamin D status and is often normal or even increased as the result of secondary hyperparathyroidism associated with vitamin D deficiency. The lower limit of normal 25-OHD levels is dependent on the geographical location and sunlight exposure of the reference population (range of 8 to 15 ng/ml). Moreover, there is no consensus on the optimal 25-OHD concentration for skeletal or extra-skeletal health.

Criteria

Commercial

PacificSource considers Vitamin D testing medically necessary for **ONLY** the list of ICD-10 diagnosis codes below:

ICD-10 Diagnoses Code(s)	Diagnoses description(s)
A15.0 - A19.9	Tuberculosis
A28.1	Cat-scratch disease
A30.0 - A30.9	Leprosy
A32.9	Listeriosis, unspecified [<i>listeria monocytogenes</i>]
B20	Human immunodeficiency virus [HIV] disease [medications known to reduce vitamin D]
B38.0 - B38.89	Coccidioidomycosis
B39.0 - B39.9	Histoplasmosis
B45.0 - B45.9	Cryptococcosis
B59	Pneumocystosis
B65.0 - B65.9	Schistosomiasis
C82.01 - C82.99	Follicular lymphoma
D80.0 – D80.9	Immunodeficiency with predominantly antibody defects
D86.0 - D86.9	Sarcoidosis
D89.810 - D89.84	Other specified disorders involving the immune mechanism, not elsewhere classified
E05.00 - E05.91	Thyrotoxicosis [hyperthyroidism]
E20 – E20.9	Hypoparathyroidism
E21.0 - E21.3	Hyperparathyroidism
E41 – E43	Nutritional marasmus
E55.0 - E55.9	Vitamin D deficiency
E63.9	Nutritional deficiency, unspecified
E64.3	Sequelae of rickets
E66.01 - E66.9	Overweight and obesity - <i>Only when members benefit plan covers bariatric surgery and obesity related services</i>
E67.3 - E67.8	Other hyperalimentation
E83.30 - E83.39	Disorders of phosphorus metabolism and phosphatases
E83.50 - E83.52	Disorders of calcium metabolism
E84.0 - E84.9	Cystic fibrosis
E89.2	Postprocedural hypoparathyroidism
E89.820 - E89.823	Postprocedural hematoma and seroma of an endocrine system organ or structure
G40.001 - G40.919	Epilepsy and recurrent seizures [medications known to reduce vitamin D]
I00 - I01.9	Rheumatic fever without/with heart involvement
J63.2	Berylliosis
K50.00 - K51.919	Crohn's disease and ulcerative colitis

K52.0	Gastroenteritis and colitis due to radiation
K70.20 - K70.41	Alcoholic cirrhosis of liver and alcoholic hepatic failure
K71.10 - K71.11	Toxic liver disease with hepatic necrosis
K71.7	Toxic liver disease with fibrosis and cirrhosis of liver
K72.00 -K72.91	Hepatic failure
K74.0 - K74.5	Hepatic fibrosis
K74.60 - K74.69	Other and unspecified cirrhosis of liver
K76.9	Liver disease, unspecified
K83.5 - K83.8	Biliary cyst
K85.00 - K85.32	Other specified diseases of biliary tract
K85.80 - K85.92	Acute pancreatitis
K86.0 - K86.89	Other diseases of pancreas
K90.0 - K90.41	Intestinal malabsorption
K90.821 - K90.9	Other intestinal malabsorption
K91.2	Postsurgical malabsorption, not elsewhere classified
K91.82	Postprocedural hepatic failure
L40.0 - L40.9	Psoriasis
L92.0 - L92.9	Granulomatous disorders of skin and subcutaneous tissue
M05.00 - M06.9	Rheumatoid arthritis with rheumatoid factor
M80.00xA - M81.8	Osteoporosis with/without current pathological fracture
M83.0 - M83.9	Adult osteomalacia
M85.80 - M85.88	Other specified disorders of bone density and structure
M88	Metabolic bone disease
N04.0 - N04.9	Nephrotic syndrome
N18.1 - N18.9	Chronic kidney disease (CKD)
N20.0 - N20.9	Calculus of kidney and ureter
N22	Calculus of urinary tract in diseases classified elsewhere
N25.0	Renal osteodystrophy
N25.81	Secondary hyperparathyroidism of renal origin
Q78.2	Osteopetrosis
Z21	Asymptomatic human immunodeficiency virus [HIV] infection status [medications known to reduce vitamin D]
Z79.3 - Z79.69	Long term (current) drug therapy
Z94.0 - Z94.9	Transplanted organ and tissue status [medications known to reduce vitamin D]

Note:

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

- Vitamin D testing (CPT® 82306) is covered 2 times per member's plan (benefit) year for the above listed diagnoses.
- Additional Vitamin D testing may be covered for the following: chronic kidney disease (CKD), intestinal malabsorption, any diagnosis where the member is receiving Medical Food (per Nutritional Support and Supplies policy), or Vitamin D supplementation of 50,000U or greater upon review.
- Vitamin D testing is **Not** medically necessary as a part of routine screening

Medicaid

PacificSource Community Solutions follows Guideline Note 33 of the Health Evidence Review Commission (HERC) Prioritized List of Health Services and the general coverage requirements, limitations, and exclusions outlined in OARs 410-141-3820, 410-141-3825, and 410-120-1200 to determine coverage of Vitamin D Testing.

PacificSource Community Solutions (PCS) follows the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) coverage requirements in OAR 410-151-0002 through 410-151-0003 for EPSDT beneficiaries. Relevant coverage guidance, including but not limited to Guideline Note 33, may be used to assist in informing a determination of medical necessity and medical appropriateness during the individual case review. A case-by-case review for EPSDT Medical Necessity and EPSDT Medical Appropriateness as defined in OAR 410-151-0001 is required prior to denying. Refer to the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) policy for details.

Medicare

PacificSource Medicare follows Local Coverage Determination (LCD) L36692 for coverage of Vitamin D Testing.

Coding Information

The following list of codes are for informational purposes only and may not be all-inclusive. Deleted codes and codes which are not effective at the time the service is rendered may not be eligible for reimbursement.

0038U Vitamin D, 25 hydroxy D2 and D3, by LC-MS/MS, serum microsampleth, quantitative

82306 Vitamin D; 25 hydroxy, includes fraction(s), if performed

82652 Vitamin D; 1, 25 dihydroxy, includes fraction(s), if performed

CPT® codes, descriptions and materials are copyrighted by the American Medical Association (AMA).

Related Policies

Medical Nutrition Therapy

Nutritional Support and Supplies

References

- Aibana, O., Huang, C. C., Aboud, S., Arnedo-Pena, A., Becerra, M. C., Bellido-Blasco, J. B., Bhosale, R., Calderon, R., Chiang, S., Contreras, C., Davaasambuu, G., Fawzi, W. W., Franke, M. F., Galea, J. T., Garcia-Ferrer, D., Gil-Fortuño, M., Gomila-Sard, B., Gupta, A., Gupte, N., Hussain, R., ... Murray, M. B. (2019). Vitamin D status and risk of incident tuberculosis disease: A nested case-control study, systematic review, and individual-participant data meta-analysis. *PLoS medicine*, 16(9), e1002907.
- Allan, G. M., Cranston, L., Lindblad, A., McCormack, J., Kolber, M. R., Garrison, S., & Korownyk, C. (2016). Vitamin D: A Narrative Review Examining the Evidence for Ten Beliefs. *Journal of general internal medicine*, 31(7), 780–791. <https://doi.org/10.1007/s11606-016-3645-y>
- Al-Maweri, S. A., Halboub, E., Al-Sufyani, G., Alqutaibi, A. Y., Shamala, A., & Alsalhani, A. (2020). Is vitamin D deficiency a risk factor for recurrent aphthous stomatitis? A systematic review and meta-analysis. *Oral diseases*, 26(6), 1116–1123.
- American Society for Clinical Pathology (ASCP). (2020). Choosing Wisely: Do not perform population-based screening for 25-OH-vitamin D deficiency. <https://www.aafp.org/pubs/afp/collections/choosing-wisely/67.html>
- Arab, A., Hadi, A., Moosavian, S. P., Askari, G., & Nasirian, M. (2019). The association between serum vitamin D, fertility and semen quality: A systematic review and meta-analysis. *International journal of surgery (London, England)*, 71, 101–109.
- Aspray, T. J., Bowring, C., Fraser, W., Gittoes, N., Javaid, M. K., Macdonald, H., Patel, S., Selby, P., Tanna, N., Francis, R. M., & National Osteoporosis Society (2014). National Osteoporosis Society vitamin D guideline summary. *Age and ageing*, 43(5), 592–595.
- Aung, K., & Htay, T. (2021). USPSTF found insufficient evidence on benefits and harms of screening for vitamin D deficiency in asymptomatic adults. *Annals of internal medicine*, 174(9), JC100. <https://doi.org/10.7326/ACPJ202109210-100>
- Bignardi, P. R., de Andrade Castello, P., de Matos Aquino, B., & Delfino, V. D. A. (2023). Is the vitamin D status of patients with COVID-19 associated with reduced mortality? A systematic review and meta-analysis. *Archives of endocrinology and metabolism*, 67(2), 276–288.
- Briot, K., Audran, M., Cortet, B., Fardellone, P., Marcelli, C., Orcel, P., Vellas, B., Thomas, T., & Roux, C. (2009). Vitamine D: effet osseux et extra-osseux ; recommandations de bon usage [Vitamin D: skeletal and extra skeletal effects; recommendations for good practice]. *Presse medicale (Paris, France: 1983)*, 38(1), 43–54.
- Carroll, M. F., & Schade, D. S. (2003). A practical approach to hypercalcemia. *American family physician*, 67(9), 1959–1966.
- Cesareo, R., Attanasio, R., Caputo, M., Castello, R., Chiodini, I., Falchetti, A., Guglielmi, R., Papini, E., Santonati, A., Scillitani, A., Toscano, V., Triggiani, V., Vescini, F., Zini, M., & AME and Italian AACE Chapter (2018). Italian Association of Clinical Endocrinologists (AME) and Italian Chapter of the American Association of Clinical Endocrinologists (AACE) Position Statement: Clinical Management of Vitamin D Deficiency in Adults. *Nutrients*, 10(5), 546.
- Chandra, P., Binongo, J. N., Ziegler, T. R., Schlanger, L. E., Wang, W., Someren, J. T., & Tangpricha, V. (2008). Cholecalciferol (vitamin D3) therapy and vitamin D insufficiency in patients with chronic

kidney disease: a randomized controlled pilot study. *Endocrine practice : official journal of the American College of Endocrinology and the American Association of Clinical Endocrinologists*, 14(1), 10–17.

Chlebowski, R. T., Johnson, K. C., Kooperberg, C., Pettinger, M., Wactawski-Wende, J., Rohan, T., Rossouw, J., Lane, D., O'Sullivan, M. J., Yasmeen, S., Hiatt, R. A., Shikany, J. M., Vitolins, M., Khandekar, J., Hubbell, F. A., & Women's Health Initiative Investigators (2008). Calcium plus vitamin D supplementation and the risk of breast cancer. *Journal of the National Cancer Institute*, 100(22),

Chung, M., Balk, E. M., Brendel, M., Ip, S., Lau, J., Lee, J., Lichtenstein, A., Patel, K., Raman, G., Tatsioni, A., Terasawa, T., & Trikalinos, T. A. (2009). Vitamin D and calcium: a systematic review of health outcomes. *Evidence report/technology assessment*, (183), 1–420.

Cranney, A., Weiler, H. A., O'Donnell, S., & Puil, L. (2008). Summary of evidence-based review on vitamin D efficacy and safety in relation to bone health. *The American journal of clinical nutrition*, 88(2), 513S–519S.

Cui, X., Zhai, Y., Wang, S., Ding, K., Yang, Z., Tian, Y., & Huo, T. (2022). Effect of the COVID-19 Pandemic on Serum Vitamin D Levels in People Under Age 18 Years: A Systematic Review and Meta-Analysis. *Medical science monitor : international medical journal of experimental and clinical research*, 28, e935823.

Demay, M. B., Pittas, A. G., Bikle, D. D., Diab, D. L., Kiely, M. E., Lazaretti-Castro, M., Lips, P., Mitchell, D. M., Murad, M. H., Powers, S., Rao, S. D., Scragg, R., Tayek, J. A., Valent, A. M., Walsh, J. M. E., & McCartney, C. R. (2025). Correction to: Vitamin D for the prevention of disease: An Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology & Metabolism*, 110(3), e916. <https://doi.org/10.1210/clinem/dgae854>

Demay, M. B., Pittas, A. G., Bikle, D. D., Diab, D. L., Kiely, M. E., Lazaretti-Castro, M., Lips, P., Mitchell, D. M., Murad, M. H., Powers, S., Rao, S. D., Scragg, R., Tayek, J. A., Valent, A. M., Walsh, J. M. E., & McCartney, C. R. (2024). Vitamin D for the prevention of disease: An Endocrine Society clinical practice guideline. *The Journal of Clinical Endocrinology & Metabolism*, 109(8), 1907–1947. <https://doi.org/10.1210/clinem/dgae290>

Dissanayake, H. A., de Silva, N. L., Sumanatilleke, M., de Silva, S. D. N., Gamage, K. K. K., Dematapitiya, C., Kuruppu, D. C., Ranasinghe, P., Pathmanathan, S., & Katulanda, P. (2022). Prognostic and Therapeutic Role of Vitamin D in COVID-19: Systematic Review and Meta-analysis. *The Journal of clinical endocrinology and metabolism*, 107(5), 1484–1502.

Duque, G., Demontiero, O., & Troen, B. R. (2009). Prevention and treatment of senile osteoporosis and hip fractures. *Minerva medica*, 100(1), 79–94.

Endocrine Society/American Association of Clinical Endocrinologists. (December 19, 2013). Do not routinely measure 1,25-dihydroxyvitamin D unless the patient has hypercalcemia or decreased kidney function. <https://www.aafp.org/pubs/afp/collections/choosing-wisely/140.html>

Fisher, S. A., Rahimzadeh, M., Brierley, C., Gratton, B., Doree, C., Kimber, C. E., Plaza Cajide, A., Lamikanra, A. A., & Roberts, D. J. (2019). The role of vitamin D in increasing circulating T regulatory cell numbers and modulating T regulatory cell phenotypes in patients with inflammatory disease or in healthy volunteers: A systematic review. *PloS one*, 14(9), e0222313.

Fogacci, S., Fogacci, F., Banach, M., Michos, E. D., Hernandez, A. V., Lip, G. Y. H., Blaha, M. J., Toth, P. P., Borghi, C., Cicero, A. F. G., & Lipid and Blood Pressure Meta-analysis Collaboration (LBPMC)

- Group (2020). Vitamin D supplementation and incident preeclampsia: A systematic review and meta-analysis of randomized clinical trials. *Clinical nutrition (Edinburgh, Scotland)*, 39(6), 1742–1752.
- Gan, J., Galer, P., Ma, D., Chen, C., & Xiong, T. (2019). The Effect of Vitamin D Supplementation on Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Journal of child and adolescent psychopharmacology*, 29(9), 670–687.
- Gandini, S., Raimondi, S., Gnagnarella, P., Doré, J. F., Maisonneuve, P., & Testori, A. (2009). Vitamin D and skin cancer: a meta-analysis. *European journal of cancer (Oxford, England : 1990)*, 45(4), 634–641.
- Gillespie, L. D., Robertson, M. C., Gillespie, W. J., Lamb, S. E., Gates, S., Cumming, R. G., & Rowe, B. H. (2009). Interventions for preventing falls in older people living in the community. The Cochrane database of systematic reviews, (2), CD007146.
- Gissel, T., Rejnmark, L., Mosekilde, L., & Vestergaard, P. (2008). Intake of vitamin D and risk of breast cancer--a meta-analysis. *The Journal of steroid biochemistry and molecular biology*, 111(3-5), 195–199.
- Gralow, J. R., Biermann, J. S., Farooki, A., Fornier, M. N., Gagel, R. F., Kumar, R. N., Shapiro, C. L., Shields, A., Smith, M. R., Srinivas, S., & Van Poznak, C. H. (2009). NCCN Task Force Report: Bone Health in Cancer Care. *Journal of the National Comprehensive Cancer Network : JNCCN*, 7 Suppl 3(Suppl 3), S1–S35.
- Holick M. F. (2005). Vitamin D for health and in chronic kidney disease. *Seminars in dialysis*, 18(4), 266–275.
- Homer, C. S., Oats, J., Middleton, P., Ramson, J., & Diplock, S. (2018). Updated clinical practice guidelines on pregnancy care. *The Medical journal of Australia*, 209(9), 409–412.
- Hu, Y. C., Wang, W. W., Jiang, W. Y., Li, C. Q., Guo, J. C., & Xun, Y. H. (2019). Low vitamin D levels are associated with high viral loads in patients with chronic hepatitis B: a systematic review and meta-analysis. *BMC gastroenterology*, 19(1), 84.
- Huncharek, M., Muscat, J., & Kupelnick, B. (2009). Colorectal cancer risk and dietary intake of calcium, vitamin D, and dairy products: a meta-analysis of 26,335 cases from 60 observational studies. *Nutrition and cancer*, 61(1), 47–69.
- Huncharek, M., Muscat, J., & Kupelnick, B. (2008). Dairy products, dietary calcium and vitamin D intake as risk factors for prostate cancer: a meta-analysis of 26,769 cases from 45 observational studies. *Nutrition and cancer*, 60(4), 421–441.
- International Society of Nephrology. (2017). KDIGO 2017 Clinical Practice Guideline Update for the Diagnosis, Evaluation, Prevention, and Treatment of Chronic Disease-Mineral and Bone Disorder (CKD-MBD). <https://kdigo.org/wp-content/uploads/2017/02/2017-KDIGO-CKD-MBD-GL-Update.pdf>
- Inzucchi, S.E., Lupsa, B. (July 2023). Clinical presentation, diagnosis, and initial evaluation of diabetes mellitus in adults. UpToDate.
- Ismailova, K., Poudel, P., Parlesak, A., Frederiksen, P., & Heitmann, B. L. (2019). Vitamin D in early life and later risk of multiple sclerosis-A systematic review, meta-analysis. *PLoS one*, 14(8), e0221645.
- Janssens, W., Lehouck, A., Carremans, C., Bouillon, R., Mathieu, C., & Decramer, M. (2009). Vitamin D beyond bones in chronic obstructive pulmonary disease: time to act. *American journal of respiratory and critical care medicine*, 179(8), 630–636.

- Jia, J., Hu, J., Huo, X., Miao, R., Zhang, Y., & Ma, F. (2019). Effects of vitamin D supplementation on cognitive function and blood A β -related biomarkers in older adults with Alzheimer's disease: a randomised, double-blind, placebo-controlled trial. *Journal of neurology, neurosurgery, and psychiatry*, *90*(12), 1347–1352.
- Kahwati, L. C., LeBlanc, E., Weber, R. P., Giger, K., Clark, R., Suvada, K., Guisinger, A., & Viswanathan, M. (2021). Screening for Vitamin D Deficiency in Adults: Updated Evidence Report and Systematic Review for the US Preventive Services Task Force. *JAMA*, *325*(14), 1443–1463..
- Kawahara, T., Suzuki, G., Mizuno, S., Inazu, T., Kasagi, F., Kawahara, C., Okada, Y., & Tanaka, Y. (2022). Effect of active vitamin D treatment on development of type 2 diabetes: DPVD randomised controlled trial in Japanese population. *BMJ (Clinical research ed.)*, *377*, e066222.
- Knight, J. A., Lesosky, M., Barnett, H., Raboud, J. M., & Vieth, R. (2007). Vitamin D and reduced risk of breast cancer: a population-based case-control study. *Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology*, *16*(3), 422–429.
- Kooienga, L., Fried, L., Scragg, R., Kendrick, J., Smits, G., & Chonchol, M. (2009). The effect of combined calcium and vitamin D3 supplementation on serum intact parathyroid hormone in moderate CKD. *American journal of kidney diseases : the official journal of the National Kidney Foundation*, *53*(3), 408–416.
- Kramer, H., Berns, J. S., Choi, M. J., Martin, K., & Rocco, M. V. (2014). 25-Hydroxyvitamin D testing and supplementation in CKD: an NKF-KDOQI controversies report. *American journal of kidney diseases : the official journal of the National Kidney Foundation*, *64*(4), 499–509.
<https://www.kidney.org/sites/default/files/Vitamin-D-Supplementation-Patients-With-CKD.pdf>
- Krist, A. H., Davidson, K. W., Mangione, C. M., Cabana, M., Caughey, A. B., Davis, E. M., Donahue, K. E., Doubeni, C. A., Epling, J. W., Kubik, M., Li, L., Ogedegbe, G., Owens, D. K., Pbert, L., Silverstein, M., Stevermer, J., Tseng, C. W., & Wong, J. B. (2021). Screening for Vitamin D Deficiency in Adults: US Preventive Services Task Force Recommendation Statement. *JAMA - Journal of the American Medical Association*, *325*(14), 1436-1442. <https://doi.org/10.1001/jama.2021.3069>
- Kushner, R.F., Cummings, S., Herron, D.,M. (2024). Bariatric surgery: Postoperative nutritional management. UpToDate.
- Larsson, S. C., & Flicker, L. (2019). Vitamin D: A novel protective factor for delirium?. *Neurology*, *92*(12), 553–554.
- Lee, D. M., Tajar, A., Ulubae, A., Pendleton, N., O'Neill, T. W., O'Connor, D. B., Bartfai, G., Boonen, S., Bouillon, R., Casanueva, F. F., Finn, J. D., Forti, G., Giwercman, A., Han, T. S., Huhtaniemi, I. T., Kula, K., Lean, M. E., Punab, M., Silman, A. J., Vanderschueren, D., ... EMAS study group (2009). Association between 25-hydroxyvitamin D levels and cognitive performance in middle-aged and older European men. *Journal of neurology, neurosurgery, and psychiatry*, *80*(7), 722–729.
- Li, H., Stampfer, M. J., Hollis, J. B., Mucci, L. A., Gaziano, J. M., Hunter, D., Giovannucci, E. L., & Ma, J. (2007). A prospective study of plasma vitamin D metabolites, vitamin D receptor polymorphisms, and prostate cancer. *PLoS medicine*, *4*(3), e103.
- Liu, E. S., Davis, A. M., & Burnett-Bowie, S. M. (2025). Vitamin D for prevention of disease (Endocrine Society guideline synopsis). *JAMA*, *333*(20), 1824–1825. <https://doi.org/10.1001/jama.2025.2278>

Lorenzo Sellares, V., & Torregrosa, V. (2008). Alteraciones del metabolismo mineral en la enfermedad renal crónica estadios III, IV Y V (no en diálisis) [Changes in mineral metabolism in stage 3, 4, and 5 chronic kidney disease (not on dialysis)]. *Nefrología : publicación oficial de la Sociedad Española Nefrología*, 28 Suppl 3, 67–78.

Machado, V., Lobo, S., Proença, L., Mendes, J. J., & Botelho, J. (2020). Vitamin D and Periodontitis: A Systematic Review and Meta-Analysis. *Nutrients*, 12(8), 2177.

Mahoney, M. C., Bevers, T., Linos, E., & Willett, W. C. (2008). Opportunities and strategies for breast cancer prevention through risk reduction. *CA: a cancer journal for clinicians*, 58(6), 347–371.

McCullough, M. L., Bandera, E. V., Moore, D. F., & Kushi, L. H. (2008). Vitamin D and calcium intake in relation to risk of endometrial cancer: a systematic review of the literature. *Preventive medicine*, 46(4), 298–302.

Medical Advisory Secretariat (2010). Clinical utility of vitamin d testing: an evidence-based analysis. Ontario health technology assessment series, 10(2), 1–93.

Mires, S., Caputo, M., Overton, T., & Skerritt, C. (2022). Maternal micronutrient deficiency and congenital heart disease risk: A systematic review of observational studies. *Birth defects research*, 114(17), 1079–1091.

Mishra, P., Parveen, R., Bajpai, R., & Agarwal, N. (2022). Vitamin D Deficiency and Comorbidities as Risk Factors of COVID-19 Infection: A Systematic Review and Meta-analysis. *Journal of preventive medicine and public health = Yebang Uihakhoe chi*, 55(4), 321–333.

Mowry, E. M., Azevedo, C. J., McCulloch, C. E., Okuda, D. T., Lincoln, R. R., Waubant, E., Hauser, S. L., & Pelletier, D. (2018). Body mass index, but not vitamin D status, is associated with brain volume change in MS. *Neurology*, 91(24), e2256–e2264.

National Comprehensive Cancer Network (NCCN). (2024). Breast cancer. NCCN Clinical Practice Guidelines in Oncology, Version 4.2024.

Newberry, S. J., Chung, M., Shekelle, P. G., Booth, M. S., Liu, J. L., Maher, A. R., Motala, A., Cui, M., Perry, T., Shanman, R., & Balk, E. M. (2014). Vitamin D and Calcium: A Systematic Review of Health Outcomes (Update). *Evidence report/technology assessment*, (217), 1–929.

Okazaki R. (2007). *Clinical calcium*, 17(10), 1543–1547.

Oghabi Bakhshaiesh, T., Nazeri, E., Jafarbeik-Iravani, N., Shirvani-Farsani, Z., & Esmaeili, R. (2022). Vitamin D and breast cancer risk: A systematic review and meta-analysis in Iranian patients. *Annals of medicine and surgery* (2012), 80, 104162.

Oregon Health Authority. (2020). Better Health for Oregonians: Opportunities to Reduce Low-Value Care. <http://www.orhealthleadershipcouncil.org/wp-content/uploads/2020/07/Oregon-Low-Value-Care-Report-Final-July-2020.pdf>

Pacheco-González, R. M., García-Marcos, L., & Morales, E. (2018). Prenatal vitamin D status and respiratory and allergic outcomes in childhood: A meta-analysis of observational studies. *Pediatric allergy and immunology : official publication of the European Society of Pediatric Allergy and Immunology*, 29(3), 243–253.

Palacios, C., Kostiuik, L. K., & Peña-Rosas, J. P. (2019). Vitamin D supplementation for women during pregnancy. *The Cochrane database of systematic reviews*, 7(7), CD008873.

- Pancar Yüksel, E., & Aydın, F. (2020). Letter to the editor regarding article "El-Hamd MA, El Taieb MA, Ibrahim HM, Aly SS. Vitamin D levels in acne vulgaris patients treated with oral isotretinoin. *J Cosmet Dermatol* 2019;18(1):16-20". *Journal of cosmetic dermatology*, 19(3), 763.
- Parrott, J., Frank, L., Rabena, R., Craggs-Dino, L., Isom, K. A., & Greiman, L. (2017). American Society for Metabolic and Bariatric Surgery Integrated Health Nutritional Guidelines for the Surgical Weight Loss Patient 2016 Update: Micronutrients. *Surgery for obesity and related diseases : official journal of the American Society for Bariatric Surgery*, 13(5), 727–741.
- Pazirandeh, S., Burns, D.,L. Overview of vitamin D. (2023). UpToDate.
- Perna S. (2019). Is Vitamin D Supplementation Useful for Weight Loss Programs? A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Medicina (Kaunas, Lithuania)*, 55(7), 368.
- Peterson L. A. (2016). Bariatric surgery and vitamin D: key messages for surgeons and clinicians before and after bariatric surgery. *Minerva chirurgica*, 71(5), 322–336.
- Pilz, S., Tomaschitz, A., Obermayer-Pietsch, B., Dobnig, H., & Pieber, T. R. (2009). Epidemiology of vitamin D insufficiency and cancer mortality. *Anticancer research*, 29(9), 3699–3704.
- Pittas, A. G., Chung, M., Trikalinos, T., Mitri, J., Brendel, M., Patel, K., Lichtenstein, A. H., Lau, J., & Balk, E. M. (2010). Systematic review: Vitamin D and cardiometabolic outcomes. *Annals of internal medicine*, 152(5), 307–314.
- Pittas, A. G., Chung, M., Trikalinos, T., Mitri, J., Brendel, M., Patel, K., Lichtenstein, A. H., Lau, J., & Balk, E. M. (2010). Systematic review: Vitamin D and cardiometabolic outcomes. *Annals of internal medicine*, 152(5), 307–314.
- Poolsup, N., Suksomboon, N., & Plordplong, N. (2016). Effect of vitamin D supplementation on insulin resistance and glycaemic control in prediabetes: a systematic review and meta-analysis. *Diabetic medicine : a journal of the British Diabetic Association*, 33(3), 290–299.
- Sanders, K. M., Nowson, C. A., Kotowicz, M. A., Briffa, K., Devine, A., Reid, I. R., & Working group: Australian and New Zealand Bone and Mineral Society and Osteoporosis Australia (2009). Calcium and bone health: position statement for the Australian and New Zealand Bone and Mineral Society, Osteoporosis Australia and the Endocrine Society of Australia. *The Medical journal of Australia*, 190(6), 316–320.
- Scharla S. (2008). Diagnosis of disorders of vitamin D-metabolism and osteomalacia. *Clinical laboratory*, 54(11-12), 451–459.
- Shillo, P., Selvarajah, D., Greig, M., Gandhi, R., Rao, G., Wilkinson, I. D., Anand, P., & Tesfaye, S. (2019). Reduced vitamin D levels in painful diabetic peripheral neuropathy. *Diabetic medicine : a journal of the British Diabetic Association*, 36(1), 44–51.
- Slinin, Y., Paudel, M. L., Taylor, B. C., Fink, H. A., Ishani, A., Canales, M. T., Yaffe, K., Barrett-Connor, E., Orwoll, E. S., Shikany, J. M., Leblanc, E. S., Cauley, J. A., Ensrud, K. E., & Osteoporotic Fractures in Men (MrOS) Study Research Group (2010). 25-Hydroxyvitamin D levels and cognitive performance and decline in elderly men. *Neurology*, 74(1), 33–41.
- Stolzenberg-Solomon, R. Z., Hayes, R. B., Horst, R. L., Anderson, K. E., Hollis, B. W., & Silverman, D. T. (2009). Serum vitamin D and risk of pancreatic cancer in the prostate, lung, colorectal, and ovarian screening trial. *Cancer research*, 69(4), 1439–1447.

Travis, R. C., Crowe, F. L., Allen, N. E., Appleby, P. N., Roddam, A. W., Tjønneland, A., Olsen, A., Linseisen, J., Kaaks, R., Boeing, H., Kröger, J., Trichopoulou, A., Dilis, V., Trichopoulos, D., Vineis, P., Palli, D., Tumino, R., Sieri, S., Bueno-de-Mesquita, H. B., van Duijnhoven, F. J., ... Key, T. J. (2009). Serum vitamin D and risk of prostate cancer in a case-control analysis nested within the European Prospective Investigation into Cancer and Nutrition (EPIC). *American journal of epidemiology*, 169(10), 1223–1232.

U.S. Preventive Services Task Force. (2021, April 13). Final recommendation statement: Vitamin D deficiency in adults: Screening.

United States Preventive Services Task Force (USPSTF). (2021). Final recommendation statement: Vitamin D Deficiency in Adults: Screening.

United States Preventive Services Task Force (USPSTF). (2018). Final recommendation statement: Vitamin D, Calcium, or Combined Supplementation for the Primary Prevention of Fractures in Community-Dwelling Adults: Preventive Medication.

Vieth R. (1999). Vitamin D supplementation, 25-hydroxyvitamin D concentrations, and safety. *The American journal of clinical nutrition*, 69(5), 842–856.

Wang, M. J., Dunn, E. C., Okereke, O. I., Kraft, P., Zhu, Y., & Smoller, J. W. (2020). Maternal vitamin D status during pregnancy and offspring risk of childhood/adolescent depression: Results from the Avon Longitudinal Study of Parents and Children (ALSPAC). *Journal of affective disorders*, 265, 255–262.

Washington State Health Care Authority. (2012). Vitamin D screening and testing.

Wei, Z., Zhang, J., & Yu, X. (2016). Maternal vitamin D status and childhood asthma, wheeze, and eczema: A systematic review and meta-analysis. *Pediatric allergy and immunology : official publication of the European Society of Pediatric Allergy and Immunology*, 27(6), 612–619.

Zhang, H., Wang, P., Jie, Y., Sun, Y., Wang, X., & Fan, Y. (2022). Predictive value of 25-hydroxyvitamin D level in patients with coronary artery disease: A meta-analysis. *Frontiers in nutrition*, 9, 984487.

Zhou, M., & Huang, R. (2022). Associations of Serum Total 25OHD, 25OHD3, and epi-25OHD3 with Insulin Resistance: Cross-Sectional Analysis of the National Health and Nutrition Examination Survey, 2011-2016. *Nutrients*, 14(17), 3526.

Appendix

Policy Number:

Effective: 7/1/2024 **Next review:** 4/1/2027

Policy type: Enterprise

Author(s):

Depts.: Health Services

Applicable regulation(s): Social Security Act, Section 1862(a)(7), 42 CFR § 422.101(a)-(c), 42 CFR 410.32(a), CMS A57719 and LCD L36692, Oregon Administrative Rules OAR(s) 410-120-1200, 410-141-3820, 410-141-3825, 410-151-0000 through 410-151-0003.

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