# Vitamin $D_2$ 50,000 units (ergocalciferol): New Guidelines Summary

The Department and the Fee-For-Service (FFS) Illinois HFS Drug Utilization Review Board have identified ongoing overutilization of vitamin $D_2$ (ergocalciferol) 50,000 international units (IU). Providers and pharmacists are being alerted to updated guidelines from the Endocrine Society regarding the use of vitamin D for disease prevention.[1] Guideline recommendations were based on a systematic review.[2] Below is a summary of key recommendations for specific patient populations.

When indicated, providers should note that daily vitamin D supplements are only one of several methods to provide supplementation. The guidelines did not address conditions that substantially alter vitamin D physiology, for example, decreased absorption (short gut, gastric bypass, inflammatory bowel disease), increased catabolism or decreased activation due to medications, or increased renal losses in nephrotic syndrome.[1]

Empiric daily supplementation is recommended for the following populations:

- Children and adolescents aged 1 to 18 years to prevent nutritional rickets and lower risk of respiratory tract infections. Vitamin D doses for children at risk of respiratory tract infection ranged from 300 IU to 2000 IU, with a weighted average of 1200 IU daily.
- Adults 75 years of age and older to lower risk of mortality. Vitamin D doses in trials that addressed mortality outcomes ranged from 400 to 3333 IU daily, with an estimated weighted average of 900 IU.
- Pregnant patients to lower risk of pre-eclampsia, intra-uterine mortality, preterm birth, small-for-gestational-age birth, and neonatal mortality. Vitamin D doses in trials ranged from 600 to 5000 IU daily equivalents provided daily or weekly, with an estimated weighted average of approximately 2500 IU daily.
- Patients with prediabetes to decrease risk of progression to diabetes. Vitamin D doses in clinical trials ranged from 842 to 7543 units, with an average of 3500 IU daily.
- Overall, daily, lower-dose vitamin D is preferred over nondaily, higher-dose vitamin D.[1]

Guidelines DO NOT support the following:

- Empiric vitamin D supplementation in adults younger than 50 years of age and adults 50-74 years of age. The Recommended Daily Allowance for adults less than 50 through 70 years of age is 600 IU daily, while the dose for those older than 70 years of age is 800 IU daily.

- Routine screening of serum 25-hydroxyvitamin D (25[OH]D) levels to determine whether to treat and follow-up testing for 25[OH]D levels to guide vitamin D dosing because levels that provide outcome-specific benefits have not been established.
- Routine screening of 25[OH]D levels in adults with dark complexion or those with obesity.
- Specific 25[OH]D levels to define vitamin D sufficiency, insufficiency, and deficiency or target 25[OH]D levels of 30 ng/mL. Guidelines for testing in established indications, such as hypocalcemia, should still be followed.[1]

References:

1. Demay MB, Pittas AG, Bikle DD, et al. Vitamin D for the prevention of disease: an Endocrine Society clinical practice guideline. J Clin Endocrinol Metab. 2024;109(8):1907-1947. doi: 10.1210/clinem/dgae290

2. Shah VP, Nayfeh T, Alsawaf Y, et al. A systematic review supporting the Endocrine Society Clinical Practice Guidelines on vitamin D. *J Clin Endocrinol Metab* 2024;109(8):1961-1974. https://doi.org/10.1210/clinem/dgae312