At-Risk Vitamins Tip Sheet: Vitamin D and Vitamin B-12

People need vitamins for the body to function and develop normally. The Dietary Guidelines for Americans (DGAs), 2020-2025 state there is an underconsumption of Vitamin D in the general population, along with low intakes of vitamin B-12 in older adults. Eating inadequate amounts of these nutrients can lead to osteoporosis and anemia. It is important for individuals to receive enough vitamins to live a healthy life. Listed below are menu tips, food sources, and nutrient requirements for common under-consumed nutrients that SNP programs can incorporate into their meals and menus.

# Menu Tips

* Increasing vegetables, fruits, beans, whole grains, and dairy within meals will help participants reach the recommended intakes of all vitamins.
* Use in-season produce to offer the highest nutrient content.
* Cook fruits and vegetables lightly or eat raw to preserve nutrients.
* Nutrient analysis software may misinterpret vitamin content of a meal. If using nutrient analysis, it’s important to use standardized recipes and compare the database to your inventory’s food labels.
* Unprocessed foods should be the main source of vitamins, but fortified foods and dietary supplements should be included if necessary.

# Nutrient Requirements, Food Sources, & Menu Tips

The following sections provide the Dietary Reference Intakes (DRI) for the key nutrients listed above, which are important for older adults to consume. The DRI is the general term for reference values of nutrient intakes that are compiled from recommended dietary allowance, adequate intake, and tolerable upper intake level.

# Vitamin D

Vitamin D is a fat-soluble vitamin that can be found in some foods and is also created by our bodies in response to sun exposure. Vitamin D helps increase calcium absorption and aids in bone health. A deficiency can lead to osteoporosis and rickets. It may be difficult to achieve the recommended intake of vitamin D solely through foods that are naturally rich in vitamin D and, therefore, the DGAs encourage incorporating foods fortified with vitamin D, as well as adequate sun exposure – recommendations which should be shared as part of nutrition education programs.

Dietary Reference Intake: 600 IU/day

## Menu Tips

Serve fortified vitamin D juices, milks, and cereals.

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| --- | --- | --- |
| **Food** | **Standard Portion Size** | **Vitamin D in Standard Portion (IU)** |
| Salmon | 3 oz | 570 |
| Mushrooms | ½ cup | 366 |
| Tuna | 3 oz | 40 |
| Milk, 2%, fortified  | 1 cup | 120 |
| Soy, almond, and oat milks | 1 cup | 120 |
| Fortified ready-to-eat cereals | 1 cup | 80 |

*Table adapted from* [*Vitamin D Factsheet*](https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/) *(NIH).*

# Vitamin B-12

Vitamin B-12 is a water-soluble vitamin that is prevalent in animal-based protein sources. It is essential for the diet because low intakes lead to anemia, fatigue, and low red and white blood cell counts. Older adults and vegans have an increased risk of vitamin B-12 deficiency due to low animal-based protein intakes and decreased absorption.

Dietary Reference Intake: 2.4 mcg/day

**Menu Tips**

Serve fortified vitamin B-12 products, such as cereals and nutritional yeast.

Serve high-protein foods, such as ground beef.

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| --- | --- | --- |
| **Seafood** | **Serving Size** | **Vitamin B-12 micrograms** |
| Clams | 3 oz | 17 |
| Tuna | 3 oz | 9.3 |
| Salmon | 3 oz | 2.6 |

|  |  |  |
| --- | --- | --- |
| **Meat** | **Serving Size** | **Vitamin B-12 micrograms** |
| Ground beef | 3 oz | 2.4 |
| Egg | 2 large | 1.0 |
| Turkey | 3 oz | 0.3 |

|  |  |  |
| --- | --- | --- |
| **Dairy** | **Serving Size** | **Vitamin B-12 micrograms** |
| Milk, 2% | 1 cup | 1.3 |
| Yogurt | 6 oz | 1.0 |
| Cheddar cheese | 1 ½ oz | 0.5 |

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| --- | --- | --- |
| **Non-Animal Products** | **Serving Size** | **Vitamin B-12 micrograms** |
| Breakfast cereal | 1 cup | 0.6 |

*Table adapted from* [*USDA National Nutrient Database for Standard Reference: Vitamin B12*](https://ods.od.nih.gov/pubs/usdandb/VitaminB12-Content.pdf)and [*Vitamin B12 Factsheet*](https://ods.od.nih.gov/factsheets/Vitaminb12-HealthProfessional/#h3) *(NIH).*

# Nutrition Education

Providing nutrition education to participants on the health benefits of eating enough essential vitamins can help them make better choices at home and away. Vitamin D and Vitamin B-12 play important roles in the health of older adults. See the [National Resource Center on Nutrition and Aging, Program Basics](https://acl.gov/senior-nutrition/program-basics) for more resources.

# General Resources

[Daily Value on the New Nutrition and Supplement Facts Labels](https://www.fda.gov/food/new-nutrition-facts-label/daily-value-new-nutrition-and-supplement-facts-labels#:~:text=As%20a%20general%20guide%3A%205%25%20DV%20or%20less,Lower%20in%20saturated%20fat%2C%20sodium%2C%20and%20added%20sugars) (FDA)

[Dietary Guidelines for Americans, 2020-2025](https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf)

[NIH Office of Dietary Supplements](https://ods.od.nih.gov/)

[Nutrient Recommendations: Dietary Reference Intakes](https://ods.od.nih.gov/HealthInformation/Dietary_Reference_Intakes.aspx) (NIH Office of Dietary Supplements)

[Nutrition Needs for Older Adults: Vitamin B-12](https://acl.gov/sites/default/files/nutrition/Nutrition-Needs_Vitamin-B12_FINAL-2.18_508.pdf) (NRCNA)

[Nutrition Needs for Older Adults: Vitamin D](https://acl.gov/sites/default/files/nutrition/Nutrition-Needs_Vitamin-D_FINAL_508.pdf) (NRCNA)

[Understanding Food Marketing Terms](https://www.eatright.org/food/nutrition/nutrition-facts-and-food-labels/understanding-food-marketing-terms) (Academy of Nutrition and Dietetics)

[Vitamin D Factsheet](https://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/) (NIH)

[Vitamin B12 Factsheet](https://ods.od.nih.gov/factsheets/Vitaminb12-HealthProfessional/#h3) (NIH)

[Vitamins and Minerals](https://www.nutrition.gov/topics/whats-food/vitamins-and-minerals) (USDA)

[Vitamins and Minerals Resources](https://www.nal.usda.gov/fnic/vitamins-and-minerals) (National Agricultural Library)

*Disclaimer: All resources provided are from government websites or have been gathered from the National Agricultural Library.*