

# CHOLINE FOR ALL



Choline is an essential nutrient for all ages and stages of life.<sup>1</sup> Yet, 90 percent of Americans are not getting adequate amounts of choline in their diets.<sup>2</sup>

**CHOLINE GAP:**  
9 out of 10  
Americans Don't  
Meet Needs



## HEART HELPER

Give homocysteine the heave-ho! Choline reduces the amount of this amino acid in the blood. High levels of homocysteine are associated with increased risk for heart disease.

## MOM'S BEST FRIEND

During pregnancy, choline passed from mom to her growing baby helps prevent neural tube defects and may help improve the child's ability to better focus and process information later in life. And choline + B vitamins work together to give mom more energy!

## MASTER OF METABOLISM

Choline is part of the process that helps metabolize and move fat out of the liver, keeping this vital organ healthy and functioning properly to filter nutrients and convert food into energy.

## BABY BRAIN BUILDER

Early childhood is a time of rapid brain development, and choline boosts the brain's ability to grow and function well.

## BENEFITS OF CHOLINE

## FUEL FOR ACTIVE BODIES

Choline promotes and regulates metabolism for increased energy, while also sending messages from the brain to muscles for improved movement and endurance.

## BUILDING BLOCK OF MEMORY

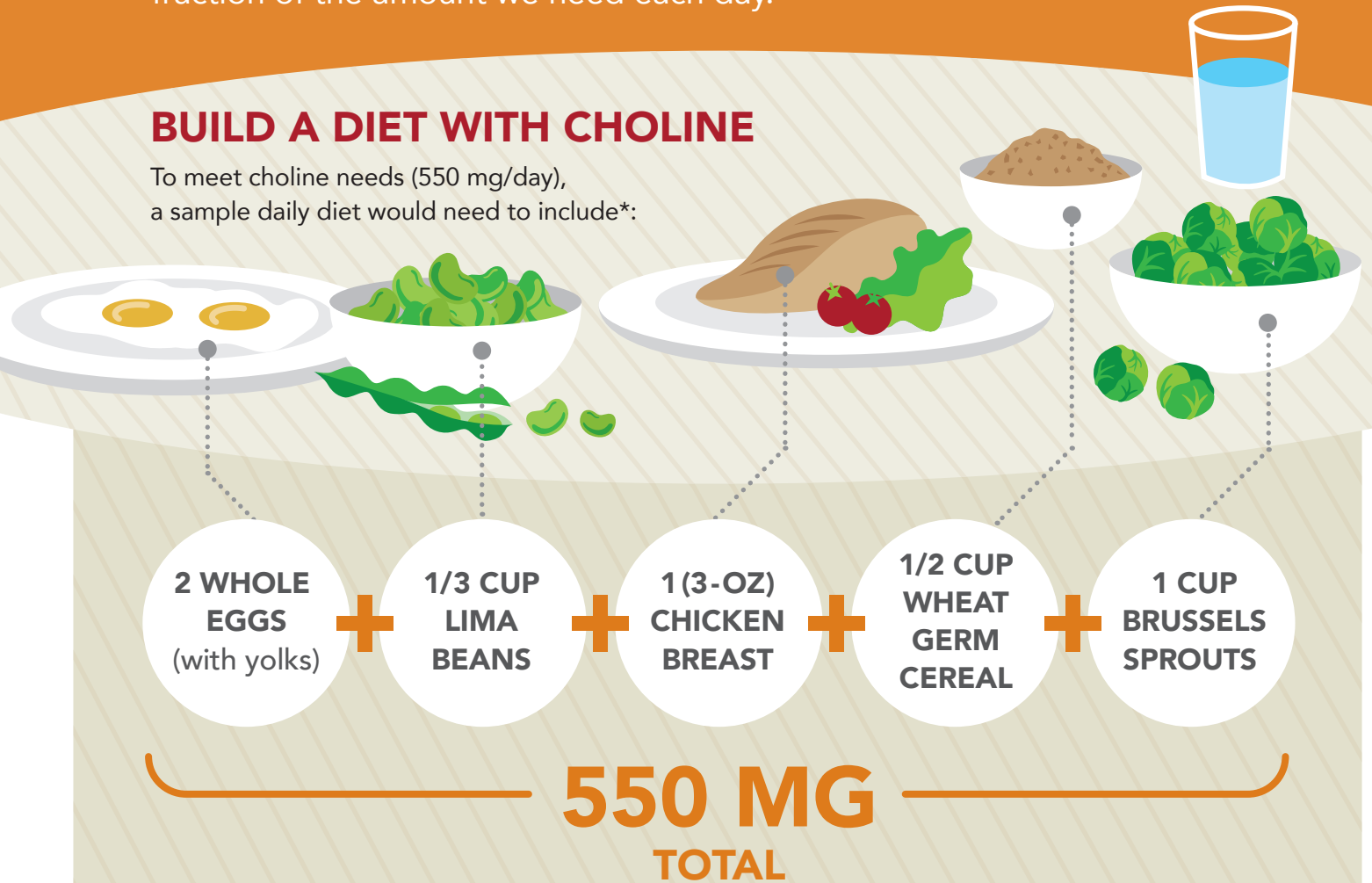
Choline helps the brain process and store memories, which is important for learning and retaining knowledge.



The recommended daily intake for choline is 550 mg. Choline is not found naturally in many everyday foods, and most sources provide a fraction of the amount we need each day.

## BUILD A DIET WITH CHOLINE

To meet choline needs (550 mg/day), a sample daily diet would need to include\*:



## FORTIFY YOUR DIET WITH CHOLINE

Look for foods fortified with choline or consider supplements with choline to fill gaps.

**CHOLINE**  
550 MG/DAY

## HOW DO I FIND CHOLINE?

Soon it will be easy to see which foods deliver choline, since it can now be included on Nutrition Facts labels!

Nutrition Facts	
Canned Salmon	
2 servings per container	
Serving size	3oz
Amount Per Serving	
<b>Calories</b>	<b>110</b>
% Daily Values*	
Total Fat 4g	6%
Saturated Fat <1g	3%
Trans Fat 0g	
Monounsaturated Fat 1g	
Polyunsaturated Fat 1g	
Cholesterol 47mg	16%
Sodium 343mg	14%
Total Carbohydrate 0g	0%
Protein 16g	32%
Vitamin D 11mcg (465 IU)	116%
Calcium 183mg	18%
Iron <1mg	5%
Potassium 292mg	8%
Niacin 6mg	30%
Vitamin B12 3.74mcg	62%
Choline 74mg	13%

\*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

# WHERE CAN I FIND CHOLINE?



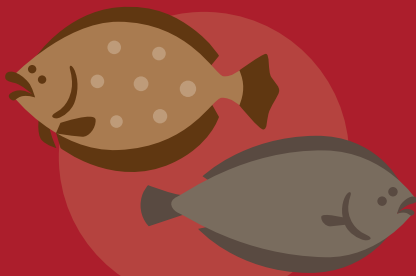
**LIVER**  
283mg (3oz)



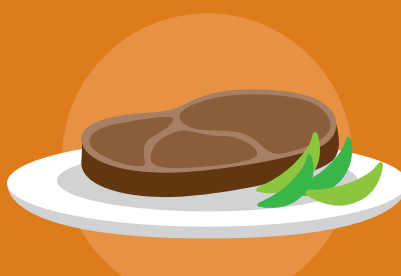
**WHEAT GERM CEREAL**  
201mg (1 cup)



**WHOLE EGGS**  
147mg (1 large—with yolks)



**WHITE FISH (FLOUNDER, SOLE)**  
102mg (1 fillet)



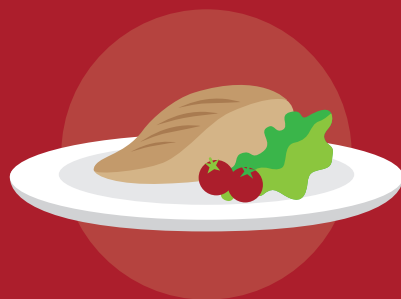
**STEAK**  
86mg (3oz)



**CANNED SALMON**  
74mg (3oz)



**LIMA BEANS**  
75mg (1 cup cooked)



**CHICKEN BREAST**  
70mg (3oz)



**BRUSSELS SPROUTS**  
63mg (1 cup cooked)

For more tips and tools, visit [VitaCholine.com](http://VitaCholine.com).

#### References:

1. Linus Pauling Institute Micronutrient Information Center: Choline. <http://pi.oregonstate.edu/mic/other-nutrients/choline>. Last Updated: January 2015. Accessed June 21, 2016.
2. Wallace TA and Fulgoni VL 3<sup>rd</sup>. Assessment of Total Choline Intakes in the United States, Journal of the American College of Nutrition, DOI: 10.1080/07315724.2015.1080127. Published online February 17, 2016.
3. US Department of Agriculture, Agricultural Research Service, Nutrient Data Laboratory. USDA National Nutrient Database for Standard Reference, Release 28. Version Current: September 2015, slightly revised May 2016. Internet: <http://www.ars.usda.gov/nea/bhncr/ndl>

\*Example for illustration purposes only, not intended to be a diet plan.

