





## PURPOSE: To Reduce the Risk of Neural Tube Defects, Adolescents Should Consume at Least 400 µg of Folic Acid Daily





Folate, an essential micronutrient, is a water-soluble B vitamin. Folic Acid is the form of folate that is found in supplements and added to fortified foods. Folic acid is approximately twice as bioavailable as naturally occurring food folate.<sup>1</sup>

Everyone requires daily folate / folic acid. Folate helps create and maintain cells. This is especially important during periods of rapid cell division and tissue growth such as infancy and pregnancy.<sup>3</sup> Women of childbearing age can improve birth outcomes and decrease the risk of birth defects by ensuring adequate folic acid

Daily consumption of folic acid prior to pregnancy reduces the risk of neural tube defects (NTDs) by 50-70%.<sup>4</sup> NTDs are serious birth defects of the spine (spina bifida) and brain (anencephaly).

It is recommended that women begin taking folic acid prior to pregnancy, during pregnancy and lactation.<sup>3</sup> In addition to a healthy, varied diet, women of childbearing age should consume 400 micrograms (µg) of synthetic folic acid every day.<sup>2</sup>

There are two ways to get 400 µg of synthetic folic acid daily:

• Eat one serving of a cereal that has 100% of the daily value (DV) of folic acid. Many cereals do not have enough folic acid, so it is important to read the nutrition label

OR

• Take a vitamin pill that has all of the folic acid you need every day.

## Adolescence Is An Important Time For Folic Acid

Adolescence is an important time to encourage folic acid intake because, overwhelmingly, pregnancies during this time are unplanned. Additionally, habits established during adolescence may continue throughout the lifecourse.

As adolescents rarely are planning to become pregnant, traditional folic acid messages about birth defects prevention may not be effective. Focusing on their interests, such as beauty and the overall health benefits of folic acid may be more effective. Benefits of healthy skin, hair and nails are of greater interest to adolescents than pregnancy planning. Making folic acid a part of their daily beauty regimen should be encouraged.

## Adolescents' Blood Folate Levels

Teenage boys and girls have the lowest blood folate levels.<sup>5</sup>

## Red Blood Cell (RBC) Folate Concentrations by Age



Using Title V funding, the Maternal, Child and Adolescent Health (MCAH) Division of the Center for Family Health, within the California Department of Public Health administers the California Adolescent Family Life Program (AFLP). This program addresses the consequences of adolescent pregnancy by providing comprehensive case management to pregnant and parenting teens, including nutrition guidance. This program serves as an excellent contact point for interconception counseling regarding folic acid consumption.

# Folic Acid Promotion and Monitoring in a **Pregnancy and Parenting Program for Adolescents**

## Suzanne Haydu, MPH, RD; Flojaune Griffin, PhD, MPH; Sangi Rajbhandari, MPH; Jennifer Troyan, MPH

California Department of Public Health; Maternal, Child & Adolescent Health Division



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These Guidelines were designed to assist Adolescent and Family Life Program (AFLP) case managers in improving the nutrition, physical activity, and healthy eating practices of AFLP clients. The Guidelines include several nutrition topics to serve as a reference for case managers working with teens, provide educational handouts and motivational tools. <u>http://cdph.ca.gov/NUPA-MCAH</u>

## **Folic Acid Guidelines**

To engage pregnant and parenting teens, web-based folic acid guidelines were developed for the AFLP case management intervention. These new guidelines promoted folic acid as important for beauty and overall health without an emphasis on reproduction.

Guidelines include:

- What are "Folic Acid" and "Folate?"
- What are the Consequences of Insufficient Folic Acid/Folate Intake?
- How Much Folic Acid/Folate is Enough?
- What is the Status of Folic Acid Intake among Teens?
- How Can Teens Consume Enough Folic Acid?
- What Are Good Sources of Folate?
- Screening
- Interventions
- Follow-Up Additional Resources/Web Links Referenced
- References

Folic acid is a l	-vitamin your body needs every day.
	<ul> <li>Why take folic acid?</li> <li>Folic acid helps every cell in your body. Taking folic acid will help your skin glow, your hair shine, and your nails stay healthy and strong. Make folic acid part of your beauty routine.</li> <li>How much folic acid do I need?</li> <li>You need at least 400 micrograms (mcg) of folic acid every day.</li> </ul>
	How can I get enough folic acid every day? There are two ways to get the 400 micrograms (mcg) of folic acid your body needs every da Eat one serving of a cereal that has all OR the folic acid you need every day. Many cereals do not have enough folic acid, so read the nutrition label on the box. Nutrition Facts Serving Size: 1 cup (55g) Take a vitamin that has all of th folic acid you need every day. Supplement Facts Serving Size: 0 ne Tablet Amount Per Serving % Daily Value Vitamin A 5000 IU 100% Vitamin C 80 mg 100%
	Servings Per Container: About 12         With 1/2 cup skim milk         With 1/2 cup skim milk           Calories         170         210           Calories from Fat         10         10           Calories from Fat         10         10           Total Fat 1g         1%         2%           Saturated Fat 0g         0%         0%           Polyunsaturated Fat 0g         0%         1%           Cholesterol 0mg         0%         1%           Sodium 240mg         10%         13%
	Dial Carbonydrate 11g     14%     16%       Ditary Fiber 5g     20%     20%       Sugars 20g     0ther Carbohydrate 16g       Protein 4g     10%     15%       Vitamin A     10%     15%       Vitamin C     0%     0%       Calcium     100%     110%       Iron     100%     100%       Vitamin D     10%     25%       Vitamin E     100%     100%       Thiamin     100%     100%       Riboflavin     100%     100%       Njacem     100%     100%       Vitamin B6     100%     100%

## **California Nutrition and** Physical Activity **Guidelines for Adolescents**



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Nutrition and Physical Activity

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Inside this Section

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Insufficient Folic Acid/Folate Intake

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How Can Teens Consume Enough

What Are Good Sources of Folate?

Additional Resources/Web Links

Folic Acid and Folate FA

A-3 Screening

FA-4 Interventions

-4 Follow-Up

Referenced

References

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### Folic Acid and Folate

What are "Folate" and "Folic

Folic acid and folate are different terms for the Folic acid is the synthetic form that is added o fortified foods and used in vitamin

upplements. The body absorbs folic acid etter than natural folate Folate is frequently used as the word to escribe the vitamin found naturally in food Folic acid is necessary for the growth and repair f every cell in the body. Folic acid is needed for the growth and repair of hair, skin and nails. Folic acid is important for the development of he human embryo. It is critical for the cell

rain, spinal cord) begin to develop very early Adolescence is a critical time in the life course to target for folic acid intake because ) adolescents' nutritional needs tend to increa and 2) overwhelmingly their pregnancies are lanned and may not occur in the most optimal of circumstances. Additionally, habit hat are formed during the adolescent perio may continue throughout their reproductive

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rowth that occurs when fetal tissues and organs



Hair and Nails	A	K
For pretty skin, hair and nails, make sure you get 400 microgra day. Make your folic acid beauty plan below.	ims of folic ad	cid every
	Am	Steps I
Things that I can do for pretty skin, hair and halls		
A. Eat cereal that has 100% of my daily value (DV) of folic acid. I will read the labels to be sure. OR B. Take a vitamin with folic acid		
Eat foods with natural folic acid:	_	п
<ul> <li>Lightly cooked or raw vegetables such as broccoli,</li> </ul>	ŭ	
spinach, asparagus, or romaine lettuce		
Beans such as black beans, pinto beans or lentils		
<ul> <li>Jseful Websites:</li> <li>Find out which cereals have 100% of your daily value of fol <u>www.cdc.gov/ncbddd/folicacid/cereals.html</u></li> <li>Buy fresh fruits and vegetables with natural folic acid at a f you. To find the closest markets and those that accept WIC <u>http://search.ams.usda.gov/farmersmarkets/default.aspx</u></li> </ul>	ic acid by visit armers' mark , visit	ting æts near
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## Adolescents Are Not Taking Folic Acid

According to the 2010 California Maternal and Infant Health Assessment Survey, fewer adolescents (23.9%, 95%CI 17.5-30.2) between 15-19 years of age with a recent live birth consumed a folic acid vitamin daily the month before pregnancy than women between 20-44 years of age (33.9%, 95%CI

### Daily Folic Acid Use During the Month Before Pregnancy by Maternal Age, 2010



## Intervention Status

Complementary preconception social marketing materials were used to target non-pregnant teens in

• The new Guidelines have been incorporated into all 37 AFLP programs that serve over 8,000 clients

MCAH will continue to monitor adolescent folic acid consumption.

## **Conclusion and Health Implications**

• States should use Title V funds to incorporate folic acid interventions into existing programs to meet the needs of adolescents. Consider adding the folic acid topic to Title V funded life course interventions, e.g., adolescent, preconception, interconception and perinatal programs.

• States should regularly monitor folic acid use among teens.

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