Nemours Children's Health is a leading pediatric health system focused on superior health outcomes and family-centered care. Our full-service children's hospital in Wilmington, Del., treats over 250 infants, children and adolescents with sickle cell disease each year. Our program is staffed by a highly trained

hematologists, advanced practice nurses, psychologists, dietitians, social

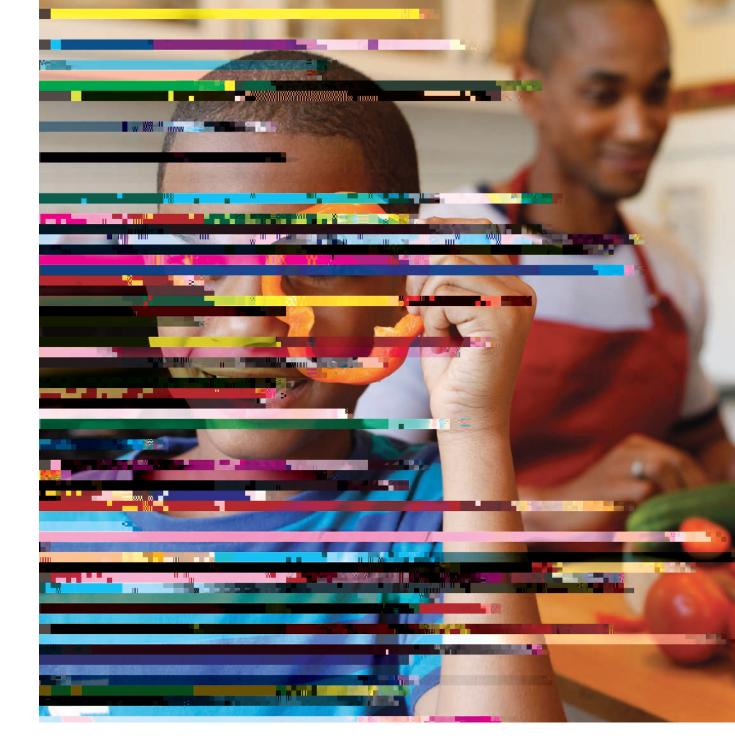




Table of Contents

Nutrition and Sickle Cell	2
Vitamin D and Sickle Cell	3
Micronutrients: Vitamins A, C, E and Zinc	4
Folic Acid Basics	<u>5</u>
How to Satisfy Picky Eaters	6
Tips for Easily Increasing Calories	7
deas for Reducing Food Costs	E
Breakfast Ideas	1
Smoothies and Shakes	19
Packing Lunch	23
Smart Snacking	29
Main Courses and Side Dishes	37
Sweets	49

Eating Well With Sickle Cell

Micronutrients: Vitamins A, C, E and Zinc

Why are they important and where to find them?

Micronutrients are another word for vitamins. They help your body do many things such as making immune cells, growing and using energy. Vitamin A is helpful for eyesight. Vitamin C and E are important for the immune system, and zinc is needed for growth and healing. Children with sickle cell disease may need more vitamins than other kids without sickle cell disease. We are not sure exactly why, but this may be because the body is always trying to make red blood cells.

yellow fruits and vegetables and leafy vegetables.

Good sources of micronutrients include:

Almonds	 Sweet potatoe
Almonas	 Sweet potatoe

- orrest peraress
- EggsDairy products
- and cereals

Canned tomatoes

Spinach

- Cereals
- Red peppers
- Legumes

Our medical team feels that it may be helpful to add a multivitamin daily, but it will be important to choose the multivitamin that best meets the needs of those with sickle cell disease. The multivitamin should not have iron in it due to the possible need of those with sickle cell disease to receive planned or unplanned blood transfusions. Transfusions give extra iron to the body and can lead to too much iron in the blood. Because a multivitamin is not covered under insurance, and can be an extra cost

We suggest the following when looking for a multivitamin:

- Continue folic acid depending on advice from your health care provider.
- Children under 2 should use poly vi sol without iron, 1 ml.
- Look for a multivitamin without iron that meets the nutrients listed below.
- No vitamin is perfect and many vitamins may not meet the minimums for the recommendations below without exceeding the maximums.
- · Gummy vitamins can be more expensive.



	Vitamin A-IU	Vitamin C-mg	Vitamin D-IU	Vitamin E-mg	B12-mcg
2-8 years old— minimum	1,000	15	400	7	1
2-8 years old— maximum	5,000	600	5,000	100	20
9-18 years old— minimum	3,000	45	400	15	2
9-18 years old— maximum	6,000	1,000	5,000	100	30

Folic Acid Basics

What is it? Where to find it?

Folate is a type of B vitamin that helps prevent anemia. Folic acid is also helpful in treating sickle cell disease because it helps to make and store red blood cells. Children with sickle cell disease have red blood cells that break down faster than an average person, and folic acid helps to replace red blood cells.

products. Keep these folate-rich foods in mind when making choices. Good sources of folate include:

- Peanuts
- Avocado
- Broccoli
- Romaine lettuce
- Spinach
- Strawberries
- Papaya
- Asparagus
- Corn
- •
- •



Eating Well With Sickle Cell

Ideas for Reducing Food Costs

Grocery shopping can be a challenge when you are on a budget and looking to buy and make healthy, high-calorie foods. There are many ways to stretch your food dollar so that you can buy and make nutritious foods and use them for more than one meal. You will not only save money this way,

- Check the sales flyer. Plan your meals and snacks for the week around what is on sale. Then make your shopping list and stick
- Include frozen, canned and dried forms of fruits and vegetables.

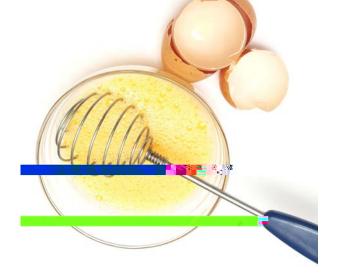
and snacks.

- Buy in-season. Although most fresh fruits and vegetables are available year-round, many are less expensive when they are in-season.
- When there are specials on fruits and vegetables, buy extra. They can be frozen, or you can prepare a dish to be frozen for a busy night's dinner.
- Avoid shopping at convenience or corner stores because their food is more expensive.
 Compare prices among grocery stores.
- Shop at grocery stores that sell store brand foods. Look at the top and bottom shelves in the grocery store aisles for these items. The most expensive items are at eye-level on the shelves.
- Never shop on an empty stomach! When you're hungry, you'll be more tempted to splurge.
- · Use caution with coupons.
- Make sure the food you buy is fresh. Sometimes, foods are on sale because they are close to
- Buy in bulk only when it makes sense and check the unit price of the item. Are you a member of one or more of the discount and warehouse stores that sell groceries? Not all bulk items are bargains. Only buy something in bulk if it's a food that your family eats often. Otherwise, it may spoil before you have a chance to use it. Try to buy only nonperishable foods in bulk (dried beans, grains and canned foods).



Breakfast Ideas





BREAKFAST IDEAS



High-Calorie Scrambled Eggs

Servings: 3

DIRECTIONS

- 1. Cook bacon or heat up ham in skillet for about 3-5 minutes over medium heat. Remove from skillet and drain excess fat.
- 2. In bowl, beat eggs with 2 tbsps of whole milk, add salt and

Try adding 1-2 tablespoons of wheat germ to 8 ounces of smoothie for added calories and f ber. It is a great source of folic acid, and will not change the f avor of the smoothie. Wheat germ can be found at most grocery stores near the f our. Also try adding ice to make the smoothie extra cold and yummy!

INGREDIENTS

- ½ cup whole milk or Lactaid® milk
- ½ cup yogurt
- ½ frozen banana, peeled and chopped
- 2 tsps honey
- 1/2 cup frozen strawberries

All-Around-Good Smoothie

Servings: 2

DIRECTIONS

1. In a blender, blend all ingredients until smooth.

INGREDIENTS

- 1/2
- 6 ozs yogurt (vanilla or plain)
- 1 cup red seedless grapes

Grape Ape Smoothie

Servings: 2

DIRECTIONS

1. In a blender, blend all ingredients until smooth.

INGREDIENTS

- 1 banana, sliced
- 1/8 cup peanut butter
- ½ cup milk
- 2 tbsps honey

Peanut Butter Banana Smoothie

Servings: 1

DIRECTIONS

- In a blender, combine all ingredients except honey. Blend until smooth.
- 2. Pour into glass and drizzle with honey.

INGREDIENTS

- 1 large nectarine, pitted and quartered
- 1 banana, cut into pieces and frozen
- 1 large orange, peeled and quartered
- 1 cup vanilla yogurt

• ½ cup whole milk or

1 cup canned peaches,

Lactaid® milk

• 3/4 cup ice cream

drained

.

Sunshine Smoothie

Servings: 2

DIRECTIONS

1. In a blender, blend all ingredients until smooth.

• 1/3 cup heavy cream Peaches and Cream

Smoothie

Servings: 2

DIRECTIONS

1. In a blender, blend all ingredients until smooth.

INGREDIENTS

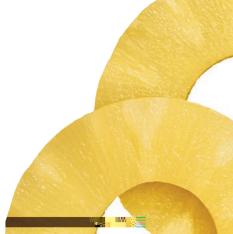
- ½ banana (frozen or fresh)
- ½ cup pineapple or mango (frozen or fresh)
- ½ tbsp peanut butter
- ½ cup Greek yogurt
- ½ cup whole milk or Lactaid® milk
- 2 cups baby spinach

Green Monster Spinach Smoothie

Servings: 2

DIRECTIONS

 In a blender, blend all ingredients until smooth. If using fresh fruit, add about ¼ cup of ice.





Packing Lunch

Fun Hummus Lunch Ideas

Hummus is a great way to add calories and protein – if you have





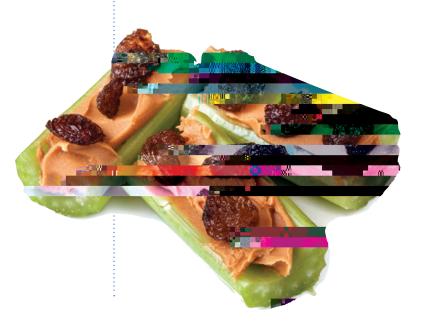


Strawberry Popsicle

Servings: 8

DIRECTIONS

1.





Main Courses and Side Dishes

- 4 cups baby spinach leaves, torn into bite-size pieces
- 1 pint strawberries, sliced
- 1 small red onion, sliced and separated into rings
- ½ cup chopped nuts (optional)
- 1/2

Strawberry Spinach Salad

Servings: 6

DIRECTIONS

1. Combine all ingredients in bowl. Add salad dressing to taste.

BBQ Rice and Beans

Servings: 4

DIRECTIONS

- 1. Prepare 3 cups of instant brown rice according to package directions. Cover rice and set aside.
- 2. In a large skillet over medium-high heat, heat the oil. Add the onion and peppers. Cook until tender, about 8 minutes.
- 3. Add the remaining ingredients. Stir well to mix. Bring to a boil. Reduce heat to low, cover and simmer for 15 minutes.
- 4. Serve beans over the rice.

38

Eating Well With Sickle Cell

- 1/3 cup sugar
- 1/2 cup white vinegar
- 1/2 cup canola oil
- 3/4 cup cooked noodles, such as spaghetti (optional)
- 1 (16-oz) package broccoli slaw (Or you can use fresh broccoli that is cut in small pieces.)
- ½ cup nuts
- 1 (15-oz) can mandarin oranges, drained

INGREDIENTS

- 2 cups pasta (Whole wheat is most nutritious.), cooked, drained and rinsed (Use penne, bow ties, rotini, elbows, whatever you prefer.)
- 2 cloves garlic, minced

Broccoli Slaw

Servings: 4

DIRECTIONS

- 1. Combine sugar, vinegar, oil in large resealable plastic bag. Shake well to mix.
- 2. Add broccoli slaw. Shake well to coat with dressing.
- 3. Refrigerate for at least six hours. Shake bag occasionally to mix the salad.
- 4. Transfer to a serving bowl.
- 5. Add nuts, mandarin oranges, and noodles if desired, and mix gently.

Warm Pasta Salad

Servings: 4

DIRECTIONS

- 1. Cook pasta according to directions and set aside.
- 2. In a large skillet, sauté garlic and vegetables for 10 minutes. Stir often.
- 3. Add pasta and Italian seasoning to vegetables. Gently combine using a large spoon or spatula.
- 4. Sprinkle Parmesan cheese over pasta mixture. Cover and cook for 2 more minutes.

Eating Well With Sickle



- 1 pound ground beef
- 2 tbsps vegetable oil
- 1 (10-oz) package frozen chopped onions
- 1 (10-oz) package frozen chopped green pepper
- 1 tbsp bottled minced garlic
- 2 tbsps chili powder
- 1 tbsp ground cumin
- 1 tsp salt
- 2 (14.5-oz) cans crushed tomatoes
- 1 (15-oz) can lentils, rinsed

INGREDIENTS

- 1 whole wheat tortilla
- ½ cup cheddar cheese, shredded
- ½ cup baby spinach leaves
- ½ cup chunky salsa

Chili

Servings: 4

DIRECTIONS

- 1. In a large pot over medium heat, heat the vegetable oil.
- 2. Add the onion, pepper and garlic, and cook until tender, about 10 minutes.
- 3. Add the chili powder, cumin and salt, stirring well to mix. Cook
- 4. Add the tomatoes, lentils, kidney, black or pinto beans and corn, stirring well to mix.
- 5. Bring to a boil, cover, reduce the heat to low and simmer for 10 minutes.

Mexican Grilled Cheese (Cheesy Tortillas)

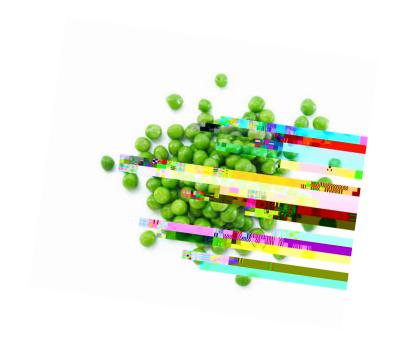
Servings: 2

DIRECTIONS

- 1. Sprinkle the shredded cheese on half of the tortilla.
- 2. Place spinach leaves on top of the cheese (Consider adding black beans or other vegetables such as peppers or tomatoes.).
- 3. Fold tortilla in half.
- 4. To cook in microwave: place tortilla between two paper plates and cook until cheese is melted. To cook in oven, wrap tortilla in tin foil and bake at 350°F degrees for 15 minutes.
- 5. Cut tortilla into triangles and dip into salsa.







Black Beans and Rice

Servings: 4



Sweets

- 1 can black beans
- 1/3 cup chocolate chips
- 3 tbsps cocoa powder
- 11/3 cup maple syrup, or to taste
- 1/3 cup peanut butter (optional)
- Milk

INGREDIENTS

- 2 sweet potatoes
- 1/3 cup maple syrup
- 1 tsp vanilla extract
- 1/3 cup chocolate chips
- 1/3 cup cocoa powder
- 1/4
- 3 tbsps softened butter
- 1/4 cup nut butter

Chocolate Dip Full of Fiber

Servings: 8

DIRECTIONS

- 1. In a food processor or blender, combine ingredients and blend to form a paste.
- 2. Add milk, if needed, to thin the mixture to the desired consistency.
- 3. Serve with whatever you like, such as apple slices, strawberries or sandwiches.

Easy Sweet Potato Brownies

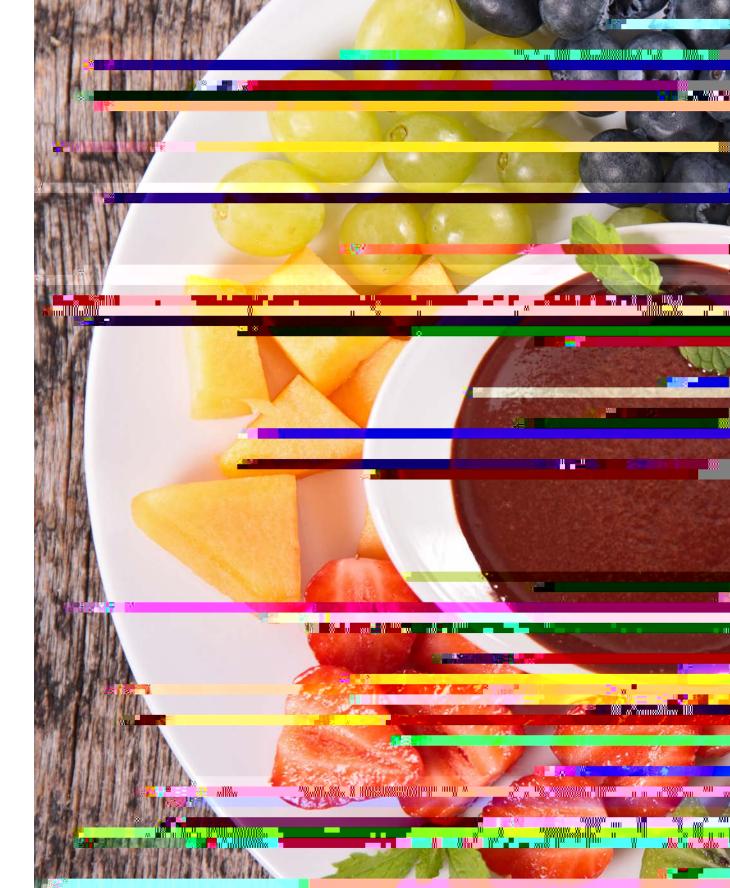
Servings: 8

.....;......

DIRECTIONS

- 1. Preheat oven to 350°F.
- 2. Roast sweet potatoes, then puree in food processor or blender.
- 3. Combine ingredients in medium bowl.
- 4. Pour into greased 8-by-8 inch pan and bake for 25-30 minutes.





Your favorite fruits

Fruit Kebabs

DIRECTIONS

- 1. Slice fruit into cubes and serve on a stick.
- 2. To add some more fun, you can dip the fruit in peanut butter or your favorite spread.

INGREDIENTS

- · 2 apples, sliced or diced
- 2 tbsps sugar
- ½ tsp cinnamon
- 1 tbsp olive oil

Pan-Cooked Apples

Servings: 2

DIRECTIONS

- 1. Heat olive oil in the pan over medium heat.
- 2. Add apples to the pan and sprinkle sugar and cinnamon on top.
- 3. Move apples around occasionally. Cook for 10 minutes or until tender.



This book is made possible through the generosity of the Alpha Kappa Alpha Sorority, Inc., Zeta Omega Chapter, and its charitable arm, The Pearls of Hope Foundation, Inc.

These recipes were developed by Michell Fullmer, RD, LDN, pediatric nutritionist for the Sickle Cell Program at Nemours Children's Hospital, Delaware. In addition, Mary Catherine Perry, RDD, Hali Muldoon and the Episcopal Church of Saints Andrew and Matthew, Wilmington, Del.,