

Let's Talk About...

Spina bifida and nutrition for children

Growing children should be active and have good nutrition, but this can be challenging for a child with spina bifida. Poor eating habits and reduced activity can cause:

- Weight gain
- Constipation
- Osteoporosis [OSS-tee-oh-por-OH-sis], or weak bones
- Anemia
- Urinary tract infections
- Drug and nutrient interactions
- Pressure sores
- Problems chewing or swallowing

The following guidelines can help you prevent these problems.

How can my child avoid gaining too much weight?

To help your child avoid excessive weight gain, offer healthy choices when they first start eating solid food.

- Introduce your child to fruits and vegetables early.
- Start giving your baby protein like fish, chicken, beans, and eggs when they're around 6 months old.
- Offer your baby fewer starchy foods like infant cereals, breads, crackers, puffs, and cookies to help them grow.
- Avoid fast foods and fatty or sugary snacks.

Plan your family's mealtimes

To help with mealtime planning, consider these tips:

- Serve meals at set times during the day. If you don't follow a schedule, your children will snack all day on high-calorie foods.

- Eat healthy meals as a family often. Children learn by watching you make healthy choices.
- Plan snack times and offer healthy snacks, including:
 - Fruits and raw vegetables with low-fat yogurt, salad dressing, or hummus as dips
 - Plain popcorn, rice cakes, or corn cakes instead of cookies or potato chips
 - Frozen yogurt, juice bars, or fruit instead of rich desserts

Limit fat in foods

A low-fat diet can help your child maintain a healthy weight. To do this:

- Trim visible fat from meats.
- Remove the skin from chicken and turkey.
- Bake, broil, grill, steam, or poach food, instead of frying it.
- Use nonstick vegetable sprays or a little liquid oil instead of butter and shortening to sauté foods.
- Serve foods plain without sauces or gravies.
- Use low-fat toppings such as cottage cheese, low-fat yogurt, low-fat sour cream, or salsa.
- Offer dressings and toppings on the side so your child uses less of them.
- Try cooking with herbs instead of butter.
- Choose low-fat dairy products such as skim or 1% milk and low-fat cheese and yogurt.
- Give your child more fresh fruits and vegetables, which are naturally fat-free.

- Consider buying an air fryer to cut calories if your family really likes crunchy, fried foods.

Make good beverage choices

Constipation and urinary tract infections (UTIs) are common in children with spina bifida.

Encourage your child to drink plenty of liquids, but avoid sugary drinks, which add calories and can cause weight gain.

- **Offer 1% or skim milk after your child turns 2, unless they have trouble gaining weight.** Milk is the best source of calcium and vitamin D for your child, so they should drink 2 to 3 8-ounce glasses of milk daily.
- **If you use a non-dairy milk substitute for your child,** remember that only soy, pea, and protein-enriched almond milk contain enough protein to help children grow.
- **Don't give rice milk to children younger than 5 years old.** It is high in arsenic, an element in rice that can cause health problems.
- **Limit fruit juice to 2 ounces a day for kids younger than 2 years and 4 ounces a day for older children.** Fruit juice contains as much sugar as soda. Dilute juice with water to make it go further, and give your child more fruit to eat instead.
- **Encourage your child to drink water every day.**
- **Discourage your child from drinking soda.** If they do drink soda or carbonated beverages, encourage sparkling flavored water and diet soda without caffeine.

How can I prevent osteoporosis in my child?

Your child needs calcium, vitamin D, and weight-bearing physical activity (such as running or walking) for healthy bones.

Dairy and non-dairy alternative products are the best sources of calcium and vitamin D. However, too much dairy can cause constipation. Some medicines

Wise Choices

Your child may have anemia if they don't get enough iron in their diet. Prevent this by having your child avoid caffeinated drinks and eating plenty of iron-rich foods, like chicken, fish, and beans.

also interfere with calcium and vitamin D in the body.

To prevent osteoporosis (weak bones):

- **Make sure a child older than 2 years (and a normal weight) has 2 to 3 servings of dairy foods each day.** When your child is 9 years old, they should have 4 servings of dairy per day. This includes low-fat milk or milk alternative, yogurt, cheese, or ice cream.
- **Give your child a multivitamin and mineral supplement if they don't eat enough dairy foods.** They may need a calcium supplement if they don't have enough calcium in their diet. Ask the spina bifida clinic dietitian if your child needs this.
- **Have your child spend 20 minutes a day in the sun without sunscreen to make enough vitamin D.** To avoid sunburn, they should go outside early in the day or later in the afternoon. In winter months, consider giving your child a supplement to provide 400 to 1000 international units (IU) of vitamin D each day.

How do I prevent my child from getting anemia?

Your child may have anemia (a condition that makes them tired and weak) if they don't get enough iron in their diet. To prevent this:

- Provide iron-rich foods such as meat, fish, chicken, and beans
- Have your child avoid caffeinated drinks like tea, coffee, cola, energy drinks, and certain sodas

If anemia continues to be a problem, talk to the spina bifida clinic dietitian. Your child may sometimes need an iron supplement and iron-rich diet.

How can I prevent constipation in my child?

Constipation is a common problem for children with spina bifida, but you can help prevent it by offering plenty of fiber and fluids.

To increase fiber in your child's diet:

- **Add more fiber gradually.** If you add fiber to your child's diet too quickly, it can cause gas, cramping, diarrhea, and discomfort. If you add fiber gradually, the bowel has time to adjust and your child will have fewer unpleasant side effects.
- **Get fiber from various sources.** Serve different fruits, vegetables, and whole grains to ensure your child receives a variety of nutrients. Try beans such as pinto, garbanzo, edamame and refried beans.
- **Make sure your child drinks lots of water.** Fiber absorbs large amounts of water in the intestine. A high-fiber diet can cause constipation if your child doesn't drink plenty of liquids. A dietitian can tell you how much liquid your child should drink.
- **Try to include some fiber in every meal.** Include fruits, vegetables, and whole grains. Any meal or snack is a good opportunity to add high-fiber foods to your child's diet.
- **Substitute high-fiber foods for low-fiber foods wherever possible:**
 - Offer whole-grain and whole-wheat breads, cereals, and pastas. This includes foods made with whole-wheat flour, oats, rye, corn, rice, buckwheat, or bran.
 - Leave the peels on fruits and vegetables if possible.
 - Choose a breakfast cereal with more than 3 grams of dietary fiber per serving.
- **Use wheat bran as a natural laxative.** Wheat bran is a concentrated source of fiber you can gradually add to your child's diet. It's best added

to moist foods like mashed potatoes, ground meat, cooked cereals, casseroles, soups, and yogurt. Substitute wheat bran for some flour in recipes.

High-fiber foods		
Vegetables	Artichokes	Celery
	Broccoli	Corn
	Brussels sprouts	Peas
	Carrots	Potatoes (with skin)
	Cauliflower	
Grains	Brown rice	Whole-grain cereals
	Oatmeal	Whole-wheat bread
	Rye bread	Whole-wheat pasta
	Cereals with more than 3 grams of fiber per serving	
Fruits	Apples	Kiwis
	Apricots	Oranges
	Bananas	Peaches
	Blueberries	Peas
	Figs	Strawberries
Legumes	Almonds	Lima beans
	Baked beans	Nuts
	Black beans	Peanuts
	Lentils	Pistachios
	Crunchy peanut butter	

Your whole family can benefit from eating more fiber. Use this table to choose high-fiber foods when planning meals and snacks.

A few specific foods may also cause constipation, including:

- Breads with less than 2 grams of fiber per slice
- Cereals with less than 3 grams of fiber per serving
- Other products made from white flour
- Dairy products

