

Let's Talk About...

Nutrition for Children with Spina Bifida

Good nutrition and being active are important for growing children. However, both of these habits can be a challenge for a child with spina bifida. Consequently, you should be aware of the following conditions that result from poor eating habits and reduced activity:

- Weight gain
- Constipation
- Osteoporosis
- Anemia
- Urinary tract infections
- Drug/nutrient interactions
- Pressure sores
- Problems chewing or swallowing

If your child has any of these symptoms, you can manage them by using the following guidelines. The dietitian in the Spina Bifida Clinic also can help you with specific nutritional concerns.

How can my child avoid gaining too much weight?

Avoiding excessive weight gain begins when your child starts eating solids. Introducing your child to a variety of fruits and vegetables right from the start helps her to enjoy these foods when she is older. Avoid fast foods and high fat/high sugar snacks. Weight loss is not recommended for young children. Use the following tips to create good eating habits in your family:

1. Plan your family's mealtimes

- Serve meals at set times during the day. If mealtimes aren't scheduled, children tend to snack all day on high-calorie foods.
- Plan snack times. Offer fruits and raw vegetables by themselves or with low-fat yogurt or fat-free salad dressing as dips.

Give your child plain or low-fat popcorn, or rice or corn cakes, instead of cookies and potato chips. Use frozen yogurt, juice bars, angel food cake, or fruit instead of rich desserts.

- Eat meals as a family often. Children learn to eat more varied foods by eating with the whole family. Set a good example by having the whole family eat healthy foods.

2. Limit the amount of fat you eat

- Trim all visible fat from meats.
- Remove skin from chicken and turkey.
- Use low-fat cooking methods such as baking, broiling, grilling, steaming, or poaching instead of frying.
- Use non-stick vegetable sprays, instead of butter, shortening, or oil.
- Serve foods plain without sauces or gravies. Use low-fat toppings such as cottage cheese, low-fat yogurt, or low-fat sour cream.
- Choose low-fat dairy products such as skim or 1% milk and low-fat cheeses.
- Fill up on fresh fruits and vegetables that are naturally fat-free.

3. Make good beverage choices

Constipation and urinary tract infections (UTIs) are common in children with spina bifida. Encourage your child to drink a lot of liquids.

- Offer 1% or skim milk after age two, unless your child has trouble gaining weight. Milk is the best source of calcium for your child, so encourage drinking two to three eight-ounce glasses of milk daily.
- Limit the amount of fruit juice to two ounces a day for infants under two and

four ounces a day for older children. Fruit juice contains as much sugar as soda. Dilute juice to make it go further.

- Encourage your child to drink water.
- Discourage your child from drinking soda. If he does drink soda, encourage diet, non-caffeinated soda. Caffeinated sodas don't count towards daily liquid needs because caffeine makes the body get rid of liquid faster.

How do I encourage my child to exercise?

Exercise is very important along with diet in preventing weight gain. The following are some tips for encouraging your child to be more active:

1. Limit inactive time

Limit time spent with television, video games, gameboys, and videos. Pediatricians recommend that children under the age of two watch no television or videos. Older children should watch only one to two hours of television daily.

2. Increase physical activity

Establish an exercise program for your child as early as possible. Work with your physical therapist. Plan family outings that involve fun physical activities.

3. Make physical activity family centered

Do not single out your child for special treatment. Include the whole family in an exercise program.

How can I prevent constipation in my child?

Constipation is a common problem for children with spina bifida. Plenty of fiber and fluid in the diet can help this condition. Fiber is the portion of the plant that our bodies cannot digest. The fiber prevents constipation by absorbing water, which softens and enlarges the stool and makes it easier to pass. To find out the right amounts of fiber and fluid for your child, speak to the dietitian in the Spina Bifida Clinic.

To increase the fiber in your child's diet, offer fruits and vegetables plus whole grains at each meal. Serve milk with meals and encourage drinking plenty of water throughout the day.

Below are some additional tips for adding fiber:

1. Increase fiber gradually

Adding fiber too quickly can cause gas, cramping, diarrhea, and discomfort. Adding fiber gradually allows the bowel time to adjust and lessens unpleasant side effects.

2. Get fiber from a variety of sources

Eat different fruits, vegetables, and grains to ensure a variety of nutrients. Try beans such as pinto, garbanzo, lentils and refried beans.

3. Drink lots of water

Fiber absorbs large amounts of water in the intestine. A high fiber diet can actually cause constipation if your child doesn't drink plenty of liquids. A dietitian can determine the amount of liquid that is enough for your child.

4. Try to include some fiber in every meal.

Any meal or snack is a good opportunity for adding high-fiber foods to your child's diet.

5. Substitute high-fiber foods for low-fiber foods wherever possible:

- Eat whole grain breads, cereals, and pastas. This includes products made from grains such as 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 three grams of dietary fiber per serving.

6. Use wheat bran as a natural laxative

Wheat bran is a very concentrated source of fiber that can be gradually added to your child's diet. It works best when added to moist foods such as mashed potatoes, ground meat, cooked cereals, casseroles, soups, and yogurt. Wheat bran may be substituted for some of the flour in recipes.

7. Use the following table to choose high-fiber foods

Your whole family can benefit from eating more fiber. Use this table to help plan meals and snacks.

High-Fiber Food List			
Vegetables	Grains	Fruit	Legumes (Beans)
Broccoli	Whole wheat bread	Pears	Lentils
Carrots	Rye bread	Apples	Black beans
Cauliflower	Whole grain cereals	Peaches	Baked beans
Artichoke	Whole wheat pasta	Blueberries	Lima beans
Peas	Oatmeal	Strawberries	Nuts
Celery	Brown Rice	Oranges	Almonds
Brussels sprouts	Cereals with more than 3 grams of fiber per serving	Figs	Pistachio nuts
Corn		Bananas	Peanuts
Potato (with skin)		Apricots	Crunchy Peanut Butter
		Kiwi	

A few specific foods may cause constipation. Such foods include high-pectin fruits (apples and bananas); breads with less than two grams of fiber per slice, cereals with less than three grams of fiber per serving, and other products made from white flour; and dairy products. If constipation is a problem for your child, talk to the dietitian in the Spina Bifida Clinic before cutting out these foods.

Some of your child's medicines may also cause constipation.

How can I prevent osteoporosis in my child?

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

Dairy products are the best sources for calcium and vitamin D, but they may cause constipation. Don't be tempted to limit dairy products, as children need them every day. Some medicines interfere with calcium and vitamin D in the body (see the "What are Some Common Drug and Nutrient Interactions?" section).

At least to get enough calcium, a child over two years old and at normal weight should have two to servings from the dairy group. This may include low-fat milk, yogurt, cheese, or ice cream. If your child doesn't eat enough dairy foods, you can give him a complete multivitamin and mineral supplement. An additional calcium supplement may be needed if your child's calcium intake is very low. Speak to the dietitian in the Spina Bifida Clinic to find out whether your child needs a supplement.

To make adequate Vitamin D, your child should spend twenty minutes a day in the sun without sunscreen. To avoid burning, have your child go outside either early in the day or later in the afternoon. In northern areas, the winter sun is so low in the sky that even if we spend time in the sun our bodies don't make enough vitamin D. In winter months, you may need to give your child a supplement.

Your child may become anemic if she doesn't get enough iron in her diet. This may be caused from not eating enough iron-rich foods or troubles with chewing and swallowing foods

like meats and nuts. To ensure your child gets enough iron, have her eat iron-rich foods. Also, make sure she avoids caffeinated drinks (e.g., tea, coffee, colas, energy drinks, Mountain Dew, or Dr Pepper). If anemia continues to be a problem, speak with the dietitian in the Spina Bifida Clinic. In some cases, an iron supplement and an iron-rich diet may be necessary.

How can I prevent urinary tract infections in my child?

UTIs are common in children with spina bifida. If your child follows his bladder management program and drinks adequate water, he should be able to avoid getting a UTI.

Some doctors recommend drinking juices or taking a vitamin C supplement to prevent UTIs. Drinking juices means extra calories, which can lead to weight gain. For this reason we do not recommend drinking a lot of juice. Before starting a vitamin C supplement, consult your doctor.

What are some common drug and nutrient interactions?

Many medicines prescribed to children with spina bifida have nutrition-related side effects. Several seizure medications cause nausea and vomiting. Weight gain and increased appetite are common with many behavioral medications. However, not every child prescribed these medications has side effects.

If your child is on long-term anti-seizure therapy, he may require supplements of vitamin D, folic acid, calcium, and vitamin K. If he is on long-term antibiotic therapy, he may require supplements of calcium, iron, magnesium, zinc, folic acid, and vitamin K. Please check with your doctor, before giving your child supplements

or minerals in amounts greater than the Recommended Dietary Allowance.

How can I help my child avoid pressure sores?

Children with spina bifida may not feel pain or injury in their legs and feet. They may not notice when areas of their body are developing sores. Check your child's feet and legs regularly for redness, sores, or blisters.

To avoid pressure sores, help your child stay at an optimal weight (neither too heavy nor too skinny). Also, good skin care and good nutrition are essential. If your child is poorly nourished, sores will heal slowly. For other tips, see "*Let's Talk About...Pressure Sores.*"

How do I ensure my child gets enough to eat?

Some children with spina bifida have problems with sucking, chewing, and swallowing. This can lead to poor growth and many health problems. A speech language therapist can help your child with swallowing issues. For sucking and chewing issues, consult the occupational therapist, physical therapist, nurse, psychologist, or social worker in the Spina Bifida Clinic.

If your child is having problems eating, the Spina Bifida Clinic dietitian can give you tips on increasing your child's calorie intake.

Conclusion

You may find your child's nutritional needs challenging. However, your child can receive optimal care if you work with your health care professionals. The registered dietitian at the Spina Bifida Clinic is an especially good resource.