

Herbal and Nutritional Supplements

For children with cancer

To assist you in making a decision about supplements, here are some general guidelines. Our guidelines are based on scientific studies, and experience.

Like many families, you may be thinking about herbal and nutritional supplements to help fight cancer or boost your child's immune system. This is also known as complementary, naturopathic or alternative medicine. It is important to talk to your child's health care team before using these products. These supplements, unlike medicines, are not subject to the approval process of the U.S. Food and Drug Administration (FDA). The FDA tests for safety effectiveness, labeling, purity, sterility and other standards.

To assist you in making a decision about supplements, here are some general guidelines. Our guidelines are based on scientific studies, and experience. Many supplements do not have studies that show safe use or side effects in children.

Use the following Web sites to get more information. Note that anyone may create a Web site. No agency assures that accurate information is put on Web sites. Many cancer centers have not considered the use of these supplements in children. Keep in mind that the types of cancer treatment for children are different from adults.

- National Institutes of Health Office of Alternative Medicine Web site
altmed.od.nih.gov
- Office of Dietary Supplements
ods.od.nih.gov
- Carol Ann's Library: resource on complementary/alternative medicine in pediatric oncology
integrativetherapies.columbia.edu
- Memorial Sloan Kettering Cancer Center, Resources for Medical Professionals
www.mskcc.org/mskcc/html/11570.cfm

General guidelines

1. Talk to your child's cancer treatment team about using supplements. Tell them the names and doses of every supplement your child is taking.
2. Be aware of the risks and problems with herbal or vitamin supplements in children being treated for cancer. Some supplements:
 - **Increase your child's risk of infection** from fungus, bacteria or other organisms because the product may not have been sterilized when made.

- **Cause side effects** to your child's liver, blood, kidneys, heart and other organs. Some products have known serious side effects. If your child is having side effects, it may be difficult to determine whether these are from the supplements, the chemotherapy or an interaction between them. We need to know what your child is taking in order to give the right doses of chemotherapy to fight the cancer.
 - **Reduce the effectiveness of chemotherapy and radiation therapy.** Some supplements are known to counteract the chemotherapy, reducing its effectiveness.
 - **Worsen side effects from the chemotherapy.** Some supplements have the same side effects as the chemotherapy and can make them worse.
3. For the reasons above, stop all herbal supplements:
 - When your child is receiving chemotherapy and radiation therapy
 - When your child is neutropenic (has low counts)
 - When your child has mucositis (mouth sores) or enteritis (inflammation of the bowel)
 4. Read the list of supplements to avoid. Stop the use of any supplement named on the list. They are known to interact with chemotherapy or to cause organ damage.
 5. If you are still interested in using herbal supplements after reading the guidelines, buy products from brand-names who have procedures to assure sterility and potency. Make sure all products show the scientific name and quantity of any plant, the name and address of the manufacturer, a batch or lot number, the date of manufacturing and expiration date. This information is critical in identifying and dealing with any problems related to their use.

Nutrition and your child's health

Diet and nutrition play an important role in your child's health. A balanced diet and the right amount of vitamins and minerals will keep them strong and rebuild tissues during and after treatment. Your health care team will watch your child's growth and development carefully. We encourage you to ask questions about diet and nutrition any time you have a concern.

If you are interested in using supplements, review the table on the next page. Read all labels closely.

Herbal and Nutritional Supplements

Vitamin/Mineral	Age and General recommendations		Safety and Limits		
Vitamin A	Birth – 1 yr.	375 mcg/ 1250 IU	Birth – 10yrs.: No more than 2000 mcg or 10,000 IU		
	1 – 10 yrs.	400 - 700 mcg/ 1333-2333 IU			
	11 yrs. +	800 – 1000 mcg/ 2700 - 3300	11 yrs. +: No more than 3000 mcg or 10,000 IU		
Vitamin C (L-ascorbic acid)	Birth – 6 mo.	40 mg	Undergoing active oncology therapy	Oncology patients in maintenance treatment or remission	
	7 – 12 mo.	50 mg			
	1 – 3 yrs.	15 mg	Birth – 10 yrs. No more than 250 mg	Birth- 12 mo.: (250) 1-3 yrs.: 400 4-8 yrs.: 650 9-13 yrs.: 1200 14-18 yrs.: 1800	
	4 – 8 yrs.	25 mg			
	9 – 13 yrs.	45 mg	11 yrs. +: no more than 500 mg		
	14-18 yrs.	65 mg 75 mg			
Vitamin D (calciferol)	Birth – 18 yrs.	200 IU or 5 mcg	Birth – 12 mo.: no more than 1000 IU or 25 mcg 1 – 18 yrs.; no more than 2000 IU or 50 mcg		
	Vitamin E (tocopherol - most active form)	Birth – 6 mo.	4 mg (pre-mature: 17 mg)		Undergoing active oncology therapy
	7 – 12 mo.	6 mg or 6 IU	No more than 50 mg or 50 IU	Birth- 12 mo.: ND* 1-3 yrs.: 200 4-8 yrs.: 300 9-13 yrs.: 600 14-18yrs.: 800	
	1 – 3 yrs.	6 mg			
	4 – 8 yrs.	7 mg			
	9-13 yrs.	11 mg			
	14-18 yrs.	15 mg			
Beta-carotene		No DRI	Birth – 10 yrs. No more than 15,000 IU or 9 mg 10+: no more than 25,000 IU or 15 mg		
Iron	Birth – 6 mo.	6 mg	Iron supplementation is not recommended for patients receiving chemotherapy or for patients requiring blood transfusions. Consult doctor or dietitian.		
	6 mo. – 10 yrs.	10 mg			
	11 yrs. + Female	15 mg			
	11 yrs. + Male	12 mg			
Folic acid (folate)	Birth – 6 mo.	65 mcg	No more than 65 mcg	Folic acid (folate) supplements should be avoided while receiving methotrexate chemotherapy.	
	7 –12 mo.	80 mcg	No more than 80 mcg		
	1 – 3 yrs.	150 mcg	No more than 300 mcg		
	4 – 8 yrs.	200 mcg	No more than 400 mcg		
	9 – 13 yrs.	300 mcg	No more than 600 mg		
	14 – 18 yrs.	400 mcg	No more than 800 mg		

*ND = Not determinable due to lack of data of adverse effects in this age group.

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Vitamin/ Mineral	Age and General recommendations		Safety and Limits
Vitamin B1 (thiamin)	Birth – 6 mo.	0.2 mg	While high intakes of B vitamins may not be toxic, talk with your child's dietitian to discuss your particular needs.
	7 – 12 mo.	0.3 mg	
	1 – 3 yrs.	0.5 mg	
	4 – 8 yrs.	0.6 mg	
	9 – 13 yrs.	0.9 mg	
	14 – 18 yrs. + Female	1.0 mg	
	14 – 18 yrs. + Male	1.2 mg	
Vitamin B2 (riboflavin)	Birth – 6 mo.	0.3 mg	While high intakes of B vitamins may not be toxic, talk with your child's dietitian to discuss your particular needs.
	7 – 12 mo.	0.4 mg	
	1 – 3 yrs.	0.5 mg	
	4 – 8 yrs.	0.6 mg	
	9 – 13 yrs.	0.9 mg	
	14 – 18 yrs. + Female	1.0 mg	
	14 – 18 yrs. + Male	1.3 mg	
Vitamin B (niacin)	Birth – 6 mo.	2 mg	No more than 2 mg
	7 – 12 mo.	4 mg	No more than 4 mg
	1 – 3 yrs.	6 mg	No more than 10 mg
	4 – 8 yrs.	8 mg	No more than 15 mg
	9 – 13 yrs.	12 mg	No more than 20 mg
	14 – 18 yrs. + Female	14 mg	No more than 30 mg
	14 – 18 yrs. + Male	16 mg	No more than 30 mg
Vitamin B6 (pyridoxine)	Birth – 6 mo.	0.1 mg	No more than 0.1 mg
	7 – 12 mo.	0.3 mg	No more than 0.3 mg
	1 – 3 yrs.	0.5 mg	No more than 30 mg
	4 – 8 yrs.	0.6 mg	No more than 40 mg
	9 – 13 yrs.	1.0 mg	No more than 60 mg
	14 – 18 yrs. + Female	1.2 mg	No more than 80 mg
	14 – 18 yrs. + Male	1.3 mg	No more than 80 mg
Vitamin B12 (cobalamin)	Birth – 6 mo.	0.4 mcg	While high intakes of B vitamins may not be toxic, talk with your child's dietitian to discuss your particular needs.
	7 – 12 mo.	0.5 mcg	
	1 – 3 yrs.	0.9 mcg	
	4 – 8 yrs.	1.2 mcg	
	9 – 13 yrs.	1.8 mcg	
	14 – 18 yrs. +	2.4 mcg	

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Micronutrient	Dietary Reference Intakes	Safe Upper Limits	
Biotin	Birth – 6 mo.	5 mcg	While high intakes of B vitamins may not be toxic, talk with your child’s dietitian to discuss your particular needs.
	7 – 12 mo.	6 mcg	
	1 – 3 yrs.	8 mcg	
	4 – 8 yrs.	12 mcg	
	9 – 13 yrs.	20 mcg	
	14 – 18 yrs. +	25 mcg	
Pantothenic acid	Birth – 6 mo.	1.7 mcg	While high intakes of B vitamins may not be toxic, talk with your child’s dietitian to discuss your particular needs.
	7 – 12 mo.	1.8 mcg	
	1 – 3 yrs.	2 mcg	
	4 – 8 yrs.	3 mcg	
	9 – 13 yrs.	4 mcg	
	14 – 18 yrs. +	5 mcg	
Selenium	Birth – 6 mo.	15 mcg	Birth – 6 mo.: 45 mcg
	7 – 12 mo.	20 mcg	7 – 12 mo.: 60 mcg
	1 – 3 yrs.	20 mcg	1-3 yrs.: 90 mcg
	4 – 8 yrs.	30 mcg	4 – 8 yrs.: 150 mcg
	9 – 13 yrs.	40 mcg	9 – 13 yrs.: 280 mcg
	14 – 18 yrs. +	55 mcg	14 – 18 yrs.: 400 mcg
Calcium	Birth – 6 mo.	210 mg	Birth – 6 mo.: 210 mg
	7 – 12 mo.	270 mg	7 – 12 mo.: 270 mg
	1 – 3 yrs.	500 mg	1 – 18 yrs.: No more than 2500 mg
	4 – 8 yrs.	800 mg	
	9 – 18 yrs.	1300 mg	

If steroids are a part of your child’s chemotherapy treatment, make sure they get enough calcium by age group, either from food sources or supplements. (One regular Tums provides 200 mg elemental calcium.)

Recommended Vitamin Brands:

Note: Vitamin brands that contain iron and/or extra vitamin C are not recommended.

- Centrum Jr.
- Flintstones
- Bugs Bunny

To Learn More

- Hematology / Oncology
206-987-2106
- Ask your child's healthcare provider
- www.seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.
- For Deaf and hard of hearing callers
206-987-2280 (TTY)

- Fruity Chews Tablets
- Sesame Street
- One-A-Day Essential Tablets
- Poly-Vi-Sol liquid
- Vi-Daylin liquid

Supplements to avoid

The following supplements are known to be **harmful**. Do not take any item listed below as a supplement. Small amounts of culinary herbs or foods used in preparing food are OK. If you have a supplement for your child that is not on the list, talk to your child's health care team. **Note that if the supplement does not appear on the list, it does not mean it is safe to take.**

- **Avoid any product that is given as an injection into the central line (IV) or as an injection under the skin (SQ).**
- **Avoid herbal supplements during neutropenia/low counts (ANC less than 1000).**
- **Avoid herbal supplements during periods of mucositis (mouth sores) or enteritis (inflammation of the bowel).**
- **Avoid herbal supplements during radiation treatment or during chemotherapy infusions.**
- Alfalfa
- Borage
- Chaparral
- Chinese herbs
- Coltsfoot
- Comfrey
- DHEA
- Dieter's teas (including senna, aloe, rhubarb root, buckthorn, cascara, castor oil)
- Ephedra or MaHuange
- Garlic
- Ginger
- Ginkgo biloba
- Groundsel or life root
- Heliotrope or valerian
- Kava kava
- L-tryptophan
- Laetrile (apricot pits)
- Licorice root
- Lobelia
- Maté tea
- Pau d'arco
- Pennyroyal
- Sassafras
- St. John's wort
- Yohimbe and yohimbine

Seattle Children's offers interpreter services for Deaf, hard of hearing or non-English speaking patients, family members and legal representatives free of charge. Seattle Children's will make this information available in alternate formats upon request. Call the Family Resource Center at 206-987-2201.

This handout has been reviewed by clinical staff at Seattle Children's. However, your child's needs are unique. Before you act or rely upon this information, please talk with your child's healthcare provider.

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