

Vitamin Supplements for Infants

VITAMIN D

Vitamin D is a necessary nutrient and hormone. It helps the body absorb and retain calcium and phosphorus, which are critical for building bone. Vitamin D is also needed for immune, endocrine and cardiovascular systems. The American Academy of Pediatrics (AAP) recommends all infants should have a minimum of 400 IU of Vitamin D per day to prevent deficiencies.

Human milk only contains about 5-80 IU per liter, therefore breastfed infants or partially breastfed infants should be supplemented with Vitamin D a few days after birth. Breastfed infants are at higher risk for Vitamin D deficiency since human milk is low in Vitamin D. Women of childbearing age tend to be deficient in Vitamin D, and the risk for this deficiency increases if the mother is also Vitamin D deficient.

This deficiency can lead to rickets, where bone fails to mineralize. Rickets can cause soft bones and skeletal deformities such as bowed legs, thick wrists and ankles, and a projected breastbone. Rickets is a disease that continues to be reported in the United States mostly present in children within the first two years of life. In teens and adults, a Vitamin D deficiency can lead to increased risk of bone fractures.

Below are the recommendations from the American Academy of Pediatrics (AAP) to prevent Vitamin D deficiencies:

- Exclusive or partially breastfed infants should receive 400 IU of Vitamin D daily. Supplementation should continue until at least 12 months old and then be weaned to 32 oz. of infant formula or whole milk per day. Whole milk should not be used until after 12 months of age.
- All formulas sold in the United States have at least 400 IU/L of Vitamin D; therefore, if your baby is drinking at least 32 oz. of formula each day, Vitamin D supplementation is not needed. Whole milk should not be used until after 12 months of age.
- Older children may require supplementation if they are not consuming 32 oz. of whole milk daily, a multivitamin will provide between 300 and 600 IU per serving.

IRON

Iron is a mineral the body needs to make hemoglobin, which carries oxygen in red blood cells to all parts of the body. The body needs hemoglobin to make red blood cells. If your child does not have enough iron, his/her muscles, tissues and cells will not receive the oxygen needed, possibly leading to delayed motor skills or muscle weakness. Iron also supports proper brain development in infancy and early childhood. Other symptoms of iron deficiency include tiredness, lack of energy, GI upset, poor memory and concentration, weakened immune system, and inability to control body temperature. Infants and children with iron deficiency anemia may develop learning difficulties.

Full-term healthy infants store enough iron from their mother during the third trimester of pregnancy to last him/her the first four months of life. Human milk contains little iron; therefore, infants who are exclusively breastfed or partially breastfed are at an increased risk of iron deficiency after four months of age.

The AAP recommend the following:

- **Exclusive or partially breastfed infants:** Liquid iron supplement of 1 mg/kg/day until iron-containing solid foods are introduced at about six months of age. If your baby is partially breastfed, the recommendation is the same if more than half the feedings are human milk and the child is not receiving iron-containing complementary foods. Check with your pediatrician about dosage of an iron supplement and the duration of iron supplements during the first year.
- **Babies on infant formula:** It is recommended that you use iron-fortified formula (containing from 4 to 12 mg. of iron) from birth through the entire first year of life.
- **Premature babies:** Have fewer iron stores and will often need additional iron beyond what they receive from human milk or formula.

FOODS CONTAINING IRON

Since iron stores begin to deplete around four to six months of life, it is a good idea to begin introducing iron-containing foods when your baby is ready for solids. Meats are good sources of high-quality protein, iron and zinc. You can also consider introducing iron fortified cereals (i.e. rice cereal or oatmeal), prunes, white beans, and lentils to your baby.

**Always check with your pediatrician before starting supplements and for dosage.*

The information contained here within is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read.

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Resources:

<https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Vitamin-Iron-Supplements.aspx>

<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Vitamin-D-Deficiency-and-Rickets.aspx>

<https://pediatrics.aappublications.org/content/136/4/625>

<https://lpi.oregonstate.edu/mic/vitamins/vitamin-D>

<https://www.healthline.com/health/parenting/iron-supplements-for-kids#1>

<https://www.healthychildren.org/English/ages-stages/baby/breastfeeding/Pages/Working-Together-Breastfeeding-and-Solid-Foods.aspx>

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