



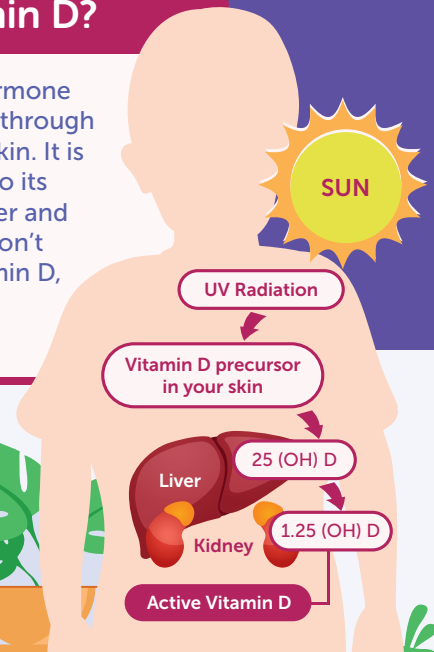
# Vitamin D

## Essential to Life

Vitamin D is an essential nutrient, supporting bone health and vital functions such as the immune system from conception through childhood and into adulthood. What does Vitamin D do and how do you make sure children get enough?

### What is Vitamin D?

Vitamin D is a prohormone that enters the body through a precursor in your skin. It is then transformed into its active form in the liver and kidneys. If children don't receive enough vitamin D, supplements may be needed.



### Vitamin D is important for

- ✓ Cell growth and differentiation
- ✓ Healthy immune system
- ✓ Cardiovascular function
- ✓ Skeletal health
- ✓ Reducing the risk of infectious and allergic disease
- ✓ Maintaining appropriate balance of calcium and phosphate

#### Foods rich in Vitamin D



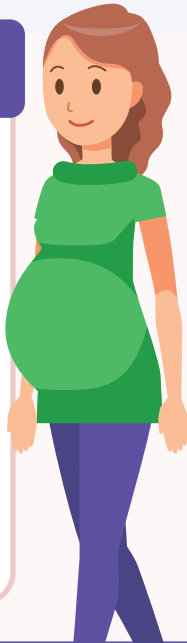
Oily fish



Organ meat such as liver



Egg yolks



### Vitamin D for different stages of life



Low Vitamin D during pregnancy has been associated with problems including preterm birth and preeclampsia





Breast milk may not give babies all the Vitamin D they need, so supplementation is required



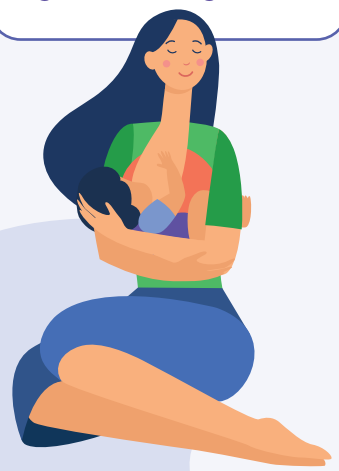
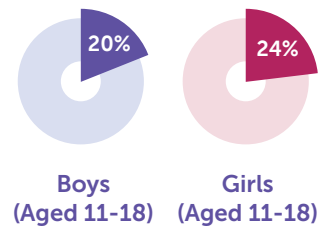
Children aged 1 to 3 years commonly have low Vitamin D levels, especially if they do not consume fortified foods



Children get Vitamin D from food or exposure to UV light, but supplements are often needed

	Infants	Children aged 1-10	Children aged 11-17
<b>Recommendations</b>	10mcg/day (AAP, ESPGHAN)	10mcg/day (AAP) 15mcg/day (IOM)	
<b>Upper limits</b>	25 mcg/day	50 mcg/day	100 mcg/day
<b>Effect of deficiency</b>	Osteopenia, poor bone mineralization and rickets	Impact on children's growth and health	
<b>How to ensure adequate intake</b>	 <b>Formula Fed:</b> No need for additional supplementation  <b>Breastfed:</b> Use of drops, soluble strips, increase maternal intake of vitamin D	Food fortification	

Public Health England data indicates deficiency (25(OH)D level of <25 nmol/L) in



Current thresholds for vitamin D deficiency and sufficiency and recommended daily supplementation in children		
Public health organization	Deficiency	Sufficiency
<b>AAP</b>	< 50 nmol/L of 25(OH)D	N/A
<b>ESPGHAN</b>	< 25 nmol/L of 25(OH)D (severe deficiency)	> 50 nmol/L of 25(OH)D

**General recommendation for children: Vitamin D supplements of 10-50 µg/day**

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