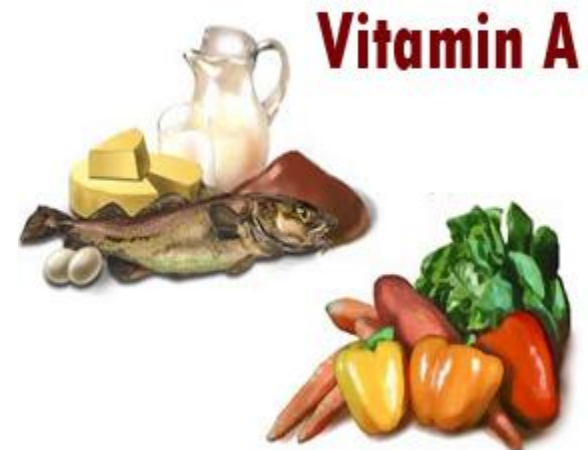


HYPERVITAMINOSIS A & D

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What Is Hypervitaminosis A?

- **Hypervitaminosis A**
- **Types of vitamin A**
- **Provitamin carotenoids** - such as beta carotene - are “largely impossible” to cause toxicity, as their conversion to retinol is highly regulated.
- **Preformed vitamin A** absorption and storage in the liver occur very efficiently until a pathologic condition develops. When ingested, 70-90% of preformed vitamin A is absorbed and used.



Sources of toxicity

- **Diet** - liver is high in vitamin A.
- **Supplements** - usually when taken above recommended dosages - can be toxic. Cod liver oil is particularly high in vitamin A.
- **Medications** - at high doses of vitamin A are often used on long-term basis in numerous preventive and therapeutic medical applications, which may lead to hypervitaminosis A.

Types of Toxicity

Acute poisoning	Intake(IU)	Toxicity
	<200,000	Very mild
	200,000-1000,000	Slight
	2-30 millions	Serious

Chronic Poisoning	Daily Intake	Time	Toxicity
	75,000	8 years	Significant
	200,000	2 years	Significant
	500,000	15 month	Serious

How Much Vitamin A Do You Need?

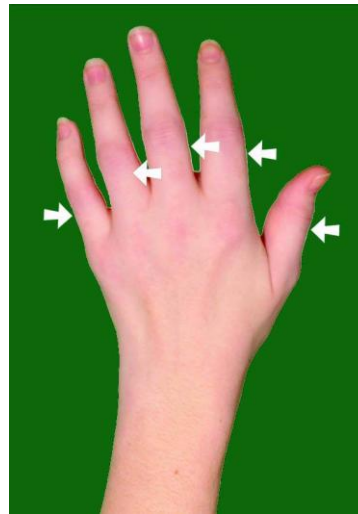
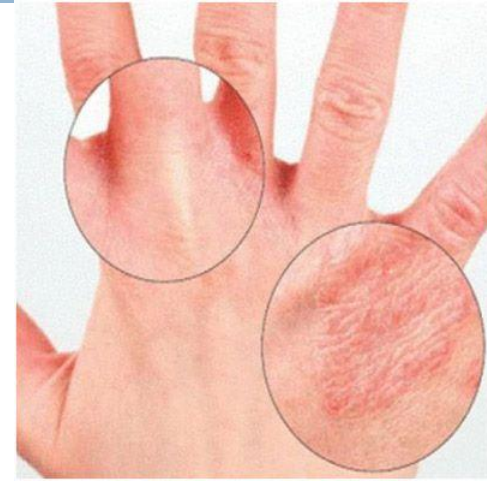
Life stage group category	Upper Level ($\mu\text{g}/\text{day}$)
Infants	400
Children	350
Males	1000
Females	800
Pregnancy	770
Lactation	1300

Symptoms of Hypervitaminosis A

- Symptoms of acute vitamin A toxicity include:
 - Drowsiness
 - Irritability
 - Abdominal pain
 - Nausea
 - Vomiting
 - Increased pressure on the brain

➤ Symptoms of chronic vitamin A toxicity include:

- ❑ Blurry vision or other visual changes
- ❑ Swelling of the bones
- ❑ Bone pain
- ❑ Poor appetite
- ❑ Dizziness
- ❑ Nausea and vomiting
- ❑ Sensitivity to sunlight
- ❑ Dry skin
- ❑ Itchy
- ❑ Hair loss



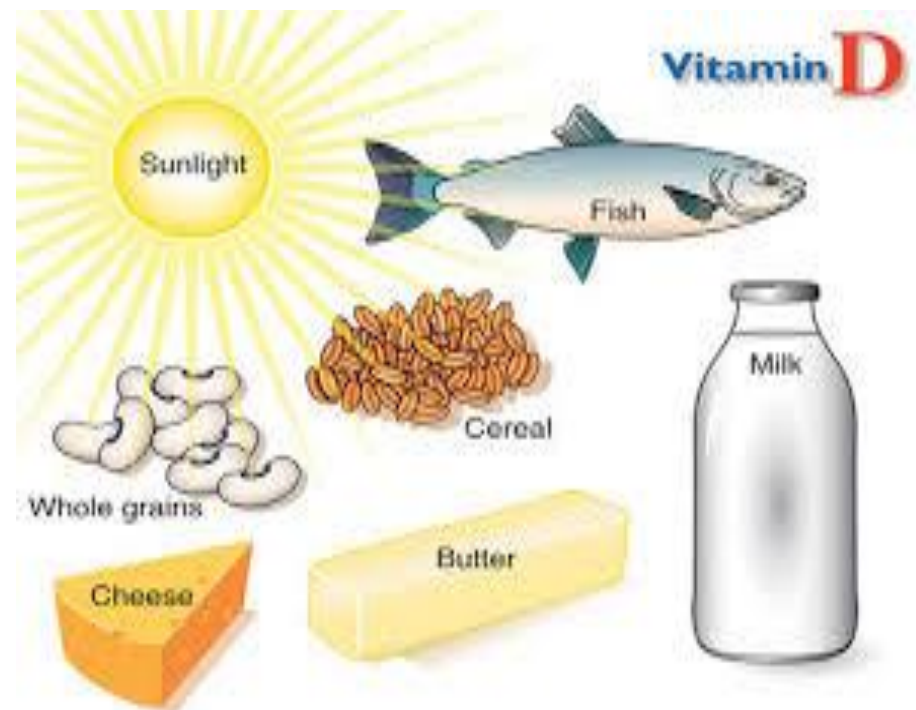
Treatment

- Treatment involves simply stopping supplements (or rarely, foods) that contain vitamin A.



What Is Hypervitaminosis D?

- is a condition that occurs after taking very high doses of vitamin D.



Causes

- Too much dietary intake of vitamin D over an extended period.
- It is unlikely to be caused by exposure to sunlight.

Types of hypercalcaemia

□ Mild Hypercalcaemia

Hardening of soft tissue such as the kidney (deposition of calcium and phosphate)

□ Moderate To Severe hypercalcaemia

Abdominal cramps, vomiting leading abnormal heart beats & cardiac arrest.

How Much Vitamin D Do You Need?

Adequate Intake (AI) for Vitamin D

Life Stage	Age	Males mcg/day (IU/day)	Females mcg/day (IU/day)
Infants	0-12 months	5 mcg (200 IU)	5 mcg (200 IU)
Children	1-13 years	5 mcg (200 IU)	5 mcg (200 IU)
Adolescents	14-18 years	5 mcg (200 IU)	5 mcg (200 IU)
Adults	19-50 years	5 mcg (200 IU)	5 mcg (200 IU)
Adults	51-70 years	10 mcg (400 IU)	10 mcg (400 IU)
Adults	>70 years	15 mcg (600 IU)	15 mcg (600 IU)
Pregnancy	all ages	—	5 mcg (200 IU)
Breast-feeding	all ages	—	5 mcg (200 IU)

Abbreviations: mcg = microgram, IU = international unit

Treatment

- Stop taking vitamin D supplements .
- May also recommend to reduce the amount of calcium in your diet temporarily.
- In some cases, corticosteroids or bisphosphonates may suppress the release of calcium from your bones.

