

# Vitamin Toxicity

- While vitamins are needed for the body to stay healthy, if too many of the same vitamin is eaten, it will have negative side effects.
- An excess of vitamins that cause health problems is called vitamin toxicity.
- There are fat-soluble and water-soluble vitamins, and both are dangerous if eaten in high amounts.



## Fat-Soluble vs Water-Soluble

<b>Fat-Soluble</b>	<b>Water-Soluble</b>
-Stored in the liver and fat tissue	-Not stored in the body
-Vitamins A,D,E,K	-Vitamin C and Vitamin B-complexes
-Need replaced once in a while	-Need replaced daily

**Note:** The vitamin B complexes consists of 8 vitamins: thiamin (B1), riboflavin(B2), niacin (B3), pantothenic acid (B5), pyridoxine (B6), biotin (B7), folic acid (B9), and cobalamin (B12).

# What to Watch Out For



- Eating a balanced diet will unlikely lead to vitamin toxicity.
- Multivitamins and vitamin packs can. Some multivitamins will have more than 100% of your daily vitamin needs and some vitamin packs have more than 3000% of your daily vitamin needs.
- MORE IS NOT BETTER.
- Look at the %Daily Value on the food label to see if you are getting too many vitamins.
- It is best to try to get vitamins from a diet full of fruits and vegetables.
- There is no real advantage to taking more than 100% of the daily recommended value of vitamins.

## I. Vitamin A

Importance	Toxicity Symptoms
<ul style="list-style-type: none"><li>✓ helps the eyes adjust to light changes</li><li>✓ helps in bone growth, tooth development, reproduction, cell division, gene expression, and regulation of the immune system</li><li>✓ keeps the skin, eyes, and mucous membranes of the mouth, nose, throat, and lungs moist</li><li>✓ is an antioxidant that may play a role in the prevention of certain cancers</li></ul>	<ul style="list-style-type: none"><li>➤ dry, itchy skin</li><li>➤ headache, nausea, and loss of appetite</li><li>➤ dizziness</li><li>➤ blurred vision</li><li>➤ slowed growth</li><li>➤ birth defects</li><li>➤ may increase the risk for hip fracture</li></ul>

## 2. Vitamin D

Importance	Toxicity symptoms
<ul style="list-style-type: none"><li>✓ Needed in order for the body to absorb calcium which is important for keeping bones strong</li><li>✓ Helps in immunity</li></ul>	<ul style="list-style-type: none"><li>➤ Slowed physical growth</li><li>➤ Impaired mental growth</li><li>➤ Decreased appetite</li><li>➤ Nausea and vomiting</li></ul>

## 3. Vitamin E

Importance	Toxicity symptoms
<ul style="list-style-type: none"><li>✓ antioxidant that helps reduce free radical damage</li><li>✓ protects red blood cells</li><li>✓ healthy skin</li><li>✓ healthy eyes</li></ul>	<ul style="list-style-type: none"><li>➤ nausea</li><li>➤ gastric distress</li><li>➤ abdominal cramps</li><li>➤ diarrhea</li><li>➤ headache</li><li>➤ fatigue</li><li>➤ easy bruising and bleeding</li><li>➤ dizziness</li></ul>

## 4. Vitamin K

Importance	Toxicity symptoms
<ul style="list-style-type: none"><li>✓ Needed for normal blood clotting</li><li>✓ Helps produce proteins for blood, bones, and kidneys</li><li>✓ Bone health</li></ul>	<ul style="list-style-type: none"><li>➤ Can cause liver damage</li><li>➤ Can cause red blood cells to break down</li><li>➤ May hurt the body's blood clotting ability</li></ul>

# 5. Vitamin C

Importance	Toxicity symptoms
<ul style="list-style-type: none"><li>✓ Increases immunity</li><li>✓ Prevents cardiovascular disease</li><li>✓ Helps prevent prenatal health problems, eye disease, and even skin wrinkling</li></ul>	<ul style="list-style-type: none"><li>➤ Diarrhea</li><li>➤ Nausea</li><li>➤ Vomiting</li><li>➤ Heartburn</li><li>➤ Abdominal bloating and cramps</li><li>➤ Headache</li><li>➤ Insomnia</li><li>➤ Kidney stones</li></ul>

# 6. Vitamin B complexes

Importance	Toxicity Symptoms
<ul style="list-style-type: none"><li>✓ Help convert food into energy</li><li>✓ Help in nervous system functioning</li><li>✓ Boost immune system</li><li>✓ Help make neurotransmitters</li><li>✓ Improve memory</li></ul>	<ul style="list-style-type: none"><li>➤ <b>B1</b>: heart palpitations, insomnia, agitation, high blood pressure, hypersensitivity</li><li>➤ <b>B2</b>: nausea, vomiting, fatigue, anemia, low blood pressure</li><li>➤ <b>B3</b>: nausea, vomiting, headaches, high blood sugar, sweating, skin rash, joint pains, calcium loss, more stomach acid, insomnia</li><li>➤ <b>B5</b>: edema (water retention), severe fatigue, joint pains, dehydration, gastrointestinal problems, depression</li></ul>

- **B6**: numbness in hands and/or feet, depression, severe fatigue, low blood sugar, mood swings, migraines, heart palpitations, muscle cramps, increased dream activity
- **B7**: slowed insulin release, skin eruptions, increased blood sugar
- **B9**: kidney damage. Abdominal bloating, nausea, loss of appetite
- **B12**: liver disease, jaundice, nausea, vomiting, breathing problems, skin reactions