

# Nutrients of Concern

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## Growing Strong and Healthy

All humans need the same basic set of nutrients: vitamins, minerals, protein, carbohydrates, fats, and water. However, individual requirements for these nutrients differ based on several factors. When it comes to children, some of those differences are based on stage of growth, gender, and physical activity level.

Because of these differences, there are some nutrients that certain groups need more of. For some nutrients, a large number of people aren't meeting their nutrient needs. We call these "**nutrients of concern.**"

*Turn the page to learn more about nutrient needs and nutrients of concern!*

### Different Bodies, Different Needs

Nutrient needs not only change as people age, but some can also vary depending on gender. This is because males and females have different nutrient needs to keep their bodies healthy.

#### Teenage Boys vs. Teenage Girls

Boys tend to need more calories than girls because they generally are larger and thus need more energy.

Girls tend to need more iron than boys because they need to help replace what is lost monthly during menstruation.

#### Men vs. Women

Men tend to need more **protein** than women because they generally have more muscle mass.

Women capable of becoming pregnant tend to need more **folate** than men because it helps prevent birth defects.

### Did you know?

There are plenty of delicious dishes that can help you consume the nutrients of concern. Try our recipe for Veg-Out Chilean Stew on page 4!

## Weigh it Out

Even though nutrient needs by unit of measure (milligrams, micrograms, etc.) may be the same for a child and an adult, actual needs by weight for children tend to be higher.

**Sonia** is 10 years old and weighs 75 pounds.



She needs 4,500 mg of potassium and 1,300 mg of calcium a day.

**Andre** is 35 years old and weighs 200 pounds.



He needs 4,700 mg of potassium and 1,000 mg of calcium each day.

If we do the math per pound, Sonia needs more than **twice as much potassium** and **three times as much calcium** per pound as Andre!

This means it's extra important for children to eat foods that are packed with nutrients to meet their nutrient needs and grow strong and healthy.

## Age is Not Just a Number

Nutrient needs change as we age due to different factors throughout our stages of life.



### A toddler needs...

the highest percentage of calories from fat.

### Why?

Toddlers are growing at a very fast rate and need plenty of fat to support the growth.



### A child needs...

more protein by weight than the average adult.

### Why?

Proteins are broken down into amino acids which are used for a variety of functions that are important for a child's development.



### A teenager needs...

to consume more calcium than any other age group.

### Why?

Calcium helps support bone growth which is important for teenagers who typically grow several inches during puberty.



### An adult needs...

to intake a lower amount of total fat than younger age groups.

### Why?

High fat diets have been associated with several chronic diseases which adults tend to be more susceptible to.



### An older adult needs...

more vitamin D than any other age group.

### Why?

Vitamin D is naturally produced in our skin when exposed to sunlight. Older adults tend to not expose their skin to sunlight often and thus must seek dietary sources for vitamin D.

# Why are we concerned about nutrients?



In general, humans are able to meet their nutrient needs through a **well-balanced diet**. Unfortunately, many Americans consume a diet that is light on fruits, veggies, low-fat dairy, and whole grains. This is sometimes referred to as the **Western diet**. As a result, there are several nutrients that have been identified as being “nutrients of concern”. These are nutrients that a large proportion of Americans are routinely consuming less than is recommended.

## Calcium

Why do children need it?  
Bone growth and health;  
muscle function

Why do adults need it?  
Bone health and muscle  
function

Food sources:  
Dark green leafy vegetables,  
foods fortified with calcium,  
fish with bones

## Vitamin D

Why do children need it?  
Helps absorb calcium; bone  
health; immune function

Why do adults need it?  
Helps absorb calcium; bone  
health; immune function

Food sources:  
Fortified dairy products,  
certain kinds of fatty fish, sun  
exposure

## Fiber

Why do children need it?  
Digestive health

Why do adults need it?  
Digestive health; may help  
reduce blood cholesterol

Food sources:  
Whole grains, fruit,  
vegetables, legumes, nuts  
and seeds

## Potassium

Why do children need it?  
Muscle and nerve function

Why do adults need it?  
Muscle and nerve function;  
helpful in preventing high  
blood pressure

Food sources:  
Fruits and vegetables



## Women and Teenaged Girls

In addition to calcium, vitamin D, fiber, and potassium, there are two more nutrients of concern for women capable of becoming pregnant, and teenaged girls.

## Iron

**Why do we need it?**  
Helps move oxygen around in  
the blood

**Why do women and teenaged girls need more of it?**  
To replace iron lost through  
menstruation.

**Food sources:**  
Meat, poultry, seafood, beans  
and peas, nuts, whole grains  
and fortified grains

## Folate

**Why do we need it?**  
Growth and repair

**Why do women capable of becoming pregnant need more of it?**  
Helps prevent certain kinds of  
birth defects in pregnancy

**Food sources:**  
Dark green leafy vegetables,  
fortified and enriched grains,  
beans and peas



# Try this recipe for Veg-Out Chilean Stew

Recipe serves 4-6 people

- 3 tablespoons olive oil
- 1 medium red onion, medium chopped
- 1 small butternut squash, diced, or 10 ounces frozen pre-cut butternut squash
- 15-oz can diced tomatoes, not drained
- 1 cup water or vegetable broth
- 3 purple (or red) potatoes, medium chopped
- 4 cloves garlic, finely chopped
- Salt and pepper
- 1 cup collard greens or Swiss chard, center rib removed, medium chopped
- 1 cup mushrooms, medium chopped
- 1 cup baby spinach
- 1 bunch fresh basil, roughly chopped
- 1/2 cup shaved or grated parmesan cheese (optional)

Recipe courtesy of *Cooking Up Healthy Choices*. For more information about this curriculum, please visit: <http://cns.ucdavis.edu/programs/shcp/cooking.html>

*This recipe is a delicious and healthy way to eat three nutrients of concern all at once! (Not to mention lots of other fantastic nutrients!)*

1. Heat 3 tablespoons olive oil in large wok or saucepan over medium heat.
2. Add red onion and pre-cubed butternut squash and sauté about 4 minutes.
3. Add can of diced tomatoes and the juice, water or vegetable broth, purple potatoes, and garlic.
4. Continue cooking, stirring occasionally, for about 10 minutes. Season with salt and pepper.
5. Add collard greens/Swiss chard, mushrooms, and spinach. Cook for about 4 minutes, stirring occasionally. Add chopped fresh basil.
6. Top stew with shaved parmesan cheese separately.

## Snack Attack!

Try these healthy and delicious snacks to get more calcium, vitamin D, fiber, and potassium in your diet!



Yogurt is a great source of calcium, vitamin D, and potassium! Add a handful of low-fat whole grain granola for some added fiber and a fun crunch!



White bean hummus is a tasty companion to fresh veggies, and contains potassium, fiber, and even a little calcium!



Make a simple caprese salad by layering tomato slices, basil, and fresh mozzarella! Vitamin D, calcium, and potassium, all in one bite! Top it off with a teaspoon of olive oil.

# Can you find all the words in this Nutrients of Concern word search puzzle?

I am a class of micronutrients that are either fat-soluble or water-soluble and primarily perform regulatory roles in the body.

I am a macronutrient that serves as the main fuel source for our brains.

I am what our bodies use to power everything we do.

I am a vitamin important in preventing certain birth defects.

Eating a diet rich in me may help prevent high blood pressure. Bananas are a good source of me.

I am a class of micronutrient that comes from water and soil and is absorbed by plants or eaten by animals.

J B L E Z M V U Z J J M U I C L A C H N  
 H H X V X D E C N A L A B - L L E W I F  
 X E T R A V X P J J N L D V M Y K E U V  
 J A M L Q I Y V H T O F F U B Y T E U O  
 W L I W R M K S Y P K J I T B O F E H A  
 E T N A Y M S D N F O S R K R T Q T M I  
 E H E T G N Q A O D S R R P O P R P Q L  
 S Y R E R F Z L M A J K S R A M E D Y F  
 H W A R E F A U T O M J E X D R B A O Y  
 I V L X N T E O F T Z Z T E Z W I K T Y  
 S P S X E Z P V G L U Y A A F E F F Y U  
 W Q C R U L Y S X N U V R Y M W J P E D  
 J K V Z S A J G K V I R D O O L U V L S  
 G A Z I B V T J X T S F Y Z Z K R M E P  
 T E J D V Q K U A X M F H E I G Q I U E  
 K Y Z W W O A M W O X E O P V I R O Q C  
 H F H J C F I S Y B C X B I R O N K M H  
 J F M Z O N T V S G J H R L L Y V B U J  
 R D E D S A C E R S F F A A F C F C T U  
 O O I L F M H U K P X O C E J M L H Z I

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I am a macronutrient with 9 calories per gram and can be solid or liquid at room temperature. \_\_\_\_\_

I am the amount of energy in food. \_\_\_\_\_

I am a mineral important for bone health and muscle function. \_\_\_\_\_

I am an adjective describing 'in good health'. \_\_\_\_\_

I am a macronutrient that provides structure in the form of muscles, tendons, and collagen. \_\_\_\_\_

I am a macronutrient that does not provide calories and makes up 60% of our body weight. \_\_\_\_\_

I am a mineral important in red blood cells for moving oxygen around our bodies. \_\_\_\_\_

I am a type of carbohydrate that our bodies cannot digest, but is important for digestive health. \_\_\_\_\_

I am a type of diet that includes eating a variety of nutrient-dense foods. \_\_\_\_\_

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