Sunshine, A Strong Body and Mind, Health at Every Age.
The vitamin associated with all of these qualities is...

Vitamin D

Continue Reading to learn more about why the body needs vitamin D and about the importance of getting enough at every age and stage of life.
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What is Vitamin D?

- Vitamin D is a substance that every person NEEDS for their body to function well. It is very UNIQUE because the human body can make it as well as process it when ingested. Our bodies transport vitamin D to the liver and then to the kidneys, where it is activated so the body can use it effectively.

- These are the 3 ways people can receive vitamin D: supplements, direct skin exposure to sunshine, and food sources.

- Vitamin D is very important for BONE HEALTH because it helps the body absorb calcium and phosphorous. It is necessary to develop and strengthen bones and teeth throughout the lifespan.

- It also plays a role in brain development in babies and in maintaining brain health throughout life.

- Vitamin D may be an important component in an anti-inflammatory diet in order to relieve symptoms of arthritis and other inflammatory diseases.

- Vitamin D is important for the immune system to function well and prevent illness as well as auto-immune disorders.

- It may even help control diabetes by increasing insulin sensitivity; and it may decrease the risk of high blood pressure, breast cancer and prostate cancer.
What are the RISKS of having low vitamin D levels?

- **Deficiency** is a term that means that the blood levels of a vitamin are too LOW. When a person’s vitamin D levels are too low, the calcium and phosphorous they receive are not absorbed and processed properly.

- Low vitamin D levels lead to a decline in bone health, which can cause:
  - A condition called *Rickets* in young children, where the bones are extremely brittle and weak and the legs bow to the side.

- In adults, vitamin D deficiency can cause fractures and osteoporosis, both of which lead to loss of independence and mobility.

- Studies have shown that vitamin D deficiency may be related to an increased risk of depression in older adults. It can also lead to an increased risk of high blood pressure during pregnancy, and it can increase the risk of certain types of cancer.
How do I know if I get enough vitamin D?

- You can get a blood test from your doctor to tell if your level is low. However, if you have one or several of the following risk factors you should think about changing your diet or taking a vitamin D supplement.

People who may have low vitamin D levels:

- Those who follow a vegetarian or vegan diet
- People who have darker skin tones
- People who do not spend much time outside, and those who wear lots of sunscreen or cover their skin at all times
- Adults over the age of 70 years
- People who live in Northern areas (such as Michigan), where the sunshine is very weak for several months of the year
- People with diseases of the liver or kidneys
The Vitamin D Needs of Babies

- Babies share vitamin D with their mother as they grow in the mom’s uterus; this means that it is very important for pregnant women to receive adequate vitamin D daily. Babies grow rapidly in utero, and their bones, teeth, and brain all rely on vitamin D to develop properly.

- Vitamin D improves babies’ immune systems, helping them fight infection; and it may play a role in preventing multiple sclerosis (MS), diabetes, and autism.

- Babies that have low levels of vitamin D are more likely to have poor formation of bones and teeth and have low muscle strength.

- Babies most at risk for deficiency are those who are born to moms who have dark skin, who wear skin coverings, and those who are obese. Also, vitamin D is especially important for babies who were born premature.

- Breast milk is the best source of nutrition for babies. However, it is low in vitamin D. If babies are breastfed only, they most likely need a vitamin D supplement. Talk to your doctor to discuss your baby’s vitamin D status.

- If your child is receiving formula, their vitamin D needs are most likely met if they receive 1000ml of formula daily. If they do not drink this much in a day they would probably benefit from a supplement.
Vitamin D Needs of Older Adults

- As people grow older, the skin becomes four times less able to make vitamin D after exposure to the sun. The kidneys also cannot convert vitamin D to the active form as well. This leads to 30-40% of older adults being deficient in vitamin D.

- Often, older adults spend less time in the sun or wear more protective covering; this prevents direct skin exposure to the sun so no vitamin D is made.

- The use of many medications prevents vitamin D from being used by the body. Some of these include: glucocorticoids (steroids used to reduce inflammation), laxatives, barbiturates (sedative drugs), some cholesterol lowering medications, and Dilantin (an anti-seizure medication).

- Elderly people living in nursing homes or assisted living facilities are at an even greater risk for deficiency because they go outdoors infrequently.

- As people age, their bones and teeth get weaker and more brittle; since vitamin D is so important to the health of bones and teeth and older adults are less able to process it, they need more than the rest of the population.

- Receiving enough vitamin D daily can help older adults avoid falls and bone fractures and can help them maintain their independence. It can also help prevent depression and other mental illnesses.
How much vitamin D does everyone need?

- Vitamin D is measured in International Units (IU), so look for these numbers when picking out a supplement or reading food labels.

<table>
<thead>
<tr>
<th>Age</th>
<th>Receive at least this amount daily</th>
<th>This amount is too much</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants 0-12 months</td>
<td>400 IUs</td>
<td>1000 IUs</td>
</tr>
<tr>
<td>Children and adolescents</td>
<td>600 IUs</td>
<td>2500 IUs</td>
</tr>
<tr>
<td>1-18 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male and Female Adults</td>
<td>600 IUs</td>
<td>4000 IUs</td>
</tr>
<tr>
<td>19-70 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older Adults over 70 years</td>
<td>800 IUs</td>
<td>4000 IUs</td>
</tr>
</tbody>
</table>

- Taking in too much vitamin D daily causes negative side effects such as unhealthily high levels of calcium, calcium in the urine, increased thirst and urination, confusion, loss of appetite, and vomiting. It is very unlikely that someone would experience this unless they took many supplements.

- Try to get at least 10 or 15 minutes of direct sun to skin exposure about 4 times per week to increase the body’s production of vitamin D.
Foods with Vitamin D

- Very few foods contain vitamin D, and only animal sources contain this vitamin naturally. Many foods are fortified with vitamin D, and it is a good idea to eat a few foods with vitamin D each day.

- Fatty fish such as swordfish, salmon, and mackerel
- Canned tuna and sardines
- Beef liver and egg yolks
- Milk, milk substitutes, some brands of orange juice, yogurt, margarine, and ready-to-eat cereals are fortified with vitamin D.

- Don’t forget that an excellent source of vitamin D is sunshine. Go outside for 15 to 30 minutes several times per week for excellent health benefits!
Vitamin D in the News and Media

What you may be reading or hearing about vitamin D...

An article in *Women's Health* titled, “8 Signs You Need to be Getting More Vitamin D,” discusses possible signs of deficiency. They mention that the research proves that vitamin D promotes “*strong bones, improved mood, even more efficient weight loss.*”

They report signs of vitamin D deficiency as:
1. Decreased muscle size
2. Struggling with depression
3. Frequent pain
4. Stress fractures
5. Increased blood pressure
6. Daytime sleepiness
7. Moodiness
8. Decreased endurance

*MSN Healthy Living* posted an article titled, “12 Ways to Get Your Daily Vitamin D.” It offers some interesting insight into the benefits of vitamin D, including having fewer colds. It lists several foods to eat to increase vitamin D levels, and it is an interesting—though not the most scientifically researched article.

They do include the interesting fact that *certain mushrooms contain vitamin D*. They also suggest that people who are vitamin D deficient may benefit from ultraviolet lamps and bulbs.

Many news articles share information that has solid research to support it. However, not all information in the media and the news is completely evidenced based. Refer to registered dietitians, your doctor, and credible websites (such as the ones listed below) before you start taking a supplement or starting a drastically new diet.
Recipes High in Vitamin D

Salmon with Yogurt Dill Sauce

Ingredients
2 lb salmon fillets (four 8oz. packages)  
2 T olive oil  
1/4 c fresh dill  
1 clove garlic  
1 c plain, low-fat yogurt (Greek or regular)  
1 t lemon juice  
Salt and pepper

Preparation:
1. Brush each fillet with olive oil and season with salt and pepper.  
2. Broil or grill the salmon for 8-10 minutes until done.  
3. If grilling, flip fillet after 4 minutes, and grill on reverse side.  
4. Place garlic and dill in a food processor and chop until finely diced.  
5. Add yogurt and lemon juice, then blend.  
6. Serve salmon with yogurt and dill sauce and pair with your favorite vegetables.

Nutrition Information:
Calories: 440, Calories from Fat: 170, Total Fat: 19g, Cholesterol: 165mg, Total Carbs: 3g, Protein: 60g

http://www.stonyfield.com/recipes/salmon-yogurt-dill-sauce
Fruit and Yogurt Smoothie

Ingredients:
- Fresh or frozen fruit such as bananas, berries or mangos
- Low fat plain or vanilla yogurt (fortified with vitamin D)
- Low fat milk, soymilk or almond milk (fortified with vitamin D)
- If using plain yogurt, add a spoonful of honey to sweeten (optional)

Preparation:
- Add all ingredients into a blender and blend until smooth
- Top with vitamin D fortified granola or cereal for a great breakfast or snack

Tip:
- Use Greek yogurt instead of regular yogurt for extra protein
- When label reading, choose yogurts that list vitamin D at 20% daily value or greater. This means that in one serving you receive 20% or more of the amount of the vitamin that you need in a day.
Links to Websites and Resources on Vitamin D

http://www.cancer.gov/cancertopics/factsheet/prevention/vitamin-D


http://www.vitamin council.org/

http://www.eatright.org/Public/

Visit the Healthy Eating Tip display in the University of Michigan Hospital to collect brochures and handouts on vitamin D. You can also enter a drawing to win the exciting prize of:

A set of two Blender Bottles!

The blender bottles will perfectly mix and carry your smoothie or shake on the go. Great for breakfast, a pre or post workout snack, or a meal replacement protein shake!
References


