Minerals are essential micronutrients that are required in small amounts for the body to function properly. Untreated mineral deficiencies can cause serious health problems including endocrine (hormone) imbalances, osteoporosis and anemia.

Different minerals play a primary role at different stages of life. For example, menstruating women often need extra iron until they hit menopause and then they can cross iron off their list, as it contributes to oxidative damage in the body. Another example is that women typically develop bone density during the first 35 years of life, creating a specific mineral reserve that forms the foundation for bone health during the postmenopausal years, when bone density tends to decline.

The main sources of minerals are certain types of whole foods, but following a diet that contains all the necessary nutrients can be a challenge for any woman. Taking a multivitamin with added essential minerals can help you reach the recommended amount of minerals you need to stay healthy. Food-based natural mineral supplements are also very beneficial.

Natural mineral supplements can offer comprehensive nutritional support and help improve your body’s absorption of certain other minerals and nutrients – for example, the magnesium is necessary for calcium absorption. Most women are deficient in such common minerals as magnesium, calcium, iron, zinc, iodine and selenium, so it may be worth considering supplementation, as these minerals are critical for proper metabolic function, hormone balance and bone strength, among other health benefits.

**Magnesium**

image - Copyright â Stock Photo / Register Mark Why you need it: Magnesium is an essential mineral that is involved in more than 300 enzyme and metabolic reactions. Low levels in the body can cause irritability, headaches, muscle weakness, irregular heartbeat, muscle spasms or twitches, constipation, and insomnia. In addition to maintaining normal muscle and nerve function, magnesium helps to keep your heart rhythm steady and supports a healthy immune system. Magnesium is as important as calcium in developing and maintaining bone health, so an ideal bone support supplement will contain equal amounts of both calcium
and magnesium. Magnesium is also involved in energy metabolism and protein synthesis, since the body requires it for completing certain chemical reactions pertaining to the metabolism of carbohydrates and fats. Finally, magnesium is required for the synthesis of the antioxidant glutathione, which is crucial for detoxification activities and a healthy immune system.

Where to get it: Although supplements are available, nature provides a number of dietary sources of magnesium, including leafy green vegetables, seaweed or green algae, avocados, nuts, beans, raw chocolate, and grains such as brown rice and millet.

**Calcium**

*Why you need it:* Calcium is the most abundant mineral in the body and is required for healthy muscle function, nerve transmission, intracellular signaling, and hormonal secretion. Almost all the calcium in the body is stored in the bones and teeth, where it is vital for their support and structure. It is especially important for women to get adequate amounts of calcium in order to reduce the risk of developing osteoporosis, which can lead to an increased incidence of fractures. In addition to its benefits for the bones, calcium is also effective in lowering blood pressure, treating migraines and reducing symptoms of premenstrual syndrome. The recommended daily allowance (RDA) for calcium is around 1,000 mg, while some research suggests that even higher levels may have added health benefits. Some forms of calcium have much better absorption than others, so it is best to choose sources such as calcium citrate, malate, chelate, and orotate, which are more easily absorbed by the body.

*Where to get it:* While some of the richest sources of calcium include dairy products such as milk, yogurt and cheese, it is best to stick to non-dairy sources such as sea vegetables, Chinese cabbage, kale and broccoli, as well as foods, juices, drinks and cereals that are fortified with calcium. The reason is that eating large amounts of dairy products can actually cause the body to leech calcium and minerals, due to dairy’s extreme digestive challenges for even non-lactose-intolerant people. Dairy products also contain low amounts of magnesium and high levels of phosphorus, which can decrease the availability of calcium.

**Iron**

*Why you need it:* Iron is part of the protein hemoglobin, which carries oxygen in the body, but is also found in the protein myoglobin, which makes oxygen available for muscle contractions. An iron deficiency causes a hindrance in the delivery of oxygen to the cells, which can result in fatigue, decreased immunity and
anemia – a condition in which red blood cells are immature, small or contain too little hemoglobin to carry the normal amount of oxygen to the tissues.

Zinc

Why you need it: Zinc is another mineral that is vital to healthy living, as even a small deficiency can cause decreased immunity. This mineral is most widely known for preventing and shortening the duration of colds, which is due to its powerful ability to strengthen the immune system and increase white blood cell count. Zinc is necessary for the function of many enzymes in the body, effectively assists in regulating hormones and has even been shown to increase fertility. This is a critical mineral in any supplement program, as it aids the body’s absorption of minerals such as calcium, which can help to prevent osteoporosis. Finally, the anti-inflammatory and tissue-healing benefits of zinc can help improve numerous conditions such as acne and poor skin health, among others.

Where to get it: People who want to turn to dietary sources of zinc should consider foods such as oysters and pumpkin seeds, which are known to be rich in zinc. Other zinc-rich foods include most types of meat products, beans, nuts, whole grains, and many other seeds.

Iodine

Why you need it: Iodine was one of the first minerals recognized as essential to human health. It has been known to prevent and treat various thyroid issues, such as enlargement of the thyroid gland, which is important since hypothyroidism and iodine deficiency are associated with a higher incidence of breast cancer. There is also evidence of a link between low thyroid function and fibrocystic breast disease (FBD). This mineral strongly influences nutrient metabolism, detoxification, nerve and muscle function, nail, hair, skin and tooth condition, and has a profound impact on physical and mental development. It is especially
important for women who are pregnant to monitor both their iodine levels as well as levels in their babies in order to prevent certain developmental problems.

Where to get it: In addition to supplementation, various foods provide the body with healthy levels of iodine, including most types of seafood, seaweeds such as kelp, clams, lobsters, oysters, and sardines. It is essential to monitor your intake of some seafood, however, as you may also put yourself at risk of consuming too much mercury.

**Selenium**

Why you need it: Selenium is also important for optimum health, as it is reported to mimic the action of insulin. Studies have shown that selenium effectively stimulates glucose uptake and regulates metabolic processes including glycolysis [glucose conversion that ultimately yields energy in the form of ATP], gluconeogenesis [which helps keep blood glucose from dropping too low] and fatty acid synthesis, among other key functions. Selenium also plays a role in reducing the oxidative stress associated with diabetes, which can help reduce the risk of developing the potential side effects of diabetes such as neuropathy, retinopathy and cataracts. Selenium deficiency can result in a number of functional disorders, including skeletal muscle dysfunction, cardiac dysfunction and **pancreatic degeneration**. Selenium acts as an antioxidant against free radicals that damage DNA and is often included with vitamins C and E to help fight against cancer, heart disease and even aging.

Where to get it: Natural food sources high in selenium include cereals, Brazil nuts, legumes, beef, chicken, eggs, and cheese.

Complete nutrition is a must for optimal health, so it is crucial to supply the body with sufficient amounts of nutrients by eating a wide variety of vitamin- and mineral-rich foods. While supplementation is an option, the best and most bioavailable form of any mineral is always in its natural food form. If you do choose mineral supplementation, be sure to get a brand that is made from natural food-based sources of minerals rather than synthetic ones. A diet based on mineral- and nutrient-rich whole foods is linked with increased **antioxidant activity**, improved digestion, healthy inflammation response, healthy glucose metabolism, healthier lipid profiles and increased immune activity, among other benefits. Talk to your doctor for more information.
Minerals That Matter: The Big 6 for Women

<table>
<thead>
<tr>
<th>Magnesium</th>
<th>Calcium</th>
<th>Iron</th>
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<tbody>
<tr>
<td><strong>Key Functions</strong></td>
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<td><strong>Key Functions</strong></td>
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<tr>
<td>Energy metabolism, protein synthesis, bone health, muscle and nerve function.</td>
<td>Healthy muscle function, nerve transmission, intracellular signaling, and hormonal secretion; support and structure of bones and teeth.</td>
<td>Part of the protein hemoglobin, which carries oxygen in the body; also found in the protein myoglobin, which makes oxygen available for muscle contractions.</td>
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<tr>
<td><strong>Food Sources</strong></td>
<td><strong>Food Sources</strong></td>
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<tr>
<td>Leafy green vegetables, seaweed or green algae, avocados, nuts, beans, raw chocolate, and grains such as brown rice and millet.</td>
<td>Dairy products; nondairy sources (preferable) include sea vegetables, Chinese cabbage, kale and broccoli, as well as foods, juices, drinks and cereals fortified with calcium.</td>
<td>Red meats, fish and poultry, lentils, beans, black strap molasses, dried apricots, raisins.</td>
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<tr>
<td><strong>RDA for Adult Women</strong></td>
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<tr>
<td><em>(Age 19 and older)</em></td>
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<tr>
<td>Age 19-30: 310 mg</td>
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<td>Age 19-50: 1000 mg</td>
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<tr>
<td>Age 31+: 320 mg</td>
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<td>Age 51+: 8 mg</td>
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<tr>
<td><strong>Zinc</strong></td>
<td><strong>Iodine</strong></td>
<td><strong>Selenium</strong></td>
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<tr>
<td>oysters - Copyright © Stock Photo / Register Mark</td>
<td>sardines - Copyright © Stock Photo / Register Mark</td>
<td>brazil nuts - Copyright © Stock Photo / Register Mark</td>
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</table>
Key Functions
Strengthens immune system, increases white blood cell count, helps regulate hormones; supports absorption of calcium.

Food Sources
Oysters, pumpkin and many other seeds, most meat products, beans, nuts, whole grains.

RDA for Adult Women
(Age 19 and older)*
Age 19+: 8 mg
Pregnant: 11 mg
Lactating: 12 mg

RDA for Adult Women
(Age 19 and older)*
Age 19+: 150 mcg
Pregnant: 220 mcg
Lactating: 290 mcg


Isaac Eliaz, MD, LAc, MS, has been practicing integrative, holistic medicine for more than 25 years. He is the medical director of Amitabha Medical Clinic and Healing Center in Sebastopol, Calif., where integrative health practitioners work with patients to treat cancer and other chronic illness. Learn more at www.dreliaz.org.

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