



### What is arsenic?

Arsenic, a naturally occurring element found in the earth's crust, is distributed throughout our environment, including water, soil, and air. The primary source of arsenic exposure is through our water supply. Certain foods such as rice and chicken have also been noted to contain elevated levels of arsenic.

### How does arsenic impact our health?

Exposure to arsenic can heighten the likelihood of acquiring diabetes and other health conditions. Arsenic, referred to as a diabetogen, hinders our normal insulin response by directly blocking insulin secretion, resulting in increased blood sugar levels due to a diminished insulin response.

### Symptoms of acute and chronic exposure:

**Acute:** Stomach pain, vomiting, diarrhea, blood in urine, muscle cramps, hair loss, convulsions.

**Chronic:** Headaches, confusion, severe diarrhea, drowsiness, hypertension, stroke, lower respiratory disease, diabetes.

## Ways to Avoid Exposure

Arsenic exposure can occur acutely through industrial contact with wood preservation, glass production, metalwork, semiconductor manufacturing, and emissions from smelting industries. Major sources of chronic exposure can occur via contaminated drinking water, smoking, consumption of foods treated with fertilizers, and diets rich in arsenic-containing foods.

## Decreasing Toxic Load

To decrease toxic load, choose organic options when possible especially for rice, grapes, pears, and apples which tend to have high levels of arsenic. The "Dirty Dozen" list highlights the most pesticide-laden foods that should be eaten organic. On the flip side, the "Clean Fifteen" are the least contaminated and can be enjoyed without the organic label.

### *Dirty Dozen*

1. **Strawberries**
2. **Spinach**
3. **Kale, collard greens, and mustard greens**
4. **Peaches**
5. **Pears**
6. **Nectarines**
7. **Apples**
8. **Grapes**
9. **Bell and hot peppers**
10. **Cherries**
11. **Blueberries**
12. **Green Beans**

### *Clean Fifteen*

1. **Avocados**
2. **Sweet corn**
3. **Pineapple**
4. **Onions**
5. **Papaya**
6. **Sweet peas**
7. **Asparagus**
8. **Honeydew melon**
9. **Kiwi**
10. **Cabbage**
11. **Mushrooms**
12. **Mangoes**
13. **Sweet potatoes**
14. **Watermelon**
15. **Carrots**

# **F.I.N.E. Health: ARSENIC**

Arsenic is a naturally occurring element, which can be found in soils, sediments and groundwater. Arsenic can combine with other substances to form many different compounds. These compounds occur either naturally, or as a result of mining, ore smelting, or when using arsenic for industrial purposes. One type of arsenic compounds exists mainly in fish and shellfish. Another type of arsenic was used in pesticides and paint pigment, as well as wood preservatives and as a treatment for a variety of ailments. Arsenic is being found in toxic amounts in the U.S. and globally

## **Main sources of exposure to arsenic**

- Drinking water throughout the world
- Dietary sources include some fish and seafood, foods cooked with contaminated water, and other sources such as rice and grains
- Tobacco smoke
- Certain occupations, including farming, mining
- Other environmental factors: exposure to certain dusts or soils

## **What does it do to the body?**

The effects depend on the amount of arsenic, the length of time, mixture with other harmful substances, and type of arsenic. Arsenic exposure over time might increase the risk of:

- Certain types of cancers
- High blood pressure and other cardiovascular diseases
- Diabetes
- Negative effects on liver, skin, pancreas and kidneys

## **Ways to minimize exposure**

The best way to reduce risk of exposure to Arsenic is by changing products:

- Only buying organic rice, conventional rice is high in Arsenic
- Only buying organic apples, pears, and grapes, the leaves are often sprayed with a pesticide containing Arsenic and is absorbed readily into the fruit

- Avoid cosmetics that are not tested. Cosmetics, unregulated supplements, and cigarettes may contain arsenic.