

# Antioxidants vs. Free Radical Damage

The U.S. Govt., through its National Cancer Institute, says exactly this about antioxidants:

<http://www.cancer.gov/newscenter/pressreleases/antioxidants>

## How might antioxidants prevent cancer?

Antioxidants neutralize free radicals as the natural by-product of normal cell processes. Free radicals are molecules with incomplete electron shells, which make them more chemically reactive than those with complete electron shells. Exposure to various environmental factors, including tobacco smoke and radiation, can also lead to free radical formation. In humans, the most common form of free radicals is oxygen. When an oxygen molecule (O<sub>2</sub>) becomes electrically charged or "radicalized" it tries to steal electrons from other molecules, causing damage to the DNA and other molecules. Over time, such damage may become irreversible and lead to disease including cancer. Antioxidants are often described as "mopping up" free radicals, meaning they neutralize the electrical charge and prevent the free radical from taking electrons from other molecules.

Excerpt from *Positive Health* article written by David Ash and Dr Liesbeth Ash

## Degenerative disease

- The greatest danger to our health today is chronic degenerative disease. **Heart disease, cancer and strokes** are number one killers, while **arthritis, chronic fatigue** and a host of other debilitating conditions are destroying the quality of life of millions of people. Research now suggests that moderate to high levels of antioxidants can alleviate many of these deadly and distressing diseases.
- Antioxidants have been shown to slow aging and reduce degenerative disease.<sup>7</sup>
- Parkinson's disease** can be caused by oxidative stress, which is also linked, to **Alzheimer's disease**. Antioxidants have been shown to prevent Alzheimer's disease<sup>8</sup> and slow the progress of Parkinson's disease.<sup>9</sup>
- Antioxidant vitamins can protect against **cancer**<sup>10</sup> and Professor Ames of Berkley has endorsed antioxidants in cancer prevention.<sup>11</sup> Antioxidants have been shown to reduce risk of cancers of the lung, uterus, cervix, mouth and gastrointestinal tract.<sup>12</sup>
- Antioxidant vitamins can protect against **cataracts**<sup>13-15</sup> and reduce the risk of **macular degeneration** by 43%.<sup>16</sup>
- Asthma** is reduced by vitamin antioxidants<sup>17</sup> and antioxidants can help children with **cystic fibrosis**.<sup>18</sup>
- Antioxidants protect against **pulmonary disease and emphysema**<sup>19</sup> and alleviate **arthritis**.<sup>20</sup>

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