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THE INFLUENCE OF FREE RADICALS ON HUMAN ORGANISM

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Free radicals in the human body are highly reactive unstable particles or moleculesthat can grab electrons from other compounds. Their main means of harming the body is cell oxidation, usually targeting membranes and interfering with biochemical reactions.

Free radicals may be created in a number of ways, including synthesis with very dilute or rarefied reagents, reactions at very low temperatures, or breakup of larger molecules. The latter can be affected by any process that puts enough energy into the parent molecule, such as ionizing radiation, heat, electrical discharges, electrolysis and other chemical reactions. Normally, they are strictly controlled by our organism with the help of antioxidants – molecules that inhibit the oxidation of other molecules. But under the influence of certain factors human body may not be able to suppress them. Those factors include bad ecological state, radiation, smoking, being prone to stress and most importantly what a person eats. In living organisms, the free radicals superoxide and hydroxyl and their reaction products regulate many processes, such as control of vascular tone and thus blood pressure. They derive from molecular oxygen. However, because of their reactivity, these same free radicals can participate in unwanted side reactions resulting in cell damage. Excessive amounts of these free radicals can lead to cell injury and death, which may contribute to many diseases such as cancer, stroke, myocardial infarction and diabetes.

The importance of this subject seems clearer now that people are discussing various ecological problems as well as radiation. One of the by-products of their influence is free radicals in human organisms. Minimizing their effects on our lives could mean much longer life spans as those radicals are believed to affect our DNA.