

## THE COST OF FREE RADICALS

AMITABH HORE\*

*This article is dedicated to the memory of the late Dr. Santimay Chatterjee*

---

*Free radicals (FRs), the Reactive Oxygen species (ROS) and the Reactive Nitrogen species (RNS), are highly reactive due to the presence of one or more mismatched electrons. They are generated in the body as the oxygen taken in is not completely reduced. These partially reduced forms, known as **Oxidants**, quickly take away electron (Oxidize) from any biological molecule that comes across and mutilate it. The damages in carbohydrate, lipid, protein, RNA, DNA etc. due to the oxidative stress are the major cause of a number of pathological disorders like neurological, pulmonary, cardiovascular, renal, dermatological, diabetic, skeletal and neoplastic diseases besides playing a pivotal role in the phenomenon of ageing.*

*In order to counter this menace the body has evolved a number of strategies against the FRs. The reactants involved in these are known as **Antioxidants (AO)**. The AOs either prevent the formation of FRs or neutralize and detoxify FRs already formed or scavenge the existing FRs. A dietary supplement of exogenous AOs can enhance the body's resistance to oxidative stress.*

---