

## **A UNIFYING HYPOTHESIS LINKING TOGETHER THE EFFECTS OF DIFFERENT POLLUTANTS**

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Rapid motorization of society has led to increased concentrations of atmospheric pollutants such as particles, oxides of nitrogen and the secondary pollutant, ozone. These pollutants are major risks factors to public health and guidelines and limit values to restrict their concentration have been developed across the globe. In parallel, research initiatives have been developed to improve understanding of how these pollutants impact on public health. In particular, considerable effort has been directed to establish the mechanism(s) that underlie the toxic effects of these ambient pollutants at relatively low concentrations. Recently, oxidative stress (the imbalance between free radical generation and available antioxidant defences) has been identified as a unifying feature that underlies many of the toxic actions of these pollutants. The surface of the lung is covered with a thin layer of fluid that contains a range of protective antioxidants that seems to provide the first line of defence against oxidant pollutants. As diet is the only source of some of these antioxidants (ie vitamins C & E) a plausible link now exists between the sensitivity to air pollution and the quality of the food we eat. Many questions remain unanswered however such as the nature of the antioxidant transfer pathways across the lung wall and if, and how, these are regulated. In addition, insufficient information is available regarding the impact of disease on lung antioxidant defences.