

**Genetic Risk Assessment in Traffic Policemen of Chennai City
by Sister Chromatid Exchange Analysis**

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ABSTRACT Urban atmosphere contains a variety of chemicals which are potentially genotoxic and carcinogenic. An increased risk of lung cancer in certain occupational groups is due to exposure to traffic-related pollution. Few reports are available in India on the genetic damage caused by exposure to automobile exhaust pollution on traffic policemen. Therefore, the present work was undertaken to study the genetic risk assessment in traffic policemen of Chennai city by Sister Chromatid Exchange Analysis. The study subjects consisted of 56 traffic policemen who worked in high density traffic areas of Chennai city and 25 office workers unexposed to traffic as controls were used. Sister chromatid exchanges (SCEs) were analyzed in peripheral blood lymphocytes drawn from both subjects. The results expressed as mean SCEs/cell was found significantly ($p < 0.001$) higher in traffic policemen (10.62 ± 0.57) compared to the unexposed control subjects (6.49 ± 0.31). These subjects were divided further into two sub-groups such as smokers and alcohol consumers which were not influence the incidence of SCEs/cell. However, a statistically significant ($p < 0.001$) difference was observed between smokers and alcohol consumers than that of control subjects. This is the first study of the risk assessment of Chennai city traffic police exposed to vehicular pollution.