

**Kogevinas, M *et al.*, Cancer mortality in workers exposed to phenoxy herbicides, chlorophenols, and dioxins. American Journal of Epidemiology, 1997.**

**ABSTRACT:**

The authors examined cancer mortality in a historical cohort study of 21,863 male and female workers in 36 cohorts exposed to phenoxy herbicides, chlorophenols, and dioxins in 12 countries. Subjects in this updated and expanded multinational study coordinated by the International Agency for Research on Cancer were followed from 1939 to 1992. Exposure was reconstructed using job records, company exposure questionnaires, and serum and adipose tissue dioxin levels. Among workers exposed to phenoxy herbicides contaminated with 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) or higher chlorinated dioxins, mortality from soft-tissue sarcoma (6 deaths; standardized mortality ratio (SMR) – 2.03. 95% confidence interval (CI) 0.89-2.06), and lung cancer (225 deaths; SMR = 1.12. 95% CI 0.98-1.28) was slightly elevated. Risks for all neoplasms, for sarcomas, and for lymphomas increased with time since first exposure. In workers exposed to phenoxy herbicides with minimal or no contamination by TCDD and higher chlorinated dioxins, mortality from all neoplasms (398 deaths; SMR = 0.96. 95% CI 0.87-1.06), non-Hodgkin's lymphoma (9 deaths; SMR = 1.00), and lung cancer (148 deaths; SMR = 1.35). In a Poisson regression analysis, workers exposed to TCDD or higher chlorinated dioxins had an increased risk for all neoplasms (rate ratio = 1.29, 95% CI 0.94-1.76) compared with workers from the same cohort exposed to phenoxy herbicides and chlorophenols but with minimal or no exposure to TCDD and higher chlorinated dioxins. These findings indicate that exposure to herbicides contaminated with TCDD and higher chlorinated dioxins may be associated with a small increase in overall cancer risk and in risk for specific cancers.