**LUNG CANCER RISK IN PAINTERS: RESULTS FROM THE SYNERGY POOLED ANALYSIS**

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**Objectives** The International Agency for Research on Cancer identified “occupational exposure as a painter” as a cause of lung cancer. Identifying the specific causative agent(s) has been difficult since painters are exposed to mixtures of known and suspected carcinogens that change over time. Using a large pooled dataset, we evaluated the risk of lung cancer among painters by duration of employment and painting activity.

**Methods** Detailed individual data on smoking were available for 16258 lung cancer cases (605 painters, 3.7%) and 19922 age- and sex-matched controls (473 painters, 2.4%) from SYNERGY, a pooled effort of 12 case-control studies in Europe and Canada. Painting activity was classified from job titles using ISCO 1968 and ISIC Revision 2 codes. Multivariable logistic regression models were adjusted for age, gender, centre, smoking habits and previous employment in high-risk occupations.

**Results** An OR of 1.38 (95% CI 1.20 to 1.59) was found for ever working as a painter; the excess risk of lung cancer increased with increasing years of employment (p-trend<0.0001). In never smokers, the OR was 1.75 (95% CI 1.01 to 3.02). The highest lung cancer risks with significant exposure-response trends were observed for construction (p-trend<0.0001), spray (p-trend=0.01) and repair painters (p-trend=0.03). Results were similar by histological type.

**Conclusions** These findings support the evidence of an increased risk of lung cancer among painters. Analyses by painting activity may help to identify causative agents.