

TCE exposure linked to increased risk of some cancers

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Trichloroethylene (TCE) exposure has possible links to increased liver cancer risk, and the relationship between TCE exposure and risks of cancers of low incidence and those with confounding by lifestyle and other factors need further study, according to a study published May 30 in the *Journal of the National Cancer Institute*.

TCE is a chlorinated dry-cleaning solvent and degreaser that has been widely used for approximately the last 100 years and has shown carcinogenicity in rodents. Previous epidemiologic studies have shown a reported increase in cancer risk in humans for the kidney, cervix, liver and biliary passages, non-Hodgkin lymphoma, and esophageal adenocarcinoma.

In order to determine the link between TCE exposure and increased [cancer risk](#), Johnni Hansen, Ph.D., of the Danish Cancer Society Research Center in Copenhagen, and colleagues looked at a cohort of workers that had individual documentation for exposure to TCE in Finland, Sweden, and Denmark, where the individuals were monitored for urinary TCE metabolite trichloroacetic acid during 1947-1989 and followed for cancer.

The researchers found statistically significant elevated standardized incidence ratios for primary liver cancer and [cervical cancer](#), but did not find a statistically significant risk of either non-Hodgkin lymphoma or esophageal or kidney cancer.

"Our pooled study of documented TCE-exposed workers provides some evidence for an increased risk of liver cancer, although confounding by other exposures cannot be ruled out. Evaluation of a possible modest risk for [kidney cancer](#) and non- Hodgkin lymphoma requires studies with greater statistical power," the authors write.

In an accompanying editorial, Mark P. Purdue, Ph.D., of the Division of [Cancer Epidemiology](#) and Genetics at the [National Cancer Institute](#) writes that there has been concern with workers exposed to TCE since the early 1970s and that even though it is now classified as a human carcinogen, further research is needed and safer options should be explored. "Where possible, TCE should be substituted by safer alternative chemicals and/or emissions should be reduced. Conversion from conventional vapor degreasers to new low-emission equipment such as enclosed vapor degreasing systems can greatly reduce solvent exposures in the workplace, and aqueous cleaning systems may also be feasible alternatives in certain applications."

Provided by Journal of the National Cancer Institute

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