

WHO: Diesel Exhaust Causes Lung Cancer

This report is part of a 12-month Clinical Context series.

By Michael Smith, North American Correspondent, MedPage Today
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Diesel exhaust is carcinogenic in human lungs, according to a scientific working group of the World Health Organization after a week-long meeting to review the evidence.

The International Agency for Research on Cancer (IARC) panel of experts unanimously agreed that there is now sufficient evidence to classify diesel exhaust as a group one human carcinogen, according to Christopher Portier, PhD, chairman of the working group.

"Diesel exhaust is a cause of lung cancer in human beings," Portier, director of the CDC's National Center for Environmental Health and Agency for Toxic Substances and Disease Registry, told reporters in a telephone media briefing.

There is also more limited evidence that diesel exhaust may cause bladder cancer, said Portier.

The classification is a change -- in 1989, IARC said diesel exhaust was "probably" a human carcinogen. Re-evaluating the status of diesel exhaust has been a priority for the agency since 1998.

The week-long meeting also looked at the cancer risk of gasoline exhaust fumes and agreed they remain a group 2B substance that "possibly" causes cancer in humans.

Although the working group said there is solid evidence that diesel exhaust can cause cancer, it's less clear what level of exposure is needed to increase the risk of disease.

Much of the evidence reviewed by the group focused on people with occupational exposure to diesel exhaust, according to Kurt Straif, PhD, of the IARC -- underground miners, bus drivers, and railway workers, for instance.

For those people, he said, the evidence suggests a marked increase in risk -- two- to three-fold for miners, for instance.

Evidence is more limited for people with non-occupational exposure, Straif said, but the finding of the working group "really extends to all exposures, including exposure of the general population through traffic exhaust."

On the other hand, he said, for most carcinogens risk is associated with dose. "When there is high exposure, the risk is higher and when the exposure is lower the risk is low," he said.

The evidence clearly suggests that diesel exhaust is a public health issue, commented Christopher Wild, PhD, the director of IARC. But what regulatory agencies do with the findings is up to them, he said.

"Our role has been to summarize the scientific evidence and put it into the public domain, so that governments can make decisions," he said.

But, he added, "It's really up to national and international regulatory agencies to weigh that [evidence] in the balance."

A summary of the working group's findings is expected to be published online in *The Lancet Oncology* on June 15.

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