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## Diesel fumes can affect your brain, scientists say

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LONDON (Reuters) - Inhaling diesel exhaust triggers a stress response in the brain that may have damaging long-term effects on brain function, Dutch researchers said on Tuesday.

Previous studies have found very small particles of soot, or nanoparticles, are able to travel from the nose and lodge in the brain. But this is the first time researchers have demonstrated a change in brain activity.

"We can only speculate what these effects may mean for the chronic exposure to air pollution encountered in busy cities where the levels of such soot particles can be very high," said lead researcher Paul Borm from Zuyd University.

"It is conceivable that the long-term effects of exposure to traffic nanoparticles may interfere with normal brain function and information processing."

Borm and his team put 10 volunteers in a room filled with exhaust from a diesel engine for one hour and monitored their brain waves with an electroencephalograph (EEG). The level of fumes was similar to that found on a busy road or in a garage.

After about 30 minutes, brain wave patterns displayed a stress response, suggesting changes in information processing in the brain cortex.

Further research is needed to determine the clinical effect of this stress and whether it has any long-term impact on verbal and non-verbal intelligence or memory abilities.

Still, the result appears to be another black mark for nanoparticles found in traffic fumes, which have already been linked with increased rates of respiratory and cardiovascular disease.

The study was published in the journal *Particle and Fibre Toxicology* and is available online [here](#)

(Reporting by Ben Hirschler; Editing by Jon Boyle)

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