**Filtering fumes could reduce heart attacks**

**A simple diesel exhaust trap could reduce the risk of heart attacks in traffic-heavy areas.**

University scientists have shown that ‘particle traps’ dramatically reduce the negative effects of diesel fumes on the heart and circulation and might reduce heart attack risk.

**Study**

The researchers, funded by the British Heart Foundation, examined the effects of diesel fumes at levels common in heavy traffic on the roads of the UK’s largest cities.

They found that after breathing unfiltered diesel fumes, blood vessels did not function normally in a group of 20 healthy volunteers for some time afterwards.

Our results suggest that if all diesel powered vehicles had particle traps fitted, heart attacks could be avoided

**Dr Andrew Lucking**

***Centre for Cardiovascular Science***

**Filtering fumes**

The researchers showed this harmful effect of diesel fumes on the blood vessels could be prevented by first passing the fumes through a particle trap.

The scientists also showed that unfiltered fumes increased the tendency of the blood to clot.

This tendency was reversed if the fumes were filtered.

The particle trap reduced the concentration of hazardous particles by 98 per cent.

**Particle traps**

Particle traps are gadgets fitted to the inside of vehicles to trap harmful exhaust particles.

The scientists used a commercially available model made for buses and heavy goods vehicles, but similar devices are available for family cars.

Exposure to road traffic and air pollution is known to increase the risk of heart attack.

The trap we used dramatically reduced the harmful effects of exposure to diesel exhaust – in terms of its effects, filtered diesel exhaust was almost the same as pure air.

**Dr Andrew Lucking**

***Centre for Cardiovascular Science***

**Pollution**

Air pollution is thought to cause 800,000 deaths each year.

Diesel exhaust is thought to be more harmful to heart and blood vessel function than standard petrol exhaust, due to higher levels of dangerous tiny particles.

Previous research has already gone a long way in working out the links between traffic pollution and heart attacks.

This study suggests that fitting a particle trap on cars could save lives. In future, public health legislation may need to take this growing evidence into account.

**Professor Peter Weissberg**

***Medical Director, British Heart Foundation***

**Collaboration**

The international study was a collaboration between BHF-funded scientists at the University of Edinburgh, and the Swedish Heart Lung Foundation.

The research was published in the journal Circulation