Diesel Health Effects

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Who Is Most Sensitive to Diesel Air Pollution?

- Children
- Elderly People
- People with Asthma
- Chronic Heart Disease Patients
- People with Bronchitis
- Athletes
Harmful Components of Diesel Exhaust

**Gases**
- Nitrogen Oxides
- Sulfur Dioxide
- Hydrocarbons
- Aldehydes
- PAHs
- Carbon Dioxide
- Carbon Monoxide

**Particles**
- Elemental Carbon
- Hydrocarbons
- PAHs
PM$_{10}$ Air Pollution
Size and Composition

- Sulfates
- Nitrates
- Ammonia
- Carbon
- Lead (HM)
- Organics

- Soil
- Dust
- Silica
- Salts
- Pollen
- Tire Rubber

Combustion Products

Fugitive Dust

Ultra Fine

Coarse

0.1 um | 1 um | 2.5 um | 10 um
Health Effects of Particulate Matter

- Increases asthma attacks
- Aggravates bronchitis
- Reduces lung growth in children
- Lower birth weight and increased number of premature births
- Contributes to premature deaths
Association Between Lung Function of Children Living <300 Meters From Motorway and Intensity of Cargo Traffic

Source: Brunekreef B, et al, Air Pollution from truck traffic and lung function in children living near motorways
Review of the Ambient Air Quality Standards

- Particulate Matter is under review
- Ozone is the next standard to be reviewed

More information can be found at the ARB PM Standard Review Website:
www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm
75% Reduction in Diesel PM by 2010
(On- and Off-road Vehicles, Stationary Engines)

- New vehicle and engine standards
- Retrofits where technically feasible and cost-effective
- International Advisory Committee
- Low-sulfur (15 ppmw) diesel fuel
- Enforcement programs

www.arb.ca.gov/diesel/dieselrrp.htm
Thank you