

## EPA links diesel exhaust, lung cancer

A new report from the US Environmental Protection Agency (EPA) provides compelling evidence to support the introduction of more rigorous exhaust emission standards for diesel engines (see *CMAJ* 2002;167 [5]:505).

The EPA report, *Final Health Assessment Document for Diesel Engine Exhaust* ([www.epa.gov/epahome/recentadditions.htm](http://www.epa.gov/epahome/recentadditions.htm)), provides a comprehensive review of evidence surrounding the potential health effects caused by ambient exposure to the exhaust from diesel engines currently in use.

The evidence identifies health effects associated with both acute and chronic exposure to diesel exhaust. Short-term exposure can cause irritation (e.g., eye, throat, bronchi), neurophysiologic symptoms (e.g., light-headedness, nausea) and respiratory symptoms (e.g., coughing, phlegm). Chronic exposure to diesel emissions can produce dose-dependent inflammation and histopathologic changes in the lung. "[This] assessment concludes that long-term (i.e., chronic) inhalation exposure is likely to pose a lung cancer hazard to humans, as well as damage the lung in other ways depending on exposure."

The EPA says the conclusions about potential health problems are based on engines built before the mid-1990s. "The health hazard conclusions, in general, are applicable to engines currently in use, which include many older engines. As new diesel engines with cleaner exhaust emissions replace existing engines, the applicability of the conclusions in this document will need to be re-evaluated."

In a press statement, the EPA said standards that will take effect in 2007 will reduce emissions from diesel engines by up to 95%. The agency is also helping state and other agencies retrofit older diesel engines to make them run cleaner, and developing model programs to reduce emissions from idling engines. — *Erica Weir, CMAJ*

## HEART & SOUL

### From factory shipper to hospital cardiologist

When it comes to medicine, Dr. Sydney Segall takes the long view. The very long view.

When the 85-year-old Montreal cardiologist started practising in 1950, there were no pacemakers, angiograms, defibrillators or cardiac care units. And MI patients were treated with 6 weeks of strict bed rest. "We do things differently now," he says.

Segall had his introduction to frontline practice in Normandy. As a medical officer who arrived in France right after D-Day, he witnessed first hand soldiers' shock, battle exhaustion and panic. "These were young kids who watched their friends getting blasted to bits. One sergeant had tremors and could barely talk, but insisted on going back to his unit. I had to decide whether to treat them or send them home. The majority I sent home."

Today, the condition would likely be diagnosed as post-traumatic stress disorder. In 1944, it was called battle fatigue.

But while 5 intervening decades have brought dramatic changes to medicine, Segall sometimes gets a sense of déjà vu. The waiting lists and bed shortages of 2002? In the '50s, says Segall, beds were tight and there were waiting lists from his first day in practice. The Jewish General Hospital in Montreal had 150 beds when

he started practising there. It has 600 today, but the situation hasn't changed. "Even in 1950 it was very difficult to get a patient past the admissions officer."

Has medicare improved access to care? Perhaps, but Segall still remembers the cardiology clinics where patients got treated regardless of income, where doctors were expected to work pro bono, and where most obliged. Segall certainly did.

As for his income before the introduction of medicare, Segall is philosophical. "I'd send out bills at the end of the month," he says. "Those who couldn't pay — it didn't bother me that much."

Segall, who still works 3 days a week in a part of Montreal popular with immigrants and refugees, remembers his own lean years during the Depression when he had to "step out" of



Dr. Sydney Segall: a sense of déjà vu

medical school at McGill and get a factory job to make ends meet. "I worked as a shipper. Eventually, the boss, the other shipper and the cutter all became my patients."

He also founded the pavement selling dresses and vacuum cleaners, although he was "not particularly gifted at sales."

Cardiac catheterization was more his line. In 1948 he received a scholarship at the University of Chicago and became one of the first cardiologists to use the technique.

At the time, some Canadian research linked heart disease to a diet high in animal proteins and eggs. "Everybody laughed," says Segall. He would later coauthor a paper on fluctuating blood lipid levels in patients with hypercholesterolemia and coronary artery disease (*CMAJ* 1960;83:521-4).

Recently, Segall made a long-distance phone call a bit too early in the morning. "I apologize from the bottom of my left ventricle," he deadpanned.

Whether it's his early ideas about preventing heart disease with a daily sherry and a joke, or about the dangers of high cholesterol levels, a half-century of practice has clearly given him not only the long view but the last laugh. — *Susan Pinker, Montreal*