

Electrosurgical Plume More Dangerous

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The laser often is criticized because of its plume, yet the plume produced in electrosurgery is more hazardous, emits the same quantity of smoke particles, and isn't scrutinized by regulatory agencies. Say laser specialists. Eugene Moss, health physicist at the National Institute for Occupational Safety and Health in Cincinnati. Says both laser and electrosurgical smoke contain the same types of mutagenic compounds. "Electrosurgery heats up the tissue more than lasers, so it creates more char" he says. "Although it's the same tissue component, overheating (the tissue) makes it more mutagenic more dangerous as far as breathing it in." Researchers in Japan did a study in 1981 which showed that smoke produced during electrosurgery was twice as mutagenic as laser smoke. In the study, the authors compared smoke to laser and electrosurgery smoke. One gram of tissue was lasered with the CO2 laser. When smoke was evacuated, it was found to have the same mutagenic potential as smoking three (3) unfiltered cigarettes. With electrosurgery smoke, however, that same gram of tissue was equivalent to six (6) cigarettes.