

CSA Group (2009) Surgical, diagnostic, therapeutic, aesthetic plume scavenging. Available at:
<http://www.csa.ca/cm/ca/en/home> .

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The Canadian Standards Association (CSA) announced a standard to help protect health care workers in surgical, diagnostic, therapeutic and aesthetic settings exposed to noxious airborne contaminants, collectively called "plume."

Procedures that require instruments such as surgical lasers to treat a patient can generate toxic smoke and other vapors that may create an occupational health risk for health care workers and other professionals. The use of surgical lasers, electrosurgical generators, broadband light sources, ultrasonic instruments, and bone saws create plume as human tissue is cut, ablated or coagulated. This plume can contain a variety of contaminants, including viable bacteria, viruses, cellular debris and toxic aerosols.

CSA officials said that research into the long-term effects of plume has only recently begun, but numerous studies indicate that health risk-factors are present. Studies have shown that one puff of plume can be the same as three puffs from an unfiltered cigarette and that plume may contain serious and even deadly bacteria or viruses that can infect others in the operating room.

The Plume Scavenging Standard is a voluntary standard designed to enhance the safety of individuals in surgical, diagnostic, therapeutic, and aesthetic settings. The standard provides guidance on the purchasing, installation, testing, use, servicing, and regular maintenance of systems that collect and filter contaminants that might otherwise enter the atmosphere.

Plume occurs in a variety of settings in addition to operating rooms and also may pose a danger to workers in dental clinics, laboratories, R&D, veterinary, cosmetic, teaching and manufacturing facilities. Generally, patients are not at risk from plume, CSA officials said. As a precaution, procedures are outlined in the standard to protect both patients and clients.