Smoke Evacuation

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What advances have been made in surgical smoke evacuation? What should an OR consider when choosing smoke evacuation products?

The most significant advancement in surgical smoke evacuation is AORN's enhanced recommended practice, which empowers clinicians with the knowledge and encouragement that surgical smoke is hazardous and should be removed. Surgical smoke contains a variety of hazardous materials that may affect both clinicians and patients. This knowledge is vital to drive utilization in the OR. After all, even the best smoke removal equipment is useless if it is not used.

There have been many enhancements in recent years that make surgical smoke evacuation equipment more effective. The first of these advancements is the ability to efficiently and effectively capture surgical smoke at the source of the smoke plume creation, regardless of how deep in the surgical cavity the smoke occurs. This can be accomplished via a telescopic nose cone on a special electrosurgical smoke evacuation pencil, which allows surgeons to extend both the electrosurgical tip and the smoke evacuator shaft a full 6 inches to capture smoke directly at the source for the most effective removal.

The ability to remove smoke from contained areas, such as the pneumoperitoneum,

is also a significant advancement. Smoke evacuation systems with special laparoscopic smoke-removal abilities are vital for today's minimally invasive surgical environment. Only systems that offer laparoscopic abilities should be considered.

Another noteworthy advancement is the creation and implementation of fluid traps on filters. Fluid traps capture the majority of fluids to help maintain the integrity of the filtration system and assist with maintaining filter life.

Smoke evacuation systems have been available for years, but surgeons typically would not adopt their use due to their noise. Newer models are extremely quiet, and the best are built to turn on/off when the electrosurgical instruments are being used. Auto-regulated suction and improved motors keep the noise levels down and greatly enhances surgeon acceptance.

Ergonomics and visualization are also key to surgeon acceptance. Ideally, smoke pencils should be an integrated system (not a pencil in a shroud) to keep the hand piece slim, ergonomically pleasing and easy to see around. Hand fatigue is a key concern for surgeons and bulky hand pieces contribute to this issue.

In the past, smoke tubing was cumbersome. Tubing is a necessary component to achieve smoke evacuation, and advances like swivel connectors and flexible tubing have made this component much easier for surgeons to embrace.

When you consider that the inhalation of plume (generated from electrosurgery) from 1 gram of tissue is comparable to smoking six cigarettes, even a little inconvenience seems worth it. Invest in quality smoke-evacuation equipment and accessories that surgeons will actuality utilize for the best return on investment, and the health of clinicians and patients.

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