

Electro surgical instrument testing for COSHH compliance

A forgotten threat in operating theatres

Many people in healthcare are unaware that electro surgical tools are regulated by COSHH. These tools, which include diathermy and laparoscopic instruments, generate surgical plume (surgical smoke) need to have a plume extraction system (PES). As these are also classified as a local exhaust ventilation system (LEV) this means that they need to have thorough examination and testing once in every 14 months. Often missed and not included in risk registers and assessments these have the potential to be a breach of legal compliance for many.

HEALTH RISKS POSED BY ELECTRO SURGICAL INSTRUMENTS

The reason for this is that plume, or smoke, from electro surgical instruments poses multiple health risks to those working in healthcare. Most concerning is that some plume is considered to have carcinogenic potential. Other health dangers of exposure include:

- 1. Acute Health Conditions:**
Exposure can lead to asthma and asthma-like symptoms.
- 2. Respiratory harm:**
Diathermy fume can contain numerous toxic chemicals.
- 3. Viral Transmission:**
There are reports of possible cases of transmission of human papillomavirus (HPV) from patient to surgeon according to a 2015 study*.

*<https://www.sciencedirect.com/science/article/abs/pii/S0001209215000381>



WHERE THESE RISKS ARE PRESENT

The risks are present in all types of PES. Whether portable, mobile, stationary or integrated into other equipment. These systems are used in a variety of places including surgical facilities, medical facilities, cosmetic treatment facilities, dental clinics and veterinary facilities.

The ISO standard is very broad here but states that plume needs to be monitored. That is defined as 'noxious airborne contaminants generated as by-products, particularly by procedures that rely on the ablation, cauterization, mechanical manipulation, or thermal desiccation of target tissue by devices such as lasers, electrosurgical or electrocautery devices, broadband light sources, ultrasonic instruments, or surgical tools such as bone saws, high speed drills, and reamers'.

Meaning it can come from a wide variety of sources.



WHAT YOU NEED TO DO

COSHH regulations are clear. To remain compliant, healthcare organisations need to make sure that any plume coming from use of electro surgical tools is properly extracted. This means the tool has either an integral extraction or there is an external PES to be located close to plume as possible which needs to be properly maintained. With the control measures being annually tested with staff being trained on using them effectively.

To ensure long term compliance, these LEV's need to be included within risk registers, planned preventative maintenance (PPM) and LEV testing schedules. The sooner these actions are taken the sooner staff will be protected.

HOW WE CAN HELP

IOM can review your workplace and identify with you the instruments and equipment that needs to be tested. This can then be added to your risk register.

We are one of a select few UK companies able to test the PES system associated with electro surgical tools. We deliver comprehensive testing either stand alone or as part of our COSHH inspections. Helping you to remain compliant and staff protected.

For each system we will do a thorough analysis of the capture inlet size, shape, location orientation as well as verifying that the flow rate is appropriate.

We are trusted by NHS estates and facilities managers across the country to keep their theatres, procedure and treatment rooms safe and compliant.

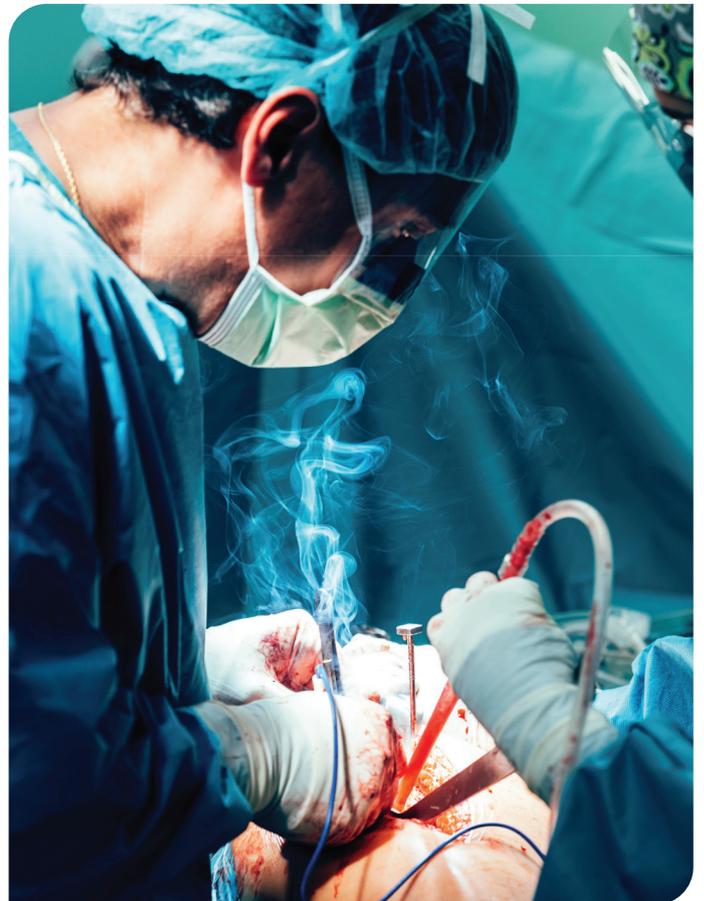


MAKE SURE YOU'RE COMPLIANT

OUR SERVICE COVERS:

We are able to assess the efficacy of plume extract systems which can also be known as smoke extract systems or Local Exhaust Ventilation systems.

- **Diathermy tools**
- **Laparoscopic instruments**
- **Smoke evacuation pencils**
- **Monopolar forceps**
- **Bipolar forceps**
- **Colposcopy Equipment**



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