

## The Surgical Plume Alliance (SPA) Position Statement on Perioperative Management of Surgical Smoke Plume - June 2022

### **AfPP, ICSP and SPA are committed to standing up for the safety of perioperative practitioners**

- We support every perioperative practitioner's right to work in an environment where the risks posed by exposure to surgical smoke plume are eliminated or mitigated.
- We support a multidisciplinary approach. This includes all members of the surgical team, and all advocates for the establishment of policy on plume evacuation which is mandated and provides a flexible response to changing safety culture within the perioperative environment.
- We support the rights of perioperative practitioners to refuse participation in procedures where a written policy on plume evacuation exists, but the equipment is not available, or is available but not used.

### **Background on surgical smoke plume**

- Surgical smoke plume is produced when energy generating devices (lasers, diathermy, ultrasonic tools, etc.) are used in surgery to cut, coagulate, or vaporise tissue.
- Surgical smoke plume contains carbon, aerosolised blood and blood borne pathogens, bacteria, tissue fragments, and a range of volatile organic compounds and gases. Viruses, including HIV, HPV, HepB, are known to be present in plume and can be transmitted. Whilst there is not yet conclusive evidence of the presence of SARS CoV-2, it is assumed likely to be present as particulate size is the same as previously identified viruses, and transmission is airborne.
- If not effectively captured, filtered, and removed, all personnel in the room are at risk for exposure to the hazards of smoke plume. This can result in short- and long-term illnesses, including acute and chronic respiratory illness, ocular irritation, viral illnesses, and cancer.
- Patient safety may be compromised if surgical smoke plume is not properly captured and removed from the intra-abdominal space with appropriate active or passive evacuation equipment. Techniques that allow for venting plume into the room air, or cause loss of pneumoperitoneum must be prevented.

## Recommendations

To ensure a safe treatment environment for patients, and a safe and healthy workplace for perioperative personnel, AfPP recommends that all organisations:

- Ensure compliance with all current and relevant legislation, regulations and professional best practices relating to elimination of surgical smoke plume in the workplace (See references).
- Protect all perioperative practitioners against exposure to surgical smoke plume during every procedure where energy generating devices are used - in both surgery and laparoscopic / endoscopic procedures.
- Use only specialised plume evacuation equipment that is compliant with international standards (ISO 16571) and local regulations.
- Establish a written policy for the management of surgical smoke plume, to be mandated wherever energy generating surgical or medical instruments are in use throughout the healthcare facility.
- Provide current, evidence based and unbiased education to all surgical team members who may enter or work in the perioperative environment.
- Conduct periodic audits to assess compliance, ongoing learning needs and opportunities for practice improvement.

**AfPP, in collaboration with ICSP, will initiate dialogue with the royal colleges, ambulatory surgery, and other relevant professional associations around the development of policies and educational programs, in support of safe practice for surgical plume management.**

## References

British Standards Institute 2014 Systems for evacuation of plume generated by medical devices BS ISO 16571:2014 London

Evidence for exposure and harmful effects of diathermy plumes (surgical smoke) Evidence based literature review. Prepared by the Health and Safety Laboratory for the Health and Safety Executive 2012 RR922: <https://www.hse.gov.uk/healthservices/diathermy-emissions.htm> [Accessed January 2022]

Health and Safety at Work Act 1974: <https://www.legislation.gov.uk/ukpga/1974/37/contents> [Accessed January 2022]

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