



CANADIAN ASSOCIATION OF GENERAL SURGEONS

L'ASSOCIATION CANADIENNE DES CHIRURGIENS GÉNÉRAUX

March 24, 2020

Statement from the CAGS MIS Committee re: Laparoscopy and the risk of aerosolization

Disclaimer

The following recommendations are made on a most cautious and protective approach for patients and health care providers based on limited information in a rapidly evolving situation. These recommendations are subject to change as new information emerges and do not replace the individual's responsibility and clinical judgment.

Statement of concern

There is no current data that demonstrates an aerosol presence of the COVID-19 virus released during abdominal surgery. The Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) recently referenced data based on detection of other viruses in surgical smoke (www.sages.org/recommendations-surgical-response-covid-19/#update). Given that there is no current data referencing the COVID-19 virus in this regard, it is the opinion of the Canadian Association of General Surgeons Minimally Invasive Surgery committee that it should be assumed that this virus shares these properties. Surgeons should therefore approach the risk of viral aerosolization with the release of pneumoperitoneum, and its attendant risk to surgical personnel, with significant caution.

Recommendation

Surgeons should utilize a closed filtration system during laparoscopy and for evacuation of the pneumoperitoneum at the end of the case as resources and availability allow. Many commercially available filtration systems report to be able to filter >99.9% of particles as small as 0.08 to 0.1 microns in diameter. These exceed the N95 designation which requires that at least 95% of small particles (0.3 microns) be filtered. The utilization of laparoscopy should be based on local current standards of practice and are outside the scope of these recommendations.

Technique

Laparoscopic ports should be inspected for adequate seal prior to utilization and reassessed frequently for leak while in use. If ports do develop leak the seals/ports should be changed immediately when it is safe to do so. The procedural pneumoperitoneum should be set at the lowest pressure that facilitates safe and efficient operative conduct.

Smoke evacuators should be attached to ports that allow for efficient laparoscopy in terms of allowing a clear view of the operator at a rate that minimizes resource/CO₂ utilization. If insufflation or evacuator tubing needs to be moved from one port to another, the ports should be set to the closed position before detaching and reattaching the tubing.

Deflation at end of case:

NOTE: ALL PORTS SHOULD REMAIN IN SITU AND CLOSED WHILE THE DESUFLATION PROCEDURE IS OCCURRING

To facilitate efficient desuflation and avoid unnecessarily prolonging the case, evacuator tubing should be moved to the most NON-DEPENDANT port and the patient be repositioned to allow CO₂ removal. For example, using the epigastric port over the liver and reverse Trendelenburg/right side up for cholecystectomy or a lower quadrant/suprapubic port and Trendelenburg for pelvic procedures. Additionally, the pneumoperitoneum may be turned down to a lower level prior to initiating the desuflation procedure.

For surgeons that wish to remove their ports under direct vision this may be accomplished by placing the laparoscope in each port separately while slowly backing out the trocar through the abdominal wall after the abdomen is completely desuflatted. It is understood scope port size mismatches may not allow for all ports to be removed under vision (e.g. 10mm scope and 5 mm ports)

Note: suction devices in which gases are not filtered as above are not recommended for smoke evacuation or desuflation.

Extraction of surgical specimens

This should occur after the above desuflation technique is completed. The ports may be left in place and the desuflation procedure repeated if the operating surgeon wishes to 'look back in' after specimen extraction.