

Aerosol Generating Procedures Performed by Interventional Radiology Clinical Notification from the Society of Interventional Radiology

Effective March 26, 2020; updated March 27, 2020

The purpose of this clinical notification is to provide medical decision-making guidance on how to perform aerosol generating procedures (AGP) safely in the IR suite. Emerging data indicates that SARS-CoV-2 (COVID-19) is primarily spread via respiratory droplets produced when an infected person coughs or sneezes and has a “significant association with AGPs.”^{1,2} Healthcare workers may be exposed to these particles through the inhalation of droplets, conjunctival/mucosal contact, and touch contamination when

- 1) Performing aerosol-generating procedures (AGP), which are defined as procedures that mechanically create and disperse aerosols such as procedures involving the respiratory tract or those that may irritate the airway causing a patient to cough or those that involve the use of high-speed devices that may aerosolize pathogens (i.e. bone saw).^{1,3}
- 2) Performing procedures on patients who are receiving noninvasive ventilation (BiPAP, CPAP, HFOV), manual ventilation, active suctioning, or cardiopulmonary resuscitation, all of which are associated with the mechanical dispersal of aerosols.

The CDC and WHO first defined AGPs during its response to the EBOLA crisis,⁴ taking into consideration the high mortality and morbidity of EBOLA, the high risk of human to human transmission, and the lack of an FDA-approved therapeutic or vaccine as reasoning to justify the expansion of respiratory protection recommendations. The CDC and WHO have acknowledged that the AGP procedure list may not be complete. **Therefore, there is a need to expand the AGP procedure list beyond what is currently listed by the CDC and WHO to ensure that respiratory protection and other required PPE are available for and allocated to healthcare workers performing AGPs or any procedure in a patient receiving ventilatory support associated with the possible mechanical dispersal of aerosols. In consideration of the current COVID-19 pandemic, any procedure that is “likely to induce coughing should be performed cautiously and avoided if possible”.**³

Table 1 represents a list of AGPs commonly performed in the IR suite. **Following CDC guidance^{3,4}, the Society of Interventional Radiology strongly advocates for and recommends the use of appropriate PPE for IRs when:**

- A. performing any aerosol-generating procedure (i.e., any procedure that is likely to induce coughing)**
- B. caring for patients who are at risk for the mechanical dispersal of aerosols in the IR suite**
- C. during cardiopulmonary resuscitative efforts**

Appropriate PPE in these situations is defined as: N95 or higher-level respirator, eye protection (face shield with appropriate coverage and/or goggles), gloves, and a disposable, waterproof, surgical gown. In addition, it is recommended that N95 or higher level respirators be routinely stocked in IR suite crash carts for code situations.

While in an ideal situation appropriate PPE would be readily available, we recognize the ongoing nationwide shortages and propose a triage mechanism for resource allocation for AGPs (**see Figure 1**). In such a triage

situation, availability of proper PPE to interventional radiologists should be commensurate with availability to other providers of care to patients at high risk for dispersal of respiratory aerosols.

1. Judson SD, Munster VJ. Nosocomial Transmission of Emerging Viruses via Aerosol-Generating Medical Procedures. *Viruses*. 2019;11(10).
2. Poston JT, Patel BK, Davis AM. Management of Critically Ill Adults With COVID-19. *JAMA*. Published online March 26, 2020. doi:10.1001/jama.2020.4914
3. <https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>
4. <https://www.cdc.gov/vhf/ebola/clinicians/evd/infection-control.html>

Table 1. Aerosol Generating Procedures Commonly Performed in IR Suites

Any procedure involving a patient who:	Any procedure that may induce coughing:
<ul style="list-style-type: none"> • requires intubation/extubation • is receiving a form of ventilatory support associated with the risk of mechanical dispersal of aerosols* • requires active airway suctioning (i.e. tracheostomy patient) <p>*Note: Any patient undergoing sedation may require airway rescue, which would require utilization of aerosol precautions</p>	<ul style="list-style-type: none"> • Lung biopsy • Lung ablation • Thoracentesis • Pleural drains • Chest tube for pneumothorax • Bronchial artery embolization • Bronchial stenting • Nasogastric Tube (NG tube) or Orogastic tube (OG tube) placement • Any procedure that requires NG tube placement • Gastrostomy • Gastro-jejunostomy tube placement • Jejunostomy • GI stent placement

Figure 1. Proposed triage mechanism for resource allocation for AGPs

