

## Aerosol Generating Procedures (AGPs)

### DOCUMENT CONTROL SHEET

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Version History:			
This literature review will be updated in real time if any significant changes are found in the professional literature or from national guidance/policy.			
Version	Date	Summary of changes	Changes marked
1.0	October 2019	Tracheotomy/tracheostomy procedures have been added to the list of AGPs, this includes the formation of a tracheotomy and associated procedure such as open suction.  Cardiopulmonary resuscitation (CPR) is no longer specified as an AGP; however, procedures associated with CPR e.g. intubation, manual ventilation are included.	
1.1	March 2020	High flow nasal oxygen added to list of AGPs based on expert opinion (NERVTAG)	

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		National Infection Prevention and Control (NIPC) steering and consensus groups		

The use of high-speed devices such as those used for surgical, post-mortem and dental procedures have consistently been shown to generate aerosols which create widespread environmental contamination and therefore a risk of transmission of infection to healthcare workers.<sup>14-19</sup>

In the systematic review completed by Tran and colleagues in 2014, endotracheal aspiration, nebuliser treatment, administration of oxygen (including high flow oxygen), defibrillation, chest compressions, insertion of nasogastric tube, and collection of sputum were not found to be significantly associated with an increased risk of transmission of SARS.<sup>4</sup> That said, some of these procedures are considered to have a theoretical risk of aerosolisation, and therefore are listed as AGPs based on consensus of expert opinion, specifically, induction of sputum.

Induction of sputum typically involves the administration of nebulised saline to moisten and loosen respiratory secretions (this may be accompanied by chest physiotherapy (percussion and vibration)) to induce forceful coughing, this may create conditions for aerosol generation as described by WHO (2014).<sup>1</sup>

Nebulisation and chest physiotherapy performed independently are not considered to be AGPs. Nebulisation was previously included in WHO (2007) list of AGPs and reflected in the UK list at that time.<sup>2</sup> However, there is now published evidence that nebulisation and oxygen therapy (pressurised humidified O<sub>2</sub>) do not result in an increased risk of aerosols.<sup>4, 10</sup> During nebulisation, the aerosols produced are derived from the fluid in the nebuliser chamber and not from the patient. Whilst chest physiotherapy was reported to be associated with airborne influenza RNA during the 2009 H1N1 pandemic,<sup>8</sup> it has been found that chest physiotherapy increases droplet production; these particles are predominantly >10µm in size and precipitate within 1m of the patient.<sup>10</sup>

Administration of high flow nasal oxygen should also currently be considered an aerosol generating procedure based on consultation with expert panel NERVTAG (New and Emerging Respiratory Virus Threats Advisory Group). Evidence for this recommendation is currently under review and will be included in an update.

Although there is an absence of strong evidence to support some of the procedures listed as AGPs in this document this does not mean that there is an absence of risk. A precautionary approach should be taken for all AGPs specified as potentially capable of generating infectious aerosols from patients suspected or known to have respiratory infections.