

Aerosol-generating procedures: current situation for Scotland

**SBAR (Situation, Background,
Assessment, Recommendations).**

Version 1.2

10 February 2023

Version history

Version	Date	Summary of changes
V1.0	10 October 2022	First version
V1.1	16 November 2022	Updated (page 5) to include reference to NHSEI AGP rapid review from English Infection Control Manual.
V1.2	10 February 2023	Updated wording throughout to make clear that NHSScotland continue to use the extant pandemic AGP list.

Approvals

Version	Date Approved	Group/individual
V1.0	04 August 2022	ARHAI Scotland IPC Oversight & Advisory Group

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1. Situation

In April 2022 NHS England and NHS Improvement (NHSEI) published an infection control manual for use in NHS England, which includes an aerosol-generating procedures (AGP) list.¹ The NHSEI list differs from the previously UK-agreed AGP list which is currently published in the Scottish National Infection Prevention and Control Manual (NIPCM).² This has created confusion amongst Scottish stakeholders, as reported via the ARHAI Scotland National Policies Guidance and Evidence (NPGE) Working Group and via Board Infection Control Managers. It is necessary to consider options for Scotland to ensure consistency in clinical practice and confidence in published guidance with regards to AGPs.

2. Background

The current NIPCM AGP list was agreed in conjunction with the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) and Public Health England (now the UK Health Security Agency (UKHSA)).² The list was updated following a rapid review of the literature in 2020 conducted by ARHAI Scotland, also published in the NIPCM.³ This AGP list has been consistently listed in COVID-19 guidance and extant winter respiratory guidance throughout the pandemic.

In an SBAR published September 2021, ARHAI Scotland confirmed that the NIPCM AGP systematic literature review would not be updated, owing to a paucity of published literature to inform the review and the need for further primary research to be conducted.⁴

In November 2021, NHSEI conducted a rapid review of the literature to determine the available evidence to support removal of items from the UK AGP list as published in 2020; this was to support health and care remobilisation leading into the 2021/22 winter season.⁵ The rapid review took a considerable amount of time to complete and was presented to the UK COVID-19 IPC Cell in February 2022. At the time of writing, no agreements have been made by the UK IPC Cell or collectively by the 4 Nations regarding a single UK AGP list.

In April 2022, NHSEI published an infection control manual in the form of a single document which included a modified AGP list¹ which has since been updated and supported with the publication of their November 2021 rapid review. The World Health Organization (WHO) on 25 April 2022 published 'Infection prevention and control in the context of coronavirus disease

(COVID-19): a living guideline' in which an expanded AGP list is included beyond that originally published by WHO in 2014.⁶ There is no information regarding the formation of this updated list.

3. Assessment

The current AGP list as published by ARHAI Scotland in the NIPCM² and the lists published by WHO⁶ and NHSEI¹ are shown in [Appendix 1](#). Of the 14 items, there is consensus on only 1 item (tracheostomy procedures). The differences are most probably explained by the lack of robust evidence and in absence of evidence the variation of specialist experts represented on each of the editorial groups, where expert opinion has focused on different specialist areas across the documents.

Throughout the pandemic it has been widely recognised that a research agenda supporting respiratory particle science and the controls is urgently needed. ARHAI Scotland are aware that UKHSA are currently carrying out a systematic review, the European Centre for Disease Control and Prevention (ECDC) and WHO are currently considering the dichotomy of airborne and droplet transmission alongside many other international studies preparing to publish conclusions of their studies findings.

At this stage ARHAI Scotland are presenting two options for the IPC Oversight and Advisory Group to consider:

Option 1

Maintain the current status quo, recognising that NHSEI and WHO have not demonstrated any new evidence base for consideration. Scotland to continue with the extant AGP list as published in the NIPCM, until the wider transmission mode evidence base is considered. ARHAI Scotland are in the process of updating the NIPCM systematic literature review on transmission based precautions (TBP) definitions, which is due for completion this year. It may be premature to make any further alterations to the AGP list while the wider evidence base is being considered.

Option 2

Adapt the AGP list to remove the following items from the list:

- HFNO
- Upper GI endoscopy where there is open suctioning of the respiratory tract
- Upper ENT procedures that involve suctioning

- Respiratory tract suctioning (retaining 'open suctioning of ventilated patients' on the list)

This would effectively be a return to the pre-COVID-19 AGP list, with greater clarity on suctioning provided. In the absence of an up-to-date systematic literature review as a result of a paucity of available evidence in this area in general, NIPCM governance for this decision-making would need to go through a short life working group (SLWG). There are several challenges with this proposed option. First, deciding the appropriate membership of the SLWG and ensuring representation from all stakeholders, as there are no recognised experts on AGPs. The group would not be presented with any new evidence over and above the conflicting evidence that is referenced in this SBAR, therefore reaching an evidence-based consensus would be challenging; any output would be expert-opinion. Any SLWG would need to be prepared to respond to multiple requests from clinical teams and professional organisations for procedures to be reconsidered either for removal from or inclusion on any agreed AGP list.

4. Recommendations

ARHAI Scotland makes the following recommendation following consultation with stakeholders with regards to next steps for Scotland for AGPs:

Maintain status quo - Scotland to continue with the extant AGP list as published in the NIPCM, with a review of the status immediately following the completion of the NIPCM TBP definitions systematic literature review or sooner should international evidence/opinion emerge.

Appendix 1: Comparison of the NIPCM AGP list with the WHO AGP list and the NHSEI IPC manual list.

Procedure	Previous UK list (NIPCM)	WHO	NHSEI IPC manual
Tracheal intubation and extubation	✓	✓ (not extubation)	x
Non-invasive ventilation (bilevel positive pressure, continuous positive airway pressure)	✓	✓	x
High frequency oscillatory ventilation (HFOV)	✓	x	x
High flow nasal oxygen (HFNO)	✓	x	x
Tracheotomy or tracheostomy procedures (insertion or removal)	✓	✓ (tracheotomy)	✓ (tracheostomy procedures)
Cardiopulmonary resuscitation	x	✓	x
Manual ventilation	✓	✓ (before intubation)	x
Bronchoscopy	✓	✓	✓ (awake including 'conscious' sedation - excluding anaesthetised patients with secured airway)
Sputum induction using nebulised saline	✓	✓	✓ (not limited to nebulised saline)
Dental procedures using high speed devices such as ultrasonic scalers and high speed drills	✓	✓ (all clinical procedures that use spray generating equipment such as three-way air/water spray, dental cleaning with ultrasonic)	✓

Procedure	Previous UK list (NIPCM)	WHO	NHSEI IPC manual
		scaler and polishing; periodontal treatment with ultrasonic scaler; and kind of dental preparation with high or low speed hand pieces; direct and indirect restoration and polishing; definitive cementation of crown or bridge; mechanical endodontic treatment; surgical tooth extraction and implant placement).	
Respiratory tract suctioning (if beyond the oro-pharynx)	✓	x	✓
Upper ENT airway procedures that involve respiratory suctioning	✓	x	✓ (awake including 'conscious' sedation - excluding anaesthetised patients with secured airway)
Upper gastro-intestinal endoscopy where there is open suctioning of the upper respiratory tract (beyond the oro-pharynx)	✓	x	✓ (awake including 'conscious' sedation - excluding anaesthetised patients with secured airway; no reference to open suctioning)
Surgery and post-mortem procedures using high speed devices if it involves the respiratory tract or paranasal sinuses	✓	✓ (Autopsy procedures; no reference to respiratory tract/sinuses)	✓

References

1. [National infection prevention and control manual for England](#). V1.1. NHS England and NHS Improvement, 20 April 2022.
2. [Aerosol generating procedures \(AGPs\) V1.6](#). National Infection Prevention and Control Manual. ARHAI Scotland, September 2021.
3. [Assessing the evidence base for medical procedures which create a higher than usual risk of respiratory infection transmission from patient to healthcare worker V1.2](#). National Infection Prevention and Control Manual. ARHAI Scotland, 14 May 2021.
4. [Aerosol generating procedures \(AGP\) UK list review](#) – SBAR. National Infection Prevention and Control Manual. ARHAI Scotland, September 2021.
5. [A rapid review of aerosol generating procedures \(AGPs\) – An assessment of the UK AGP list conducted on behalf of the UK IPC Cell](#). NHS England and NHS Improvement, 9 June 2022.
6. Infection prevention and control in the context of coronavirus disease (COVID-19): A living guideline. World Health Organization, 25 April 2022.