Independent High Risk AGP Panel activity update

The Independent High Risk AGP Panel met the terms of reference (TOR) established for the group as part of the COVID-19 response and gave advice to the 4 UK Chief Medical Officers (CMOs), inclusive of a systematic review of procedures of concern, an international review of country-level AGP lists, advice to UK Infection Prevention and Control (IPC) cell with respect to incoming enquiries and contribution to developing the research agenda in this area. The work of the Independent High Risk AGP Panel has now concluded.

The panel met 12 times since 27 July 2020. There have been 2 main outputs published to date: the systematic review of the procedures of concern, which was subsequently adapted for publication in the Journal of Hospital Infection, and an independent summary of advice – which was informed both by the systematic review, and an international scoping review of AGP lists across countries with comparable healthcare systems.

The previous recommendations of the panel included the need for a stronger evidence base and standardised approaches to AGP research to inform future health policy and practice, improve resource allocation and help to ensure optimum patient care. The panel also recommended the co-ordination of research responses and funding mechanisms in order to develop high quality evidence regarding AGPs and transmission risk, and that this could be achieved through a coordinated international research programme. It is important that both AGP-specific research and clinical studies to better understand transmission risks feature in these considerations. These both feature in the extant WHO R&D IPC blueprint document.

To progress these recommendations within the UK, the AGP panel has since worked with the NIHR AGP task and finish group, participating in 2 meetings. The first of these was with the AERATOR research group on 8 March 2021, to discuss the key clinical questions and current state of the evidence. The second meeting with the NIHR AGP task and finish group, on a research prioritisation exercise, was held on 22 April 2021. A summary of the outputs from this were published in June 2021 and are available at New research priorities identified for Aerosol Generating Procedures related to COVID-19.

The panel also met with the UK Infection Prevention and Control (IPC) cell and Antimicrobial Resistance and Healthcare-Associated Infections (ARHAI) Scotland colleagues to consider future evidence and guidance needs on 12 April 2021. There is emerging evidence from aerosol science, conducted within routine healthcare settings and involving patients, which indicates that some procedures currently deemed to be AGPs are not associated with significant aerosol production; for example, intubation and non-invasive ventilation (see Aerosol emission from the respiratory tract: an analysis of relative risks from oxygen delivery systems and Aerosol Generation from the Respiratory Tract with Various Modes of Oxygen Delivery). This suggests that factors other than aerosols, such as close contact with respiratory secretions, may explain the increased risk of transmission seen with some procedures. There are a large number of gaps in evidence that need to be addressed in order to understand the relationship between the generation of respiratory aerosols and the transmission of infection, and to determine the most appropriate range of IPC measures.

In addition to the research required for IPC practice, the panel identified the following AGP specific research questions:

1. Which of the AGPs are actually high risk because of detectable aerosol generation?

2. How do we define a scale of risk for aerosol generation – relative to a cough or to tidal breathing?
3. Which components of procedures designated as high risk AGPs contribute to the risk of transmission: aerosols, droplets, inoculation, inhalation?

Panel recommendations for Research – AGPs

- Research is needed now on extant and potential additional AGPs in line with the priorities identified in the outputs from the NIHR research event.
- A research framework for studies on AGPs is required to inform the parameters needed to model infection risk in the future.
- Infrastructure, such as a network of bioaerosol chambers in hospital based HEIs using standardised aerosol and aerobiology science methods, is needed for this research to be done in an applied way.

Panel recommendations for Research – IPC

- Research is needed on the droplet precautions paradigm in IPC and whether this fits with emerging aerosol science and transmission risk of SARS-CoV-2 or other viruses and pathogens.
- Research is needed to investigate the impact of droplet versus airborne precautions in non AGP settings in hospitals.

Panel recommendations for Guidance:

- Criteria for evidence are required that allow for procedures to be added or removed from the AGP list. Those responsible for guidance production and reviewing evidence of the UK AGP list should be clear about this in their systematic reviews of the UK AGP list going forward and give consideration to the balance of harms (IPC and other clinical risks) therein.

- Multidisciplinary decision-making involving clinicians who are familiar with the specific procedures, IPC professionals and aerosol scientists are key to future guidance development for the UK AGP list.

- A systematic review of AGPs for UK list is required.

- A reporting tool for aerosol studies is required to promote consistency of research reporting in support of evidence synthesis.

- A quality assessment checklist for reviewing aerobiology studies is required from evidence organisations to support consistent and robust evidence appraisal and inclusion of these studies in systematic reviews.