EVIDENCE REPOSITORY

Aerosol Generating Medical Procedures (AGMP)

EVIDENCE REPOSITORIES

Evidence repositories are collections of best available resources and evidence (clinical guidelines, peer reviewed literature, systematic reviews, etc.), collated by our knowledge synthesis team and content advisors. This evidence repository is not intended to be an exhaustive list of resources for a topic, but rather a curated list of current, evidence-based resources, based on expert consensus of relevance and usability for a general emergency department setting. We search databases (Cochrane Library, PubMed, TRIP Database) and web search engines (Google, Google Scholar) to locate evidence. Additionally, hospital websites are browsed for guidance documents, such as clinical practice guidelines (CPG) for healthcare professionals.

Every effort is made to identify resources that are open access (i.e. publicly available, free of charge, not requiring a subscription).

More information about the creation of our evidence repositories can be found at https://pubmed.ncbi.nlm.nih.gov/28537762/

CONTENT TEAM

Thank you to the following content experts and Knowledge Synthesis team who led the development of this evidence repository.

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TREKK developed resources for healthcare providers and parents & families can be found **here**.

Clinical Guidelines

1. Morgan RW, Atkins DL, Hsu A, et al. Guidance for cardiopulmonary resuscitation of children with suspected or confirmed covid-19. pediatrics. 2022;150(3).
2. Atkins DL, Sasson C, Hsu A, et al. 2022 Interim guidance to health care providers for basic and advanced cardiac life support in adults, children, and neonates with suspected or confirmed covid-19. Circ cardiovasc qual outcomes. 2022;15(4):e008900.
3. Fink JB, Ehrmann S, Li J, et al. Reducing aerosol-related risk of transmission in the era of covid-19: An interim guidance endorsed by the international society of aerosols in medicine. J Aerosol Med Pulm Drug Deliv. 2020;33(6):300-4.
4. Edelson DP, Sasson C, Chan PS, et al. Interim guidance for basic and advanced life support in adults, children, and neonates with suspected or confirmed covid-19: from the emergency cardiovascular care committee and get with the guidelines-resuscitation adult and pediatric task forces of the American heart association. Circulation. 2020;141(25):e933-e43.
5. Public Health Agency of Canada (PHAC). Infection prevention and control for covid-19: Second interim guidance for acute healthcare settings. 2020:1-50.

Systematic Reviews

1. Leal J, Farkas B, Mastikhina L, et al. Risk of transmission of respiratory viruses during aerosol-generating medical procedures (AGMPs) revisited in the COVID-19 pandemic: A systematic review. Antimicrob Resist Infect Control. 2022;11(1):102.
2. Agarwal A, Fernando SM, Honarmand K, et al. Risk of dispersion or aerosol generation and infection transmission with nasopharyngeal and oropharyngeal swabs for detection of COVID-19: A systematic review. BMJ Open. 2021;11(3):e040616.
3. Thamboo A, Lea J, Sommer DD, et al. Clinical evidence-based review and recommendations of aerosol generating medical procedures in otolaryngology - head and neck surgery during the COVID-19 pandemic. J Otolaryngol Head Neck Surg. 2020;49(1):28.
4. Couper K, Taylor-Phillips S, Grove A, et al. COVID-19 in cardiac arrest and infection risk to rescuers: A systematic review. Resuscitation. 2020;151:59-66.
5. Brown E, Chan LM. Should chest compressions be considered an aerosol-generating procedure? A literature review in response to recent guidelines on personal protective equipment for patients with suspected COVID-19. Clin Med (Lond). 2020 Sep;20(5):e154-e159.
6. Tran K, Cimon K, Severn M, et al. Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: A systematic review. PLoS One. 2012;7(4):e35797.

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Key Studies

1. Millar R, Moorhouse A. Aerosol generation during paediatric procedural sedation with continuous-flow nitrous oxide suggests a low risk of airborne viral transmission to health-care workers. J Paediatr Child Health. 2023;59(1):123-8.
2. Winslow RL, Zhou J, Windle EF, et al. SARS-CoV-2 environmental contamination from hospitalised patients with COVID-19 receiving aerosol-generating procedures. Thorax. 2022;77(3):259-67.
3. Lim WY, Ng B, Lee CK, et al. Strategy for safe bronchoscopy during the covid-19 pandemic. Ann Thorac Surg. 2022;114(1):e29-e32.
4. Huang IH, Sinonquel P, Verbeure W, et al. Impact on aerosol generation during upper endoscopy of mouthpiece designed to reduce COVID-19 droplet spread: single-center randomized controlled trial. Endoscopy. 2022;54(1):81-3.
5. Dhillon RS, Rowin WA, Humphries RS, et al. Aerosolisation during tracheal intubation and extubation in an operating theatre setting. Anaesthesia. 2021;76(2):182-8.
6. Brown J, Gregson FKA, Shrimpton A, et al. A quantitative evaluation of aerosol generation during tracheal intubation and extubation. Anaesthesia. 2021;76(2):174-81.
7. van Doremalen N, Bushmaker T, Morris DH, et al. Aerosol and surface stability of sars-cov-2 as compared with SARS-CoV-1. N Engl J Med. 2020;382(16):1564-7.
8. Tang S, Mao Y, Jones RM, et al. Aerosol transmission of SARS-CoV-2? Evidence, prevention and control. Environ Int. 2020;144:106039.
9. Yu IT, Xie ZH, Tsoi KK, et al. Why did outbreaks of severe acute respiratory syndrome occur in some hospital wards but not in others? Clin Infect Dis. 2007;44(8):1017-25.
10. Fowler RA, Guest CB, Lapinsky SE, et al. Transmission of severe acute respiratory syndrome during intubation and mechanical ventilation. Am J Respir Crit Care Med. 2004;169(11):1198-202.
11. Christian MD, Loutfy M, McDonald LC, et al. Possible SARS coronavirus transmission during cardiopulmonary resuscitation. Emerg Infect Dis. 2004;10(2):287-93.