

## COVID-19 infection risk to rescuers from patients in cardiac arrest

Overarching research question: In individuals undertaking chest compressions/ defibrillation/ CPR (population), does the wearing of approved personal protective equipment for aerosol generating procedures (Intervention) compared with not wearing personal protective equipment or another system of personal protective equipment (Comparator) affect infection transmission risk from COVID-19 (outcome)?

Research question one

In individuals in any setting (population), is delivery of 1) chest compressions, 2) defibrillation or 3) cardiopulmonary resuscitation (exposures) associated with aerosol generation (outcome)?

Research question two

In individuals in any setting wearing any/ no personal protective equipment (population), is delivery of 1) chest compressions, 2) defibrillation or 3) cardiopulmonary resuscitation (exposures) associated with transmission of infection (outcome)?

Research question three

In individuals delivering chest compressions and/or defibrillation and/ or CPR in any setting (population), does wearing of personal protective equipment (intervention) compared with wearing any alternative system of personal protective equipment or no personal protective equipment (comparator) affect infection with the same organism as the patient, personal protective equipment effectiveness, or quality of CPR (outcomes)?

Certainty assessment							№ of patients		Effect		Certainty	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	[intervention]	[comparison]	Relative (95% CI)	Absolute (95% CI)		
Research question 1- aerosol generation												
2	observational studies	serious <sup>a</sup>	not serious	serious <sup>b</sup>	not serious	none					⊕○○○ VERY LOW	CRITICAL
Research question 2- transmission of infection												
8	observational studies	very serious <sup>c</sup>	not serious	serious <sup>b</sup>	not serious	none					⊕○○○ VERY LOW	CRITICAL
Research question 3- Infection with same organism as patient												
0											-	CRITICAL
Research question 3- personal protective equipment effectiveness												

Certainty assessment							№ of patients		Effect		Certainty	Importance
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3	randomised trials	serious <sup>d</sup>	not serious	serious <sup>e</sup>	not serious	none					⊕⊕○○ LOW	CRITICAL

**Research question 3- quality of CPR**

3	randomised trials	very serious <sup>f</sup>	not serious	serious <sup>e</sup>	not serious	none					⊕○○○ VERY LOW	IMPORTANT
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CI: Confidence interval

## Explanations

- a. Only evidence type was case reports
- b. Did not describe COVID-19 (based on other infections)
- c. Evidence from studies with very serious risk of bias and from case reports
- d. Data from randomised controlled trial with serious risk of bias
- e. Data based on manikin studies
- f. Data from randomised controlled trials with very serious risk of bias