

## Interventions and diagnostics

## 211 ADVERSE EVENTS FROM NITRATE ADMINISTRATION DURING RIGHT VENTRICULAR MYOCARDIAL INFARCTION: A SYSTEMATIC REVIEW AND META-ANALYSIS

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**Background** The current guidelines of the American Heart Association and European Society of Cardiology recommend that patients experiencing RVMI are not administered nitrates, due to the risk that decreasing preload in the setting of already compromised right ventricular ejection fraction may reduce cardiac output and precipitate hypotension. The cohort study (n = 40) underlying this recommendation was recently challenged by several new studies suitable for meta-analysis (cumulatively, n = 1206), suggesting that this topic merits systematic review.

**Method** The protocol was registered on PROSPERO and published in Evidence Synthesis. Six databases were systematically searched in January 2021: PubMed, Embase, MEDLINE Complete, Cochrane CENTRAL Register, CINAHL, and Google Scholar. Identified studies were assessed for quality and bias and data extracted by two investigators using JBI tools and methods. Risk ratios and 95% confidence intervals were calculated, and meta-analysis performed using the random effects inverse variance method.

**Results** Five studies (n=1113) were suitable. Outcomes included haemodynamics, GCS, syncope, arrest, and death. Arrest and death did not occur in the RVMI group. Meta-analysis was possible for sublingual nitroglycerin 400 mcg (2 studies, n=1050) and found no statistically significant difference in relative risk to combined inferior and RVMI at 1.31 (95%CI 0.81–2.12, p=0.27), with an absolute effect of 2 additional adverse events per 100 treatments. Results remained robust under sensitivity analysis. Other studies are severely limited by sample sizes well below optimal information size.

**Conclusion** This review suggests that the contraindication on nitrate administration during RVMI is not supported by the evidence informing this appraisal for 400 mcg sublingual nitroglycerin. Key limitations include not evaluating beneficial effects, low certainty of evidence, and only two studies being suitable for synthesis. As adverse events are transient and easily managed, nitrates are a reasonable treatment modality to consider during RVMI on current evidence.

**Conflict of interest** None to declare.

**Funding** MWS received a faculty funding grant.

## COVID-19

## 220 'FAMILY MEMBERS SCREAMING FOR HELP MAKES IT VERY DIFFICULT TO DON PPE.' A QUALITATIVE REPORT ON AMBULANCE STAFF EXPERIENCES OF PERSONAL PROTECTIVE EQUIPMENT (PPE) USE AND INFECTION PREVENTION AND CONTROL (IPC) PRACTICES DURING THE COVID-19 PANDEMIC

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**Background** The COVID-19 Ambulance Response Assessment (CARA) study was a prospective, longitudinal survey of UK ambulance staff during the first wave of the COVID-19 pandemic. CARA aimed to evaluate perceptions of preparedness and wellbeing, and to collect staff suggestions to benefit working practices and conditions.

**Method** Three online questionnaires were presented, coinciding with the acceleration, peak and deceleration phases of the first COVID-19 wave in 2020. Inductive thematic analysis was employed to represent 14,237 free text responses from 3,717 participants to 18 free-text questions overall. This report focuses on experiences of IPC practices.

**Results** Many participants lacked confidence in using PPE because of low familiarity, an inadequate evidence-base and changing policy. Some experienced insufficient supply, items of poor quality and suboptimal fit-testing procedure. PPE use was further influenced by discomfort, urgency, and perceptions of risk. Various suggestions were made to improve IPC practices, including decontamination personnel, staff 'bubbles' and limiting exposure through public education and remote triage improvements.

**Conclusion** Repeated poor experiences of implementing IPC practices<sup>1 2</sup> demand that lessons are learnt from this pandemic. PPE developed with specific regard for ambulance staff's unique working environment and for them to receive regular familiarization training in its use would likely benefit performance and confidence. Overall, ambulance staff emphasised the need for IPC policies to be pragmatic, evidence-based and communicated with clarity.

## REFERENCES

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## Quality improvement and organization

## 231 RESUSCITATION ACADEMY GERMANY – SYSTEMIC IMPROVEMENTS FOR BETTER OUT-OF-HOSPITAL CARDIAC ARREST OUTCOMES

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**Background** The first Resuscitation Academy Germany (RAD) aims to improve the outcomes after out-of-hospital cardiac arrest (OHCA) systemically and sustainably according to Eisenberg's 10-step program developed 2008 in Seattle/King County, USA.<sup>1</sup> Participating Emergency Medical Services