

## REGULATION 28: REPORT TO PREVENT FUTURE DEATHS (1)

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|   | <p><b>REGULATION 28 REPORT TO PREVENT FUTURE DEATHS</b></p> <p><b>THIS REPORT IS BEING SENT TO:</b></p> <ol style="list-style-type: none"><li><b>1. Chief Executive, East Midlands Ambulance Service NHS Trust (“EMAS”)</b></li><li><b>2. Chair and MD, Association of Ambulance Chief Executives (“AAACE”)</b></li></ol>  |
| 1 | <p><b>CORONER</b></p> <p>I am Heidi Connor, assistant coroner for the coroner area of Nottinghamshire.</p>   |
| 2 | <p><b>CORONER’S LEGAL POWERS</b></p> <p>I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013.</p>  |
| 3 | <p><b>INVESTIGATION and INQUEST</b></p> <p>On 6 March 2013 I commenced an investigation into the death of Sally Perrons, DoB 26 February 1986. The investigation concluded at the end of the inquest on 27 March 2014. The conclusion of the inquest was a narrative conclusion as follows :</p> <p>The cause of Sally Perrons’ collapse on 22 January 2013 was natural. However, her death was contributed to by an unrecognised oesophageal intubation. East Midlands Ambulance Service had not introduced national guidelines published in 2010 regarding the use of end tidal carbon dioxide monitoring devices. Had such a device been mandated and used, the oesophageal intubation would have been recognised very quickly after it took place.</p> <p>The cause of death was :</p> <ol style="list-style-type: none"><li>1a Pneumonia</li><li>1b Global hypoxic ischaemia of the brain</li><li>1c Cardiac arrest with oesophageal intubation following a non-structural arrhythmogenic event.</li></ol>  |
| 4 | <p><b>CIRCUMSTANCES OF THE DEATH</b></p> <p>Sally Perrons worked as a call taker for East Midlands Ambulance. She attended work shortly after 0700 hrs on 22 January 2013. Her father, [REDACTED], also worked there, and was present that day. At 0739 hrs, she left her work station and went to the toilet. Her colleague found her collapsed in the toilet shortly after 0745hrs. She was quickly noted to be in cardiac arrest, CPR was given and an ambulance was called.</p> <p>An FRV and ambulance crew arrived at 0755 hrs, and commenced Advanced Life Support protocols. Endotracheal intubation was undertaken by a paramedic, [REDACTED], at 0800hrs. No other method of maintaining her airway was attempted before intubating. We heard evidence that both [REDACTED] and his technician colleague believed they saw and heard reassuring signs – ie that the ET tube was in the trachea, and not in the oesophagus. End tidal carbon dioxide monitoring was not carried out. A second paramedic checked Ms Perrons after she had been moved to the ambulance. He too gave evidence that he believed he saw and heard signs of correct placement.</p> <p>Shortly after arrival at the Emergency Department of the Queen’s Medical Centre in Nottingham, at 0824 hrs, doctors treating Sally realised that the ET tube was in the oesophagus. This was removed and replaced. She was admitted to the ICU, but died the following day.</p> |

We heard evidence regarding the extent of [REDACTED] training to intubate. The key points were :

1. He had been signed off as competent to intubate in early 2009, after carrying out 25 whilst supervised in an acute hospital setting. He described the difficulty in getting this training, and the reluctance, as he described it, of hospital anaesthetists to assist with it.
2. Before Sally's collapse, he had personally been involved in 14 intubations of patients, 7 of which were recorded as successful.
3. He had received no refresher training and not been required to carry out practice of intubation technique of any sort since being signed off as competent.

We also heard that it was not until December 2013 that EMAS made use of end tidal CO2 monitors mandatory. We heard in evidence that, after publication of JRCALC Guidelines in this respect in 2010, EMAS produced a draft SOP (dated 19 May 2011).

This SOP states (inter alia) that "intubation is a technique that requires training, experience and regular updating to maintain competence and should increasingly be considered a secondary option following failure of a supra-glottic airway."

The SOP also sets out that end-tidal carbon dioxide monitoring should be used.

The evidence I heard was that this draft SOP went to the CCG, but was never distributed to frontline staff.

We also heard evidence of a complete lack of consistency in the distribution / dissemination of new SOPs, guidelines or bulletins to frontline staff, and no method of ensuring staff had read or were even aware of new guidance.

I made several findings of fact in this case :

1. Sally Perrons' oesophagus was accidentally intubated by paramedics at 0800hrs on 22 January 2013.
2. This was not recognised until she arrived in hospital.
3. EMAS failed to adopt and disseminate national guidelines regarding paramedic intubation and use of end tidal carbon dioxide monitoring devices, for some 3 years after the national guidelines were published.
4. After [REDACTED] was deemed competent to intubate, he then received no refresher training before these events, 4 years later.

I was assisted at this inquest by an independent expert, [REDACTED] Medical Director of South Central Ambulance Service (Hampshire Division), clinical lead for Hampshire & Isle Of Wight Air Ambulance, and Consultant in Anaesthesia and Critical Care at Southampton University Hospital. [REDACTED], you may be aware, is also lead author for the JRCALC resuscitation guidelines, and chaired a recent review on paramedic airway management. [REDACTED] was clear that many of the issues identified at this inquest are not restricted to EMAS, but apply to ambulance services across England and Wales.

He also gave evidence that waveform capnography is far more reliable than paper detectors.

5 **CORONER'S CONCERNS**

During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths will occur unless action is taken. In the circumstances it is my statutory duty to report to you.

The **MATTERS OF CONCERN** are as follows. –

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|   | <p>I am concerned that most of these issues will relate not only to EMAS, but nationally, and I therefore address points 1 to 4 below to all ambulance services in England and Wales, via AACE. Point 5 below relates to EMAS only.</p> <ol style="list-style-type: none"> <li>1. The level of training associated with paramedic intubation – both initial training and subsequent refresher training, particularly given how infrequently most paramedics are called upon to intubate.</li> <li>2. Whether use of waveform end-tidal carbon dioxide monitors is now mandatory.</li> <li>3. Availability of these devices to staff, and training on how to use and interpret them.</li> <li>4. In the absence of radical changes, in particular in relation to initial and refresher training, ambulance services should consider whether paramedics should be permitted to intubate patients at all.</li> <li>5. (In relation to EMAS only) Dissemination of new guidelines/bulletins/SOPs etc to frontline staff and ensuring that all relevant employees have read this.</li> </ol> |
| 6 | <p><b>ACTION SHOULD BE TAKEN</b></p> <p>In my opinion action should be taken to prevent future deaths and I believe you and your organisation has the power to take such action.</p>  |
| 7 | <p><b>YOUR RESPONSE</b></p> <p>You are under a duty to respond to this report within 56 days of the date of this report, namely by 5 June 2014. I, the coroner, may extend the period.</p> <p>Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.</p> <p>For the avoidance of doubt, I will require a response from EMAS separately, and from AACE. The AACE will need to confirm that they have responses from all ambulance services in England and Wales. If necessary, the AACE response may reflect the different approaches taken by the various ambulance services.</p>  |
| 8 | <p><b>COPIES and PUBLICATION</b></p> <p>I have sent a copy of my report to the Chief Coroner and to the following Interested Persons :</p> <ol style="list-style-type: none"> <li>1. Sally Perrons' Next of Kin</li> <li>2. Chair of the UK Ambulance Service National Medical Directors Group, ■■■■■<br/>■■■■■</li> </ol> <p>I am also under a duty to send the Chief Coroner a copy of your response.</p> <p>The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.</p>  |
| 9 | <p><b>9 April 2014</b> <span style="float: right;"><b>HJ Connor</b></span></p>  |