

Senior Coroner David Heming

Lawrence Court  
Princes Street  
Huntingdon  
PE29 3PA

19 May 2025

Dear Mr Heming,

Further to your Prevention of Future Deaths (PFD) Notice issued on 07.04.2025 following the conclusion of your inquest (14<sup>th</sup> October 2024) into the death of Christian Hobbs (aged 17yrs) who died on 26<sup>th</sup> December 2017, we would like to extend our sympathy and condolences to Christian's family and friends.

Christian attended the emergency department (ED) of the Peterborough City Hospital with symptoms of palpitations, chest tightness, cough, aching and vomiting; he was found to be tachycardic and hypotensive. Christian was moved to the ED resus area where he was initially managed for potential sepsis, which included one litre of intravenous (IV) fluids, IV antibiotics, as well as an IV antiemetic (Cyclizine). Investigations undertaken included an ECG (reported as sinus tachycardia) as well as blood tests which included lactate level (raised). Christian's condition rapidly deteriorated and he had a cardiac arrest, which was treated with cardiopulmonary resuscitation; including defibrillation, magnesium and amiodarone infusions as well as intubation. The cardiac arrest team was made up of senior ED, intensive care and medical doctors. Return of spontaneous circulation (ROSC) was achieved and Christian continued to receive inotropic support and the intensive care consultant undertook a bedside echocardiogram which showed septal wall akinesia and a filled inferior vena cava. Unfortunately, despite extensive inotropic support, treatment for hyperkalaemia, and mechanical ventilation, Christian's condition continued to deteriorate and he very sadly died. The cause of death was a previously undiagnosed cardiomyopathy leading to cardiogenic shock and multi organ failure.

From your report, the RCEM feels that the initial clinical management in this case was appropriate given the greater likelihood of infection or sepsis being the cause of Christian's presentation than the much less likely diagnosis of cardiomyopathy. We further feel that the clinical management plan which prioritised the delivery of time critical therapy followed by an assessment to see if the interventions had been effective was appropriate.

Point B – Echocardiography. Regarding your concern that echocardiography was not performed prior to cardiac arrest, we can confirm that the RCEM training curriculum at the time [1] did not include cardiac ultrasound for the purposes of shock assessment, it was only included as an adjunct in the setting of cardiac arrest. It would therefore have been an unreasonable expectation that a focused cardiac ultrasound for the assessment of shock should have taken place before cardiac arrest by the emergency medicine doctor. A subsequent curriculum update in 2021 did include focused cardiac ultrasound for shock assessment for emergency medicine doctors in their last years of training [2]. The RCEM also

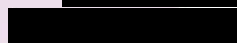
provides learning resources for members regarding the use of point of care ultrasound (POCUS) in shock [3]. It is difficult for the RCEM to comment with any degree of certainty on whether a focused cardiac ultrasound for assessment of shock prior to Christian's cardiac arrest would have made any significant difference in this case. We note your PFD notice also references issues regarding the access to and the provision of emergency echocardiography services in acute hospitals and we share your concerns, as it is unrealistic to assume that all emergency medicine doctors will be proficient at providing focused cardiac ultrasound for the assessment of shock, despite RCEM's updated trainee curriculum.

Point K – Antiemetic medication. We agree that some anti-emetic medication can cause arrhythmias for example by prolonging the QT interval (e.g. Prochlorperazine {common} and Ondansetron {rare or very rare}) [1]. Christian was given the single anti-emetic cyclizine which the British National Formulary (BNF) [4] suggests may possibly be a cause of arrhythmias but it is unable to quantify the frequency of this side-effect as it occurs less than 'very rarely' (frequency not known). We are mindful that at the time when the clinical team made the decision to give an anti-emetic they were unaware of Christian's undiagnosed underlying heart condition (cardiomyopathy). Regarding the academic publication in your PFD notice [5], we note this case involved the use of three different anti-emetic agents in the same patient, including two agents which are highlighted by the BNF as causing QT prolongation prochlorperazine, ondansetron in-addition to cyclizine. However, despite our uncertainty regarding the contribution of cyclizine to Christian's deterioration, we do feel that a safety communication with RCEM members would be worthwhile and valuable. The safety communication will highlight which commonly used anti-emetics are known to prolong the QT interval or promote arrhythmias, especially since the use of ondansetron in EDs has increased considerably since 2017. We undertake to do this before April 2026.

Point L – ECG Analysis. We note that on arrival in the ED, Christian had a significant tachycardia which would have made the diagnosis of any underlying structural heart defect especially difficult even for the most experienced emergency medicine clinician. The RCEM supports emergency departments in helping to ensure that emergency medicine clinicians are able to interpret electrocardiograms (ECGs) by providing a number of online resources including general ECG interpretation [6] as well as tachycardias seen in the resus room [7]. The latter also makes reference to drugs which may cause QT prolongation. The RCEM curriculum also includes ECG interpretation as a core skill [8]. Regarding the academic publication in your PFD notice [9] we note that this study only included 42 UK doctors and did not include emergency medicine doctors and highlights the good practice of their local emergency department which has a policy of only allowing registrars who have undergone specific competency training in ECG interpretation to be allowed to 'sign off' ECGs; the inference seems to be that this ED policy should be replicated by the rest of the hospital.

Thank you for bringing these issues to our attention and for providing such a comprehensive report regarding this extremely sad and tragic event.

Yours sincerely,



Chair, Quality in Emergency Care Committee  
Royal College of Emergency Medicine

## References

- 1 [C inetpubwwwrootmedicalcemUploaddocumentzCEM8489-RCEM 2015 Main Curriculum - Applicable from August 2016 \(approved 23 Nov 2015\) \(Aug 2016 update1\).pdf](#) (Accessed 01.05.2025)
- 2 [SLO 6 - Proficiently deliver key procedural skills needed in Emergency Medicine - RCEMCurriculum](#) (Accessed 01.05.2025)
- 3 <https://www.rcemlearning.co.uk/reference/ultrasound-assessment-of-patients-in-shock/> (Accessed 01.05.2025)
- 4 The British National Formulary, Royal Pharmaceutical Society. <https://bnf.nice.org.uk/> (Accessed 11.04.2025)
- 5 Khan A, Kenawi A, Jadhav S et al. (July 09 2024). Ventricular Fibrillation Arrest Triggered by Antiemetics Revealing an Underlying Long QT Syndrome in a Young Woman. Cureus16(7): e64136. DOI 10.7759/cureus.64136
- 6 <https://www.rcemlearning.co.uk/modules/doctor-can-you-cast-your-eyes-over-this-ecg-for-me-induction-course/> (Accessed 11.04.2025)
- 7 <https://www.rcemlearning.co.uk/reference/tachycardias-in-the-resuscitation-room/#1674164879404-2a75f5d5-f07b> (Accessed 11.04.2025)
- 8 <https://rcemcurriculum.co.uk/answer-clinical-questions/#1553791006781-2d6725a6-2b0d> (Accessed 02.05.2025)
- 9 Abdalla A, Khana D (September 29, 2022). Electrocardiography interpretation proficiency among medical doctors of different grades in the United Kingdom. Cureus 14(9): e29755. DOI 10.7759/cureus.29755.