



David Heming
Senior Coroner for Cambridgeshire and Peterborough

	<p>REGULATION 28 REPORT TO PREVENT FUTURE DEATHS</p> <p>THIS REPORT IS BEING SENT TO:</p> <ol style="list-style-type: none">1. Matthew Hopkins, Chief Executive, Barking, Havering and Redbridge University Hospitals NHS Trust2. Care Quality Commission3. Simon Stevens, Chief Executive Officer, NHS England
1	<p>CORONER</p> <p>I am David Heming, Senior Coroner for Cambridgeshire and Peterborough</p>
2	<p>CORONER'S LEGAL POWERS</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> <p>http://www.legislation.gov.uk/ukpga/2009/25/schedule/5/paragraph/7 http://www.legislation.gov.uk/uksi/2013/1629/part/7/made</p>
3	<p>INVESTIGATION and INQUEST</p> <p>On the 8th March 2016 I commenced an investigation into the death of Sam Antony Crick, aged 24 years. The investigation concluded at the end of the inquest on the 5th April 2017. The medical cause of death was:-</p> <ol style="list-style-type: none">1a. Obstructive hydrocephalus.1b. Midbrain glioma <p>There was a narrative conclusion that he - died from complications of raised intracranial pressure resulting from the late failure of an endoscopic third ventriculostomy. Neurosurgical intervention on or prior to the 28th February 2016 would have led to survival.</p>
4	<p>CIRCUMSTANCES OF THE DEATH</p> <p>The deceased underwent an endoscopic third ventriculostomy on the 26th October 2007 that was performed by [REDACTED] Consultant Neurosurgeon. A scan had also revealed subtle abnormalities in the tectum which was subsequently reported radiologically as a tectal plate tumour.</p> <p>The deceased was subject to periodic ophthalmology reviews, which were relayed to the neurosurgical department at Queens where he was still being monitored until he was discharged from further surveillance there on the 20th</p>

November 2012.

In the summer of 2015, he became symptomatic again and an MRI scan was subsequently obtained on the 31st October 2015 at the Luton and Dunstable (L and D) hospital as he had been referred there by his GP.

██████████ Consultant Neurologist saw him in clinic on the 4th November 2015 and there was a referral letter sent the same day to the Queens Hospital Romford requesting an urgent assessment. It was stated that the October 2015 MRI scan revealed hydrocephalus.

In addition, a more comprehensive letter from ██████████ was sent that set out the investigation undertaken and the scan findings and detailed the symptoms from the summer of 2015 onwards. There was noted to be a constant dull headache which had been present from the middle of September 2015 with episodes of dizziness and the fundoscopic examination by ██████████ was recorded as finding bilateral papilledema.

In addition to referral to Queens Hospital, Romford, there was mention of an urgent ophthalmological examination and this was conducted by ██████████ ██████████ Consultant Ophthalmologist at L and D at a clinic appointment on the 18th November 2015 where fundal examination revealed papilledema, which is a sign of raised pressure in the head consistent with his MRI scan result of hydrocephalus.

██████████ reviewed again on the 24th December 2015. The right optic disc was slightly more swollen, visual acuity was normal and visual fields were generally depressed.

On the 20th November 2015, two clinicians at the Queens Hospital namely ██████████ ██████████ Consultant Neurosurgeon and ██████████ Consultant Neuro-Interventional Radiologist met and discussed the October 2015 MRI scan from the L and D. It was recorded that there was no change in the tumour or hydrocephalus on the October 2015 scan when comparing with an earlier 2010 scan.

██████████ saw Sam in a clinic appointment on the 2nd December 2015. He recorded symptoms of headaches, dizziness and some blurring of vision and on examination noted there was no frank papilledema but the margins of his discs were probably a bit blurred

On the 4th December he discussed the scans in a neuroradiology MDT where a ██████████ Consultant Neuroradiologist felt there had been a slight increase in the mid brain lesion and it was also felt that there had been some increase in the ventricular size in comparison to the 2012 MRI scan and CISS sequence MRI scans were requested.

An MRI scan was undertaken at the Queens hospital on the 26th January 2016.

The scan was reviewed by ██████████ and on the 3rd February 2016 when he saw the deceased in clinic again although the early part of the consultation had been conducted by ██████████ a neurosurgery registrar. The decision

was to refer to Mr. John Brecknell for review.

A neuroradiology report of [REDACTED] was produced on the 4th February 2016, the day after the clinic appointment

[REDACTED] reviewed the scans on the 22nd February 2016 and an outpatient appointment was requested on a soon as basis and this was arranged for May 2016.

The deceased suffered a catastrophic collapse on the 29th February 2016 and following assessment he was transferred to Addenbrookes hospital but despite a neurosurgical intervention that evening, the brain damaging incident was irreversible and he died on the 4th March 2016.

At post mortem examination, [REDACTED] Consultant neuropathologist found evidence of chronically raised intracranial pressure with the cerebral swelling having remodeled the inner surface of the skull over time.

I found as a fact that the symptoms the deceased suffered from the latter part of 2015 onwards arose from a recurrence of his hydrocephalus with consequent and progressive increase in intracranial pressure that ultimately resulted in the catastrophic collapse on the 29th February 2016 which marked the tipping point of his tolerance threshold.

The cause was on balance a late failure of the endoscopic third ventriculostomy which was no longer functioning as an effective diversion of cerebrospinal fluid and was leading to raised intracranial pressure.

Box 3 of the record of inquest was completed as follows :-

On the 4th March 2016 at Addenbrookes Hospital Hills Road Cambridge from severe and diffuse hypoxic brain damage resulting from raised intracranial pressure (operated on with an external ventricular drain insertion as an emergency transfer patient on the 29th February 2016) with central herniation and downward displacement of the brain stem that had led to a Duret haemorrhage. Earlier Neurosurgical management at another hospital from early December 2015 onwards was in an outpatient list framework on a semi urgent basis and no operation was planned prior to his collapse on the 29th February 2016, but the clinical and radiological picture was of progressive rising intracranial pressure as evidenced by herniation of brain parenchyma through a burr hole, papilledema and other symptoms which would have been relieved by prompt inpatient surgery

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. –

To BHRT

(A). This was a significant adverse event and the death was preventable. However, there has been no serious incident report (SIR) into the death. The importance of the SIR process is to consider root causes and importantly, to make recommendations and implement an action plan. Learning lessons is a key feature of the process.

(B). The neuroradiological review of the CT scan in November 2015 and early December 2015 did not highlight the obvious brain parenchymal herniation through the pre-existing burr hole as well as other interval change and this was a missed opportunity of flagging a clear indicator of rising intracranial pressure. Furthermore, there is now a separate investigation on the death of another person (SP) where involvement of the neuroradiology department at the Queens hospital is a central issue.

(C). The last face to face consultation between the Neurosurgeon and the deceased was on the 3rd February 2016 but the written neuroradiological report of the January 26th CT scan was not available until the 4th February 2016 and so this report was not considered by the Neurosurgeon as it was not available for this key consultation. This report did highlight some alarming features of herniation but this vital information was therefore not considered.

(D). The consultant neurosurgeons examination on the 2nd December 2015 did not find frank papilledema and yet an examination by a consultant ophthalmologist at the Luton and Dunstable hospital on the 18th November 2015 and 24th December 2015 had found papilledema at both appointments. The consultant neurologist's referral letter from Luton and Dunstable indicated a finding of papilledema also and stated an ophthalmic review was being sought but there appears to have been no attempt to find the outcome of the Luton assessments. Further, and in the alternative, no specialist ophthalmic advice was sought by the neurosurgeon even though there had been lengthy ophthalmic follow up over a number of years after the third ventriculostomy in 2007 and also given the recorded findings of the consultant neurologist in Luton.

To BHRT and the CQC

(E). There have been a number of Regulation 28 reports issued by Nadia Persaud, Senior Coroner for the area of the Eastern Area of Greater London raising concerns over a number of clinical deaths. In addition, a CQC inspection in September 2016 and October 2016 (report published March 2017) have made findings of the trust 'requiring improvement' in a number of respects when measuring against key standards.

The CQC report published in December 2013 referred to a previous mortality alert concerning septicaemia shunting in hydrocephalus where the hospital review found no obvious deficits in clinical or operative quality. This inquest was an independent review where expert evidence exposed shortcomings in the management of hydrocephalus.

It is not clear whether the circumstances of this death were disclosed during the most recent inspection

NHS ENGLAND

(F). A point explored in the investigation was the administration of opioid analgesia in someone who has raised intracranial pressure. This was looking at an opiate acting as a respiratory depressant with a consequent rise in the level of carbon dioxide in the blood which in turn could further raise ICP provoked by hypercapnia. This could cause a fatality. Luton and Dunstable hospital have designed a standard operating procedure to address this and it raises a question of whether this should be distributed nationally so as to achieve consistency of approach.

6 ACTION SHOULD BE TAKEN

In my opinion action should be taken to prevent future deaths and I believe you have the power to take such action.

7 YOUR RESPONSE

You are under a duty to respond to this report within 56 days of the date of this report, namely by the **20th October 2017**. I, the coroner, may extend the period.

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.

8 COPIES and PUBLICATION

I have sent a copy of my report to the Chief Coroner and to the following Interested Persons :-

██████████ (mother).

██████████ (Father).

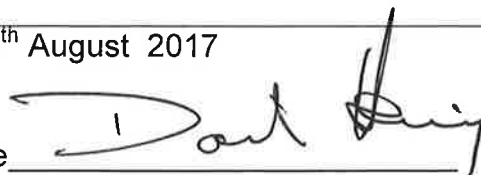
Luton and Dunstable university Hospital NHS Foundation Trust.

I am also under a duty to send the Chief Coroner a copy of your response.

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.

9 Dated 25th August 2017

Signature



David Heming, Senior Coroner for Cambridgeshire and Peterborough