REGULATION 28 REPORT TO PREVENT FUTURE DEATHS

THIS REPORT IS BEING SENT TO:

1. Chief Executive, BMI hospitals
2. Chief Executive, Royal Surrey County Hospital
3. Royal College of Radiologists
4. Chief Executive, CQC
5. General Medical Council

CORONER

I am Karen HENDERSON, HM Assistant Coroner for the coroner area of Surrey

CORONER'S LEGAL POWERS

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

INVESTIGATION and INQUEST

On 10th July 2014 I commenced an investigation into the death of Mr Crittall, 80 years of age. The investigation concluded at the end of the inquest on 3rd March 2016. The medical cause of death given was:

1a. Multi-organ dysfunction syndrome and septicaemia
1b. Latrogenic haemothorax associated with an insertion of a chest drain

2. Chest infection (diagnosed 2nd July 2014)

My narrative conclusion was:

Mr Crittall died from complications arising from insertion of a chest drain in circumstances whereby neglect contributed to his death

CIRCUMSTANCES OF THE DEATH

Mr Crittall was an 80 year old man who was generally fit and well other than a diagnosis of bronchiectasis made earlier in the year for which he had received a course of antibiotics. He went to his GP after being unwell at home for several days. He was diagnosed with pneumonia and a chest x-ray confirmed a right lower lobe pneumonia with a small associated pleural effusion. At his own request he was admitted to Mount Alvernia Hospital on the 2nd July 2014 for treatment. On admission he was confused and found to have elevated inflammatory markers (e.g. CRP in excess of 400). He was reviewed by the responsible respiratory consultant later that day and intravenous antibiotics were commenced.

By the following day, Mr Crittall was found to have significantly improved and continued to improve. He was no longer confused. He felt well, had a good appetite, good exercise tolerance and saturations of 96% on air. The nursing staff, physiotherapist and physiotherapist assistant and his family documented and commented on his improvement. He was reviewed by the respiratory consultant on the 3rd July and a chest x-ray form was written for the 4th July with a request for consideration of drainage of the small pleural effusion which had been reported on the admission chest x-ray.

Another chest x-ray was taken by the consultant radiologist on 4th July and reported the effusion as unchanged. A decision was made to insert a chest drain and he attempted to insert a 6 f gauge pigtail chest drain posteriorly. Ultrasound was used to place a 'cross' on the chest wall to mark the point of insertion 'blind' with no 'real-time' ultrasound visualisation. The chest drain insertion was unsuccessful and a further attempt was made laterally in the same way. Apart from a small volume (~20 mls) of blood stained fluid there was no other drainage. The chest drain was left in situ. No steps were taken to visualise the position of the drain. Mr Crittall returned to the ward and was left in the care of a health care assistant.

Approximately one hour after his return to his room, Mr Crittall became unwell. He was in pain, could not breath properly, became hypotensive and tachycardic. The RMO was called and instituted simple measures such as raising the end of the bed to improve blood pressure. He continued to deteriorate with respiratory, cardiovascular, and haemodynamic compromise and the RMO was asked to review again and further resuscitation was undertaken by the RMO and the nursing staff.

The resuscitation was chaotic and ineffective. Basic observations were incomplete, the high MEWS score was not appreciated, appropriate monitoring was available but not applied and an ECG showed a supraventricular tachycardia but was recognised as such. The consultant radiologist was called and a portable chest x-ray confirmed a large right sided haemothorax. A cannula was inserted by the radiologist for a pneumothorax without evidence of one on the portable chest x-ray.

A larger bore intravenous cannula was attempted by the RMO but failed and fluid resuscitation was limited. A blood transfusion was not considered although blood was available, transfer to the recovery ward for closer monitoring and management was not considered or undertaken in circumstances where there was no HDU/ITU facilities on the ward. The 'crash' team were not called. No senior medical staff were requested to attend (anaesthetists were on site undertaking surgical cases) by the nursing staff or the radiologist who left Mr Crittall's room in the belief that the RMO was in control. The respiratory (responsible) physician was called but did not attend due to other medical commitments.

A 999 call was made and on arrival the paramedics urgently transferred Mr Crittall to the Royal Surrey County Hospital. On arrival he was in a peri-arrest situation with a blood pH of 6.95, pCO2 of >12 and a lactate of 12 with no effective management or control of his airway, breathing and circulation in place. He had a brief period of cardiac arrest but was resuscitated with intubation, ventilation, fluid, blood products and inotropes. When he became more stable Mr Crittall was transferred to St George's hospital for further investigation and management, arriving in the early hours of the 5th July 2014.

On arrival at St George's hospital he was in incipient multi-organ failure. He became more unstable in the ITU and a CT scan showed active bleeding in the chest. He underwent an emergency thoracotomy in the early hours of the 5th July 2014 and a tear was found in a lower order branch of the pulmonary artery which was repaired. He returned to the ITU but despite maximal support he did not improve and Mr Crittall died on the 6th July 2014.

No attempt was made to contact the family of Mr Crittall by either clinician after he became unwell or at any time after he died causing considerable distress to the family.

CORONER'S CONCERNS

During the course of the inquest the evidence revealed matters giving rise for concern. In my opinion there is a risk that future death 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:

1. The admission of an acutely unwell patient with pneumonia to a private hospital dealing primarily with elective surgical procedures with no HDU/ITU facilities in case of deterioration. The most senior doctor in the hospital, other than visiting clinicians was an RMO of unclear experience who usually has the care of more than 50 patients at any one time but can be as many as 72. This is alongside nursing staff who have no significant grounding in resuscitation and an unclear understanding of chest drain insertion for pneumonic pleural effusions, usually having to deal with malignant pleural effusions.

2. The absence of operational protocols and a HDU/ITU facility to manage emergency situations and a reliance on a 999 call for paramedics to provide care for a hospital who undertakes such procedures prior to transferring an unwell patient to an NHS hospital.

3. The insertion of a chest drain on the 4th July was not supported by British Thoracic Society (BTS) guidelines and was attempted on a background of an improving clinical picture without repeat of relevant investigations (e.g. inflammatory markers) or evidence of a developing or actual empyema or a further medical review, by either the radiologist or responsible clinician, to confirm its necessity.

4. I heard evidence that the insertion of a chest drain may pre-empt difficulties that may arise if Mr Crittall deteriorated over the approaching weekend. This was contrary to expert evidence that chest drain insertion should only be considered as a necessity and should not be influenced by the day of the week.

5. Real time ultrasound visualisation was not used to guide the chest drain insertion against 'best practice'. I was led to believe 'best practice' was not commonly practiced at the Royal Surrey County Hospital and in many other hospitals nationally. I also heard evidence real time ultrasound visualisation would have assisted the insertion as the effusion was small and lay in an awkward position close to tethering of the lung to the chest wall (which was not documented in the hospital notes or radiologist's statement but was clearly present on ultrasound pictures examined by [redacted] and acknowledged to be present by the radiologist who undertook the chest drain insertion in oral testimony).

6. The position of the non-draining (second attempt) chest drain was not radiologically confirmed, against expected practice, particularly as it was not draining. I heard exert evidence that this resulted in a delay in the recognition and prompt management of the haemothorax which contributed to Mr Crittall's death.

7. Best practice measures had not been instituted in the radiology department to safeguard patients undergoing radiologically interventions. This included completion of an appropriate consent detailing complications, radiological indications for insertion of a chest drain independent of the respiratory consultant, a WHO checklist, no observations (BP, HR, temp etc) before or after the chest drain procedure on a background of poor communication with the ward staff as to what plan was in place other than an outdated protocol for management of chest drains on the ward which did not address action was to be taken if complications arose. It was held in court that if these steps were in place it is likely the haemothorax would have been picked up quicker allowing greater amount of time for appropriate steps to have been taken e.g. earlier resuscitation and a direct transfer to a regional thoracic unit.

8. The use of a 6 f gauge pig tail catheter in the management of pleural effusions with or without an empyema was against both national guidelines and expert evidence heard at inquest and was unsupported by either international research or any recent local audits undertaken to justify their use in preference for larger small bore chest drains.

9. The court heard evidence there was a 'local' proactive approach for the insertion of chest drains based on no objective evidence other than a belief that the very smallest catheters were safer and more comfortable and reduced referral for surgical management of an empyema. This view was against expert evidence at inquest and concern was raised that this approach inevitably led to an excess of chest drains being inserted unnecessarily particularly when BTS guidelines were not being routinely applied and/or no evidence of a developing or actual empyema.

10. The radiologist did not have Acute or Basic Life Support training as would be expected for all clinical hospital staff as part of mandatory training for NHS appointments.

11. There was minimal documentation by the consultant respiratory consultant, with only a brief entry in the notes on admission. There was no management plan in place, no record of any clinical examination undertaken and no request to check inflammatory markers which had been elevated to see whether they had improved which may have assisted in the necessity for the chest drain. It appeared to be an understanding a chest drain would be sited as a joint enterprise between the physician and radiologist.

ACTION SHOULD BE TAKEN

In my opinion action should be taken to prevent future deaths and I believe you and your organisation: BMI hospitals, Royal Surrey County hospital, Royal College of Radiologists, CQC, GMC have the power to take such action.

YOUR RESPONSE

You are under a duty to respond to this report within 56 days of the date of this report, namely by 11th July 2016. I, the coroner, may extend this 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.

COPIES and PUBLICATION

I have sent a copy of my report to the Chief Coroner, Chief Executive Royal Surrey County Hospital, CQC, GMC, President of Royal College of Radiologists, and to the following Interested Persons [redacted] (son), [redacted] (son), [redacted] (daughter), Chief executive of BMI hospitals. I have also sent it to [redacted] and [redacted] who may find it useful or of interest.

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.

DATE: 16th May 2016 **SIGNED: Dr Karen Henderson**