**SHERIFFDOM OF SOUTH STRATHCLYDE, DUMFRIES & GALLOWAY at AYR**

**Inquiry held under the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976**

**DETERMINATION**

**by**

**DOUGLAS A. BROWN**

**Sheriff of South Strathclyde, Dumfries and Galloway**

**following an inquiry into the death of**

**MARION SCOTT WELSH KERR CUTHBERT**

AYR: 18 December 2007

The sheriff, having considered the evidence, determines –

1. in terms of section 6(1)(a) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 that Marion Scott Welsh Kerr Cuthbert, born 6 August 1932, residing at Albyn, Kilgrammie, Girvan, died at Ayr Hospital, Dalmellington Road, Ayr, at 5.30am on 6 March 2003, and

2. in terms of section 6(1)(b) of that Act that the cause of her death was congestive cardiac failure and myocardial infarct.

Sheriff D A Brown

NOTE

INTRODUCTION

1. This was an inquiry into the death on 6 March 2003 at Ayr Hospital of Marion Scott Welsh Kerr Cuthbert, aged 70 years, residing at Albyn, Kilgrammie, Girvan. She fell at home on 23 November 2002 and fractured her left femur. She was admitted to Ayr Hospital in the early hours of 24 November 2002 and was treated for the fracture. Having made satisfactory progress towards recovery she was on 17 January 2003 transferred to Biggart Hospital, Prestwick for rehabilitation. Initially she continued to make satisfactory progress but then her condition deteriorated and on 3 March 2003 she was transferred back to Ayr Hospital suffering from heart failure. She died three days later. Her family were of the opinion that the deterioration at Biggart Hospital was largely due to a lack of proper medical care and that her death at that time could have been avoided. This then was the focus of the inquiry.

2. At the inquiry Mr Toal, Procurator Fiscal Depute, represented the Procurator Fiscal, Mr MacSporran, Advocate, represented Ayrshire and Arran Health Board and Miss Margaret Cuthbert, the deceased's daughter, represented the family.

DEFINITIONS

3. Use of medical terminology is unavoidable. To assist in understanding, I have set out in an appendix a glossary of various medical terms used and my understanding of their meanings.

WITNESSES

4. Evidence was led from the following witnesses –
   - Margaret, Linda and James Cuthbert, who were Mrs Cuthbert's daughters and son,
   - Drs Debasish Das, Khaled Musbahi and Fazle Khan and Staff Nurse Sharon Reid, who had been involved in her care at Biggart Hospital,
   - Dr Krishna Prasad, who had been involved in her care at Ayr Hospital,
   - Dr Joyce Lang, who had carried out the post mortem examination, and
   - Drs Lindsay Erwin and James Davie, who had been instructed as expert witnesses to provide an independent view.

A potential witness Dr Sridiva Konkimalla, who had examined and treated Mrs Cuthbert towards the end of her stay in Biggart Hospital, was unavailable in the USA. This was unfortunate as her involvement came at a significant time.

FINDINGS IN FACT

5. On 23 November 2002 Marion Scott Welsh Kerr Cuthbert ("Mrs Cuthbert"), born 6 August 1932, was living with her daughter Miss Margaret Cuthbert ("Miss Cuthbert"), aged 47, at Albyn, Kilgrammie, Girvan.

6. She had been a smoker for most of her life until advised by her doctor to stop in 1998. She had a history of health problems, in particular, insulin dependent diabetes, chronic obstructive pulmonary disease (COPD) and psoriasis. She had limited mobility and could not walk long distances but enjoyed regular outings with her family.

7. In the afternoon of 23 November 2002 she fell at home. Later that evening she was taken by ambulance to Ayr Hospital where a fractured left femur was diagnosed. She was admitted in the early hours of 24 November.

8. Internal fixation involving a general anaesthetic and open surgery to the bone was initially considered but her medical history was such that this was considered too risky and instead it was decided to opt for external treatment involving pinning and traction with a splint. That involved a long period of immobility but the risks were less than with open surgery. That procedure was successfully completed.

9. On 17 January 2003, after some 8 weeks at Ayr Hospital, she was transferred to the Lindsay ward at Biggart Hospital, Prestwick for rehabilitation.

10. The consultant in charge of her treatment at Biggart Hospital was Dr Khaled Musbahi, who was a locum consultant. He had overall responsibility for the care of around 140 patients there and in two other hospitals. He worked from Monday to Friday between 9am and 5pm. He carried out a weekly round of all patients in the Lindsay ward each Tuesday. During this round he examined each patient. At a minimum, he checked each patient's chest, back, abdomen and legs, unless the patient was particularly unwell and a different approach was appropriate. Day-to-day care was the responsibility of nurses and they could call in a doctor at senior house

officer grade when appropriate. Such a doctor could have responsibility at any one time for up to around 200 patients. If advice or assistance from a more senior doctor was required, he or she could contact a consultant at any time of the day and night. The level of medical cover at Biggart Hospital was less than at Ayr Hospital because Biggart Hospital was a rehabilitation site, designed for assisting in the recovery process, whereas Ayr Hospital was an acute site, designed for the treatment of acute conditions.

11. On Tuesday 21 January Dr Musbahi examined Mrs Cuthbert on his weekly ward round and instructed a chest X-ray and the chasing up of blood test results.

12. On Tuesday 28 January Dr Musbahi noted that her chest X-ray and blood test results were OK and that she was keen to walk.

13. On Tuesday 4 February Dr Musbahi noted that although her leg would not be weight-bearing for another 4 weeks, she was able to walk a short distance using a supporting stand. He also noted a weight increase of 6kg but considered that this was largely due to her plaster cast. Her weight had varied over the preceding weeks and the increase since admission was only 2.7kg.

14. On Tuesday 11 February Dr Musbahi noted that her leg would not be weight-bearing for another 2 weeks, which was a shorter period than anticipated on 4 February and suggested good progress. A nurse noted in the nursing notes a complaint of ankle oedema and a doctor's instruction to elevate meantime. Ankle oedema was common in patients who, like her, were immobile and the practice was to elevate the leg and investigate further if that did not cure it.

15. On Saturday 15 February a nurse noted "difficulty breathing – chest tightness – no pain". Miss Cuthbert thought that her mother was getting quite breathless. She was visiting her every weekday after work at about 5.20pm and at other times at weekends.

16. On Tuesday 18 February a nurse noted increased "generalised oedema". Dr Musbahi examined her on his weekly ward round that day and did not find generalised oedema or increased breathing difficulty.

17. On Thursday 20 February a nurse noted increased "generalised oedema".

18. On Friday 21 February a nurse noted “generalised oedema due to immobility”.

19. On Saturday 22 February a nurse noted “remain dyspnoeic – chesty cough – inhalers as needed”.

20. On Sunday 23 February a nurse noted “remains breathless”. Dr Debasish Das, a senior house officer, examined her chest with a stethoscope. He found it to be clear, with normal breath sounds and no abnormal sounds. Oxygen saturation was reasonably good at 95% and blood pressure was normal.

21. On Monday 24 February Miss Cuthbert expressed concern to a nurse that her mother’s hands were becoming oedematous and that she was anxious and breathless. She asked her to mention this to the consultant on his Tuesday round. A nurse noted that she appeared increasingly oedematous in the legs, abdomen and sacral area and increasingly breathless and discussed this with Dr Fazle Khan, a senior house officer. He instructed that she should be given a once-only oral dose of 40mg of frusemide pending review by the consultant the following day. At 11.10am oxygen saturation was recorded as 85%. This was an abnormally low reading and was out of step with previous readings. Readings were being taken by means of a device attached to a hand and could be incorrect if the hand was cold. The matter was re-checked by taking another reading at 3pm. This was a satisfactory 94%.

22. On Tuesday 25 February Dr Musbahi examined her on his weekly round. A nurse told him about Miss Cuthbert’s concern about the oedema and about Dr Khan’s instruction for a dose of frusemide. He confirmed that she was suffering from oedema but found that it was confined to her lower limbs. He instructed a daily oral dose of 80 mg of frusemide to treat the oedema. He also found that she was more breathless than previously. He examined her chest with a stethoscope and found it to be clear. In particular there were no crackles or crepitations such as might indicate congestive heart failure. He considered that the most likely cause of her symptoms was her COPD but instructed an echocardiogram to check the functioning of the heart. On her regular evening visit that day, Miss Cuthbert thought that her mother, though unwell, was not as bad as on the Monday.

23. On Wednesday 26 February a nurse noted “breathless this am”. When she visited, Miss Cuthbert noticed that her mother had had her hair permed. Mrs Cuthbert told her that she was

due to go to Ayr Hospital the following day to have her plaster cast removed and wanted to look OK. Miss Cuthbert thought that she remained unwell.

24. On Thursday 27 February a nurse noted that she had attended the orthopaedic clinic at Ayr Hospital, that she could now weight bear and that she was exhausted after the visit. When Miss Cuthbert visited she was very concerned about her mother's wheezing and her worn-out appearance. She asked a nurse to get a doctor to see her. Dr Khan arrived and was told about the breathing problem. He examined her chest with a stethoscope and found it to be clear, with no abnormalities. After the examination he spoke to Miss Cuthbert and said that the cause of the breathing problem was emphysema. Miss Cuthbert said that the emphysema had never been that bad and asked if there could be a chest infection. Dr Khan said that he had heard nothing to suggest that. He said that she had the wrong strength of inhaler and that she should use it twice as much until she had one of the right strength. Miss Cuthbert said she would bring in her inhaler from home. She mentioned her mother's oedema. Dr Khan said that it was normal, given her immobility. One positive feature noted by Miss Cuthbert was that her mother's leg appeared to be healing well and she anticipated that she would shortly be mobile and discharged home.

25. On Friday 28 February a nurse noted that she declined to work with the physiotherapist until she had rested but that having lain on a bed from 10 to 11.30am saw the physiotherapist then. When Miss Cuthbert visited in the evening her mother told her that she had managed to do a bit of physiotherapy that day and had walked a few steps with a walking aid but that she felt she had done too much. Miss Cuthbert thought that her breathing was laboured and that her hands and fingers were more swollen. She gave her the inhaler she had brought from home.

26. On Saturday 1 March Staff Nurse Sharon Reid noted that she was "feeling unwell – nothing specific". Miss Cuthbert visited shortly after 2.30pm and became very concerned because her mother was struggling to breathe and was coughing badly. She approached a nurse with a view to calling a doctor but Staff Nurse Reid was already on the phone to a senior house officer, Dr Sridiva Konkimalla, about Mrs Cuthbert's breathlessness. That was at about 3.10pm. Dr Konkimalla was the only doctor on duty, as was the normal practice at weekends. She was busy elsewhere in the hospital but said that she would attend when she was free. Meantime she instructed that she should be given oxygen. Staff Nurse Reid put an oxygen mask on her face. Dr Konkimalla arrived in the ward at about 3.45pm. Miss Cuthbert told her that she was very concerned about her mother's state of health, particularly her breathing difficulties and the

amount of oedema. Dr Konkimalla noted that her oxygen saturation was 88%, that there was peripheral oedema in both the lower limbs and the upper limbs, that the frusemide dose had recently been increased to 80mg and that there were scattered wheezes all over the chest. She instructed regular administration via a nebuliser of two drugs, atrovent and salbutamol, to assist with breathing, continuing administration of oxygen, an oral dose of 40 mg of frusemide, monitoring of oxygen saturation and urine output and re-checking of blood tests. She also instructed the obtaining of a sputum sample to check for any chest infection. After Dr Konkimalla's visit Miss Cuthbert remained with her mother into the evening. Her mother was having continuing difficulty with her breathing and Miss Cuthbert asked that the doctor should see her again. In response to that request, Dr Konkimalla returned at about 8.45am and re-examined her. On examination of her chest she thought that it sounded much better, though there were still some wheezes. She said that the breathlessness was due to the emphysema and that the oedema was due to the immobility. She noted that she was not keeping the oxygen mask on as she was claustrophobic but that if she did, the saturation levels increased to 92 to 93%. She instructed that the oxygen should be administered through a nasal cannula (tube) rather than a mask and that the salbutamol should be administered via a nebuliser every 3 hours.

27. On Sunday 2 March a nurse noted that she was feeling better, though remained breathless and oedematous. Dr Konkimalla re-examined her at 11.40am. She noted that she was better today, that there were a few scattered wheezes in her chest but that it was much better than yesterday and that she was having a productive diuresis. She instructed that the current treatment should continue. Miss Cuthbert visited at 2pm. She thought that her mother was very breathless and distressed and that there was a noticeable increase in the swelling to her face and arms. She spoke to a nurse who told her that a doctor had seen her mum and thought she had improved. Miss Cuthbert disagreed and asked to speak to the doctor. Dr Konkimalla was too busy elsewhere in the hospital to attend but the nurse got her on the phone and let Miss Cuthbert speak to her. Dr Konkimalla told her that her mother was much better today, that her chest sounded clearer and that her urine output had improved, which she attributed to the diuretics. Miss Cuthbert expressed the view that the diuretics were not working and referred to her mother's swollen hands and arms. Dr Konkimalla said that it was too early to increase the dose of diuretic. Dr Konkimalla again attributed the breathing difficulty to the emphysema. Miss Cuthbert, suspecting a chest infection, suggested the prescribing of antibiotics but Dr Konkimalla said that she would only do that if the sputum sample tested positive for infection.

She confirmed that the sample had been sent for testing. Miss Cuthbert remained concerned about her mother's condition.

28. On Monday 3 March at 10.45am Dr Khan was called by a nurse to examine her because she was becoming increasingly breathless. He noted that she had deteriorated from when he had last seen her (on Thursday 27 February), that there was shortness of breath and noisy breathing, that her chest was wheezy and that he could hear coarse crepitations. He instructed an intravenous dose of 100mg of frusemide and phoned Dr Musbahi. Dr Musbahi attended at 12.30pm and carried out a full examination. He noticed a big deterioration in her condition since he had last seen her on Tuesday 25 February. He found her to be very short of breath and on listening to her chest heard crackles, which indicated the presence of pulmonary oedema. He diagnosed left ventricular failure and instructed an immediate transfer to Ayr Hospital.

29. She was re-admitted to Ayr Hospital in the afternoon of Monday 3 March. Miss Cuthbert went there and saw her in the resuscitation room. She was obviously very ill. The medical staff told her that she had quite advanced congestive cardiac failure and bronchopneumonia, that they did not think that they could reverse the position and that it was more than likely that she would not survive the night. Substantial efforts to save her were unsuccessful and she died on Thursday 6 March at 5.30am.

30. On 10 March a post mortem examination was carried out, with the family's agreement, by Dr Joyce Lang**,** a consultant pathologist based at Crosshouse Hospital, Kilmarnock. After this examination she concluded that the immediate cause of death was congestive cardiac failure and that the underlying contributory condition was myocardial infarct. Other significant conditions contributing to the death were bronchopneumonia and fractured neck of left femur. The bronchopneumonia was in its early stages, being a terminal event resulting from her not being able to clear her lungs effectively, and was not a sufficiently marked feature to be a prime cause of death. The fractured neck of left femur was a significant factor because it made her unwell and bedridden but was similarly not a direct cause of death.

31. Dr Lang noted the presence of very marked generalised oedema and in particular very marked oedema in the right lower leg and in both arms and hands. Oedema of that nature was a feature of congestive cardiac failure. She estimated that it would have been present for a number of days. There was fluid within the chest cavity (pleural effusions) and a moderate amount of fluid in the lungs (pulmonary oedema). These were also features of heart failure and again she

thought that the fluid had been accumulating for a number of days. The liver was enlarged, which was a further feature of heart failure, and had a very pronounced nutmeg appearance, characteristic of chronic venous congestion. The chronicity indicated that the congestive process had been ongoing for some considerable time.

32. She estimated that the myocardial infarction revealed by the examination had occurred about 6 to 8 weeks prior to death (being the period 9 to 23 January 2003), though possibly a few weeks earlier. It might have occurred prior to the admission to Biggart Hospital on 17 January 2003. It might have been "silent", in the sense of not being accompanied by the usual severe chest pain, and in consequence Mrs Cuthbert might have been unaware of its occurrence.

33. The three main coronary arteries showed severe atheroma to the extent that there was 70% narrowing in places. This was a severe condition in that the narrowing was at a critical level and would have resulted in a high risk of sudden death. Survival for months or even years was however possible. The abdominal aorta showed very severe ulcerated atheroma.

THE DETERMINATION

34. The determination required of a sheriff in terms of section 6(1) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 is a determination setting out "the following circumstances of the death so far as they have been established to his satisfaction -
    (a) where and when the death and any accident resulting in the death took place;
    (b) the cause or causes of such death and any accident resulting in the death;
    (c) the reasonable precautions, if any, whereby the death and any accident resulting in the death might have been avoided;
    (d) the defects, if any, in any system of working which contributed to the death or any accident resulting in the death; and
    (e) any other facts which are relevant to the circumstances of the death."

    There is no power to make a determination in respect of any other matter. The family had concerns about various aspects of Mrs Cuthbert's care and treatment at Biggart Hospital and it was understandable that they should mention them in evidence at the inquiry but in so far as they were not relevant to the circumstances of the death, I was unable to make any determination about them. They had no concerns about her care and treatment at Ayr Hospital both prior to the transfer to Biggart Hospital on 17 January and after her transfer back there on

3 March and in fact described it as "exemplary". Accordingly I have only made brief reference to those episodes.

35. Another important aspect of the determination which a sheriff is required to make was explained by Lord President Hope in *Black v Scott Lithgow Ltd* 1990 S.L.T 612 at p.615 H-J as follows -

"There is no power in this section to make a finding as to fault or to apportion blame…..It is plain that the function of the sheriff at a fatal accident inquiry is different from that which he is required to perform at a proof in a civil action to recover damages. His examination and analysis of the evidence is conducted with a view only to setting out in his determination the circumstances to which the subsection refers, in so far as this can be done to his satisfaction. He has before him no record or other written pleading, there is no claim of damages by anyone and there are no grounds of fault upon which his decision is required."

36. I have made determinations in terms of section 6(1)(a) of the 1976 Act as to where and when the death took place and in terms of section 6(1)(b) as to the cause of death. These are formal and uncontroversial matters.

37. The real issue at the inquiry was whether I should make a determination in terms of section 6(1)(c) that there were "reasonable precautions" whereby Mrs Cuthbert's death might have been avoided.

38. Mr MacSporran in his closing submissions acknowledged that a fatal accident inquiry has been judicially viewed as an exercise in applying the wisdom of hindsight. The reason for this view is that the court is not determining questions of blame, which would necessarily restrict it to the perspective available at the time, but is considering in the wider public interest whether a death might have been avoided by the taking of a precaution which it considers would have been reasonable in the circumstances at the time. The aim is to help prevent a death in similar circumstances in the future. The court at a fatal accident inquiry has the considerable advantage of knowing how matters progressed until the death and also the cause of death as revealed by post mortem examination and with that advantage, known as the wisdom of hindsight, may well be better placed to identify a reasonable precaution capable of interrupting the chain of events leading to the death than someone considering the matter at the time when that precaution could have been taken. Accordingly the fact that the court identifies such a precaution does not imply that its omission was unreasonable. This is particularly so in relation

to issues of medical care as a decision at the time as to which medical treatment or procedure is likely to have the most favourable outcome may be a matter of fine clinical judgement and there may a range of options, all of which are reasonable, contributing to the difficulty of the decision.

39. The court does however have to be satisfied that the precaution identified is one which would have been reasonable in the circumstances at the time. The taking of a precaution against harm could only be justified if there was at the time a perceptible risk of harm and the precaution could only properly be regarded as reasonable if capable of being regarded as a reasonable response to that risk. In relation to issues of medical care, it may be possible to identify with the benefit of hindsight a precaution which if taken at a particular time might have prevented a death but if it is not possible to identify anything in the circumstances at that time capable of prompting or justifying the taking of that precaution, it is difficult to see how the precaution could properly be described as reasonable.

40. As regards the possibility that a reasonable precaution might have avoided the death, this is a matter which requires in terms of the subsection to be "established" and is accordingly a matter of evidence and reasonable inferences from the evidence as opposed to speculation about remote or unlikely possibilities for which there is no evidential foundation.

41. As regards the nature of any reasonable precaution which might have avoided Mrs Cuthbert's death, when heart failure was diagnosed on Monday 3 March there was an immediate transfer to Ayr Hospital where there were appropriate facilities to deal with her acute condition. It appeared from the evidence that this response to the symptoms of heart failure, rather than any other measure, was the reasonable precaution most likely to afford the best chance of survival. The question therefore was whether the precaution of a transfer to Ayr Hospital could properly be regarded as reasonable on a date prior to 3 March.

42. There appeared to be a consensus that a transfer to Ayr Hospital on Saturday 1 March would have been a reasonable precaution. Dr Musbahi expressed the opinion that Mrs Cuthbert should have been transferred then due to Dr Konkimalla's findings of shortness of breath, low oxygen saturation, scattered chest wheezes, oedema in the upper limbs and lack of response to frusemide, all of which in his view increased the probability of congestive cardiac failure. Drs Erwin and Davie agreed. Dr Konkimalla was, as I have indicated, not available as a witness to explain why she did not speak to a consultant with a view to a transfer. Dr Musbahi described

her as an experienced senior house officer and appeared to have confidence in her ability. It appeared from the evidence that her reason for not contacting a consultant was that she thought that Mrs Cuthbert's symptoms were due to her COPD and immobility, rather than any other cause. Whatever the reason, I was satisfied that a transfer to Ayr Hospital on Saturday 1 March would have been a reasonable precaution.

43. The question then was whether a transfer prior to that date would have been a reasonable precaution. That depended on whether Mrs Cuthbert was, prior to that date, displaying such symptoms of a heart failure that a transfer to Ayr Hospital would have been a reasonable response to the risk of her condition deteriorating if she remained at Biggart Hospital.

44. It was established by Dr Lang at post mortem examination that Mrs Cuthbert's death was due to congestive cardiac failure and that the myocardial infarct revealed by that examination had been a contributory cause. Dr Lang said that a myocardial infarct could cause heart failure and at least increased the risk of heart failure. She described congestive cardiac failure as an insidious condition, meaning that it could progress inconspicuously but harmfully. She estimated that Mrs Cuthbert's myocardial infarction had occurred some 6 to 8 weeks prior to death, being the period 9 to 23 January 2003, or possibly a few weeks earlier. It might have been "silent", with nothing to alert either Mrs Cuthbert or her carers. Dr Davie shared that view. She said that following an infarction, congestive cardiac failure could develop slowly over a period of months. Dr Davie similarly spoke to a process of slow development after an infarction, with the consequent drop in the efficiency of the heart resulting in the gradual onset of heart failure. Dr Lang mentioned the enlarged liver and its very pronounced nutmeg appearance, which she said was characteristic of chronic venous congestion, and commented that the chronicity confirmed that the venous congestion had been developing for some time.

45. It appeared that Mrs Cuthbert's infarction had indeed been silent in the sense described as there was nothing in the evidence to indicate that she or anyone else had been aware of it. It also appeared that although this had started the process of heart failure, there had been no immediate symptoms of heart failure and that no such symptoms had become apparent for a number of weeks thereafter. This was consistent with the gradual and inconspicuous development process described by Drs Lang and Davie. Such development would however have been progressively harmful and it was inevitable, unless it was stopped, that the harmful effects would eventually become obvious in the form of the symptoms of heart failure.

46. The evidence indicated that the reduced efficiency of the heart caused by an infarct results in a decreased ability to pump blood effectively. The blood returning to the heart is not pumped away fast enough, a back-pressure effect is created and this results in accumulations of blood, known as congestion, and fluid from the blood seeping into body tissues and causing swelling, known as oedema. This is the process which can develop inconspicuously but as it does so it becomes increasingly difficult for the heart muscle to pump blood and eventually the heart is overwhelmed and there is death due to congestive cardiac failure. Prior to that, when the process ceases to be inconspicuous, the most common symptoms are breathing difficulty, due to congestion or fluid in the lungs, and oedema. The deterioration process can accelerate in the final stages as reducing heart efficiency causes increasing congestion and fluid retention which further reduces heart efficiency.

47. One of the difficulties in identifying the symptoms of heart failure in this case was the possibility of these symptoms being masked by the symptoms of other conditions affecting Mrs Cuthbert. Breathing difficulty can result from the lungs being congested or oedematous but can also be caused by COPD, this being a condition from which Mrs Cuthbert was already suffering, to the extent that she used an inhaler. Dr Musbahi commented that her COPD was at an advanced stage and that this was a progressive condition which could deteriorate at any time. It was not unlikely therefore that any increased breathing difficulty would be attributed to a deterioration in that condition. Dr Davie confirmed that Mrs Cuthbert's chronic chest condition was at an advanced state and agreed that it was not surprising that the increased breathlessness was attributed to that condition. As regards oedema, the evidence indicated that oedema in the lower limbs was commonly experienced by patients who, like Mrs Cuthbert, were immobile and a certain amount of oedema was therefore unlikely to cause any significant concern. It was noteworthy that even in the weekend of 1 and 2 March the experienced Dr Konkimalla thought that Mrs Cuthbert's symptoms were still consistent with COPD and immobility.

48. Mrs Cuthbert was being examined by her consultant Dr Musbahi every Tuesday and he was the doctor best placed to assess her progress on a week-to-week basis. His evidence was that there was a sudden and marked deterioration in her condition between Tuesday 25 February, when he examined her during his weekly round, and Monday 3 March, when Dr Khan called him in to examine her. He compared the difference in her condition on these two dates to the difference between black and white. He was quite satisfied that she was not in an acute

condition on 25 February but was equally satisfied that she was in such a condition on 3 March and that an immediate transfer to the acute facilities at Ayr Hospital was then necessary.

49. There was no issue about the gravity of Mrs Cuthbert's condition on 3 March, the unchallenged view being that she was then in a condition of terminal heart failure. There was however an issue about her condition on Tuesday 25 February in that it was Mr Toal's submission that she had by that stage deteriorated to the extent that a transfer to Ayr Hospital should have occurred then or even earlier. He submitted that there had been repeated failures to diagnose heart failure and relied in particular on increasing oedema and breathlessness.

50. In relation to the oedema, he submitted that Dr Musbahi had an inaccurate recollection of Mrs Cuthbert's level of oedema on 25 February. Dr Musbahi was examined in detail about this matter and said that he had an "active recollection" of the examination. He examined Mrs Cuthbert while she was sitting in a chair and he was quite certain that at that time the oedema was confined to her lower limbs. He commented on the importance of a patient being in an upright position for examination, as fluid could spread upwards and appear more widespread if the patient was lying in bed. He was aware that Dr Khan had instructed a 40 mg dose of frusemide the previous day in relation to the oedema. Dr Khan for his part had no recollection of doing so but the nursing notes for Monday 24 February confirmed that Mrs Cuthbert's condition had been discussed with him and that he had instructed the administration of 40mg of frusemide. This was a moderate dose and the fact that Dr Khan instructed it implied that he considered that Mrs Cuthbert's condition at that time was such that a moderate response was appropriate. Dr Khan explained in evidence that this was a routine treatment for oedema, with further investigation only being appropriate if there was a lack of response to the diuretic. Dr Musbahi's response to the oedema he saw on Tuesday 25 February was to instruct an increased regular oral dose of 80mg of frusemide. This was still a moderate dose and appeared consistent with the restricted level of oedema which he described in evidence, thus tending to confirm the accuracy of his recollection of his findings. He said that the potential causes of oedema confined to the legs, which he saw on 25 February, were much more varied than the potential causes of more generalised or extensive oedema, such as Dr Konkimalla saw on Saturday 1 March. A similar comment was made by Dr Das. Dr Musbahi said that if he had detected more generalised oedema on 25 February he would have noted it and responded differently.

51. The challenge to Dr Musbahi's evidence about the extent of the oedema on 25 February was largely based on various entries in the nursing notes prior to that date. On 11 February there

was a note of a complaint of ankle oedema which was addressed by an instruction to elevate the leg. The evidence indicated that this was a reasonable response to a common problem in immobile patients. On 18 February there was a note of increased generalised oedema, on 20 February there was another note in identical terms and on 21 February there was a note of generalised oedema due to immobility. The difficulty with these notes was that the nurse who made them did not give evidence and there was therefore no opportunity to question what he or she meant by "generalised oedema" and whether what was observed justified that view. It is questionable whether the conclusion in the note of 21 February about the cause being immobility was justified as nurses are not qualified to diagnose the cause of a condition but the conclusion that the cause was immobility suggests that it did not appear to the nurse who saw it to be out of the ordinary for an immobile patient. There is no suggestion that the nurse considered that intervention by a doctor was necessary, which further suggests a view that this was not an unusual occurrence such as might require medical intervention. The note of 18 February was of course made on the day of Dr Musbahi's ward round and he, in examining Mrs Cuthbert's chest, back, abdomen and legs, did not detect any such generalised oedema and hence did not share the nurse's view. In relation to the nursing notes of 20 and 21 February, the closest subsequent medical examination was by Dr Das on 23 February. He too found no evidence of generalised oedema and similarly therefore did not share the nurse's view. There were unanswered questions as to whether the nurses involved had carried out any specific examination for oedema and whether Mrs Cuthbert had been lying back or sitting up when the observations were made. It was commented in evidence that oedema could be difficult to detect in obese patients unless there was a specific examination involving finger pressure on the skin, oedema being indicated if this left a temporary indentation, a condition known as pitting oedema.

52. The next nursing note on oedema was on Monday 24 February when it was noted that Mrs Cuthbert appeared increasingly oedematous in the legs, abdomen and sacral area. As the nurse involved was not available as a witness it was not clear whether this note was made in response to concerns expressed by the family but Miss Cuthbert said in evidence that on that date she expressed concern to a nurse about her mother's hands becoming oedematous and asked her to mention it to the consultant on his round the following day. The nurse initially spoke to Dr Khan and he prescribed a 40mg dose of frusemide as described above. When Miss Cuthbert visited her mother on the Tuesday evening, her mother confirmed to her that the nurse had told the consultant about the swelling. Dr Musbahi had therefore been alerted to the concern about the oedema not only as a result of Dr Khan's intervention the previous day but also because it

was specifically highlighted by a nurse. It was reasonable to assume that having been alerted to it, it was not something he was likely to overlook. His evidence was of course that he did check it and that having made that check his conclusion was that the oedema was confined to the lower limbs. This then was his expert view based upon a clinical examination of Mrs Cuthbert for oedema and carried out while she was sitting in a chair and hence best placed for examination. I accepted his evidence about his examination, his findings and his conclusions.

53. Apart from the fact that I accepted Dr Musbahi's evidence on this matter, it would have been difficult to justify rejecting it on the basis of notes by nursing staff who did not give evidence, had nothing like the same level of medical expertise and who were not qualified to carry out clinical examinations. If the nurses involved had given evidence, it seems almost inevitable that they would have accepted that the expertise lay with Dr Musbahi and that his findings in the course of a clinical examination had to be preferred. This was a view which was supported by Dr Erwin in that he said that it was Dr Musbahi who was assessing the patient at the time and that his assessment should be accepted.

54. Mr Toal also of course suggested that Mrs Cuthbert's breathlessness was a factor which should have contributed to a decision to transfer her to Ayr Hospital around 25 February.

55. As regards the nursing notes on this matter, there was nothing of any particular relevance until 15 February when there was an entry "difficulty breathing - chest tightness - no pain" but no involvement of a doctor. There was some confirmation of this information from Miss Cuthbert in that she said in evidence that her mother started to get quite breathless in the week of 11 to 17 February. On 22 February there was an entry in the nursing notes "remain dyspnoeic (breathless) – chesty cough – inhalers as needed". On 23 February there was an entry "remains breathless". On that occasion the matter was raised with Dr Das who examined Mrs Cuthbert specifically because of this complaint of breathlessness. In particular he examined her chest with a stethoscope and found it to be clear, with normal breath sounds. He also checked the oxygen saturation level, which was a reasonably good 95%, and her blood pressure, which was normal. He therefore concluded that no medical intervention was required.

56. On the following day, 24 February, there was a nursing note indicating increased breathlessness and oedema, a discussion with Dr Khan and his instruction for a dose of frusemide pending Dr Musbahi's review the following day.

57. On 25 February Dr Musbahi noted that Mrs Cuthbert was more breathless than previously and repeated the chest examination carried out by Dr Das two days before, with the same finding, namely that her chest was clear. In carrying out this examination he was specifically investigating the breathlessness with a view to determining the cause. In particular he was listening for abnormal breathing sounds but he did not hear any. The absence of such sounds did not exclude the possibility of congestive heart failure but did in his opinion make it more likely that the breathlessness was due to the COPD rather than heart failure. He did however consider it appropriate to check the functioning of the heart and instructed an echocardiogram (which instruction was overtaken by events as Mrs Cuthbert was transferred to Ayr Hospital on 3 March before it was carried out). The evidence indicated that the frusemide which he prescribed for the oedema was also an appropriate treatment for the symptoms of congestive cardiac failure in that it was designed to help remove any excess fluid which could be putting a strain on the heart. Dr Erwin in particular said that it was not uncommon for elderly patients displaying the symptoms of congestive cardiac failure to be treated with water tablets, which is another name for diuretics. Dr Musbahi clearly considered frusemide to be an appropriate treatment for the symptoms of heart failure and referred to a recommendation in a medical journal that congestive cardiac failure should be treated with 40mg of oral frusemide, with the dose being increased if there was no response. It therefore appeared unlikely that Dr Musbahi's response would have been different if he had thought that the breathlessness was due to heart failure rather than COPD.

58. Given that I accepted the accuracy of Dr Musbahi's findings on 25 February, there were questions as to whether his response was reasonable and whether, even if that was the case, a transfer then to Ayr Hospital would have been a reasonable precaution.

59. In relation to whether his response was reasonable, Dr Davie was specifically asked whether, if the court accepted Dr Musbahi's findings, his response was reasonable. He confirmed that, in his view, it was. Dr Erwin was questioned in similar terms as to whether, if Mrs Cuthbert's condition was as described by Dr Musbahi on 25 February, it was not unreasonable that he should have done what he did. He emphatically agreed. There was no contrary medical opinion. I was accordingly satisfied that Dr Musbahi's response to his findings on 25 February was reasonable.

60. As regards the second question as to whether the precaution of a transfer to Ayr Hospital on 25 February would have been reasonable, Dr Musbahi was firmly of the view that it would not

have been in that there was nothing in his findings to prompt or justify it. In his considered opinion, heart failure was at that stage no more than a possibility and it was more likely that the symptoms he observed were due to other causes.

61. Drs Erwin and Davies had produced reports which, to a certain extent, supported Mr Toal's submission that a transfer to Ayr Hospital on 25 February would have been reasonable but, as with all experts in this situation, they had never examined Mrs Cuthbert. They readily acknowledged that the doctors who examined her were better placed that they were to assess and diagnose her condition. The validity of the views expressed in their reports about an appropriate response to Mrs Cuthbert's condition was entirely dependant on the soundness of the information on which those views were based. Much of this information consisted of comments and opinions expressed in the nursing notes and, as I have indicated, I preferred and accepted the medical findings of the doctors who gave evidence rather than the views of nurses who did not. Drs Erwin and Davies accepted that if that was the court's view then it was appropriate to reconsider the conclusions they had expressed in their reports. I note in passing that they both gave their evidence in the fair, balanced and impartial manner characteristic of sound expert witnesses and that I found their evidence to be very helpful in reaching a view on the issues in this case.

62. Dr Erwin was questioned in detail about an opinion expressed in his report that there should have been a referral to an acute service around 25 February. He said that he had been influenced by three principal factors, these being the level of oedema, an oxygen saturation of 84% noted on 24 February and a sodium level of 127. I have already commented on the level of oedema and the fact that I accepted Dr Musbahi's evidence of his findings rather than the information provided to Dr Erwin. Dr Erwin, as previously indicated, supported that approach. As regards the oxygen saturation reading of 84% obtained in the morning of 24 February, when this was investigated in evidence he accepted that it could have been a rogue reading in that it was out of step with readings taken before and after and in particular was out of step with a reading of 94% taken that afternoon. That appeared to me to be the likely explanation for the lower reading, which therefore lost the significance he had attached to it. As regards the sodium level of 127, when this was investigated in evidence he accepted that this reading was not available until 26 February, the day after Dr Musbahi's examination, and was not therefore a factor for his consideration on 25 February. Accordingly Dr Erwin's conclusion expressed in his report that there should have been a transfer on 25 February, though justified by the

information supplied to him, was not supported by the evidence which I accepted. Neither did it appear to me to be supported by anything else he said in evidence.

63. Dr Davie had been slightly more circumspect in his report, even on the basis of the information supplied to him. He had identified the essential question as being whether anything could have been done to prevent Mrs Cuthbert reaching the stage of terminal heart failure on her transfer to Ayr Hospital on 3 March and had sought to address the question as to whether there had been telltale signs of increasing heart failure prior to her rapid deterioration at the end. He did not consider that the weight increase could be taken as significant. He expressed surprise that at the time when the nursing notes were recording generalised oedema, examination of Mrs Cuthbert's chest did not reveal any evidence of fluid in the chest as "symptomatically" that was likely. In other words if generalised oedema was present, there should have been a detectible amount of fluid in the chest. His evidence on that matter lent further support to the view that the opinions expressed in the nursing notes were incorrect, given that her chest was at that time found to be clear. He referred in evidence to the low sodium level of 127 on 26 February and said that this was a "moderately reduced" level with no serious consequences anticipated. Dr Musbahi had on 25 February found lower limb oedema and this figure represented a 5% reduction in sodium concentration consistent with a 5% increase in fluid. He had concluded in his report on the basis of the information supplied to him, in particular the information about the "serious increase in swelling", that Mrs Cuthbert should have been started on stronger diuretics probably around 21 or 22 February and that by 24 or 25 February the administration of intravenous diuretics might have proved useful. He described this as a more radical response that the one adopted. He did not however suggest that this more radical response would have been appropriate in relation to much less significant symptoms found by Dr Musbahi. He did not deal specifically in his report with the possibility of a transfer to Ayr Hospital, the view expressed in his report being that the symptoms described to him could have been appropriately dealt with by stronger diuretics. Given my view that the symptoms were not as described to him, I did not consider that there was anything in his evidence to justify the view that on 25 February a transfer to Ayr Hospital, or for that matter the administration of stronger diuretics, would have been a reasonable precaution.

64. Accordingly it did not appear to me that the evidence of Drs Erwin and Davie, rather than their prior views as expressed in their reports, undermined Dr Musbahi's evidence that there was nothing in his findings on 25 February to justify the precaution of a transfer to Ayr Hospital. Neither was there any other medical evidence to indicate that he was wrong in that view. It was

in fact not established that he was wrong in his view that the symptoms he saw were more probably due to COPD rather than heart failure. In particular Dr Davie said that the cause of the symptoms at that stage was not particularly easy to diagnose and that different views could reasonably be taken. His view, which he conceded was influenced by his knowledge of the cause of death, was that it was more probable that the symptoms were due to heart failure rather than COPD but that was as far as he was prepared to go and there was therefore some dubiety as to who was right. Accordingly the suggestion that Mrs Cuthbert's symptoms on 25 February were obviously those of heart failure was not supported by the evidence. It followed that a transfer then to Ayr Hospital could not properly be regarded as a reasonable response to those symptoms and hence as a reasonable precaution in those circumstances.

65. Given my view that a transfer was not a reasonable precaution on Tuesday 25 February but was on Saturday 1 March, the question then was whether this precaution became reasonable in the intervening period.

66. On Wednesday 26 February there was an entry in the nursing notes "breathless this a.m." but nothing else of significance. Mrs Cuthbert was sufficiently well as to be concerned about her appearance and had her hair permed in readiness for a visit to Ayr Hospital the following day. When Miss Cuthbert visited, she thought that her mother was still unwell but not just as bad as on the previous day.

67. On Thursday 27 February Mrs Cuthbert was exhausted after her visit to the orthopaedic clinic at Ayr Hospital for removal of the plaster cast and Miss Cuthbert, when she visited in the evening, was sufficiently concerned about that and her wheezing as to ask for a doctor. Dr Khan's examination revealed no chest abnormalities. He was specifically investigating the possibility of a chest problem and his findings were the same as those by Dr Das on 23 February and by Dr Musbahi on 25 February. In evidence he was quite certain about the matter and said that if he had had the slightest doubt he would have asked for a second opinion. He considered that the breathing problem was due to the emphysema and that the oedema was normal for an immobile patient. There was in his opinion a very marked contrast between Mrs Cuthbert's appearance on the Thursday and her appearance when he next saw her on Monday 3 March when he heard chest wheezes and coarse crepitations and it was obvious that urgent medical attention was required.

68. On Friday 28 February the nursing notes recorded that after resting between 10 and 11.30am, Mrs Cuthbert was seen by a physiotherapist. There was nothing else of significance noted. When Miss Cuthbert visited in the evening her mother told her that she had managed to do a bit of physiotherapy, including walking a few steps with a walking aid, but felt that she had done too much. She had however obviously been well enough to do some work towards improving her mobility. Miss Cuthbert thought she remained very breathless and wheezy and decided that if there was no improvement by the following day, she was going to insist on another examination by a doctor.

69. The following day, Saturday 1 March, was of course the day of the first examination by Dr Konkimalla. That examination occurred after an apparent deterioration in Mrs Cuthbert's condition around 3pm in that she became very breathless. Miss Cuthbert had arrived for a visit shortly beforehand and had thought that she looked terrible and was very ill. In particular she was struggling to breathe and was coughing badly. She had approached a nurse to get a doctor but Staff Nurse Reid had already called Dr Konkimalla. Though unable to attend immediately, Dr Konkimalla considered on the basis of what she was told that assistance with breathing was required and instructed that oxygen be supplied via a mask. Thereafter on attending and examining Mrs Cuthbert she found symptoms which had never previously been found on clinical examination. In particular she made the first clinical findings of upper limb oedema and scattered chest wheezes. There was also a drop in oxygen saturation to 88%, which indicated an inadequate supply of oxygen through the lungs.

70. The clear impression from this evidence was that there was a sudden and marked deterioration in Mrs Cuthbert's condition on Saturday 1 March. There was also other evidence supporting the view that there was a marked deterioration during this weekend. Miss Cuthbert recorded in a note made at the time that she told medical staff at Ayr Hospital on Monday 3 March that her mother "had deteriorated badly over the weekend". Dr Khan wrote a note to Ayr Hospital on the Monday saying that Mrs Cuthbert had got progressively worse over the weekend. Dr Erwin in his report commented that Mrs Cuthbert's condition deteriorated markedly over the weekend. Dr Davie in his report spoke of a "rapid deterioration" at the end. Dr Lang's findings at post mortem examination tended to support the view of a deterioration starting around the time of the weekend as she thought that the generalised oedema, the fluid within the chest cavity (pleural effusions) and the moderate amount of fluid in the lungs (pulmonary oedema), all of which were characteristic of congestive cardiac failure, had been present or developing for a period which she estimated in terms of days prior to the death on 6 March rather than

anything longer. That was in contrast to the chronic venous congestion of the liver which had been developing over a lengthy period and appeared to have been one aspect of the inconspicuous development process prior to the display of obvious symptoms towards the end.

71. Accordingly it appeared to me that the evidence indicated that the marked deterioration in Mrs Cuthbert's condition which justified a transfer to Ayr Hospital started on Saturday 1 March, rather than on any earlier date, and that it was only from that date onwards that the precaution of a transfer to Ayr Hospital could properly be regarded as reasonable.

72. The question then arose as to whether the reasonable precaution of a transfer on Saturday 1 March might have avoided the death. By that stage Mrs Cuthbert's health was in rapid decline, to the extent that within 48 hours her condition was terminal. The evidence indicated that the congestive heart failure had been developing inconspicuously for a number of weeks and was then at an advanced stage. Perhaps understandably, given the short time interval before the actual transfer, no witness was confident that a transfer on 1 March might have avoided the death. Dr Erwin did at one point say that Mrs Cuthbert might have survived a couple of weeks but he commented that she was very ill and ultimately his position was that it was impossible to say whether she might have survived. Dr Davie also commented on the poor prognosis, saying that there was a significant mortality rate in older people who experienced a major fracture of a lower limb and that Mrs Cuthbert's prognosis was made worse by her longstanding diabetes, psoriasis and COPD. He referred to the fact that the intensive medical care and treatment at Ayr Hospital had been unsuccessful in reversing the decline and said nothing to support the suggestion that a transfer 48 hours previously might have produced a different outcome. Even in his report, based of the proposition that there had been much earlier marked symptoms of heart failure and hence a much earlier chance to intervene, he had expressed the view that it was difficult to say that more radical treatment would have made any difference to her eventual outcome. Having considered the evidence I was not satisfied that the reasonable precaution of a transfer to Ayr Hospital on Saturday 1 March might have avoided the death. It followed that I could not make a determination in terms of section 6(1)(c).

73. I was also not satisfied that the evidence justified a determination in terms of section 6(1)(d) of the 1976 Act that there were defects in the system of working which contributed to the death. The relevant system was the system designed to identify and address a deterioration in a patient's condition. The system in place provided for regular monitoring by nurses, the availability of a doctor at senior house officer level where medical intervention was considered

appropriate, albeit that the reality of resource constraints at a non-acute site meant that a doctor might not be immediately available, and consultant back-up. There was no suggestion in the evidence that this system was inadequate or defective and in particular neither Drs Erwin nor Davie made any such suggestion. Dr Erwin in particular said that the level of cover was perfectly appropriate.

74. I was similarly not satisfied that the evidence justified a determination in terms of section 6(1)(e) in relation to other facts which were relevant to the circumstances of the death. A determination in terms of this subsection may be appropriate where an examination of these circumstances at an inquiry has, for example, revealed risks associated with certain activities or poor working practices and it is considered worthwhile to highlight the need for precautions or improvements as a matter of public interest. It may thus be used to highlight the need for change and provides a means of ensuring that significant matters of public interest which have emerged at an inquiry are not thereafter overlooked and disregarded. It did not appear to me that there was anything in the evidence of Drs Erwin and Davie or any other witness to support such a determination.

# APPENDIX

## GLOSSARY OF MEDICAL TERMS

- **aorta** - the main artery of the body, from which all others derive. The **abdominal aorta** is the part below the diaphragm.
- **atheroma –** a narrowing of the arteries, due to the build-up of fatty deposits on their walls, restricting the circulation of blood through them
- **bronchopneumonia** - inflammation of the lung caused by bacteria resulting in the air sacs becoming filled with inflammatory cells and the lung becoming solid
- **chronic –** a description of a disease of long duration involving very slow changes
- **chronic obstructive pulmonary disease** (COPD) – a disease of adults with a history of smoking with features of **emphysema** (damage to the air sacs of the lungs resulting in a lower level of oxygen in the blood and causing breathlessness) and **chronic bronchitis** (inflammation or narrowing of air passages causing coughing).
- **congestion –** an accumulation of blood in an organ due to back pressure within its veins
- **congestive cardiac failure –** heart failure due to congestion resulting from a failure of the heart muscle to pump blood effectively.
- **crepitation –** a soft fine crackling sound heard in the lungs through a stethoscope and which can indicate air bubbling through fluid and hence the presence of fluid in the lungs (pulmonary oedema)
- **diuretic** - a drug which increases urine output, used in the treatment of oedema
- **dyspnoea** – laboured or difficult breathing
- **echocardiography** – the use of ultrasound waves to investigate and display the action of the heart as it beats.
- **femur –** thigh bone. The narrowed end towards the top (**neck of femur**) is the commonest site of leg fracture in elderly women.
- **frusemide** – a diuretic used to treat fluid retention (oedema)
- **left ventricular failure –** failure of the left chamber of the heart, which receives blood from the pulmonary vein and pumps it into the aorta.
- **myocardial infarction -** death of a segment of heart muscle due to the narrowing and obstruction of the artery providing its blood supply. An **infarct** is the resultant segment of dead muscle
- **nebuliser -** an instrument for applying liquid drugs in the form of a fine spray for inhalation

- **oedema** – swelling of body tissues due to excessive accumulation of fluid. The swelling may be local, being confined to one area such as the ankle and legs, or more general. In generalised oedema, which can result from heart failure, there may be collections of fluid within the chest cavity (**pleural effusions**) or within the air spaces of the lung (**pulmonary oedema**)
- **oxygen saturation** – the level of blood oxygen, indicating whether there is an adequate supply from the lungs. A normal level for a smoker is 94% or above.
- **psoriasis –** an inflammatory skin condition