**SHERIFFDOM OF GLASGOW AND STRATHKELVIN AT GLASGOW**

***INQUIRY HELD UNDER FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND) ACT 1976 SECTION 1(1)(b)***

DETERMINATION by SAMUEL CATHCART, Esquire, Advocate, Sheriff of the sheriffdom of Glasgow and Strathkelvin following an Inquiry held at Glasgow on the 30 September, 1, 2 and3 October Two Thousand and Eight into the death of ANNIE SHANNON BECKETT

GLASGOW, 27 October 2008.

The Sheriff having considered all the evidence adduced, DETERMINES in terms of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 Section 6(1)

(a) that Annie Shannon Beckett, born 28 February 1938, who resided at Flat 23, 7 Eastwood Crescent, Thornliebank, died at the Victoria Infirmary, Glasgow at 0612 hours on 27 January 2006;

(b) that the cause of the death was ruptured abdominal aortic aneurysm;

(c) that there were no reasonable precautions whereby her death might have been avoided;

(d) that there were no defects in any system of working which contributed to her death;

(e) that:-

1 In August 2000 Annie Shannon Beckett (Mrs Beckett) was referred by her general practitioner to the Vascular Surgery Department of the Southern General Hospital, Glasgow for investigation of bilateral leg pain thought to be suggestive of intermittent claudication. She attended the Department on various dates between November 2000 and September 2001.

2 Mrs Beckett was nominally the patient of Mr G Welch, Consultant vascular surgeon. Two of the junior doctors assisting Mr Welch were Mr Kenneth Walker, then a specialist registrar working in vascular surgery as part of a

general surgery rotation, and, at the time of the Inquiry a consultant in general surgery with specialist interest in colorectal surgery at Raigmore Hospital, Inverness, and Mr Ian Jenkins, then a research senior house officer and at the time of the Inquiry, about to take up a consultancy post at St Mark's Hospital, London.

3 Mrs Beckett was seen at the vascular clinic by Mr Jenkins on 12 November 2000. His findings were consistent with claudication. He had further studies carried out including an arteriography for which Mrs Beckett attended the Southern General Hospital on 14 December 2000. The preliminary report of this procedure stated that the arteriography showed widening of the aortic artery below the renal artery. This was shown on an arterial diagram and marked as "ectatic/aneurysmal w(ith) thrombus".

4 On 22 December 2000, Mr Urquhart, a Consultant Radiologist and Dr Sambrook a junior colleague issued a typed report of their examination on 14 December which stated that "The distal aorta was markedly abnormal. There was an ectatic distal aorta down to the bifurcation with thrombus within and large arthromatous plaques seen indenting the flow of contrast within the aneurysmal segment and also at the level of the proximal left common femoral artery…"

5 On 15 December 2000 Mrs Beckett underwent ultrasound examination to confirm the dimensions of this segment of the abdominal aorta. It is recorded in her clinical notes that the abdominal aorta was ectatic and that there was an infra-renal aneurysm with AP (anterior/posterior) diameter of 3.3 cms.

6 An abdominal aortic aneurysm (AAA) is a localised region of abnormal dilatation or enlarging of the abdominal aorta. An AAA may dilate progressively and eventually result in rupture.

7 The only method of treating an aortic aneurysm is by surgery. Surgery carries a relatively high risk of death. An aortic aneurysm of 3.3 cms in AP diameter would not normally be operated on. Where an aortic aneurysm has an AP diameter less than 5.5 cms, it is generally accepted that the risk of

surgery is greater than the risk of rupture and no action would usually be taken beyond periodic surveillance to determine any change in size.

8 When an AAA ruptures this results in haemorrhage. The cardinal signs are sudden onset of back pain, collapse and pulsatile mass. Initial minor bleeding from a rupture may cause only back pain. If the initial blood loss is more substantial, or if minor blood loss worsens, the patient is likely to go into shock. The symptoms of shock may include low blood pressure with systolic and diastolic readings both under 100, sweating, feeling unsteady and collapse. A patient in shock will usually look obviously unwell.

9 Mrs Beckett was discharged after ultrasound on 15 December 2000 with a view to returning to the vascular clinic four weeks later. Her films were to be reviewed prior to her return.

10 On 12 January 2001 Mr Walker wrote to Mrs Beckett's general practitioner by way of a computer generated letter referring to the admission and stating that the diagnoses were aorto-iliac arterial disease and femoro-popliteal arterial disease. The letter advised that a trans-femoral aorto-arteriogram had been performed and that her films would be discussed prior to her return to the clinic.

11 Between 15 December 2000 and 17 January 2001 Mrs Beckett's films were discussed at a multi-disciplinary meeting. Mr Walker was present at this meeting but has no recollection of Mrs Beckett's case. Neither Mr Welch nor Mr Jenkins was present. It would have been normal procedure for a Consultant vascular surgeon and radiologist to be present. Mr Walker was given the task of writing to the patient's general practitioner with the outcome of the meeting.

12 By letter dated 17 January 2001 Mr Walker wrote to Mrs Beckett's general practitioner stating that Mrs Beckett's recent angiogram films had been discussed at the meeting. Mr Walker advised that Mrs Beckett had "very diffuse disease with no focal target for intervention" and that she would be seen again at the clinic. The letter made no mention of aneurysm.

13 Neither Mrs Beckett nor her general practitioner was told of the discovery of an aneurysm or possible aneurysm.

14 Mr Jenkins saw Mrs Beckett at a vascular clinic on 12 February 2001. As no mention was made in correspondence of aneurysm, Mr Jenkins did not appreciate that the condition had been identified or may have existed. As Mrs Beckett's symptoms remained static and as she had no focal target for intervention, he decided that she should be managed conservatively and be reviewed in six months time.

15 Mr Jenkins saw Mrs Beckett at a vascular clinic on 10 September 2001 when he discharged her from the clinic. No arrangement was made for periodic recall or scan.

16 On 8 November 2005, Mrs Beckett was once more referred to the Southern General Hospital Haematuria Clinic where she was seen on 15 December 2005. She complained of bilateral groin pain. As a result on 9 January 2006 Mrs Beckett attended the radiology and ultrasound department for further tests. An ultrasound scan revealed that there was an infra-renal abdominal aortic aneurysm with a maximum AP diameter of 3.9 cms.

17 Mrs Beckett's results, including the radiology reports, were assessed in the urology department by Mr Lindsay Morrison, Associate Specialist in Urology. As a result Mr Morrison dictated three letters on 16 January 2006. These letters were typed on 27 January 2006.

18 One of the letters was to Mrs Beckett's general practitioner. It stated that although there were no significant abnormalities in the urinary tract, there was an infra-renal abdominal aortic aneurysm measuring 3.9 cms.

19 A further letter was a referral letter to Mr George Welch, Consultant vascular surgeon. Mr Morrison requested Mr Welch's opinion in respect of Mrs Beckett on the basis that the ultrasound had shown an aneurysm with a maximum AP diameter of 3.9 cms.

20 The third letter was addressed to Mrs Beckett and advised her that her recent scan suggested some dilatation of her blood vessels and that Mr Welch had been asked to review her.

21 On 26 January 2006, at 2306 a telephone call to NHS 24 on behalf of Mrs Beckett was made by a warden at Mrs Beckett's sheltered housing. The NHS 24 operative noted that Mrs Beckett was reported to be suffering from severe abdominal pain and lower back pain, that the back pain was acute at both sides of the abdomen radiating through her kidney area. The pain was described as excruciating with analgesia not helping.

22 NHS 24 arranged via Glasgow Emergency Medical Services for a doctor to attend. Mrs Beckett was visited at home by an experienced general practitioner, Dr Moses Apiliga, at 0040 on 27 January.

23 Mr Apiliga noted that Mrs Beckett was complaining of bilateral loin pain radiating to the front, with associated nausea and extreme pain. The pain was noted to be of three hour duration. On examination her abdomen was noted to be soft and non-tender. Mrs Beckett did not complain of back pain to Dr Apiliga. The pain was reported by Mrs Beckett to be variable and to "come and go". Clinically, Mrs Beckett did not appear to be in shock. Mrs Beckett indicated that she was under investigation for kidney stones and awaited test results.

24 A working diagnosis was made of renal colic. Mrs Beckett was given an injection of 75 mg Voltarol, a painkiller. She was told by Dr Apiliga to make a further call to the Service in one hour if the pain had not resolved and to arrange to see her doctor in the morning.

25 When Mrs Beckett was seen by Dr Apiliga, neither Mr Beckett, Mrs Beckett nor Dr Apiliga knew that she had any history of abdominal aortic aneurysm or suspected abdominal aortic aneurysm. Had Dr Apiliga known Mrs Beckett had an aneurysm he would have sent her to hospital immediately.

26 After Dr Apiliga left Mrs Beckett's pain did not resolve. Her husband accordingly telephone for an ambulance which attended at the Becketts'

house at 0511 and left for hospital at 0514. As Mrs Beckett's condition deteriorated in the ambulance it was diverted to the Victoria Infirmary.

27 The ambulance arrived at the Victoria Infirmary at 0526 hours.

28 At 0536 hours Mrs Beckett suffered cardiac arrest. Unsuccessful attempts were made to resuscitate her and life was pronounced extinct at 0612 hours.

29 A post-mortem examination concluded that the cause of Mrs Beckett`s death was a ruptured abdominal aortic aneurysm.

30 As at 27 January 2006, Mrs Beckett had significant co-morbidities which included peripheral vascular disease and severe coronary artery disease.

**NOTE:**

At this Inquiry the Crown was represented by Anne Frances Hilley, Procurator Fiscal Depute; Mr Beckett, the husband of Mrs Beckett by Mr A S Pollock, Solicitor; Dr Moses Apiliga by Mr M M Wood, Solicitor; Mr Kenneth Walker by Mrs M Robertson, Solicitor; Mr Ian Taylor Jenkins by Mr W S C Speirs, Solicitor and Greater Glasgow Health Board by Mr Stephenson, Advocate.

During the course of the Inquiry the Crown called the following witnesses:-

1 Robert Beckett, Flat 23, 7 Eastwood Crescent, Glasgow.

2 Kenneth Walker, Consultant Surgeon, Raigmore Hospital, Inverness.

3 Ian Jenkins, Consultant Surgeon, St Mark's Hospital, London.

4 Moses Apiliga, General Practitioner, 1483 Dumbarton Road, Glasgow.

5 Lindsay Morrison, Associate Specialist in Urology, Victoria Infirmary, Glasgow.

6 Julie McAdam, Forensic Pathologist, Department of Forensic Medicine and Science, University of Glasgow, Glasgow.

7 G H Welch, Consultant Vascular Surgeon, Southern General Hospital, Glasgow.

8 Peter A Stonebridge, Professor of Vascular Surgery,Ninewells Hospital, Dundee.

No witness was called by any other party.

The vast majority of evidence in this Inquiry was unchallenged and was given with the assistance of the medical records of the Southern General Hospital relating to Mrs Beckett, Crown Production No. 3. In addition, Mr Welch had the assistance of Crown Production No. 6, Professor Stonebridge of Crown Production No. 7 and Miss McAdam of Crown Production No. 2. Since there was relatively little factual dispute in this case and as the evidence is reflected in my findings under Section 6(1)(e), I do not propose to detail that evidence.

There was, however, dispute at the Inquiry, in particular, between the evidence of Mr Welch and Professor Stonebridge. It was Mr Welch's evidence that he did not regard Mrs Beckett as a lady with a "significant aneurysm" in 2000. He testified that while an infra-renal aortic diameter of three centimetres is a commonly used, but somewhat controversial cut off point, it was his opinion that a diameter of four centimetres or larger is more clearly diagnostic of an abnormal aortic aneurysm. According to him, some aortas are naturally wider. In his experience some patients with aortas exceeding three centimetres or even 3.5 cms have a condition of ectasia of aorta without any focal dilatation. Mr Welch further explained that there is a recognised scope for a three millimetre operator interpretation difference and therefore scope for overestimating the size, if the ultrasound beam passes through the aorta at an angle, instead of at 90°. It was impossible for him to say what the average size of an aorta would be for someone of Mrs Beckett's height and build. According to Mr Welch, in Mrs Beckett's case, the original angiogram showed an aneurysmal aorta often referred to as ectasia, which not infrequently is associated with diffuse atherosclerotic disease in the aorta. In his opinion, the impression given on the hand drawn diagram is a focal dilatation. In his view, this over estimated the extent of the aortic dilatation. Mr Welch described the practice in 2000/2001 which was to review the investigations at a multi-disciplinary meeting, to correlate the images with the clinical presentation and thereafter to communicate with the patient's general practitioner. Although not present at the meeting in Mrs. Beckett`s case, his suspicion was that there was no mention of "aneurysm" in the letter to the general practitioner because it was felt at the meeting that the minimal aortic dilatation was related to the diffuse atherosclerosis of her aorta and did not represent a true and

clinically significant aneurysm. In his view, the risk of Mrs Beckett dying from cardiovascular disease far exceeded the risk of rupture of an aneurysm. He continued that where an aneurysm measured 3.9 cms., the risk of rupture was so low that he would simply have arranged follow up as the risk from surgery would have been far greater than the risk of rupture.

Professor Stonebridge was not involved in any way in the treatment of Mrs Beckett, but had been requested by the Crown to review her medical records. His findings and conclusions are contained within his report. He agreed that it was extremely unusual for an aneurysm of 3.9 cms to burst and that the risks of surgery at this size are greater than the risks of the aneurysm. He made no criticism of the care of Mrs Beckett after the identification of the aneurysm in January 2006. It was his evidence that if Mrs Beckett had been his patient in 2000/2001, he would have told her that she had an aneurysm and that if she experienced unusual back pain to contact her doctor. He was surprised that the finding of the condition of her abdominal aorta in 2000 was not followed up in some way. According to him, the key to the care of Mrs Beckett on 26/27 January 2006 was that neither her general practitioner nor Mrs Beckett knew of the aortic aneurysm. Professor Stonebridge commented that there was a failure in communication in 2000/2001 when the aortic aneurysm was identified by ultrasound but that this information was not passed to either Mrs Beckett or her general practitioner. In addition to expressing concern about this, Professor Stonebridge also expressed concern at the failure of Dr Apiliga to record Mrs Beckett's blood pressure on 26/27 January 2006 It is the conclusion of Professor Stonebridge that had Dr Apiliga recorded Mrs Beckett as having low blood pressure this would have questioned the diagnosis of renal colic. He accepted, however, that diagnosis of a ruptured abdominal aortic aneurysm is notoriously difficult.

I was invited by the Crown to determine under Section 6(1)(c) that medical staff at the Southern General Hospital should have alerted Mrs Beckett and her general practitioner to the diagnosis of an abdominal aortic aneurysm and that such an alert could have resulted in her earlier admission to hospital, which could have

resulted in lifesaving treatment being administered. These were reasonable precautions which might have been taken to avoid Mrs Beckett's death. The Crown further submitted under Section 6(1)(d) that there was a defect in the system of working which contributed to her death, namely, a failure in the system of communication amongst medical staff at the Southern General Hospital, Glasgow, in particular in relation to the passing on of information about results and the outcome of discussion at the multi-disciplinary meeting. The Crown also submitted that there was missing information from the medical records which resulted in Mrs Beckett and her general practitioner not being informed of the diagnosis of abdominal aortic aneurysm, namely, no formal ultrasound report and no handwritten note made by Mr Walker at the meeting prior to his letter of 17 January 2001.

Mr Pollock, on behalf of Mr Beckett, submitted that I should determine under Section 6(1)(c) that it would have been a reasonable precaution (i) to have identified the aneurysm as significant, (ii) to have communicated the existence of the aneurysm to Mrs Beckett's general practitioner, (iii) to have recorded in the letter of 17 January 2001, for the benefit of future clinicians such as Mr Jenkins, the fact that an aneurysm had been detected, (iv) to have communicated the existence of the aneurysm to Mrs Beckett, (v) to have instructed a serial ultrasound scan or scans. Mr Pollock further submitted that I should determine under Section 6(1)(d) that there were defects in the system of working which contributed to the death or any accident resulting in the death, namely, (i) there was no adequate system of recording in any meaningful way the multi-disciplinary meeting which reviewed the films in December 2000/January 2001, (ii) there was an inadequate system of communication within the vascular department of the Southern General Hospital and (iii) there was no adequate comprehensive system of providing for serial ultrasound scan.

On behalf of Dr Apiliga, Mr Walker, Mr Jenkins and Greater Glasgow Health Board, Mr Wood, Mrs Robertson, Mr Speirs and Mr Stephenson respectively submitted that on the evidence led I should determine under Section 6(1)(c) that there was no reasonable precaution whereby the death might have been avoided and under Section 6(1)(d) that there was no defect in the system of work which contributed to the death.

The key issue at this Inquiry in my view, was whether the letter to Mrs Beckett's general practitioner sent by Mr Walker on 17 January 2001 should have included reference to abdominal aortic aneurysm. Similarly, the issue arises as to whether or not Mrs Beckett should have been informed of the existence of any aneurysm. To my mind both of these fall to be determined on the basis of what took place at the multi-disciplinary meeting. I accepted the evidence of Mr Jenkins that, in 2001, had he realised that Mrs Beckett had an aneurysm or believed that she had an aneurysm he would have informed her of its existence, would have arranged for annual scans in order to keep the aneurysm under surveillance and would have told Mrs Beckett to seek medical help should she experience symptoms of back pain, or increasing abdominal pain. According to Mr Beckett had his wife been told of this, she in turn would have alerted him. Accordingly, had Mr Jenkins been aware of an aneurysm in 2001, Mr and Mrs Beckett would have been aware of the warning signs and would, in 2006, have been in a position to tell NHS 24 or Dr Apiliga of the existence of this. I accepted the evidence of Dr Apiliga that the provision of this information would have resulted in Mrs Beckett's immediate admission to hospital in January 2006. According to the evidence of Mr Jenkins and Mr Walker, had Mrs Beckett's aneurysm been identified and monitored, the outcome would have been no different and she would still have died. In considering their evidence I take into account that their consultant status is related to non-vascular specialities. I, accordingly, preferred the evidence of Mr Welch who put Mrs Beckett's chance of survival once the ruptured had started at 12.5% and that of Professor Stonebridge who testified that had Mrs Beckett got to hospital by 01.30 and been operated on by 02.30 she would have had a 50% chance of survival. Although the extent of the chance of survival differs I conclude from the evidence of both of these consultants that had Mrs Beckett been taken to hospital by 1.30, while the outcome cannot be stated with any certainty, her death might have been avoided. However, it cannot be over-stressed that this view proceeds on the basis that the conclusion of the multi-disciplinary meeting which reviewed Mrs Beckett's case in 2000/2001 was that she

did in fact have an abdominal aortic aneurysm. It is accordingly unfortunate that no evidence was led of what took place at that meeting nor of its conclusions. Mr Welch was not present. Mr Jenkins was not present. Mr Walker was present but, at the time of the Inquiry, unsurprisingly, had no recollection of the meeting. Although, in accordance with normal practice, a Consultant vascular surgeon and radiologist would have been in attendance, no evidence was led from either of them nor from Mr Urquhart nor Dr Sambrook. From the evidence led, the exact date of the meeting is unknown, the identity of those attending is unknown (other than Mr. Walker), which consultant(s) attended is unknown, the nature of the discussion which took place is unknown as is the consensus of the meeting, if one was reached. There is no evidential basis upon which I can make any findings as to what was discussed or decided at the multidisciplinary meeting beyond what is contained in Mr. Walker`s letter. I take into account the evidence of Mr Welch that while he criticised the brevity of the letter sent by Mr Walker consequent to this meeting, he himself would not necessarily have used the word "aneurysm" in writing to Mrs Beckett's GP. In light of the identification of a 3.9 cm aneurysm in 2006 it seems clear that aneurysm did exist in 2001. What is not clear, however, is what was decided by the meeting without the benefit of later events. . In light of this gap in the evidence, I am unable to give effect to the Crown submissions and those of Mr. Pollock under Section 6(1)(c). For the same reason I am unable to give effect to their submissions under Section 6(1) (d) as I am unable to conclude from the evidence led that the letter sent by Mr. Walker did not reflect the views of the meeting. I have therefore come to the view that the submissions of Mr. Wood, Mrs.Robertson, Mr. Speirs and Mr. Stephenson that there is insufficient evidence to enable me to make findings under sections 6 (1)(c) and (d) are well founded. Similarly, I am unable to conclude that what was described by the Crown as "missing information" was the reason for Mrs. Beckett or her general practitioner not being informed of the diagnosis of an abdominal aortic aneurysm as I am unable to conclude from the evidence led that the consensus of the multidisciplinary meeting was such a diagnosis.

In relation to Professor Stonebridge`s concern that Dr. Apiliga did not take Mrs. Beckett`s blood pressure, there is no evidence from which I can conclude that had Dr Apiliga measured Mrs Beckett's blood pressure it would have been low. I accepted Dr Apiliga's evidence, supported by his contemporaneous note that Mrs Beckett did not complain to him of back pain. It was Dr Apiliga's evidence that it was not normal practice for a general practitioner in his situation to take blood pressure. No evidence was led from any expert in primary care to contradict this, and, accordingly, taking into account Dr Apiliga's 21 years of experience as a general practitioner, I accepted the practice as described by him. No attempt to criticise the conduct of Dr Apiliga was made by either the Crown, Mr Pollock, Mr Wood, Mrs Robertson, Mr Speirs nor Mr Stephenson.

While this Inquiry has focussed on events of over 7 years ago, it should be noted that many of the systems in place then have now changed. In particular, I heard evidence that there have been changes to the system of computer generated letters at the Southern General Hospital, the means of recording of multi disciplinary meetings at the vascular unit of that hospital, the practice of arranging periodic follow-up of scanning of abdominal aortic aneurysms at the hospital, the organisation of the Haematuria Clinic whereby there is greater "one-stop" experience for patients and the transmission of information to GEMS doctors making out of hours home visits.

I would like to express my sympathy and condolences to Mrs. Beckett`s family. I hope that this Inquiry has assisted them in coming to terms with their tragic loss.