

OUTER HOUSE, COURT OF SESSION

[2013] CSOH 23

OPINION OF LORD GLENNIE

in the cause

ROBIN DONALD AND OTHERS

Pursuers;

A754/06

against

AYRSHIRE & ARRAN HEALTH BOARD AND OTHERS

Defenders:

Pursuers: Dewar QC, Henderson; Drummond Miller LLP

First Defenders: Stephenson QC, McSporran; R F Macdonald

Second Defenders: Bain QC, Davie; MDDUS

7 February 2013

Introduction

[1] This action concerns the death of Maria Bernadette Donald on 6 August 2003. She died in the Accident & Emergency Department of Ayr Hospital of a massive bilateral pulmonary embolism following a deep vein thrombosis ("DVT").

[2] The first pursuer is Robin Donald, her husband at the time of her death. He has recently remarried. Their daughters, Gillian, Emma, Sarah and Ruth, are respectively the second to fifth pursuers. Together they sue for loss, injury and damage sustained by them as a result of her death.

[3] The first defenders named in the action are the Ayrshire & Arran Health Board, who were sued in respect of alleged failings at Ayr Hospital, not at the time of Mrs Donald's death but on an earlier occasion in 2001 when, so it was alleged, they ought to have diagnosed the possibility of recent or recurrent DVT. On day 9 of the proof the pursuers abandoned their action against the first defenders and decree of absolvitor was granted in the action insofar as directed against them.

[4] The second defenders are all registered general practitioners. They practice in partnership with a surgery and principal place of business in Mauchline, Ayrshire. The practice is currently known as the "Ballochmyle Practice", because it covers the adjacent town of Ballochmyle as well as the village of Mauchline. They are sued in respect of alleged failings of two of the partners at the time, Dr John Cleland and Dr David Richardson. Both have since retired.

[5] In the course of the proof, a joint minute was entered into in terms of which all questions of damages and interest were agreed in the event of a finding of liability.

[6] Before turning to consider the merits, I should thank counsel for their very comprehensive submissions, both written and oral. I should also express my particular gratitude to junior counsel on both sides who not

only typed out their very full notes of the evidence but also co-operated with each other so as to provide the court with a version of the evidence which was largely agreed. I must also express my regret that this Opinion has taken longer to finalise than it ought to have done.

The central issues in this case

[7] A number of allegations of negligence were made on record. As the case progressed, some of these fell by the wayside. The live issues remaining can be summarised in this way:

- (1) Was Dr Cleland negligent in failing to refer Mrs Donald ...on 28 July 2003?
- (2) Was Dr Richardson negligent in failing to refer Mrs Donald ... on 4 August 2003?
- (3) Was Mrs Donald suffering from DVT on (a) 28 July and/or (b) 4 August 2003?
- (4) Would Mrs Donald's life have been saved had she been referred on (a) 28 July and (b) 4 August 2003?

As will be apparent, there are a number of possible permutations. It might be, for example, that the answer to question (1) and/or (2) is in the affirmative even though the answer to question (3) is in the negative; or it might be that the answers to question (1) and/or (2) are negative even though the answer to question (3) is in the affirmative. But the questions also overlap, since the answer to question (3) is likely to inform the answers to questions (1) and (2); and *vice versa*.

Approach to assessment of the evidence

[8] I was urged by Ms Bain QC, for the second defenders, to assess the evidence as a whole rather than approach each issue as a discrete chapter of evidence before moving on to consider other aspects. That was particularly important in this case, she argued, where the expert medical evidence from vascular surgeons was relevant not only to issues of causation, to which it was primarily directed, but also to an assessment of the probabilities of what happened at key moments. A particular example relates to the events of 28 July 2003, when Mrs Donald attended Dr Cleland at the surgery and there is a direct conflict between Mr Donald (who was there) and Dr Cleland as to the symptoms with which Mrs Donald reported. Any conclusions as to the reliability of the respective accounts given by Dr Cleland and Mr Donald must take account of the expert medical evidence about the probability or improbability of the DVT having developed by that time; and *vice versa*. I accept this submission which, I think, echoes the approach articulated by Sedley LJ in *Karanakaran v Secretary of State for the Home Department* [2000] 3 All ER 449 at 477:

"... a civil judge will not make a discrete assessment of the probable veracity of each item in the evidence; he or she will reach a conclusion on the probable factuality of an alleged event by evaluating all the evidence about it for what it is worth. Some will be so unreliable as to be worthless; some will amount to no more than straws in the wind; some will be indicative but not, by itself, probative; some may be compelling but contradicted by other evidence. It is only at the end point that, for want of a better yardstick, a probabilistic test is applied. ... it is fallacious to think of probability (or certainty) as a uniform criterion of fact-finding in our courts; it is no more than the final touchstone, appropriate to the nature of the issue, for testing a body of evidence of often diverse cogency."

That approach has met with approval in a number of cases, including *Morton v West Lothian Council* [2005] CSOH 142 and *Gibson v Whyte* [2007] CSOH 17. Until all the evidence has been considered, any assessment of any particular evidence relating to any particular aspect of the case which might affect or be affected by other aspects can only be provisional. I have attempted to keep this in mind when considering the evidence in this case. It arises acutely in the present case where there are a number of overlaps between the factual and expert evidence. The fact that in discussing the evidence and setting out my findings I have focused from time to time on particular episodes in the narrative does not mean that I have overlooked the potential impact on my conclusions of other evidence directed principally to a different topic.

Mrs Donald and her family

[9] It is necessary to paint a brief portrait of Mrs Donald and her family. Mrs Donald was born on 10 February 1958 and was 45 at the time of her death on 6 August 2003. She was commonly referred to, by her husband at least, as "Bernie" (short for Bernadette). She and Mr Donald met as childhood sweethearts. They married in May 1980 when Mrs Donald was 22. Soon after they married they went to live in Mauchline, Ayrshire, just above the pharmacy. They lived there for over 20 years.

[10] Mrs Donald registered with the GP practice when they moved to Mauchline. Initially she saw Dr Rawson, who was then the senior partner in the practice, but after he retired in about 1990 Mrs Donald tended to see Dr Cleland. He was her GP from then on.

[11] Mr and Mrs Donald had four daughters: Gillian (who was 21 at the time of her mother's death); Emma (16); and Sarah and Ruth (both 15). Emma, Sarah and Ruth were living at home at the material time, while Gillian was living in Catrine, a village some two and a half miles (or about five minutes drive) away. Gillian, Emma and Ruth gave evidence at the proof.

[12] It was clear from the evidence I heard that the Donald family were extremely close. Until Gillian moved out in the year before her mother died, they all lived together. In the evidence Mrs Donald was variously described as passionate about all her daughters, supportive, kind, loving, caring, generous, everything you expect a mother to be. This closeness of the family is of some importance in assessing the evidence given by Mr Donald and the three daughters who gave evidence. Although it is clear that they were sometimes kept in the dark about Mrs Donald's treatment for depression and her complaints about marital difficulties, the closeness of the family meant that both Mr Donald and the daughters could speak with familiarity and authority on a number of relevant matters.

[13] It was clear from Mr Donald's evidence that Mrs Donald was initially a vibrant, dynamic, witty and bright individual. She loved opera, concerts, ballet and cinema. However, an enormous part of her adult life was coloured by depression. When they were first married, Mrs Donald worked in a bank. She gave this up to become a home-maker for the children. For a while she took a full time job in the pharmacy above which they lived - she was not a qualified pharmacist but worked in the front of the shop - but when this impinged too much on her time with the children she went part time. This continued up until a few weeks before her death. Her depression began soon after they married, though it was not recognised as depression until some time later. Mr Donald said that the depression "evaporated" during Mrs Donald's three pregnancies, which he described as "glorious", but otherwise, as he described it, it became like living with an alcoholic - when she was "up" it was fantastic but when she was "down" she was "colder than an iceberg", in utter denial. During those periods of depression she would blame Mr Donald for just about everything. She had treatment for depression - the GP records contain many entries about this - though Mr Donald would not always know about it at the time. (The records also make reference from time to time to reports from Mrs Donald of marital difficulties, but Mr Donald was unaware of her having told her GP about such difficulties and nothing turns on this in any event.)

[14] Mr Donald explained that Mrs Donald was in denial and embarrassed about her depression. She struggled to cope with it by "comfort eating". As a result she put on weight. In March 1994 she weighed about 161/2 stone but her weight would fluctuate as she tried, with mixed success, to overcome the problem on her own. On one occasion, when her weight went up to 19 stone, she joined a slimming club and lost six stone, but then she left the club because she thought she could deal with the problem on her own. That proved to be a delusion. At the time of her death she weighed over 20 stone.

[15] According to Mr Donald, by 2003 she was beginning to enjoy going out again and was beginning to recognise what was happening in her life. She was becoming more positive. She had ordered a new kitchen and had taken out a bank loan to replace the windows in the house. It appeared from the evidence that her colleagues never knew that she was depressed. Mr Donald said that when her depression lifted, she was "wonderful". She did not suffer from panic attacks and did not lose control.

[16] Mrs Donald's improvement in early 2003 was arrested by her mother's death on 1 May 2003. She was not there the moment her mother died - she had been taking her father home from the hospital - and the guilt she felt at not having been there gave her sleepless nights. She was very upset by the death, but both Mr Donald and the daughters who gave evidence all agreed that this was simply a normal reaction to the death of a mother and not something abnormal or excessive. She was given sleeping pills by Dr Cleland on 8 July 2003 but stopped taking them after the first two nights. She did not take time off work as a result of her mother's death.

Mrs Donald's relevant previous medical history

1986 - diagnosis of phlebitis/ DVT

[17] In March 1986, when she was in the early stages of her pregnancy with Emma, Mrs Donald suffered pain in her left calf. Her medical records note that this was originally thought to be sciatica "but now obvious DVT". She gave birth to Emma in November 1986. She was diagnosed by Dr Rawson at that time as having phlebitis (or "thrombophlebitis" as it was later noted in the NHS Maternity Services Record Card). There was a severe pain in her upper left thigh and she was in agony as a result. She refused medication because she was pregnant. I was told that this term literally meant that she had a clot in a vein, and could apply both to DVT at one extreme and to a superficial clot at the other. There was some dispute between the experts as to whether Mrs Donald did in fact suffer in 1986 from DVT. Mr Drury thought it unlikely, but I preferred Dr Ruckley's evidence on this point for the reasons he gave. So far as Mrs Donald herself was concerned, she regarded herself as having a history of DVT. Sometime after Dr Rawson retired, Mrs Donald told Dr Cleland about her history of DVT and he made an entry in the GP notes: "1986 - DVT in pregnancy".

1988 - venogram

[18] In February 1988 Mrs Donald had a venogram carried out. That was an x-ray to detect abnormalities in the veins, and has now largely been superseded by ultrasound. The venogram showed "no evidence of deep vein thrombosis", though Professor Ruckley explained that the lack of scar tissue did not exclude the possibility that there had been a DVT at some time previously.

[19] After that, and partly as a result of being overweight, Mrs Donald was constantly afraid of dying of DVT. When the family flew to Miami in 1998, she bought support stockings to wear on the flight because of her concern about the risk of DVT. All members of her family commented on this episode.

2001 - ultrasound scan on left leg at Ayr Hospital

[20] In April 2001 Mrs Donald visited Dr Cleland and reported swelling in her left calf. She was referred to the vascular clinic at Ayr Hospital where a venous duplex ultrasound scan was carried out on 12 April 2001. Evidence about the scan was given by Catriona McGregor, then head of clinical physiology for NHS Ayrshire and Arran, and, to a lesser extent, Mr Boom, a consultant general and vascular surgeon at the hospital.

[21] Ms McGregor's recollection in the witness box was supplemented by letters she had written in July 2005, August 2006 and January 2008 in answer to requests for information from the claims manager at the hospital arising out of a claim having been intimated against the hospital. I found her to be an honest witness. As set out below, on certain points of detail, which might have been of importance in the context of the claim against the hospital, I have formed the view that she may have been mistaken. However, this does not affect my generally favourable assessment of her reliability. Despite initial appearances, and the fact that his name appeared on the report of the scan, Mr Boom turned out to have had a very limited involvement in the events of this time. Not surprisingly, his recollection of events was poor.

[22] Ms McGregor's evidence was that she was contacted by Dr Cleland (whom she had known for a number of years) on 9 April 2001. Mrs Donald had attended the surgery complaining of symptoms in her left leg. He

did not think that it was DVT but, since Mrs Donald had a history of DVT, he asked whether she would be willing to carry out a scan, in effect to allay Mrs Donald's anxiety. She was asked to look particularly at the popliteal vein. When asked whether Dr Cleland explained why, Ms McGregor said: "presumably because the symptoms were in her calf" - she was clear that Dr Cleland identified the symptoms as being in the calf. Usually such referrals came through the consultants at the hospital, but occasionally the GP would contact the clinical physiology department direct. Ms McGregor confirmed that she would do that, though because the "open access" route was not available for vascular referrals, she had to put in place "a pathway of referral" via a consultant, i.e. she needed to check with a consultant (in this case Mr Boom) that he was happy for her to carry out a scan without him seeing the patient first, on the basis that he would become involved later if she decided that the scan showed the need for intervention. She carried out the scan on 12 April. She then dictated a report of it (which was signed in her absence) and then left to go on holiday, leaving instructions for the report to be sent to Mr Boom for filing in case the GP might subsequently contact him. Ms McGregor did not consider that any intervention was required, and did not expect Mr Boom to take any action. At the time the scan was carried out (in 2001), no stored images of the scan were kept. In other words, the report dictated by Ms McGregor is the only record of it.

[23] There was an issue as to whether Dr Cleland had in fact contacted Mr Boom separately before the scan was carried out. Ms McGregor thought that Dr Cleland contacted her on 9 April before the scan on 12 April, whereas according to Dr Cleland (and his evidence on this had some support from the GP notes) he contacted her on 5 April and he was then in contact with Mr Boom on 9 April before the scan on 12 April. Mr Boom himself had no recollection of having discussed the possibility of a scan either with Ms McGregor or with Dr Cleland. Indeed, he did not think that he would have accepted a referral to exclude a DVT through Ms McGregor's department - he would have preferred this to be checked by on-call physicians using the radiology lab - but if it had been agreed between Dr Cleland and Ms McGregor he might have agreed to proceed on a nominal basis; he would not have wanted to be awkward about it. On the whole I consider that it is more likely that Dr Cleland did indeed discuss the proposed scan with Mr Boom on 9 April, though it may well have been on the basis that he had first arranged it in principle with Ms McGregor. However, nothing turns on that for present purposes.

[24] There was also some uncertainty as to whether Ms McGregor telephoned the practice and informed Dr Cleland or someone else there of the results of her scan before going on holiday, but again nothing turns on this for present purposes. It appears that Ms McGregor's report of the scan was not sent to Dr Cleland, but he received a letter from Mr Boom summarising the scan results some weeks later (see below). The fact that Mr Boom wrote to Dr Cleland supports the view which I have formed that there must have been some prior direct contact between them in relation to the proposed scan.

[25] The scan was carried out only to the left leg and covered the common femoral vein (CFV), the superficial femoral vein (SFV) and the popliteal vein (PV) behind the knee. It did not go down to calf level or below. It was "not protocol" at the time to scan the calf, and it remains that way - and in any event there appear to be technical issues limiting the effectiveness of a calf scan. In addition to using ultrasound, however, Ms McGregor also squeezed or manipulated the calf to produce a flow up the veins to assess the competency of the popliteal vein. Ms McGregor's report of the ultrasound scan was in the following terms:

"Comment on Left Leg:

CFV was patent and competent, SFV was partially patent, partially compressible. There was some secondary Deep Vein Collateral. The PV was patent and competent with no evidence of any extension of the deep vein thromboses or the previous deep vein thromboses."

She explained the report as follows. The common femoral vein was "patent and competent": "Patent" meant that there was no evidence of any thrombus. "Competent" meant that the valves did not allow any reflux. Often where there is injury within the vein, the valves become incompetent (ie they allow blood back up towards the heart), while if the vein is distended the valves do not meet (and blood can come back down).

The superficial femoral vein was "partially patent, partially compressible". If the vein is normal, you should be able to compress it fully, but if there is a degree of thrombus the vein will resist pressure to some extent, depending on the age of the thrombus. There was an indication of some degree of thrombus in the whole superficial femoral vein, but it was not fresh thrombus. The thrombus was extensive, but it was hard with a clean edge and had the appearance of being old and stable (with less likelihood of emboli breaking off and travelling up the vein) - though it was not possible to say how old it was. Had she considered that there was evidence of "fresh" DVT, Ms McGregor would have taken Mrs Donald to A&E or to casualty for prophylactic treatment. "Secondary Deep Vein Collateral" meant that smaller veins had built up over time to take some of the venous blood flow, which could (but might not) have been the result of the thrombus restricting the flow of blood through the superficial femoral vein. This was something Ms McGregor had not come across before in the context of DVT. The popliteal vein was "patent and competent with no evidence of any extension of the deep vein thromboses or the previous deep vein thromboses." That meant that the thrombus of which evidence was found in the superficial femoral vein had not continued into the popliteal vein. The two references in that sentence to "thromboses" should have read "thrombosis". That was a typing error - the singular was intended in each case. It was a reference to the thrombus in the superficial femoral vein. Nor had any thrombus moved to the popliteal vein from the calf. That was apparent from the fact that there was no trace of any thrombus in the popliteal vein. However, Ms McGregor accepted that, since she had not carried out a scan of the calf, the possibility of an acute DVT in the calf itself (which at that point had not continued into the popliteal vein) could not be excluded.

[26] It was suggested that there should have been a repeat scan, and that the report prepared by Ms McGregor ought to have highlighted this. But since there is no longer a claim against the hospital I need not consider this further.

[27] As already indicated, the report of the scan dictated by Ms McGregor appears not to have been sent to Dr Cleland. Mr Boom was at "something of a loss" as to why he had received the report. He assumed that Dr Cleland had received the report. However he took it upon himself, apparently unprompted either by Dr Cleland or by Ms McGregor, to call for the case notes (if any) from Crosshouse and Ayr hospitals and then to write to Dr Cleland. His letter was sent some six or seven weeks after the scan. As I understood his evidence, he was simply clearing his in-tray or, as he put it at one point, "tidying up his dictation" - the report was there and he thought he ought to dictate a letter confirming its contents. He said that he was not aware that the scan had been carried out with a view to excluding DVT, and therefore was not aware that there was any urgency to it - normally scans instructed by him were non-urgent, e.g. to do with varicose veins. His name appeared only second on the report (Dr Cleland's name was first) and therefore he did not think it was necessarily something he had to deal with. His letter to Dr Cleland of 27/28 May 2001 reads as follows:

"This lady attended for venous duplex scanning of her left leg recently. The scan showed the common femoral vein was patent and competent. However the superficial femoral vein was only partially patent and only partially compressible. There was some evidence of significant deep venous collaterals. The popliteal was again patent and competent with no evidence of an acute or previous DVT at this level."

He explained that in this letter he had sought to clarify slightly what was in the report about the popliteal vein. Ms McGregor's report might have been read to imply a DVT that had extended to the popliteal vein, but it was obvious from the way the report was written that that was not what she meant. He interpreted the report as meaning that the popliteal was patent and competent with no evidence of any DVT or previous DVT. At various points in his evidence Mr Boom said that as a vascular surgeon he was not an expert in DVT. He was criticised by Mr Dewar for having added to the ambiguity rather than clarified it, but I do not need to resolve this criticism for present purposes.

December 2002

[28] In December 2002 Mrs Donald again attended Dr Cleland, complaining of acute cramp in her left calf. At the end of that month, she woke up in the middle of the night screaming in agony about a pain in her leg.

She called NHS 24. The pain began to subside and it was suggested to her, over the telephone, that the pain was probably cramp. This incident is recorded in the GP records in the following terms:

"Wakened up with excruciating cramp L leg - acute pains - worried as she has had a DVT before yrs ago. Sounds like cramp and has now settled - leg looks/feels normal. Reassured - will c/b pm."

[29] An entry for 19 February 2003 referred to major marital problems - counselling did not seem to be working. She was reported to be "not clinically depressed - 'just sad'".

[30] The medical history outlined above was dissected in some detail in the expert reports of Professor Ruckley and Mr Drury. But its importance lies in large part not so much in whether Mrs Donald did or did not have a history of DVT prior to the events with which this action is concerned as in the perception on the part of Mrs Donald that she did have a history of DVT and, more importantly, an awareness on the part of the defenders, and particularly Dr Cleland, that DVT was, or was perceived to be, part of her medical history. That awareness informed (or ought to have informed) the approach of the defenders, particularly Dr Cleland and Dr Richardson, to Mrs Donald's presentation on the occasions in July and August 2003 in respect of which the present claim is made. It may, nonetheless, be necessary to revisit part of this history in more detail when considering the expert evidence about the cause of Mrs Donald's death and, in particular, about whether the DVT from which Mrs Donald died developed over a matter of days or had been developing for some considerable time.

The events of July and August 2003

16 July - collapse and attendance on Dr Cleland

[31] On Wednesday 16 July Mrs Donald saw Dr Cleland at the surgery. The record in the GP notes for that visit, timed at 0933, is as follows:

"16.07.03 (Dr Cleland) Tachycardia and hyperventilating, and very distressed. Clearly needs bereavement counselling, but also an antidepressant dose of something. Start citalo 20mg., and also prop 20mg tid in short term."

"Citalo" is short for citalopram, an antidepressant. Dr Cleland prescribed 28 x 20mg tablets, one to be taken daily. "Prop" is short for propranolol hydrochloride ("propranolol"), a beta blocker. The prescription was for 20 x 40mg tablets, to be taken at the rate of half a tablet three times daily.

[32] A first hand account of the events leading to Mrs Donald going to consult Dr Cleland was given by Jackie Hamilton, a planning technician at the pharmacy where Mrs Donald worked. She had worked within the pharmacy for some 25 years and knew Mrs Donald well. She saw Mrs Donald in the pharmacy that morning. Her breathing was laboured, she was sweating and she looked pale. She was putting her hand to her chest. It was decided to get Mrs Donald to the doctor. They tried to walk to the surgery, a walk of no more than about 5 minutes under normal conditions, but Mrs Donald kept stopping. It was clear that she could not walk that distance. Accordingly, Ms Hamilton drove her there in the pharmacy van. Mrs Donald was able to walk from the van into the practice. She stayed there for about 10 minutes, and then was driven home. Mrs Donald told Ms Hamilton and Gillian, and later Mr Donald, that Dr Cleland had thought that she was suffering from panic attacks and anxiety due to the death of her mother.

[33] Not surprisingly, Dr Cleland did not remember this occasion very clearly. His recollection was largely confined to what was in his notes. He was not aware that Mrs Donald had been unable to walk to the surgery. He could not remember if he was already in his room when Mrs Donald walked in. Asked if he recalled her struggling to move and being affected by breathlessness, he said that his recollection was no better than what was written down. He did not have an opportunity of seeing her walking around. So far as concerned his note relating to tachycardia, he said that he did not record Mrs Donald's pulse rate. Her pulse was raised, but not grossly; he could say that because he would have noted it if it had been very high. So far as concerned the

entry relating to hyperventilation, although he could not remember anything that was said, he had a mental picture of her and she was hyperventilating. That was different from breathlessness. She was breathing rapidly, which was typical of tachycardia, as opposed to breathing deeply and with respiratory distress. She was not struggling to catch her breath.

[34] It is clear that Mrs Donald was surprised at the diagnosis of panic attacks. She, and her daughter Gillian, thought that she was coping with her mother's death. Gillian gave evidence that her mother had said to her, after having seen Dr Cleland and he having diagnosed panic attacks:

'Gillian, I don't feel panic, I didn't feel panic in the shop and I don't feel panic now'.

[35] Dr Cleland formed the view that Mrs Donald would benefit from bereavement counselling and referred her to the community mental health team. He thought that she was very emotionally distressed, because of the death of her mother, and that it was that which had induced her hyperventilation. She was weeping and distraught. He had seen her a week before (8 July) when she was not sleeping as a result of that, and his "absolute feeling" was that this was an emotional psychological situation rather than a physical one. He was not presented with other physical symptoms. The relevant parts of his referral letter of 18 July 2003 read as follows:

"I would be most grateful if it would be possible to offer this lady some bereavement counselling. I saw Mrs Donald on 8 July, when she told me that her mother had died 10 weeks previously and that she was not sleeping. I gave her a small dose of Amitriptyline [an anti-depressant] in the hope that this might help, but she came back to see me a week later in great distress, with a whole series of depressive symptoms, weeping in my presence, and clearly very distressed at her mother's death.

Mrs Donald has a long history of recurrent depressive illness, which she has very frequently tried to deny. After a long period of time I finally managed to persuade her to take anti-depressants, to which she responded well, but more recently she has had significant relationship problems with her husband. They have seen a variety of people and had marital counselling, which I think has helped a lot, such that when I saw her in May she said things were much better from that regard.

My feeling is that Mrs Donald was always going to struggle to cope with an event such as her mother's death. I have started her on Citalopram 20mgs daily, plus a small dose of Propanalol to try to control the physical symptoms (tachycardia and hyperventilation) that she presented with. I would be optimistic that she would respond well to bereavement counselling and would very much appreciate your help."

[36] The evidence did not reveal whether Mrs Donald went to see the community mental health team. I suspect not, because her death occurred within about three weeks of that time and she was virtually housebound in the interim.

[37] Although Mr Donald and the children all questioned the diagnosis of panic attacks made by Dr Cleland on 16 July 2003, no case in negligence is advanced in relation to that diagnosis of itself. The importance of the episode, for present purposes, lies in the fact that that diagnosis was made. It is asserted by the pursuers that Dr Cleland became "locked into" that diagnosis and, as a result, was blind to any other explanation of the symptoms with which Mrs Donald presented on later occasions. The same is said of Dr Richardson who attended Mrs Donald on 4 August (see below): that he inherited that diagnosis and shut his mind to any other possible explanation. I shall consider this aspect in due course.

Mrs Donald's condition after 16 July

[38] Mrs Donald did not return to work after 16 July 2003. She was unable to do so. According to Mr Donald, she could hardly walk. She had to go on one or two shopping trips connected with equipping the younger children for their return to school. Mr Donald described her walking as very laborious. She was constantly breathless. She paused every few paces. She could not get her breath. She would constantly say:

"I can't breath, I can't breath, you'll have to give me a minute".

Mr Donald commented:

"If I heard it once, I heard it a thousand times".

This account was confirmed both by Gillian and Emma. Both of them said that she never got any better. If anything, she got worse. Everything became more and more of a struggle. She was often unable to catch her breath, and was only able to fill her lungs to a margin of the capacity she should have been able to fill them to. Her sentences became shorter due to her difficulties in breathing. Gillian began popping in more frequently. Mrs Donald never returned to work. On 22 July 2003 she signed off work until 28 July (it is noted in the GP records of 22 July that she signed off for depression). Dr Cleland confirmed that a certificate would have been issued for her without the need for her to come in and see him.

27 July - the birthday meal

[39] Sunday 27 July 2003 was Mr Donald's birthday. At Gillian's suggestion, they all went out as a family to have a Chinese meal in Ayr. Mrs Donald made a special effort to go with them. The car was brought to the door, she was helped in, and they drove to the restaurant. When they returned, the car was again brought to the door and Mr Donald helped her to the steps leading up to their flat. He then went and moved the car. When he returned, Mrs Donald was lying on the stairs stretched out to her full length "like a beached whale" (Mr Donald was embarrassed about having used that description, but I make no apologies for repeating it because it graphically illustrates the difficulties under which Mrs Donald was labouring). Mr Donald walked her up the 14 steps to the landing. At that point she had to stop to recover her breath. Then he walked her up a further 3 steps to the bedroom and helped her into bed. She was saying that she could not breathe, and he noted that she was "dreadfully short of breath". She had not been drinking any significant quantity of alcohol, possibly just one glass of wine if anything. This account was confirmed by Ruth and Emma. Gillian had gone straight home from the restaurant with her partner and only discovered what had happened when she was told about it over the telephone. It was decided then that she had to go back to the doctor. It seemed as though she was not making any progress - if anything, her condition was worsening slightly. She did not know how long it would take for the beta blockers to work, but they were not working then.

28 July - appointment with Dr Cleland

[40] Mr Donald took Mrs Donald to see Dr Cleland the next day, Monday 28 July. The GP notes record that she saw him at about 4.20 pm. The note of the consultation in the GP records reads as follows:

"28.7.03 (Dr Cleland) Tachy and hyperventilation isq, with clear chest and normal heart sounds. Arrange CXR and ECG for reassurance".

"Tachy" is short for tachycardia. Dr Cleland explained that "isq" meant "in status quo", in effect "same as before". The letters "CXR" stand for chest x-ray, while "ECG" stands for electro-cardiograph.

[41] There is a sharp conflict of evidence about what happened at the consultation with Dr Cleland on 28 July. Mr Donald sat through the whole of it. His evidence was that he drove her to the surgery. The surgery is only a few hundred yards away, a five minute walk, but Mrs Donald was incapable of walking without support and would not have made any significant distance on her own. He took the car right to the door of the surgery and helped her in before parking the car and joining her in the waiting room. When they went in to see Dr Cleland, Mrs Donald was using Mr Donald's arm for support. They went in very slowly. They sat down. Dr Cleland sat at his desk sideways to them, facing the side wall and a computer screen. Mrs Donald was on a chair to his left. Mr Donald sat a little bit back, so as not to intrude but also to be available should his contribution be wanted. Mr Donald was sitting almost opposite Mrs Donald, behind Dr Cleland's left shoulder but within his line of sight if he turned to the left. Mrs Donald described her breathlessness, which must have been very obvious as she walked in. Her chest was tight. Her breathlessness was apparent from her

speech. She said "I cannot breathe and my chest is tight" or something to that effect. She used the expression: "as if an elephant is sitting on my chest", or something similar. It was not "I have a stabbing pain in the chest"; it was describing a tightening of the chest, a pronounced inability to breathe. She said: "I don't think these beta blockers are working and I just can't breathe". Mr Donald remembered her saying it was "constant and unrelenting". She specifically said that she did not feel any panic; she still missed her mother but she was managing to sleep through the night. She mentioned that she had discontinued the sleeping pills which Dr Cleland had prescribed on 8 July.

[42] At some point during the consultation, Mrs Donald reported that she had pain in her leg. She shocked Mr Donald by saying to Dr Cleland "I've got this pain in my leg", and described it by extending and spreading her fingers on her thigh, in an action which Mr Donald described as "like kneading dough". She was pressing down onto her thigh with both hands, with fingers extended and spread, as though trying to reach into the bone or something. Mr Donald knew that Mrs Donald was prone to vein trouble - she had had phlebitis, DVT and vein operations - and he was shocked that it had come up again because she had not told him (he thought "why don't I know about this?"). He said that he shot her a look, the kind of look that says: "we're going to talk about this when we get outside." They had great respect for Dr Cleland and he made sure he was out of his eye line at the time. Mrs Donald produced from her bag a leaflet from one of the medicines she was taking. She was meticulous in everything she did. Mr Donald said that he did not read those things, but she did. He said that she was scared, worried that she might have a stroke. She knew she was not looking after herself. She showed it to Dr Cleland and said there was a long list of side effects. She said that it mentioned leg pain. Dr Cleland took it, sat back and read it. There was a seemingly interminable silence while he read it. Mr and Mrs Donald kept a respectful silence. Mr Donald looked at Mrs Donald and shrugged. She did not respond because she was in his eye line. At the end of the silence, Dr Cleland folded it up and gave it back to her and said something like: "leg pain has nothing to do with it and is certainly not a side effect of the medicine - beta blockers will work but they have to be strong enough to kick in". He used the expression "kick in". Then he doubled the dosage. Mr Donald said that he did not see the leaflet, and they did not discuss it afterwards. The only medicine he knew about was the beta blockers, so he assumed that the leaflet was from the beta blockers. But it might have been from the antidepressants. He described Mrs Donald as "comfort seeking" and looking for reassurance, which she got from Dr Cleland looking at it, deliberating and then dismissing the idea that the leg pain had anything to do with her condition. The diagnosis remained one of panic attacks, hence the prescription of beta blockers to address that problem.

[43] When pressed in examination in chief as to whether he was in any doubt that Mrs Donald had mentioned leg pain, Mr Donald said that it was not a picture that would leave him. At the insistence of his lawyer he had written down everything while it was fresh in his memory. He could not say what he or she was wearing, but he was very clear that she had mentioned leg pain and had produced the leaflet. "That part is not going to leave me."

[44] Mr Donald said that Dr Cleland went on to say that he was as sure as he could be that there was not a heart problem, but for completeness he would get an ECG done at the surgery and would order a chest x-ray to be done at the local hospital: "I don't think it's anything to do with the heart, but let's be absolutely sure and double check." Mr and Mrs Donald were both very impressed with that. Blood pressure was not taken. There was no examination of the leg. As they left, Dr Cleland spoke to some nurses and Mrs Donald went through to an adjacent room for her ECG. They were told it was all clear. They went back home. Mrs Donald had to rest from the exertion of the visit to the surgery. She watched TV a little, but mostly lay down. They never returned to the subject of the pain in the leg. Why not? It was expunged, wiped from the mind, said Mr Donald, such was the level of confidence in the medical profession. Mrs Donald never mentioned the leg pain again. We took the reassurance and said no more about it. She was not screaming with agony as she had done with the phlebitis.

[45] Mr Donald was pressed hard in cross-examination but resolutely insisted on the accuracy of his account of events on 28 July. I should mention two points of some importance. The first is that it was not put to him

that he was lying, making it up knowing it to be untrue. The case against him was simply that his recollection was at fault. I regard this as important, and I shall come back to it later.

[46] The second point is that it was put to him that his recollection of Mrs Donald producing a leaflet from one of the medicines and showing it to Dr Cleland must be wrong, because a trawl had been carried out of the relevant literature and no leaflet pertaining to the medicines which Dr Cleland had prescribed for Mrs Donald contained any reference to leg pain as one of the side effects. Despite this, Mr Donald stuck to this part of his account. He was adamant that this had happened. It was only after his evidence was complete that it emerged that Emma had tracked down a leaflet pertaining to one of the medicines which Mrs Donald was taking, which did indeed contain a reference to leg pain as one of the side effects.

[47] Dr Cleland's account was at odds with that of Mr Donald. He said that he remembered the consultation on 28 July better than the earlier one on 16 July. He remembered seeing Mrs Donald with Mr Donald. He had no opportunity of observing her take more than a step or two. Her appearance was the same as it had been on 16 July when she was hyperventilating. He remembered understanding that she was there with a recurrence of hyperventilation, which he still considered to be related to "a bereavement situation" (ie the death of her mother). His diagnosis was hyperventilation associated with emotional disturbance and anxiety. It was part of the generality of bereavement. That was not the same as panic attacks. He did not think he had ever diagnosed her as suffering from panic attacks. He doubted he would use those words, though he accepted that it was possible that he had done. But whatever precise terminology he had used, he confirmed that his diagnosis was psychological or psychogenic, rather than organic. He doubled the dose of propranolol to deal with this. He had not considered organic or physical causes at all since there were no symptoms pointing to a physical cause. Nonetheless, he endeavoured to re-assure her. He examined her chest and heart and found them normal. He arranged tests (ECG and chest x-ray) for re-assurance, both for Mrs Donald and for him. The importance of the ECG was to re-assure Mr and Mrs Donald that there was no acute cardiac problem. Although ordering the tests was nothing to do with a concern that there might be a pulmonary embolism, he thought that if there had been a significant pulmonary embolism it would have shown up on a chest x-ray; and the ECG would be expected to be abnormal if there was a large pulmonary embolism.

[48] Dr Cleland said that he did not recall Mrs Donald telling him about leg pain; in fact he was "very sure in my mind that I was not told about leg pain on 28 July". Had he been told about it, it would clearly have made a difference. He would have examined her and it would have led him to reconsider whether the problem was psychogenic. It would have merited a further examination of Mrs Donald. He accepted that, if leg pain of the type described by Mr Donald in his evidence had been reported to him at the consultation, the right course would have been to refer Mrs Donald to A&E immediately. Nor did he recollect any incident in which Mrs Donald had handed him a leaflet from one of her medicines which listed leg pain amongst the possible side effects. He was very familiar with propranolol and had never been aware of leg pain as a side effect.

[49] Asked about the language used to describe the chest pain and the difficulty in breathing, Dr Cleland said that he did not remember her describing it as like "an elephant sitting on her chest". He thought he recalled Mrs Donald talking about a recurrence of her breathing difficulties, rather than her having suffered constant (or persistent) and unremitting breathlessness since 16 July. But if he had been presented with symptoms which suggested chest pain, particularly if combined with leg pain and unremitting breathlessness, he would have noted it and done something about it.

[50] When the potential claim against the practice was first intimated on behalf of the pursuers, Dr Cleland was asked by the Medical and Dental Defence Union of Scotland ("MDDUS") for his recollection of the relevant events. His letter of 9 May 2005 - nearly two years after the relevant events - responded to that. After a paragraph referring to Mrs Donald coming to the surgery on 16 July, Dr Cleland wrote:

"Mrs Donald came back to see me about two weeks later, with her husband, to tell me that her symptoms had recurred. On this occasion she was again hyperventilating and tachycardic, but she volunteered no other symptoms."

This is entirely consistent with his evidence in court. I do not need to go into other parts of the letter.

28 July consultation - discussion

[51] It is not in dispute that Dr Cleland attributed Mrs Donald's tachycardia and hyperventilation to anxiety, born of bereavement. To my mind, it does not matter whether or not he used the expression "panic attacks". Despite his evidence to the contrary, I consider that he probably did use that expression, since it was the use of that expression which appears to have provoked a reaction in Mrs Donald and her husband and daughters and to have been picked up later by Dr Richardson. For present purposes the important point is not the label to be attached to it but the fact that he considered her breathlessness to have a psychogenic cause. He saw her condition as a recurrence of the condition with which she reported on 16 July. For present purposes, therefore, it is convenient to refer to anxiety and panic attacks in Dr Cleland's diagnosis as though they are the same thing. The diagnosis of anxiety was confirmed by Dr Cleland in his evidence. Mr Donald described Dr Cleland as being "insistent" that it was panic attacks; and Gillian, who popped into see her mother after work at about 5pm, was told by her mother that Dr Cleland still felt that it was panic attacks (though she herself was confused how it could be panic attacks because she did not feel panic). At the end of the consultation, Dr Cleland doubled the dosage of beta blockers previously prescribed for Mrs Donald and, according to Gillian, who heard this from her mother, assured Mrs Donald that she would feel better in a couple of days.

[52] The main points of difference between Mr Donald's account of the consultation and that of Dr Cleland were two-fold. First, there is a dispute about whether Mrs Donald reported a recurrence of her previous breathlessness and hyperventilation, or whether she reported that that condition had continued unabated since she had previously seen him ("constant and unremitting breathlessness"). Associated with this is the degree or intensity of the chest pain which Mrs Donald reported (a tightening of the chest "as if an elephant ..."). The second issue is whether Mrs Donald reported leg pain. On this issue Dr Cleland is adamant that there was no mention of leg pain while Mr Donald is equally adamant that there was.

[53] On the question of whether Mrs Donald reported constant and unremitting breathlessness continuing since she had last seen Dr Cleland on 16 July, or simply a recurrence of the condition reported previously, I did not obtain much help from Dr Cleland's interpretation of his own notes of the consultation. He appeared to base his evidence on the fact that he had noted that the tachycardia and hyperventilation were "isq". However, it does not seem to me that this helps in answering the question whether her condition was the same (isq) because it had recurred after a break or was the same because it had continued unremittingly without a break. Standing the evidence from the family, which I accept, of Mrs Donald's continued poor condition between 16 and 28 July, I find it difficult to imagine that Mrs Donald would have told Dr Cleland that her condition had recurred having previously been relieved. It is, I suppose, possible that Mrs Donald simply described her present condition and that from her description Dr Cleland gained the (incorrect) impression that it was a recurrence rather than a continuation, but I think this unlikely. This particular interpretation of events was in any event not explored in evidence, nor was there any evidence as to whether, in circumstances where Mrs Donald had simply reported her condition without being precise as to whether it was a continuation or a recurrence, a competent doctor acting reasonably ought to have asked questions as to ascertain whether it was a recurrence or a continuation. On the evidence taken as a whole I am satisfied that Mrs Donald said that the condition with which she presented was an ongoing condition which had not ameliorated since the consultation on 16 July 2003. I am also satisfied that she would have described it in terms which made it clear that it was a severe constriction on or tightening of her chest. The expression spoken to by Mr Donald ("like an elephant ...") rings true. It is difficult to see how this could have been a failure of recollection, and it was not put to him that he had invented this part of his account. I do not place much weight on Dr Cleland's failure to recollect this being said. For him, this was one of many consultations, where his recollection was bound to be limited to what was written in his notes. For Mr Donald, on the other hand, this was a one-off incident, where incidents would be likely to fix themselves in his mind. He was an impressive witness and I accept his evidence on this point.

[54] The other matter in dispute is whether or not Mrs Donald reported a pain in her leg. There is no record in the GP notes of any such complaint. However, it is quite possible that, if Dr Cleland formed the view that it was not relevant to the tachycardia and hyperventilation with which Mrs Donald presented, he may not have noted it. Dr Cleland had no clear and unaided recollection of events. His evidence was very largely based upon his notes of the consultation. It is, to my mind, possible that it was said by Mrs Donald and simply discounted by Dr Cleland.

[55] By contrast, Mr Donald's evidence on this point was both full and graphic. It contained details not only of his observations of the encounter between Mrs Donald and Dr Cleland but also of the impact that this made on him at the time. He gave his evidence with a passion which conveyed to me a sincere and adamant belief that what he described was what had happened. I found his evidence compelling and convincing on this point; and, on this point, I prefer it to that of Dr Cleland. I should make it clear that Mr Donald was not accused of being untruthful in his account of what occurred at this consultation. The challenge to his evidence on this issue was a challenge to his recollection. While such a challenge may be effective if a witness has failed to include some detail in his or her account of what happened ("do you accept that this could have happened but you have forgotten it?"), it is likely to be less effective where the challenge is based upon the witness having included certain matters of detail which it is said did not occur. Mr Donald's account contained a number of graphic details which could not, in my judgement, be explained away as errors of recollection. One example is his description of how, when describing the pain in her leg, Mrs Donald was "kneading" the flesh on her thigh with her fingers as though it were dough. Another was his account of his own reaction to Mrs Donald's mention of the pain, of him looking at her with horror and incredulity, and mouthing to her that they would discuss it later. Neither of these details is likely to be the result of a failure to recollect what had happened. If they did not take place, it is more likely that Mr Donald's account of them is made up, and it was not put to Mr Donald that he had made up this account. Lest there be any doubt, I am satisfied that he was doing his best to tell the truth about what happened at the consultation.

[56] However, the key element in Mr Donald's evidence about the consultation related to the product information leaflet ("PIL") which, according to his account, Mrs Donald showed to Dr Cleland. His evidence was that Mrs Donald told Dr Cleland that she thought the leg pain might be something to do with the pills she was taking. Mr Donald said that he did not know which of the pills this related to, but his evidence was that Mrs Donald passed the leaflet over to Dr Cleland who spent some minutes looking at it before handing it back and saying that it was nothing to do with that. This incident was recounted graphically and convincingly; and, again, it was not suggested that Mr Donald had deliberately made it up. Mr Donald persisted in this account under cross-examination, when it was put to him in terms that he must be wrong because there was no such leaflet in existence, and therefore there could have been no such leaflet shown to Dr Cleland. At this stage the pursuers' agents had not yet been able to find anything in the pharmaceutical literature to support this part of his evidence. That was the position at the start of the proof and during Mr Donald's evidence. He persisted in the truth of his account despite this.

[57] At a later stage in the proof, Emma gave evidence. She is a qualified pharmacist and she made her own enquiries in order to see whether or not there was such a PIL in existence at the time which her mother could have shown to Dr Cleland. She was able to produce in court a PIL for propranolol which contained within it a warning about possible leg pain as a side effect. Her evidence about how she came upon this leaflet was to the following effect. Shortly after her mother's death she had been made aware by her father that at the consultation of 28 July her mother had reported leg pain and had referred to a PIL from one of the medications she had been prescribed listing leg pain among the side effects. She decided to look to see if she could find a PIL for tablets which her mother was taking which was in circulation at the time of her mother's death and which listed leg pain amongst the possible side effects.

[58] Emma first investigated citalopram, but her enquiries of the main companies producing it did not mention leg pain, so she gave up on that. She was also aware that her mother had been prescribed propranolol, and decided to concentrate on this. She was aware that her mother was taking propranolol because on one occasion between 18 and 28 July 2003 (she could not remember the exact date, but it was after her return

from holiday and before the consultation on 28 July) her mother had asked her to pass her her tablets and she noticed that the tablets were propranolol 40mg tablets - her mother had taken half a tablet, and she gave her the remaining half. On the box it said propranolol 40mg tablets made by Generics UK. She remembered the packaging. The company who manufactured this medication still use packaging which, though not identical, is similar. They are now known as MYLAN, but in 2003 they were called Generics UK Ltd ("Generics"). Generics make non-branded versions of products where the patent has expired. The propranolol which her mother was taking was not a branded make but a non-branded one made by Generics. Emma knew this from her training and work in the pharmacy. She knew that her mother would not have had a branded propranolol dispensed to her if there was a Generics version. That was because the pharmacy, then called KD Pharmacy, was owned by a man who owned a drug wholesaling company which sold Generics medication. That company supplied the KD Pharmacy, though not exclusively. The pharmacy did not have any branded propranolol at the time (2003). They only stocked generic propranolol in tablet form.

[59] Emma was also involved in obtaining the propranolol tablets from the pharmacy with the prescription given to her by Dr Richardson (see below). Those were 10mg tablets, but they were sold in a virtually identical box; the only difference was that the 40mg tablets came in a white box with a pink square on it, whereas the box for the 10mg tablets had a blue square. But the pills in both boxes were all pink.

[60] Emma produced e-mails from the Medicines and Healthcare Products Regulatory Agency, the governing body on medicinal products, which attached the PIL and summary of product characteristics ("SPC") from 2003 for propranolol manufactured by Generics, and also the previous PIL from before 2003. Both PILs listed amongst the possible side effects cramp like pain in the legs while walking. The SPC also listed intermittent claudication as a possible effect of taking propranolol. That was caused by hardening and tightening of arteries and is most commonly found in the calf.

[61] The importance of this evidence to this case is obvious. It is nothing to do with whether the leg pain of which Mrs Donald complained was or was not related in some way to the propranolol she was taking. That is for present purposes beside the point. Dr Cleland may have been quite right to say that the propranolol had nothing to do with the leg pain Mrs Donald was reporting. The relevance is that it lends support to the graphic detail provided by Mr Donald of what happened in the surgery on 28 July. His account is that Mrs Donald said that she had a pain in her thigh, to which she drew attention by a "kneading" action with both hands; and followed it up by showing Dr Cleland a PIL from one of the medicines he had prescribed for her and asking if it could be related to the possible side effect of leg pain mentioned therein. This account is disputed. At one time it seemed as though the defenders could properly say - as they did say - that that account could not be correct since no such PIL for propranolol listing leg pain among the possible side effects ever existed. In light of Emma's evidence, this point cannot now be made. But the point goes further than that. Mr Donald gave his evidence and stuck to it notwithstanding that it was put to him in terms that it must be unreliable because there was no such PIL. That might have made it appear as if his account of this part of the consultation of 28 July was a figment of his imagination - it could not have happened. It is a testament to his obdurate belief in the truth of his account, that he did not retreat in face of this line of attack and "admit" that he might have been mistaken. He has now been vindicated. That is not to say, of course, that the PIL unearthed by Emma was the same PIL as shown by Mrs Donald to Dr Cleland, though it seems probable. Nor does it even prove that Mrs Donald did in fact show Dr Cleland a PIL mentioning leg pain as a possible side effect. But it makes it more likely that this was the case, and lends support to the idea of Mr Donald as a reliable witness on this part of the case. One of the important parts of his evidence about what happened on 28 July is his account of Mrs Donald pointing out the pain in her leg. The production of the PIL merely adds colour to the account of the incident. But the fact that that part of the account is likely to be true is of assistance in helping the court to reach a concluded view on the likelihood of other parts of the same account also being true.

[62] Emma was cross-examined about this explanation. It was suggested to her that she could not be sure that her mother took Generics propranolol, with the associated PIL. If she had known from the start that it was a Generics product, she would surely have gone straight to Generics to obtain the PIL rather than go, as she

did, to a large number of other manufacturers. At one point it appeared that her credibility was under attack, though I think Ms Bain backed away from saying in terms that she was being dishonest. If her credibility was being attacked, I reject that attack. Emma appeared to me to be doing her best to assist herself and her family, and the court, by tracking down the PIL which her mother would probably have had in 2003. She faced many obstacles, but eventually succeeded. She deserves to be commended on her perseverance. I have no doubt about her honesty and reliability on this issue. I am satisfied that on this issue Emma was a truthful and reliable witness. The cross-examination did nothing to undermine my confidence in this part of her evidence.

[63] In conclusion on this aspect, I am satisfied on the evidence that Dr Cleland was told of Mrs Donald's unremitting breathlessness. I cannot say why Dr Cleland did not act on what he was told. He himself said that he regarded it as inconceivable that he would have acted in the way he did had he been told of the leg pain and the unremitting breathlessness, and I accept that evidence. However, I am satisfied that that is what happened in this case. It may be that Dr Cleland was blinkered by his earlier diagnosis of a panic attack. Or it may be, as suggested by the pursuers, that having looked at the PIL and rejected the link between the medication and the leg pain, he took his eye off the ball and overlooked the fact that the complaint of leg pain was an important symptom in itself. But whatever the reason, I am satisfied that he was told both about the unremitting breathlessness and the leg pain and failed to act on it.

ECG and chest x-ray

[64] As his notes make clear, Dr Cleland suggested that for reassurance Mrs Donald should have an ECG and a chest x-ray. The ECG was carried out immediately and Mrs Donald was told that the results did not reveal any problem. The chest x-ray was carried out two days later, on Wednesday 30 July, at the local hospital in Cumnock. The result of the chest x-ray did not reveal anything of note either.

Mrs Donald's condition from 28 July to 4 August

[65] Apart from going to have the x-ray on 30 July, Mrs Donald did not leave the house between the time of her visit to Dr Cleland on 28 July and her death on 6 August. The evidence from Mr Donald and from Gillian was that throughout this period her breathlessness continued and she felt weak, though sometimes "a wee bit better". She was not bedridden but spent most of the time in or on the bed, occasionally watching daytime TV. She would get off (or out of) the bed to go to the toilet - a journey of a dozen or so paces - using the bannister to help her and pausing on her way to recover her breath. That was a very slow process. It is noteworthy, in the context of a suggestion that during the last three days before her death she suffered from diarrhoea, that she could not move fast to go to the toilet. As more than one of the daughters said in evidence, if Mrs Donald had needed to make a quick visit to the toilet because of the onset of diarrhoea, it would have been very obvious to everyone else in the household.

[66] At the end of the consultation on 28 July, Dr Cleland had told Mrs Donald to give him a ring during the week to let him know how she was. It appears from Dr Cleland's evidence that she did in fact telephone him. His evidence was that she said something to the effect that she was feeling a little better. There was no evidence to contradict this. Mr Donald did not hear the call and the evidence from Mr Donald and from the children suggests that Mrs Donald tended to be an optimist; she might well have said something to that effect to Dr Cleland. Clearly there were times when she would feel a little better. As a matter of fact, however, I accept the evidence from her family that in general she was, if anything, getting slightly worse during the days following the consultation on 28 July, though Dr Cleland would not have been in a position to know that.

4 August - collapse and Dr Richardson's home visit

[67] On Monday 4 August Mrs Donald was seen by Dr Richardson at her home. Dr Richardson was an experienced GP who had by then been in practice for 24 years. He is now retired from practice as a GP but is still active in the medical field. Mr Donald was not present on that occasion and his evidence was based upon what he was told by Mrs Donald and Ruth, Emma and Gillian.

[68] Their accounts were to the following effect. Ruth said that her mother got up to go to the bathroom and was exhausted. Rather than go back to bed, she moved into the next room, the kitchen, and "got stuck" at the table. She felt she could not breathe. She was grey and sweating, slumped over the table, hyperventilating because she felt crippled by her breathlessness. It was rapid shallow breathing - she was panicked because she could not breathe and was trying to breathe more to compensate. She said: "I can't catch my breath". They called the surgery for help. They could not move her anyway. Dr Richardson came. Ruth and Dr Richardson got her to bed. Dr Richardson used breathing relaxation techniques, which worked effectively in alleviating her dismay and helping her return to a normal breathing pattern. Ruth said that she was there when that was going on. Once Dr Richardson had carried out the relaxation technique, Ruth left the room to allow him to carry out an examination. She then loitered in the hall outside with her sisters waiting for him to come out. He was only in there for about another 10 minutes. When he came out he did not speak to Ruth. She was the youngest. He spoke to Gillian. When he had finished her mother seemed a lot more relaxed, stable and content.

[69] Gillian's evidence was that she came back from Glasgow at about 12 noon. Her mother was at the kitchen table, breathless, sweaty and pale. After Ruth had told her what had happened, Gillian asked her mother at the kitchen table whether it was the same as before, and she said it was still the same, she was not feeling panic. She thought that Dr Richardson arrived at about 1pm (though her reason for fixing this as the time was based on the erroneous belief that Emma was working in the morning and was home for her lunch break). He came into the kitchen and did a brief check on Mrs Donald. She thought that he took her pulse. He did not examine her legs. He and Ruth helped her through the hall to the bedroom. Gillian said that at some point as they were getting Mrs Donald to the bedroom and comfortable on the bed - "it was literally at the door of the bedroom" - she spoke to Dr Richardson and told him that she had had several conversations with her mother and she says that she does not feel any form of panic, she just does not feel able to breathe. She did not know what happened in the bedroom because Dr Richardson asked them to leave. He and Mrs Donald were alone for about 10 minutes. When he came out he gave Emma a prescription, said goodbye and left. Gillian saw her mother afterward. She seemed slightly better than she was at the kitchen table, not as visibly sweaty. Gillian asked her if she felt better and she said: "yes, but I still don't think I can breathe properly, but Dr Richardson has assured me it is because of too much medication". Cross-examined on this matter, she said that her mother told her that it was still as if she could not draw a normal breath. She, Gillian, left shortly after that. Ruth and Emma were still there and Sarah was upstairs.

[70] Emma started work that day at 2pm (she was filling in for her mother at the pharmacy). She remembered Ruth waking her a couple of hours before she was due to go to work, and then shouting up to her quite distressed. By the time she got downstairs, Gillian was there. Her mother was at the kitchen table, with sweat dripping off her, physically unable to breathe. Her head was over the table, though (at least when Emma was there) she was not slumped with her chin resting on it. Her mother was panicking. She seemed much worse than the previous day. Ruth or Gillian phoned the surgery. Dr Richardson came at about 12.30. Emma was there throughout his visit; he had left by the time Emma went to work. Her recollection was that Dr Richardson spent 10 or 15 minutes with her mother in the kitchen, having asked the daughters to leave the room. Emma and Ruth, and possibly Gillian, went to sit in the living room. When Dr Richardson tried to move Mrs Donald to the bedroom, Ruth and/or Gillian went to help him. Emma stayed where she was. She thought either Gillian or Ruth helped her into the bedroom. Dr Richardson followed them in. He was in there for a brief spell. When he came out Gillian started asking some questions. This was towards the end of his visit. Emma said that Gillian told her that she told Dr Richardson something to this effect: there is something not quite right here, she has been like this for a couple of weeks and she is not getting any better - "this isn't a panic attack, she doesn't feel any panic, she just cannot breathe." At the end Dr Richardson handed Emma the prescription and said: have this dispensed for your mum. He had presumably learnt that Emma worked in the pharmacy. He then left. Emma collected the prescription from the pharmacy. On her way to work, Emma went in to speak to her mother who was lying on the bed "still breathless but more settled and less agitated [than she had been in the kitchen], but still breathless." She rejected the suggestion, based on Dr Richardson's evidence, that her mother's breathing had returned to "normal". There was no "normal" for her mother at any time after 16 July.

[71] Dr Richardson's evidence was as follows. He remembered seeing Mrs Donald on 4 August and made notes in the GP records. Those notes read as follows:

"Dizzy ++ today. Breathless and fingers tingling. o/e hyperventilating. Pulse ~120. B/P 100/50. Very faint on standing. Sweating ++. Settled with breathing exercises and relaxation. ? some hypotension due to propanalol 40mg. Try 10mg tid."

He did not have a very detailed recollection, however; he remembered going in to the house, seeing Mrs Donald and examining her, but not much more. He thought that he was only there for about 10 - 15 minutes. The most reliable record was what he had written in the GP notes. He recalled that he was on call at the surgery that afternoon. He received a call from one of the practice nurses to say that a home visit had been requested for Mrs Donald - that she had been seen by Dr Cleland and a diagnosis of panic attacks had been made, and it sounded as though she might be having another panic attack. The nurse would have got the information from the records. That would have been all the background information that he had before his visit; he himself had not seen the notes because they were at the surgery in Mauchline whereas he was in the surgery at Catrine. In particular, he was not aware of Mrs Donald's history of DVT.

[72] Referring to his notes, Dr Richardson said that "Dizzy ++" meant that Mrs Donald was complaining of feeling very dizzy. As recorded further down on the note, she felt faint when on her feet ("very faint on standing"), though Dr Richardson could not say whether this was just what he was told or whether he had asked her to stand up. He could not remember where she was in the house, but he could not contradict Gillian and Ruth, who both said that she was slumped over the kitchen table. "Breathless and fingers tingling" indicated that her respiratory rate was fast, she was breathing quickly. That was certainly suggestive of a possible panic attack. So also was the observed hyperventilation. He could tell from his note "o/e hyperventilation" ("on examination, hyperventilation") that this entry about hyperventilation was based on his own observation rather than just what he had been told. He concluded that it was hyperventilation rather than breathlessness as had been reported to him. Hyperventilation meant that her respiratory rate was fast. It was shallow breathing. But the reported dizziness did not accord with the theory of panic attacks. Accordingly Dr Richardson felt he was dealing with two problems, viz: (i) panic attacks and (ii) low blood pressure. The feeling faint and dizziness were indicative of low blood pressure. Mrs Donald's pulse was around 120, which was high, and her blood pressure was 100/50, which was low compared to the average which is 120/80. He thought the low blood pressure was due to the increase in the dose of propanalol she was taking. This was shown in his notes by the reference to "hypotension [low blood pressure] due to propanalol 40mg". The significance of sweating heavily ("Sweating ++") was that it was often associated with a low blood pressure and feeling faint. The notes record that her breathing difficulties appeared to "settle" after the breathing exercises. That was his shorthand for the breathing having returned completely to normal. It would not have returned to normal if she was suffering from the consequences of a DVT - even if there were only small pulmonary emboli affecting her breathing, her symptoms would not have settled with the breathing exercises. The fact that her symptoms settled reinforced his diagnosis of panic. If they had not settled, he would have wanted to reconsider the diagnosis. The exercises went on for about 10 minutes. The aim was to encourage breathing slowly in through the nose and out through the mouth. After the breathing exercises, he told Mrs Donald and the daughters who were there that she seemed to have settled and to call back if there was a recurrence of the symptoms. As recorded in the note, he reduced the dosage of propanalol to a quarter. There was no complaint of coughing or of chest, calf or leg pain.

[73] Dr Richardson considered that panic attacks seemed the most likely cause of Mrs Donald's breathlessness, particularly given the previous diagnosis of panic attacks (though he emphasised that he did not simply rely on that earlier diagnosis). By examining Mrs Donald and taking her history he felt he had excluded other causes of the breathlessness. He accepted that a diagnosis of panic attacks is a psychogenic diagnosis, and that it was good practice to exclude physical causes before concluding that the cause is psychogenic. He thought that had been done. He was aware of the tests done by Dr Cleland and was confident that Dr Cleland would have investigated it sufficiently to exclude other causes. He did not recall either Ruth or Gillian telling him that their mother did not feel any form of panic but simply couldn't breathe.

It could have happened, but he had no recollection of it. Had it been said, it would have been a factor which he would have taken into account in his evaluation of Mrs Donald.

[74] Reverting to the question of the low blood pressure and the high heart rate, it was put to Dr Richardson that that was an unusual combination. He agreed, but he felt that the high pulse rate was due to the panic attack, while the low blood pressure was due to the propranolol. The propranolol would normally also lead to a reduction in the heart rate - being a beta blocker it would reduce both pulse and blood pressure - but his feeling was that anxiety and hyperventilation were countering that effect so far as concerned the pulse. He did not think that that was illogical. He was not sure whether he took the pulse and blood pressure readings at the kitchen table or in the bedroom, but judging by the position of the readings in the notes it would seem likely that he took them before doing the breathing exercises. He was asked whether it occurred to him to take Mrs Donald's blood pressure with her in different positions, e.g. lying down and standing, to check for postural hypotension. He said that he did not feel the need to do that as the blood pressure was already low. Despite the unusual combination of high heart rate and low blood pressure, he did not think it would have added anything or changed his management of the patient. It was put to him that he should have taken the readings again after having successfully carried out the breathing exercises to settle Mrs Donald; otherwise he would not know whether what he had done had assisted with the pulse rate or the blood pressure. He thought it unnecessary. He was sufficiently re-assured that her condition had returned to normal and that she was feeling better.

[75] The main issue arising from this incident is whether Dr Richardson was justified in attributing Mrs Donald's condition to a panic attack and, in effect, doing no more than adjusting her medication. I will return to this issue in a separate part of this opinion.

[76] However, quite apart from that there were two factual issues of some importance. The first relates to whether or not Dr Richardson was told by Gillian that Mrs Donald had been ill for two weeks and was not getting better; and, in particular, that she was troubled by the diagnosis of panic attacks because her mother felt no anxiety. On this issue I accept Gillian's evidence. She struck me as a truthful witness. She and her sisters were not entirely consistent as to when precisely she had spoken to Dr Richardson about this, but that confirmed my assessment that she had not "cooked up" a story with her sisters. There was no reason for her to lie about this - and it was not suggested that she was lying - and it seems to me that her recollection is more likely to be full and accurate than that of Dr Richardson for whom this was one amongst many visits to and consultations with patients over many years.

[77] The second factual issue relates to the extent to which Mrs Donald's breathing returned to normal as a result of the breathing exercises. If it did, it is said that her breathlessness on that occasion could not be attributed to DVT. That would support the defender's argument that she was not suffering from a DVT at that time and that the pulmonary embolism that killed her by blocking the main pulmonary arteries developed quickly and suddenly some time after Dr Richardson's house call on 4 August. Again, I prefer the evidence of the daughters that although her breathing improved after the breathing relaxation exercises, it did not return to a condition that would be regarded as "normal" by a person who had never had the difficulties of which Mrs Donald complained. Such a scenario does not fit with the evidence that Mrs Donald was suffering from breathing difficulties continuously from 16 July. It may be that her breathing improved after the breathing exercises. It is possible, indeed I think it likely, that when Dr Richardson saw her Mrs Donald was suffering from a panic attack (for want of a better description) resulting in hyperventilation on top of the breathlessness from which she had been suffering for two or three weeks. This possibility was addressed in the evidence of Dr Thornton, the GP expert for the pursuers. If that is so, the breathing exercises with Dr Richardson may have relieved the distress caused by the hyperventilation, returning Mrs Donald to her normal condition, namely one of unremitting breathlessness. This is consistent with her condition the following day (see below).

[78] None of the daughters in the house suggested that Mrs Donald was suffering from diarrhoea that day. Not only did they say that their mother had not told them she had diarrhoea, but living together in a relatively

confined space, and with Mrs Donald finding it difficult to walk, if she had had diarrhoea they would have known about it. Dr Richardson was not told that she was suffering from diarrhoea. It would have been obvious to tell him if she was suffering from it - it would be something he would want to know if he was called out to a home visit - and he would have noted it if he had been made aware of it.

5 August

[79] Mrs Donald stayed in the house the next day. Ruth said that she was not bedbound but could not do much physical exertion. She ate and watched TV but otherwise did nothing. There was a "huge breathlessness" about her. Gillian popped in after work. Emma was unwell with a chest infection. Mrs Donald was in bed. She told Gillian that she was not really any better, but it had only been a day since Dr Richardson had adjusted her medication. Gillian helped her mother to the bathroom and then left. Later Mrs Donald phoned Gillian and left a voicemail saying that she had made it out of bed and was sitting with Emma enjoying a nice cool breeze from the fan. Perhaps the only matter of importance from this account is that no one suggested that she was suffering from diarrhoea on that day. It is, to my mind, inconceivable that none of them would have known if she had been suffering from diarrhoea then.

Was Dr Cleland or Dr Richardson negligent?

The legal test for professional negligence

[80] The legal test is well known. It is set out most clearly in the Opinion of the Lord President (Clyde) in *Hunter v Hanley* 1955 SC 200 at 205-6:

"To succeed in an action based on negligence, whether against a doctor or against anyone else, it is of course necessary to establish a breach of that duty to take care which the law requires, and the degree of want of care which constitutes negligence must vary with the circumstances But where the conduct of a doctor, or indeed of any professional man, is concerned, the circumstances are not so precise and clear cut as in the normal case. In the realm of diagnosis and treatment there is ample scope for genuine difference of opinion and one man clearly is not negligent merely because his conclusion differs from that of other professional men, nor because he has displayed less skill or knowledge than others would have shown. The true test for establishing negligence in diagnosis or treatment on the part of a doctor is whether he has been proved to be guilty of such failure as no doctor of ordinary skill would be guilty of if acting with ordinary care ...

It follows from what I have said that in regard to allegations of deviation from ordinary professional practice- and this is the matter with which the present note is concerned- such a deviation is not necessarily evidence of negligence. Indeed it would be disastrous if this were so, for all inducement to progress in medical science would then be destroyed. Even a substantial deviation from normal practice may be warranted by the particular circumstances. To establish liability by a doctor where deviation from normal practice is alleged, three facts require to be established. First of all it must be proved that there is a usual and normal practice; secondly it must be proved that the defender has not adopted that practice; and thirdly (and this is of crucial importance) it must be established that the course the doctor adopted is one which no professional man of ordinary skill would have taken if he had been acting with ordinary care. There is clearly a heavy onus on a pursuer to establish these three facts, and without all three his case will fail. ..."

That requires no elaboration in the circumstances of the present case. I was referred also to *Bolitho v City and Hackney Health Authority* 1998 AC 232 at 239C-243E (and particularly the paragraph at 243C-E), to *McConnell v Ayrshire and Arran Health Board* (Lord Reed, unreported 14 February 2001) and to *Honisz v Lothian Health Board* 2008 SC 235 (Lord Hodge) at paras [38]-[40]. Those cases emphasise the caution that a judge should exercise in moving from the position where, on the basis of his assessment of the expert evidence, he prefers one medical opinion over another, to a position where he holds that the course of action based on the opinion which he does not prefer is one which no reasonably competent professional man could have taken if he had been acting with ordinary reasonable care.

Dr Cleland - 28 July

[81] The expert reports focused on a number of occasions when Dr Cleland saw Mrs Donald. In the event, however, the allegation of negligence focuses on what he did or failed to do when he saw Mrs Donald on 28 July.

[82] The pursuers' case is straightforward. It is set out clearly in paras 8.13 and 8.14 of the expert report of their GP expert, Dr Peter Thornton. Dr Thornton accepted that if the facts were as Dr Cleland said them to be, then Dr Cleland could not be criticised for treating the case as one of anxiety related hyperventilation. But he took a different view if the facts were as Mr Donald reported them. Having referred to Mr Donald's evidence that his wife had told Dr Cleland that she was suffering from increasing and unremitting breathlessness accompanied by chest pain and had also specifically mentioned her leg pain, Dr Thornton expressed this opinion:

"8.13 If Mr Donald's account of the consultation is accurate, I consider that Dr Cleland's failure to take account of the symptoms of chest and leg pain, and the severe and unremitting nature of her breathlessness, is a significant one. Mrs Donald was at known increased risk of venous thrombo-embolism through her previous history of DVT in pregnancy, her varicose veins and her marked obesity. Chest and leg pain accompanying persistent breathlessness that is severe and unremitting, with a rapid heart rate, are important additional symptoms and signs that should alert a practitioner to the possibility of underlying venous thrombo-embolism and to take the necessary steps to exclude the condition. It is not possible to do so on clinical grounds alone, and ECG and chest X-ray are not enough on their own to exclude the diagnosis.

8.14 If the severity of Mrs Donald's symptoms was as described by her husband, and if Dr Cleland was told that she had chest and leg pain accompanying her rapid heart rate and severe unremitting breathlessness, then the doctor departed from the usual and normal practice in failing to refer her immediately for specialist assessment on 28 July 2003. I consider that no ordinarily competent general practitioner acting with reasonable care and skill would have failed to telephone a hospital that could carry out investigation of possible pulmonary thromboembolism to arrange immediate admission, probably by 999 ambulance."

Dr Thornton explained in his evidence in chief that even if Mrs Donald had not mentioned the leg pain, his conclusion would have been the same. Indeed, even if tightening of the chest were taken out, and Dr Cleland was left with the unremitting breathlessness, that was still not suggestive of panic attacks or anxiety; but if the leg and chest pain were added in, that would narrow it down and point to the possibility of a thromboembolism.

[83] In her cross-examination of Dr Thornton, Ms Bain did not challenge his evidence that if Mr Donald's account of the consultation of 28 July were to be accepted in full (viz. chest and leg pain, with rapid heart rate and severe and unremitting breathlessness), then Dr Cleland's failure to refer Mrs Donald to hospital was a departure from normal practice. She pointed out that Dr Cleland in his own evidence had agreed that in those circumstances he should have made a referral. Dr Niall Cameron, the GP expert for the defenders, supported that opinion, though he emphasised that if Mrs Donald had presented only with breathlessness then Dr Cleland could not be criticised - that qualification about what should have been done if Mrs Donald had presented only with breathlessness remained in dispute between the GP experts, but it is not necessary to resolve it. In her closing submissions for the defenders, Ms Bain accepted that

"... if Mrs Donald reported symptoms of chest pain, leg pain, an inability to walk and unremitting and relentless breathlessness then ... she would have been reporting as a very ill patient and the Doctor should have recognised that he was dealing with a situation of real concern ... and he should have referred Mrs Donald to hospital."

That concession was rightly made in light of the expert evidence and, indeed, that of Dr Cleland. For the avoidance of doubt, it was accepted that if Mrs Donald had presented in this way, the ECG and chest x-ray arranged by Dr Cleland were not adequate to resolve the concerns that should have been raised.

[84] I have already made it clear that I accept Mr Donald's account of what happened at the consultation with Dr Cleland on 28 July and do not accept the account given by Dr Cleland. In those circumstances, the expert evidence and that of Dr Cleland clearly establish that Dr Cleland ought to have done more than he did and ought to have referred Mrs Donald to hospital. He was negligent not to have done so.

Dr Richardson - 4 August

[85] In his expert report, Dr Thornton set out why he believed Dr Richardson to have been negligent in his assessment and treatment of Mrs Donald at her house on 4 August. The relevant paragraphs are 8.16 and 8.17:

"8.16 ... He noted that she complained of marked dizziness, with breathlessness and tingling of the fingers. Examination showed hyperventilation, a pulse of around 120 per minute and a blood pressure of 100/50 Dr Richardson also noted that Mrs Donald felt very faint on standing. I believe that this last feature would have led all ordinarily competent general practitioners to take blood pressure measurements with the patient in different positions (lying and standing) to check for the phenomenon of *postural hypotension* (where the body is unable to correct a fall in blood pressure caused by changing from a recumbent to an erect posture). Dr Richardson did not do this. However, he did consider that Mrs Donald's symptoms could be due to hypotension (low blood pressure) - as a result of an excessive dose of propranolol.

8.17 I do not agree with this conclusion. All ordinarily competent doctors are aware that adrenaline, the stress hormone that the body produces in anxiety, causes an increase in both heart rate and blood pressure, and the beta-adrenergic blocking effect of propranolol reduces both heart rate and blood pressure. The heart rate of around 120 per minute that Dr Richardson recorded is significantly rapid but the blood pressure of 100/50 is low. It would therefore [be] illogical to ascribe the patient's symptoms and low blood pressure to too high a dose of propranolol and another explanation should have been sought. However, Dr Richardson wrote: 'settled with breathing exercises and relaxation'. I understand that he has clarified the meaning of this comment: he spent approximately ten minutes helping Mrs Donald to control her breathing, at the end of which she appeared comfortable, no longer anxious and quite relaxed; her respiratory rate has returned to normal; and he made a diagnosis of a panic attack. Nevertheless, because the pulse rate and the blood pressure had been significantly abnormal these measurements should have been taken again to look for a return to normal. I consider that Dr Richardson's failure to re-check pulse and blood pressure was a further departure from usual and normal practice, and would have been the action of no ordinarily competent practitioner if exercising reasonable care and skill. I cannot say for certain what repeat readings would have been but I think it likely that they would still have been abnormal. If Mrs Donald did have persistent tachycardia and low blood pressure despite his calming measures, Dr Richardson's failure to appreciate that this was inconsistent with a panic attack and/or the effect of beta blocking medication was a departure from usual and normal practice that would not have been the action of any ordinarily competent practitioner if exercising reasonable care and skill. Furthermore, his failure to appreciate that the association of these features with breathlessness, particularly in the context of the patient's previous history of DVT, was highly suggestive of pulmonary embolism, requiring urgent specialist assessment, was a further departure from usual and normal practice and would not have been the action of any ordinarily competent practitioner if exercising reasonable care and skill."

There are perhaps two qualifications to these passages in Dr Thornton's report which came out in his evidence in chief. First, when Dr Thornton says (just over half way through para 8.17) that, though he cannot say for certain what repeat readings would have been had they been taken, "I think it likely that they would still have been abnormal", he is, of course, speculating. But it does not matter in the present case, because the question of negligence only becomes material to the outcome of the case on the hypothesis that Mrs Donald was at that time suffering from a gradually worsening condition. On that hypothesis, repeat readings would probably still have been abnormal, though whether as a result of her DVT (and pulmonary emboli breaking off and impacting on her pulmonary arteries), along the lines spoken to by Professor Ruckley (whose evidence I consider below), or as a result of the facts as Dr Richardson assumed them to be, is something to be considered. The second point is the reference to Mrs Donald's history of DVT. It was put to him that Dr

Richardson was unaware of this history, through no fault of his own. Dr Thornton considered that this did not alter his conclusion. He ought still to have been aware of the inconsistency in the blood pressure and pulse rate, and in the context of her breathlessness he ought to have realised that his panic attack diagnosis was unreliable. In any event, a proper appreciation of the inconsistencies in the readings would have led him to question Mrs Donald as to her symptoms, and this would almost certainly have led to her telling him about her history of DVT.

[86] Dr Thornton's criticisms of Dr Richardson's treatment of Mrs Donald on 4 August are simple and straightforward. The first is that he did not take Mrs Donald's blood pressure in different positions, sitting and standing. The second was this. Adrenaline will tend to lead to an increase in blood pressure and pulse (heart rate). A beta blocker such as propranolol will tend to work in the opposite direction, reducing both blood pressure and heart rate. It was therefore illogical for Dr Richardson to explain the low blood pressure by reference to the effect of Mrs Donald having taken a high dosage propranolol; had that been the cause of the low blood pressure, it would have had a comparable effect on the heart rate. In other words, the high pulse was inconsistent with his explanation for the low blood pressure. His explanation that, so far as concerned the pulse the effect of the propranolol was being countered by anxiety and hyperventilation, was illogical. The third criticism was that, having made that assessment of the cause of the low blood pressure and high pulse, he ought, once he had settled Mrs Donald with breathing exercises, to have checked to see whether that assessment was correct. If his assessment was correct, the return to normal breathing should have been reflected at least in a reduced pulse rate, lowered (as had been the blood pressure) by the high dosage of propranolol, and (possibly) a slight rise in blood pressure as the heart rate slowed. So far as Dr Thornton, neither DVT nor pulmonary emboli were anywhere on Dr Richardson's radar. They should have been.

[87] Dr Thornton was cross-examined under reference to what Dr Richardson had said in evidence. It was put to him that whatever he thought about Dr Richardson's approach and ultimate diagnosis, he had to accept that it was rationale. He had ascribed a reason (propranolol) to the low blood pressure. He had ascribed a reason (panic attack/ anxiety leading to hyperventilation) to the high pulse. Each part of his diagnosis was based on reason. Neither explanation could be said to be obviously wrong. His diagnosis could not, therefore, be said to be irrational or illogical. As I understood it Dr Thornton accepted that each explanation taken by itself was based on reason. The low blood pressure, if taken by itself, could have resulted from the high dosage of propranolol. So also, the high heart rate, taken by itself, could have resulted from anxiety and hyperventilation to which Mrs Donald was prone. His difficulty with Dr Richardson's approach, however, was both general and specific. On the general level, he stressed that (a) it is better to look for a single cause for the patient's condition on presentation; and (b) before fixing on a psychogenic explanation for a particular condition, all possible physical explanations should be eliminated. That was not to say that there would never be a case where there was not a single cause; and it might be that the explanation did turn out to be psychogenic in many cases. But to arrive at a diagnosis of two causes, one of which was psychogenic, without having eliminated the alternatives was not how the matter should be approached. As to the specific objection to Dr Richardson's diagnosis, the propranolol explanation for low blood pressure appeared inconsistent with the anxiety explanation for high pulse. As explained earlier, both readings would be affected in the same way by anxiety and/or beta blockers, and would be expected to move in the same direction. That unusual feature pointed to the need for further investigation. The least that should have been done was to take new readings after the patient had been relaxed and her breathing had returned to normal (whatever that meant for this patient).

[88] Dr Cameron, the GP expert for the defenders, dealt with this aspect of the case more briefly. After commenting that Dr Richardson had recorded that the patient presented with symptoms of breathlessness and fainting, but that there was no recorded history of chest pain, he said this (in paras 7 and 8 of his report):

"7. ... He noted the history of anxiety but was not given any history of DVT. His notes indicated that he examined the patient; finding her chest to be clear and I consider that he took an appropriate history, examined appropriately and his diagnosis and management was in keeping with normal practice. ...

8. ... It is my opinion that Dr Richardson did not depart from standard practice and that his actions were consistent with those of a doctor of ordinary skill acting with ordinary skill and care."

That report was, as I understand it, prepared before Dr Thornton's report had been seen by the defenders. There can therefore be no criticism of the fact that it does not answer the criticisms of Dr Richardson made in detail in Dr Thornton's report. However, the pursuers' case against Dr Richardson was adequately summarised in the pursuers' case on record. Despite that, Dr Cameron's report does not refer to or answer the criticisms levelled against Dr Richardson. In his oral evidence Dr Cameron was invited to address the criticisms which Dr Thornton had made. He said that it would not have been relevant in this case to check blood pressure in different positions. It would not have told him anything useful. As regards the criticism that Dr Richardson should have been looking for a single cause, he said that doctors were now trained to realise that problems were often more complex and multi-factorial. As regards the criticism that Dr Richardson should have eliminated physical causes before making a psychogenic diagnosis, he said that both should be considered at once. There was nothing wrong with a diagnosis of hyperventilation in the circumstances with which Dr Richardson was presented - in the context of his evidence concerning Dr Cleland, he referred to hyperventilation as an "end of the bed" diagnosis, by which I took him to mean (judging by his subsequent answers to questions about this) that you recognised it if you saw it, and once you saw it and recognised it you could proceed on the basis that that was indeed the problem. Standing the fact that a patient's condition may be multi-factorial, there was nothing wrong in the dual diagnosis of anxiety and hypertension (for the high heart rate) and the high dosage of propranolol (for the low blood pressure). Repeating the blood pressure and pulse readings after he had relaxed Mrs Donald would not have told Dr Richardson anything. The pulse might have come down a bit, but the beta blockers would still have kept the blood pressure low. The two readings would still be incongruent, and the explanation on which Dr Richardson was proceeding would hold good.

[89] In considering this evidence I have found my assessment of Dr Richardson's treatment of Mrs Donald changing more than once. I have some sympathy for the criticisms made by Dr Thornton. But the question I have to decide is not whether in any particular respect Dr Richardson failed to act as a reasonably competent doctor acting with ordinary care should have acted. The question is about his overall diagnosis and the action he took or failed to take. Having considered all the evidence, I am unable to conclude that his diagnosis and treatment of Mrs Donald was negligent.

[90] It is important to remember, as was stressed to me both by Dr Cameron in his evidence and by Ms Bain in her submissions, that it was Dr Richardson who was there and could see and assess the patient. His immediate reaction to the condition with which she presented was that it was hyperventilation. He had been told by the surgery when they asked him to visit that Mrs Donald had previously had panic attacks. He was not told that she had a history of DVT, but it was not suggested that the failure to give this information to Dr Richardson was another instance of negligence by the defenders. He saw Mrs Donald. She appeared to him to be hyperventilating. That is something recognisable by a GP. A diagnosis of hyperventilating was consistent with the reported history of anxiety and panic attacks. The fact that Gillian said to him at some point that her mother was not feeling anxious is, I think, beside the point, because it was made clear in the evidence that a person might suffer panic or anxiety attacks without being aware of feeling panicky or anxious.

[91] When Dr Richardson took Mrs Donald's pulse, the reading was consistent with a diagnosis of hyperventilation. Her blood pressure, on the other hand, was low; but that was explained, to his mind, by what he regarded as a high dose of propranolol prescribed by Dr Cleland. While he accepted that a beta blocker such as propranolol should work in the same way on both pulse and blood pressure, he considered that the anxiety induced hypertension would overcome the effect of the beta blocker so far as the pulse was concerned. Whilst I consider that there is force in Dr Thornton's criticisms of Dr Richardson's supposition that the beta blockers were keeping the blood pressure low but not reducing the pulse to a similar extent, there was no evidence that this was impossible, or that that opinion could not rationally be held.

[92] The criticism of Dr Richardson for not taking blood pressure in a number of different positions (sitting, standing, etc.) is in my view well founded. But the evidence did not persuade me that the result of doing that in this case would have told Dr Richardson anything which would have altered his approach to Mrs Donald. Similarly, I accept Dr Thornton's criticism that having relaxed Mrs Donald by the breathing exercises, and having seen her breathing return to "normal" (whatever that may mean in this context), Dr Richardson ought to have re-taken measurements of her blood pressure and heart rate. But on the evidence it is likely that her blood pressure would have remained low; her heart rate would still have been high (though it might have come down a little); and that there would still have been a mis-match between the low blood pressure reading and her high pulse. This would very probably have confirmed Dr Richardson in his diagnosis. Indeed, as I understood his evidence, the main reason for Dr Richardson not taking further readings was because this was the only likely outcome. It follows that even if Dr Richardson had re-taken Mrs Donald's blood pressure and pulse, as I consider he should have done, he would almost certainly have regarded the results as confirming his diagnosis and treatment.

[93] In those circumstances I cannot conclude that his overall treatment of Mrs Donald fails the test in *Hunter v Hanley* so as to justify a finding of negligence against him.

Conclusion on negligence

[94] For the reasons set out above, therefore, I find that Dr Cleland was negligent in his treatment of Mrs Donald on 28 July by not referring her to hospital. I do not find Dr Richardson to have been negligent in respect of his treatment on 4 August.

Causation

[95] I turn then to the question of causation. It is common ground that the burden lies on the pursuers to establish on balance of probabilities the causal link between Dr Cleland's negligence and Mrs Donald's death: *Wilsher v Essex Area Health Authority* [1988] 1 AC 1074, at 1081E-1090E. For this purpose I have to consider the circumstances and cause of Mrs Donald's death, as well as the likely course of events had she been referred to hospital by Dr Cleland on 28 July.

Mrs Donald's death on 6 August

[96] Wednesday 6 August was the day of Mrs Donald's death. She collapsed at home while in the bath. Ruth helped her out of the bath. She noticed that there was a touch of diarrhoea in the bath and as a result she had to clean her mother up. She eventually got her into bed. She then called the ambulance and Mrs Donald was taken into hospital.

Evidence from the family

[97] Taking that in a little more detail, Ruth said that her mother felt good that day. She managed to sit on the couch and she telephoned a friend. She wanted a "sweetie", and Ruth went to the bakers and got her one. She felt good enough in herself to want a bath. She collapsed in the bath when Ruth was with her. She had a fainting fit when there was no water in the bath. She had diarrhoea in the bath. Ruth set about cleaning her. It was not a copious amount of diarrhoea - Ruth said that if it had been copious, she (Ruth) would not have been mature enough to cope. She had been to the toilet before her bath and had not mentioned diarrhoea. Ruth screamed to Emma, who was just leaving the house on her way to work. That would have been at about 2pm. Once she left, Ruth was left alone with her mother. It took her hours to get her mother to a stage where she was physically able to muster the strength to get out of the bath. It took Ruth another hour to cover the house in towels to make a path to the bedroom to get her mother lying down before she felt she could leave her alone and go to call her father and the surgery. Gillian arrived in the period waiting for the district nurses to arrive; but Ruth thought Gillian had left before they set off to hospital.

[98] Two district nurses arrived. Ruth thought that one arrived after the other, but nothing turns on this. They telephoned the ambulance. There were two ambulance men. Ruth spoke to one of the nurses, but she said that

she did not mention the diarrhoea because her mother would have been humiliated by that. There were occasions when one or more of the district nurses and the ambulance men would have been alone with Mrs Donald. Ruth also remembered the paramedics taking a history from her mother when she was not there. She went in the ambulance to the hospital. One of the paramedics was in the back with her. She did not remember the paramedic taking a history from her mother in the ambulance. By the time Ruth left in the ambulance Emma had arrived back, but Gillian had left.

[99] It is convenient to pick up the evidence of Emma and Gillian at this point, since they had no involvement in the events once the ambulance left for the hospital. Emma said that she had a bath before her mother that morning. Before having her bath, Ruth asked her to go to the pharmacy to collect some items her mother had requested. Mrs Donald had obviously spoken to Alan (at the pharmacy) about having diarrhoea. Emma went and collected some loperamide tablets and rehydration sachets (over the counter medicines for diarrhoea and dehydration) and gave them to her mother in the bedroom. Ruth told her to leave the water in, because her mother wanted a bath. While she was upstairs getting ready to go to work, Ruth shouted to her "in a voice that still haunts me" that her mother had had an episode in the bath. Emma went out to work soon afterwards. By then, she thought, Ruth had telephoned the surgery and been told that the district nurses were coming out, so her mother had told her just to go to work. She thought she was at work for less than an hour before Ruth came in to say the district nurses had arrived and they had decided to call for an ambulance. After a further 5 or 10 minutes, Emma went back home because she was upset at the prospect of her mother going to hospital.

[100] Gillian went to work on the morning of 6 August and then had a personal appointment. Sometime after 1 pm she switched on her mobile phone and found voice messages from her father and one from Ruth, saying to come home since their mother had collapsed in the bath. She got home possibly about half an hour later. Her mother was in bed, lying in the recovery position facing the window. She was "very very sweaty", having a lot of problems drawing any breath and looking visibly upset and concerned about what was happening. Ruth was in the house and Emma came at some point. She mentioned the district nurses and the ambulance men. She was present when her mother described her condition to the district nurses. Her mother gave them very little information; she spoke a little and Gillian and Ruth filled in the blanks. She said that she felt hugely worse and had had a collapse in the bath. She openly said to them that she had had diarrhoea that day. When the ambulance men came, they asked the daughters to step outside while they talked to Mrs Donald. She may have added additional information but the majority of the information they got would have come from the district nurses. Gillian did not go to the hospital. She left Ruth to go in the ambulance with her mother. Then she heard from her father the news of her mother's death.

[101] An important issue in this case is Mrs Donald's condition on 6 August before the incident in the bath, and in particular whether she was dehydrated by that time and for how long she had had diarrhoea. Ruth said that this was the first (and only) time that she was aware of her mother having diarrhoea. She had not had it in the days leading up to 6 August. She was eating, but nothing substantial - none of them were eating large amounts because of the heat that summer. She was also taking fluid on board - there was no question of her not drinking. She had drunk juice and tea that day. Emma agreed that up until 6 August her mother had been eating and drinking, perhaps not eating as much as she should because of the heat (eating toast and biscuits) but drinking juice frequently. Gillian's evidence was to the same effect: her mother was eating without difficulty, "a bland moderate diet", "not a normal diet that you or I would eat, but small light meals" (toast, cereal, tea, biscuits), and taking plenty of liquid (tea, water and squash), as they all were because it was unseasonably warm. The only episode of diarrhoea was on 6 August, so far as Gillian was aware. Gillian said that on the Tuesday (5 August), it took her five or ten minutes to help get her mother to the toilet - there was no desperation or sense of urgency. She would have said if she had had diarrhoea. Emma too was insistent that if her mother had had diarrhoea before 6 August they would all have known about it. It was only on the morning of 6 August that she was asked to get anything for it from the pharmacy. Emma said that she knew for a fact that her mother did not take any of that medication (for diarrhoea and dehydration) because after her mother was taken to hospital she (Emma) took it back to the pharmacy and got a refund, with which she bought a cold juice for her sister (Gillian) who remained in the house. I accept this evidence. It seems likely

that Mrs Donald had a touch of diarrhoea on 6 August before she had her bath. That was why she asked for the medication. But if she was alert enough to ask for medicine for diarrhoea when she needed it on 6 August, that points strongly against her having had diarrhoea the previous day, or two or three days. If she had had diarrhoea on 3, 4 or 5 August, why would she not send out for medicines then? I also accept the evidence that it would have been impossible for Mrs Donald to have had diarrhoea in her condition for any significant period without everyone else in the house knowing about it. I add to that the fact that Dr Richardson was not told that she was suffering from diarrhoea on 4 August, when there was no reason to withhold it from him if she had been. Taking all this evidence together, I have come to the firm conclusion that Mrs Donald was not suffering from diarrhoea before 6 August.

[102] At the hospital Mrs Donald was taken into A&E. Ruth waited in the holding area. She waited for about an hour or an hour and a half before getting up to see what was happening. She plucked up courage and went into the room with her mother and a junior doctor. She left when her mother asked for a bed pan. She then met her father at the hospital. She saw two different doctors. The senior doctor asked her for another history. They returned to the room in about 15 minutes, as the bed pan was getting taken away. Ruth was adamant that she did not say that her mother was prone to having panic attacks. The senior doctor was trying to speak to her mother, and she was breathless, so (to the annoyance of the doctor) Ruth was answering the questions. She did not say anything about panic attacks.

[103] Mr Donald's evidence did not add much to this account. He arrived in time to be with Ruth when they were told of Mrs Donald's death. Both Mr Donald and Ruth were clearly and naturally upset on being told.

Evidence from the ambulance crew

[104] Evidence was led from Mr Harryman, one of the ambulance men. He attended with Mr Frew, who was driving. At the time of the incident Mr Harryman had had some 32 years experience in the ambulance service. He has now retired. He had "absolutely no actual memory" of attending Mrs Donald on 6 August. He gave his evidence under reference to entries in a Scottish Ambulance Service Patient Report Form. It was noted that the call was made at 3.57pm. The ambulance arrived at the house, they saw the patient at 4.06 pm, left the house at 4.40pm and arrived at the hospital at 5.03pm. Mr Harryman explained that on arrival his first concern was to make sure that Mrs Donald was conscious. She was given oxygen when the ambulance arrived (Mr Harryman thought that they must have kept her on oxygen throughout). She was very alert throughout the whole period, registering 465 on the Glasgow Coma Scale on each assessment. That was the highest score on the Glasgow Coma Scale. Mr Harryman took her pulse on arrival. Her pulse rate was 130 - it was "racing". Her respiratory rate was 20 breaths per minute, which was within the normal range of 16-20 breaths per minute. Her blood pressure on arrival was 80/50, which was low. Her blood sugar level (which might have been taken by Mr Frew) was 9.2 mmol, which was normal. By 4.20pm, after about 15 minutes, her pulse had reduced to 121, which was still a bit high, her respiratory rate to 18 breaths per minute and her blood pressure to 83/52, which was slightly better but still on the low side. By 4.45pm, when they were in the ambulance on the way to the hospital, her pulse was down to 118, which was still a bit high. Her respiratory rate was down to 16 breaths per minute, which was normal - the oxygen probably helped bring that down. Her blood pressure was not taken at this time because they were near the hospital.

[105] Mr Harryman entered these times and readings on the form as they were taken. The remainder of the form, which included a narrative and patient history, was mainly completed in the back of the ambulance when arriving at the hospital both from memory and on the basis of notes made on the back of his rubber gloves. Mr Harryman said that the patient history would have been a mixture of what he had seen and what he had been told by the patient and relatives. He recognised that there might be inaccuracies. The narrative on the report form reads as follows:

"Female who is 19st in weight lying on top of bed very alert but pale, clammy. BP very low. Has had diarrhoea past 3 days and has not eaten anything past 3 days. Was at GP Dr Richardson on Monday, low BP.

Had collapsed earlier on after having bath. ? Dehydration. PMH anxiety. Med propranolol/ Rehydrant sachets/ ..."

The working assessment noted on the form was:

"Hypotension/Diarrhoea/Dehydration?"

Giving evidence about what he had written on the form, Mr Harryman said that the reference to diarrhoea for the past three days was based on what he was told by the patient or by a relative. He would have got that information at the house. The reference to diarrhoea in the working assessment at the end of the form was also simply based on what he was told. If the patient was "very alert", as Mrs Donald was, his practice would be to speak to the patient. His normal practice would be to go over the details on the form with the patient, just to make sure it was clear to him, but without showing the patient the form itself or telling the patient what he had written. The reference in his note to "? Dehydration" indicates that he was just raising the question, because he had been told that she had had diarrhoea for three days. The working assessment of hypotension was based on the low blood pressure readings. He would normally take the list of medicines that the patient was taking from the prescriptions. He said that if the patient had been breathless he would have noted it on the form; he confirmed there was no note of breathlessness. He had no recollection of how Mrs Donald was taken from the bedroom into the ambulance.

Evidence from hospital nurses and doctors

[106] On arrival at Ayr Hospital A&E department Mrs Donald was taken to cubicle 3. She was triaged by Lorna Geddes, a staff nurse, at 5.08pm. Ms Geddes did not give evidence, but the triage form was spoken to by others. An ECG was performed at 5.47pm. At about 6.10pm Mrs Donald was seen by Dr Claire Brown, a Senior House Officer ("SHO"). Dr Brown made a clinical assessment that Mrs Donald required to be admitted for further investigations. At 7.05pm she was seen by Dr Claire Copeland, a physician working at Ayr Hospital. Dr Hand may have come in to assist at the end. Mrs Donald died at about 7.35pm.

[107] Evidence was led from Dr Hand, Dr Brown and Dr Copeland. For present purposes the importance of that evidence relates to the observations made on Mrs Donald at the time of her admission and in the short time between then and her death.

[108] Dr Hand is a consultant in A&E at Ayr Hospital. In 2003 she had been a consultant there for about 2 years. She was able to give general information about the process of admission and triage and to help interpret the triage report. She explained that on arrival at A&E by ambulance, the patient might be taken for assessment to triage, depending on a number of factors which are not relevant here. Mrs Donald was taken to triage. The purpose of triage is to ascertain the acuity of the patient and try and determine how quickly they need to be seen. A nurse, or sometimes a doctor, would see the patient. An important feature of triage is the observation of breathing, pulse rate and similar matters. Dr Hand assisted by reference to the hospital records. She was told that the ambulance arrived at the hospital at 5.03pm. The triage form (and the emergency department card which had some of the triage information on it) was completed by Ms Geddes, the triage nurse, within five minutes of Mrs Donald's arrival. It gave certain information. It would be based on information that the triage nurse would try to take from Mrs Donald. It recorded (using the code "1/24") that Mrs Donald had been ill for less than 24 hours on arrival. It is of interest that the Complaint is recorded as "Breathless". The Assessment was "Collapse". The entry "NP" indicated that Mrs Donald told the triage nurse that she was not in pain. Further information was set out on a separate page printed from an electronic screen, referenced by the words "Refer to Triage Screen". This separate document was headed "Triage Assessment Processor Report". It contains detailed observations and recordings. Mrs Donald's temperature was recorded as 36.9°C, within the normal range. Her pulse was 118, which Dr Hand described as "a little bit fast" (the norm is under 90). Blood pressure was 94/66, "slightly low". Respiration was 24 breaths per minute, "a little bit higher than you would expect at rest". Oxygen saturation level (SaO2) was 93%, at the bottom end of the normal range.

[109] Dr Hand had no recollection of seeing Mrs Donald, and indeed was not convinced that she did see her before her death. She made notes from various records and what she was told by others. They were made in the morning of 7 August (some hours after the event). From her notes, she was able to say that she was in the radiology department, dealing with a child who had been knocked over, when she was asked to assist (with Mrs Donald) in the resuscitation room. Her interpretation of her notes suggested that Mrs Donald had already collapsed before she arrived; and she had no actual recollection of arriving before she died. Her overall assessment was "cardio respiratory arrest"; the heart had stopped beating and she had stopped breathing. An endotracheal tube had been put down her throat and they had started to compress her chest to keep the blood flowing through her heart. The notes then go on to say that she had been referred to the physicians team as she had presented with a history of breathlessness (dyspnoea) and diarrhoea and had collapsed in the cubicle while being assessed.

[110] Dr Hand's notes then record the results of certain blood tests: glucose 7.4; potassium 4.3; urea 7.6; and creatinine 161. These were taken from the lab report. The lab report also gives a chloride level of 111. The creatinine reading was slightly high and could represent a number of clinical scenarios. It could mean "a bit short of fluid and a bit dehydrated" or breaking down a lot of protein that cannot be processed by the kidney; Dr Hand said it was "a non specific indicator". The urea, chloride and creatinine readings were all above the levels one would ordinarily expect. They were "compatible with" a diagnosis of dehydration and diarrhoea over three days; but she could not say whether they were compatible with "only one small episode of diarrhoea that day between 12 and 1 pm". There was no linear relationship between those blood tests and what the patient would report in terms of fluid loss. The findings would be "unexpected" if the position was that she was taking on fluids regularly and had had only the one relatively small episode of diarrhoea between 12 and 1pm that day.

[111] I should interject at this point to make this observation on that piece of evidence. Although Ruth only noticed that her mother had had diarrhoea on the one occasion, when helping her to bath, it is plain from the fact that Mrs Donald had asked Ruth or Emma to get her the anti-diarrhoea medications from the pharmacy earlier in the morning that there must have been some prior episode which Mrs Donald was able to cope with by herself. The evidence taken from Dr Hand was concerned with two extreme positions: diarrhoea and dehydration over three days or so on the one hand; and, on the other, only one small episode of diarrhoea between 12 and 1pm on the day of her death. She was not asked to consider the possibility of diarrhoea over the course of (or for a few hours during) the morning on 6 August.

[112] Dr Hand's note went on to observe that air entry to the lungs was "fair", meaning that there was no difficulty with air entering the lungs on either side. It recorded that there was "no clinical evidence" of DVT. That meant that after cardio respiratory arrest there was no evidence of a swollen hot red leg to suggest that she had an active DVT in her leg. But Dr Hand was not sure whether that examination was carried out by her or by someone else. The notes contain an entry "Apnoeac, EMD", meaning that Mrs Donald was not breathing and not making any effort to breathe on her own, and when she collapsed they couldn't find her pulse. The next entry "K+ N" (the N having a circle round it), documented that potassium was within the normal range and there was no evidence of hypoglaemia, so they had looked for blood loss and fluid loss, and someone had looked at her neck veins - Dr Hand said that sometimes if someone is dehydrated you will not see any neck veins, so I understood from that piece of evidence that that potential indication of dehydration was absent. Further down there is a reference to bradycardia (a heart rate of less than 60), which someone had tried to reverse by administering atropine. Towards the end of the note there is a comment that the diagnosis of the cause of death is uncertain, one of the possibilities being a pulmonary thromboembolism. At the end, the note records that Dr Hand spoke to Dr Cleland over the telephone.

[113] When Dr Hand came to give her evidence it was not clear whether Dr Brown could be found to speak to her own notes. Accordingly, Dr Hand was asked to interpret and comment on those notes. In the event, Dr Brown was called. I think it better to look at her notes through the medium of her own evidence.

[114] The triage form shows that Mrs Donald was seen by Dr Brown at 6.10pm. Dr Brown is now known by her married name of Bridgestock, but it is convenient for present purposes to refer to her as Dr Brown. She was at that time an SHO. She remembered the case because she had just started in A&E at Ayr Hospital and Mrs Donald was the first patient she saw in her new post. The triage form has her name written at the bottom with the time of 1810, which indicates that she would have picked up the form at 6.10pm. She would have gone to see Mrs Donald immediately after that. Dr Brown explained the notes she had made. She had noted, on the basis of what she had been told by Mrs Donald, that Mrs Donald had had a breathless attack three weeks ago, which had been labelled as a panic attack. She had had more of those attacks three days ago, or over the last three days. She had also had diarrhoea. That would have been what Mrs Donald or the ambulance men had told her - she could not be sure how much had come from Mrs Donald herself. Her note did not say over what period she had had diarrhoea. The note went on to record that "today" she had had a fainting episode when in the bath at lunchtime. She lost consciousness for less than a minute. She did not go under water. This information too would have come from her questioning Mrs Donald. She felt "generally unwell this afternoon". She was found to be hypotensive by the ambulance crew. That information would have come from the ambulance notes. The next entry was "diarrhoea ++". It was common to use one, two or three plus signs to describe things; this would translate to a "moderate" amount of diarrhoea. Dr Brown thought that that would have been based on what she had been told by Mrs Donald. She agreed with the suggestion put to her in cross-examination that a patient close to death might have a bowel movement of that sort regardless of any other pre-disposition to diarrhoea. The notes then record that Mrs Donald felt no abdominal pain, and there was no report of her being sick, or of having a reduced appetite, or of pain. They go on to note that she feels short of breath and wheezy, though she does not have a cough or complain of any chest pain. Mrs Donald's drug history (taken from the ambulance notes and other sources) is recorded: propranolol, loperamide and cipramil. The second of those, loperamide, is an over the counter prescription for diarrhoea. Her past medical history is recorded as gall bladder removal and depression.

[115] Dr Brown's note then goes on to record her own examination of Mrs Donald. This is indicated by the letter "oe" (on examination). "Sats 95% on 2L" indicated a level of oxygen saturation in the blood when receiving oxygen which was within the normal range, though on the low side. That was despite having been given two litres of oxygen. That was of concern because so far as Dr Brown was aware Mrs Donald had had no history of any respiratory disease and her symptoms suggested no obvious reason as to why her oxygen saturation should be low. Blood pressure of 94/66 was a little lower than expected. Her pulse rate was on the high side at 110 in sinus rhythm. Dr Brown said that these results were "not quite normal", which raised a suspicion that she was quite unwell but did not point to a particular diagnosis. She recorded her observation that Mrs Donald was sweaty, tachypnoeic and "anxious ++". Her heart sounded normal and on listening to her lungs Dr Brown noted good air entry throughout both lung fields without any sounds. She noted the results from the ECG which was carried out. Having taken Mrs Donald's history, and having been told of panic attacks and diarrhoea, her impression, which she noted, was of panic attack and dehydration secondary to diarrhoea. Dr Brown agreed that this was more an impression than a diagnosis - she would have spent a relatively short time with Mrs Donald and was mainly concerned to decide whether she should be seen by other specialists. She recorded her plan, which was to put in IV access for intravenous fluids to help with dehydration, to take blood, stool and urine samples, and continue with oxygen saturation. She recommended that Mrs Donald be seen by the receiving medical team. This was agreed after consultation within the department. She then contacted Dr Copeland.

[116] Dr Copeland is a consultant stroke physician. At the time she was a receiving physician at Ayr Hospital. She recalled attending to Mrs Donald because Mrs Donald had arrested in the cubicle and because her husband and daughter were there and she had to break the news to them. She did not remember much about the resuscitation process. When she went to see Mrs Donald she would have had with her the A&E card, Dr Brown's notes and the paramedic sheet. Much of what she noted is repetitive of information given in other notes, and I need not set it out again here. Dr Copeland found it difficult to take a medical history from Mrs Donald. This was because she was hyperventilating. Mrs Donald denied having any chest or abdominal pain. She had been taking propranolol for three weeks, initially 40mg but that had been reduced - she last took propranolol on Monday, two days ago. She had had a reasonable amount of diarrhoea ("diarrhoea ++") for the

last three days. Dr Copeland thought that she had been told that by Mrs Donald herself. The notes go on to mention the ECG. The high levels of urea, creatinine and chloride were consistent with dehydration, but she could not go further and say that they were consistent with her having had diarrhoea for three days. She wrote down her observations from sitting at the nurses table looking into the cubicle: "Quite distressed: hyperventilating, restless, sweaty." Her impression was that she was having a panic attack - she was prone to these according to her family. That suggests that that information came from her family.

Assessment of the evidence

[117] Much of the detail recorded by the ambulance men, and the hospital nurses and doctors is relevant to the expert evidence of the cause of death and related matters. On most of that detail, consisting of readings taken in the ambulance and in hospital, the family members who gave evidence could obviously make no contribution. There are, however, some parts of the history recorded by the medical witnesses which appear at first blush to be at odds with evidence given by members of the family. The obvious example of this is the history of Mrs Donald having had diarrhoea for three days. This is set out in stark terms in the history taken by Mr Harryman and is reflected, though not as clearly, in the various notes made by the hospital doctors. I have already set out the evidence of members of the family about this. Despite the evidence from Mr Harryman and the hospital doctors, I adhere to the opinion expressed earlier that I found the evidence from members of the family persuasive.

[118] It is, in my view, necessary to be cautious about taking every detail in the history taken by ambulance staff and doctors at face value, as obviously accurate even if contradicted by others who might be thought to be in a position to know. Any history taken in circumstances such as those with which Mr Harryman was faced is likely to contain some errors, not through any fault of Mr Harryman but because of the pressure of circumstances and the potential unreliability of the sources of information. There are some obvious errors. For example, Mrs Donald collapsed in the bath, not after having had a bath. It is quite possible that Mrs Donald got it wrong on that matter, or that Mr Harryman misunderstood or mis-recorded it. Equally, Mrs Donald was not "at GP Dr Richardson" on the Monday - he came to her house. Further, it is tolerably clear that Mrs Donald did not have diarrhoea when Dr Richardson visited on 4 August, only two days before; the reference to diarrhoea for three days is plainly wrong for this reason alone. So also the reference to not eating for three days, and for the same reason - Dr Richardson would have noted something like that, and there is no reason why the family would not have told him that if it had been the case. If the information which Mr Harryman recorded came from Mrs Donald, it may be that she was trying to relate her condition in some way to the time when Dr Richardson called, two days before; although she is recorded in Mr Harryman's note as being "very alert", given her state when she saw Dr Richardson and the fact that she was clearly suffering when she gave Mr Harryman whatever history she gave him, it is easy to conceive of her saying "about three days ago" when trying to give an account of what had happened. Mr Harryman took rough notes of what he was told on the back of his gloves. It is easy to see how mistakes may have crept in. I emphasise that this is not a criticism of Mr Harryman. He took a history which was sufficient to inform A&E staff at the hospital of the problem. They could take it from there.

[119] None of the notes taken by doctors at the hospital say unequivocally that Mrs Donald had had diarrhoea for three days. The closest they get to this assessment is in the diagnosis of dehydration. The evidence from Dr Hand was that her dehydration was consistent with diarrhoea over three days and unlikely to have resulted from only one small episode of diarrhoea between 12 and 1pm on the day of her death. However, as I have noted earlier, that does not exclude - or even render unlikely - the possibility of Mrs Donald having had diarrhoea for some longer period on 6 August.

Post mortem examination

[120] A post mortem dissection of the body was carried out by Dr Ian Graham on 8 August 2003. His report was lodged in process and he gave evidence as to its contents. His conclusion was that Mrs Donald's death

"... was due to massive bilateral pulmonary emboli following deep venous thrombosis ..."

and that obesity was a contributory factor. There is no dispute about the immediate cause of death. But there is an issue as to what the post mortem dissection did or did not reveal about the origin of the emboli which caused Mrs Donald's death. It is therefore necessary to look in some detail at the post mortem report and at Dr Graham's evidence.

[121] In the course of his dissection, Dr Graham conducted an internal examination of the head and neck, the chest and the abdomen. His findings under the headings "Chest" and "Abdomen" were recorded in his report in the following terms:

"CHEST

The heart weighs 510g. The heart is slightly enlarged. Sectioning of the muscle forming the walls of the cardiac chambers reveals no focal abnormality. The blood vessels supplying the heart are focally atheromatous but occlusive thrombus is not seen. The valves of the heart are of normal circumference. Their cusps appear sound. The right lung weighs 800g, the left 620g. The lungs are slightly fluid-laden and congested. Immediately on separating the lungs from pulmonary vessels, it is apparent that there is bi-lateral coiled-up embolic thrombus obstructing both the main pulmonary arteries. No pulmonary infarction is seen. No focal abnormality is present within the substance of the lungs themselves. The pleural spaces are essentially unremarkable.

ABDOMEN

The stomach contains a quantity of turbid fluid. The liver weighs 2300g. It is of normal size and configuration. Sectioning reveals no abnormality. The gall bladder, biliary tree and pancreas are unremarkable. The spleen weighs 450g and is normal on external examination and sectioning. The combined weight of the kidneys is 430g. Sectioning reveals no abnormality in these organs. On examining the pelvic organs, it is noted that the uterus is grossly enlarged weighing 1680g. Sectioning reveals a large fibroid which occupies and distorts most of the body of the uterus. It measures 150mm in maximum dimension and contains areas of focal infarction. The pelvic veins are examined and no residual thrombus is identified but notwithstanding this, it is likely that the ileo-femoral venous segments were the source of the embolus identified in the chest. That there is no residual thrombus identified in the pelvis probably indicates that the thrombus became detached in its entirety. No evidence of pre-existing disease or trauma is identified in any other pelvic organs."

Dr Graham carries out a large number of post mortem examinations. It came as no surprise, therefore, that he had no clear recollection of the examination carried out in this case and that he was reliant on his report. Nonetheless, he was able to assist in understanding his report and in indicating the limits and extent of his examination.

[122] Under reference to the part of his report under the heading "Chest", Dr Graham explained that the thrombus, in effect just a large clot, passed up through the heart into the lungs and produced an obstruction in both pulmonary arteries. As to the absence of pulmonary infarction, he had looked at the lungs and did not see any evidence of dead tissue. The absence of pulmonary infarction was indicative of the immediacy of the event. However, it did not exclude the possibility of small emboli breaking off and travelling to the lungs over a period of days or even weeks prior to death. If Mrs Donald had suffered from breathlessness over some weeks as a result of smaller embolic events, it would not necessarily have left signs capable of being discovered at the post mortem examination. Dr Graham found nothing in the ileo femoral segment or elsewhere to indicate that there had been earlier emboli. However, in his experience in the majority of cases (perhaps 90%) pulmonary emboli could provoke breathlessness without causing infarction. His examination of the lungs was not "unduly fastidious". He had not carried out a minute examination of the ileo femoral segment, though he thought he would have looked at it fairly closely. Although there was no reference to it in his report, he thought that he would have opened up the pulmonary arterial tree to see if there was any trace of earlier emboli. Had he found anything in that section he would have noted it. His examination of the venous system would have included the inferior vena cava, down the common iliac vein and a short distance

into the upper thigh, involving the proximal part (the top five or six inches) of the femoral vein. He did not go further down than that in his examination.

[123] Dr Graham's opinion was that the thrombus which he identified had not accumulated in the pulmonary arteries over a period of time. It arrived there in one episode having become detached in its entirety; and death followed very quickly thereafter. He thought that the thrombus originated in the ileo femoral vein. The basis for that opinion was the diameter of the thrombus blocking the pulmonary artery. For it to be coiled, as it was when he found it, its diameter had to be smaller than the diameter of the pulmonary artery itself. Most thrombi arriving in the pulmonary vasculature will coil up because the vessels from which they come are significantly smaller in diameter than those at which they arrive. His assessment of the diameter of the coiled thrombus was that it corresponded with the diameter of the ileo femoral segments, though it was not clear from his evidence that he had measured it. However, as I understood his evidence, when he spoke of the thrombus originating in the ileo femoral segments, Dr Graham was identifying the immediate origin of the thrombus. He could not exclude the possibility of the thrombus having originated further down, for example in the area of the calf, and then having propagated from there to the ileo femoral segment. As it did so, its diameter would expand and assume the diameter of the new vessel - more blood would be added and it would expand so far as not constrained by the diameter of the vessel to form a larger clot. The post mortem examination provided no evidence either way on this aspect. Had he found remnants of the thrombus in the ileo femoral segment that would have suggested that the thrombus had originated there, but the absence of such remnants there did not show the contrary - he had carried out many post-mortem examinations where no remnants had been found. Dr Graham explained that, having established the cause of death, he was not particularly concerned to identify the location of the origin of the thrombus. He carried out no examination of the calf. As I have said, his examination went down only as far as the upper thigh.

Expert evidence as to origin and timing of the DVT

[124] As I have said, there is no dispute as to the cause of Mrs Donald's death. In the words of Dr Graham's post mortem report, it was due to "massive bilateral pulmonary emboli following deep venous thrombosis". There was no agreement, however, on how long Mrs Donald had been suffering from DVT and where and when the DVT that led to her death started. This issue was primarily directed to the question of causation, i.e. the question whether, if either Dr Cleland or Dr Richardson was negligent on the occasions alleged, and if they had referred Mrs Donald to hospital for further checks or treatment on one or other of those occasions, it would have made any difference; or, to put it another way, whether the DVT existed in Mrs Donald as at 28 July or 4 August 2003. The main argument for the defence on this aspect is that it is not established on balance of probabilities that Mrs Donald was suffering from DVT on 28 July or 4 August, and it is therefore not established to that standard that a referral (had a referral been made) or further tests (had further tests been carried out) would have picked up anything which would have prevented Mrs Donald's death on 6 August. But the question of when and where the DVT originated also impacts upon the evidence about the events of 28 July and 4 August, since it is relevant to Mrs Donald's actual condition then and therefore relevant to the symptoms which she might have been expected to report to her doctors.

[125] Expert evidence on this part of the case was led by the pursuers from Professor CV Ruckley and by the defenders from Mr John Drury. Both are eminent general and vascular surgeons, with a specialisation in DVT and pulmonary emboli. Amongst other positions listed in his *curriculum vitae*, Professor Ruckley was Consultant General Surgeon at Western General Hospital, Edinburgh from 1972 to 1978 and Consultant Vascular Surgeon there from 1978 until 2001. Since then he has, amongst other things, carried out research into arterial and venous disease. He is currently Emeritus Professor of Vascular Surgery at Edinburgh University. Mr Drury was Consultant General Surgeon with an interest in peripheral vascular surgery working for NHS Greater Glasgow and Clyde from 1986 until 2010. From 2006 to 2008 he was the Co-ordinator for Vascular Surgery for the Scottish Audit of Surgical Mortality.

[126] It is convenient to consider this area by looking initially at the evidence of Professor Ruckley, taking account of the evidence already referred to and also the opinion of Mr Drury. In evaluating their evidence I

have attempted to follow the guidance provided by cases such as *Davie v Magistrates of Edinburgh* 1953 SC 34 (per Lord President Cooper at p.40), *Dingley v Chief Constable of Strathclyde Police* 1998 SC 548 (per Lord President Rodger at p.555), *McTear v Imperial Tobacco Ltd* 2005 SC 140 (Lord Nimmo Smith) and *Loveday v Renton* 1989 1 Med LR 117 at 125, to all of which I was referred by Ms Bain QC.

Professor Ruckley

[127] Professor Ruckley produced a report in which he dealt with a number of issues which were then live. The report included consideration of certain aspects of the case then being advanced against the first defenders. That involved, amongst other things, a detailed consideration of the report of the ultrasound scan carried out at Ayr Hospital in 2001. That, though interesting, is no longer of primary relevance. I shall limit my summary of his report to those parts which are relevant to the issue I have identified above.

[128] Having considered the relevance of entries in Mrs Donald's medical records, and concluded that her history of DVT made DVT an obvious explanation for the breathlessness with which she presented, Professor Ruckley explained the nature of the disease in section 4 of his report. I quote from that section below:

"4.1 Mrs Donald suffered from venous thrombo-embolic disease (TED) comprising recurrent deep vein thrombosis (DVT) and pulmonary embolism (PE). DVT is a very common condition and PE a frequent cause of death. DVT is thrombosis (blood clot) in the deep veins, usually of the legs. ... [Studies based on research done mainly between 1960 and 1980] showed that DVT usually starts with clot in the veins of the calf and in some patients spreads up into the veins of thigh and pelvis (the ilio-femoral segment). Much less commonly it starts in the iliac veins in the pelvis."

He added here that more than 90% of clots in the leg start in the calf. The report continued:

"4.2 If a portion of the DVT breaks off it travels to the lungs as an embolism. A small embolism seldom causes infarction (death of tissue) and therefore gives rise to no symptoms. Multiple small emboli cause breathlessness. Large emboli can be fatal."

Professor Ruckley was asked about the mechanism by which breathlessness was caused by multiple small emboli. He explained that breathlessness was the

"... physical function of traffic jams of blood vessels in the lung. When arteries coming into the lung start to become blocked, blood passes through the lung without being in contact with air passages, so that O₂ does not get into the blood. So the individual suffers from a steady reduction in O₂ circulating around the body. O₂ is the driver of how you breathe. If your blood vessels are getting silted up, the proportion of blood going through the lung and not getting O₂ is increasing, and so there is more difficulty breathing. ... The body's response to that problem is to drive air in and out of the lungs at a faster rate to try to up the level of O₂, so the individual breathes faster and faster and feels more and more distressed as the O₂ level is depleted in the blood. So you are presented with a patient with very rapid respiration, literally panting. ... To be mobile you need O₂ going into your muscles. And if the O₂ level in the blood is falling, then any sort of exercise or movement becomes more difficult, more stressful, more exhausting ..."

The "breathlessness" described here (or dyspnoea) was quite different in its cause from what was often referred to as "hyperventilation". "Breathlessness" in this sense has a physical cause, whereas the word "hyperventilation" suggests something psychologically driven, something with a psychogenic cause.

[129] Returning to Professor Ruckley's report, I continue the quotation from section 4:

"4.3 Large emboli originate from large calibre veins, hence the pathologist's supposition that the ilio-femoral segment was the probable source of the embolus. By this he meant that the embolic clot broke off from DVT located in the deep veins of the thigh or pelvis. He was not saying that the DVT did not begin in the calf. He

was not in a position to know whether that was the case, since he did not report having examined the legs either externally or internally for evidence of DVT."

I should note here that Dr Graham, the pathologist, agreed with this interpretation of his work. Professor Ruckley's report continued:

"4.4 DVT in its most dangerous stage causes no symptoms, consequently the majority [of] patients who die of PE have no prior clinical symptoms in their legs. ... on balance of probabilities, since it is well documented that previous DVT predisposes to further episodes, the origin of the DVT (as distinct from the site at which the embolism broke off from the DVT) was the left lower leg.

4.5 Most patients who die of PE have multiple episodes, the preceding non-fatal embolic episode or episodes being termed "herald embolism. ... Thus non-fatal embolism requires urgent investigation and treatment to prevent a possible life-threatening sequel. ..."

At this point, Professor Ruckley moved from the general to the particular. He concluded para 4.5 by saying this about Mrs Donald's case:

"... Mrs Donald reported to her GP with symptoms consistent with embolism (... tachycardia and breathlessness) on 16/7/03. These symptoms progressively deteriorated over the next 3 weeks. The post-mortem examination of 8/8/03 was cursory, but this clinical course is wholly consistent with death having been caused by a succession of small PEs leading to build up of embolic clot in the pulmonary arteries, culminating in a final PE on 6/8/03."

The last sentence of this passage gave rise to some difficulties in the course of Professor Ruckley's evidence. I consider it further below.

[130] Professor Ruckley went on in his report to consider and comment upon a number of points made in the defence. The defenders had relied upon the fact that no previous pulmonary infarction was identified at the post mortem. In para 4.6 Professor Ruckley pointed out that the majority of pulmonary emboli do not cause infarction, though they will undoubtedly cause breathlessness if enough branches of the pulmonary artery are obstructed by a clot. Reliance by the defenders on the absence of asymmetry of the legs as tending to negate the possibility of the thrombus having originated in the left leg was, he pointed out, contradicted by their own averment that 90% of cases of pulmonary embolism arise from asymptomatic DVT. Professor Ruckley did not himself recognise that statistic. His opinion, with which I think Mr Drury agreed (though he expressed it slightly differently in his report), was that if you carried out a lung scan on everyone presenting with DVT, you would find DVT in over 50% of them. The 90% figure related to patients who die of pulmonary emboli - only one in ten was likely to have had DVT diagnosed before they died. But that meant that, even if the pathologist had carefully examined the legs for evidence of DVT, there was only a 10% chance (on Dr Graham's view of it) or a 50% chance (on Professor Ruckley's view) of him finding such evidence.

[131] In paras 4.7 and 4.7A (as it was re-numbered in the course of his evidence), Professor Ruckley said this:

"4.7 ... Human lungs have huge reserve capacity. Therefore thrombus has to amount to large bulk to obstruct both pulmonary arteries sufficiently to cause death. The embolic thrombus at post mortem was described as 'coiled up', suggesting that the original DVT was of considerable length. If it was coiled it must have been of a diameter substantially smaller than the diameter of the pulmonary arteries themselves. This would be entirely consistent with a DVT forming first in the calf of the leg (as the great majority do) and extending upwards into the larger veins of the thigh (the ilio-femoral segment) as hypothesised by the pathologist. The clot may also have reached the iliac veins in the pelvis - although the pathologist did not find any evidence of DVT in these veins.

4.7A If the DVT had originated in the pelvic veins on balance of probabilities remnants of the primary thrombus would have been found at that site. Moreover it is unlikely that a 15 cm diameter fibroid inside an intact uterus had anything to do with the site of origin of the DVT - and the pathologist did not put forward the opinion that it did. The fact is that no deductions can be made on the basis of the post mortem report as to the site of the original DVT. On balance of probabilities the calf was the likely starting point."

I noted that the pathologist, Dr Graham, agreed with what Professor Ruckley had said in para 4.7 and in the middle two sentences in para 4.7A.

[132] Taking stock at this stage, and having regard also to his oral evidence, I understood Professor Ruckley's opinion on the matters central to the cause of Mrs Donald's death to be (in summary) as follows:

(1) The DVT from which Mrs Donald suffered in July/August 2003 probably originated in her left calf. The majority of DVTs originate in the calf; and, since previous DVT predisposes to further episodes, Mrs Donald's prior history of DVT in her left leg makes it likely that the DVT suffered in 2003 also originated in her left calf. No examination was carried out to any part of her left lower leg to see whether there was any evidence of a DVT there; and had such an examination been carried out, it might or might not have revealed such evidence.

(2) A DVT may propagate from the place where it originates. In the case of Mrs Donald, the DVT propagated northwards, from the calf to the ilio femoral vein some time before Mrs Donald's death, expanding in diameter to fill the space available.

(3) Death was caused when a large embolus, probably by then positioned in the ilio femoral segment, became detached, travelled through the system and ended up blocking the pulmonary arteries. It is possible that instead of the whole embolus becoming detached, a large segment broke away from it resulting in blockage of the pulmonary arteries, but in either case the diagnosis is the same.

(4) Before Mrs Donald's death, a succession of small emboli broke off from the DVT in the leg, travelling north through the venous system and blocking or silting up blood vessels peripheral to the main pulmonary arteries. That is consistent both with Mrs Donald's breathlessness and with the fact that, in the majority of cases, death by pulmonary embolism is preceded by multiple smaller (herald) emboli. At the time any one of these multiple emboli broke off, the DVT may still have been in the calf or may have propagated north towards or into the ilio femoral segment.

(5) The impact of a succession of small emboli breaking off and blocking peripheral arteries caused Mrs Donald's breathlessness in the weeks leading up to her death. Her breathlessness over that period is indicative of the DVT having been in existence for at least that time.

(6) While a DVT in the calf might be asymptomatic, if there were any symptoms they might be in the form of swelling or discomfort in the calf itself or higher up the leg, for example in the thigh. The breathlessness would be associated with chest pain. Reports of leg pain and chest pain should focus the mind on the probability of pulmonary embolism.

In general terms I took Professor Ruckley's analysis of the immediate cause of death as summarised in subparagraph (3) above to be the same analysis as put forward by Dr Graham, the pathologist, who described the embolic clot which broke away as a "bi-lateral coiled-up embolic thrombus obstructing both the main pulmonary arteries".

[133] Professor Ruckley's analysis essentially builds on the post mortem examination carried out by Dr Graham and the history and symptoms of breathlessness narrated as part of the pursuers' case. He appeared initially to differ from Dr Graham in relation to what he understood to be Dr Graham's conclusion that the thrombus first "originated" in the ilio femoral vein. But this issue disappeared once it became clear that Dr Graham was addressing himself to the location of the thrombus at the time at which it became detached and

migrated so as to block the pulmonary arteries; he was not discounting the possibility that the DVT had originated in the calf and propagated from there to the ilio femoral vein.

[134] Professor Ruckley's evidence that the succession of small pulmonary emboli breaking off from the thrombus (wherever it might have been) and causing Mrs Donald's breathlessness led to "build up of embolic clot in the pulmonary arteries, culminating in a final PE on 6/8/03" (see para 4.5 of his report) appeared at first sight to be more difficult to reconcile with Dr Graham's findings. At various stages in his evidence I gained the impression (as, I think, did others) that he was describing a process of "silting up", whereby the multiple small emboli adhered to the walls of the main pulmonary arteries and by a process of accretion narrowed those arteries and made them more susceptible to being blocked by the arrival of the fatal embolism. He talked at times of the arteries being partially blocked by the time the large fatal embolism arrived. This analysis appeared to differ from Dr Graham's view that the embolus which resulted in Mrs Donald's death arrived in the pulmonary arteries in one episode, fully formed. Having considered this part of his evidence very carefully, I have come to the conclusion that my first impression of what he was saying was mistaken. The matter was raised with him on a number of occasions, both in chief and in cross-examination. In answer to a question from the court, he explained that it was misleading to talk of the smaller emboli in some way adhering to the wall of the main pulmonary artery. The impaction or lodgement of an embolus in the system was entirely a function of the diminishing calibre of arteries as you go into the lungs. If you have an embolus with a 2mm diameter, it will impact on and cause blockage in an artery of that diameter. It will not stop in a larger artery, nor will it reach a smaller one. The multiple small emboli breaking off the main embolus over a period of weeks before Mrs Donald's death would have lodged not in the main pulmonary arteries but in the smaller arteries leading off them, depending in each case on the diameter of the embolus and the calibre of the artery. When Professor Ruckley spoke of the arteries being partially blocked even before the arrival of the large thrombus that resulted in death, he was talking about partial blockage of the pulmonary arterial tree as a whole, which included smaller vessels leading off from the main pulmonary arteries; and he was explaining that some parts of the pulmonary arterial tree (i.e. some of these smaller arteries) would be blocked by these smaller emboli. Over time, more and more of these peripheral smaller and middle sized vessels would become blocked. Because of its size and the pre-existing accumulation of blockages, the large embolus which followed (and caused Mrs Donald's death) would have nowhere to go except to block the main pulmonary arteries. The process of small emboli breaking off over a period of three weeks or so and lodging in some of the smaller arteries within the pulmonary arterial tree would account for the breathlessness suffered by Mrs Donald over those weeks preceding her death. As more and more of the peripheral vessels became blocked, Mrs Donald would become more and more breathless.

[135] Professor Ruckley's theory about there having been multiple small emboli over a period of weeks leading up to Mrs Donald's death was challenged on the basis that Dr Graham, the pathologist, had examined the whole pulmonary tree as part of his post mortem examination and had not found any signs or remnants of small emboli lodged there. Professor Ruckley had two answers to this. The first was that, as Dr Graham accepted in his evidence, in a large number of cases pulmonary emboli could provoke breathlessness without causing infarction. The second was that it was not clear how thorough Dr Graham's examination of the pulmonary arterial tree had been. It had not been mentioned in his report, and all that had been said about it in his evidence was that in the ordinary course of conducting an examination he would normally have opened up the pulmonary arterial tree to see if there was any trace of earlier emboli (and he would have noted anything he found). Dr Graham accepted that his examination of the lungs had not been "unduly fastidious". Professor Ruckley explained that the pulmonary arterial tree divides into scores of branches. A detailed examination involves using scissors to cut open each branch along its length (going right into the peripheral tissues of the lung) and laying it open, picking up a clot with tweezers if one is found. It is also necessary to cut serial sections through the lungs so that they can be examined both macroscopically and microscopically. It did not seem as though this had been done. A more fastidious examination than was carried out would have provided more detail, but in any event many of these small emboli were extremely small and might well escape detection even on a very detailed examination. I formed the view from Dr Graham's evidence that even if he had looked to some extent at the arterial tree, he had not carried out the type of detailed examination spoken of by Professor Ruckley. That is not a criticism of Dr Graham, who was concerned to

identify the cause of death and did so - there was no reason for him to look further than he did. But it means that, to my mind, this line of cross-examination placed more weight upon the absence of evidence of small emboli in the pulmonary arterial tree than it could properly bear. Dr Graham's post mortem examination does not cause me to doubt this part of Professor Ruckley's evidence.

[136] It was also put to Professor Ruckley that his theory that Mrs Donald suffered breathlessness as a result of herald emboli impacting parts of the pulmonary arterial tree was inconsistent with the evidence of Dr Cleland and of Dr Richardson. Dr Cleland had given evidence of Mrs Donald reporting on 28 July that she had a recurrence of breathlessness, rather than continued breathlessness, suggesting that in between times her breathing had returned to normal; while Dr Richardson gave evidence that on 4 August Mrs Donald's breathing returned to normal after he had assisted her in carrying out breathing exercises. I understood Professor Ruckley to accept that if Mrs Donald's breathing had indeed returned to normal that would not be consistent with her breathing difficulties having been caused by DVT. However, he did not accept that it was likely that her breathing had returned to normal. He obviously could not comment on the evidence of Dr Cleland about what had been said at the consultation on 28 July, but he noted that Dr Richardson had not re-taken Mrs Donald's pulse after calming her with the breathing exercises; and he pointed out the difference between a case of her breathing returning to normal and a case where her symptoms of breathlessness were lessened as a result of breathing and relaxation techniques - in that latter type of case, the breathlessness might appear to have gone while she was lying down, but that would not necessarily be the position when she stood up and walked around.

[137] Professor Ruckley explained in cross-examination that in a case where small emboli had broken off and caused breathlessness, by the time they had caused breathlessness they would be visible on a CT scan of the lungs. A chest x-ray would be of no assistance in diagnosing a pulmonary embolism. As to an ECG, he thought that by the time breathlessness was so severe as to put a strain on the right side of the heart, an ECG would start to show abnormalities; but a cardiologist would be better able than he to answer that question.

Mr Drury

[138] Mr Drury also provided a report. He dealt with the matter by answering a number of specific questions put to him. Questions 1-3 related to the 2001 scan and the claim then being advanced by the pursuers against the hospital based on the report of the scan. Question 5 considered the relevance, if any, to Mrs Donald's death of the DVT suffered by Mrs Donald in 1986. I have already mentioned the disagreement between Professor Ruckley and Mr Drury about whether Mrs Donald really suffered a DVT at that time, and I need not repeat that here, but it is sufficient to note that Mr Drury was emphatic that that DVT, if it was one, would not have caused Mrs Donald's death in 2003. Question 6 considered the relevance, if any, of Mrs Donald's presentation in 2001. Again, I have dealt with this earlier in this opinion. I need not dwell further on these matters at this stage.

[139] The issue at the centre of the present dispute was covered by Mr Drury in his answers to Questions 4 and 7. Before setting out those answers, it is useful to put them in context by referring to the following passage in the report, which followed immediately after a discussion of the 2001 scan. Mr Drury said this (in relation to Mrs Donald's attendance on Mr Cleland on 16 and 28 July, and her subsequently being seen by Dr Richardson):

"It does appear completely reasonable to suggest that the patient was having panic attacks and may have required bereavement counselling. On the day that she was visited by Dr Richardson, it seems that she may have been having a panic attack and given the history of subsequent diarrhoea, there may well have been the prodromal stage of an acute illness. This could have caused her sweating, anxiety and tachycardia.

Given the notes of Ayr Hospital, it appears that on admission she had spent the previous 3 days in bed at home with copious diarrhoea and had not been drinking or eating. Her blood tests on admission suggested no hypokalaemia [low potassium in the blood] but she was dehydrated. Dehydration and immobilisation in an

obese patient makes that combination a very strong risk factor for DVT. The description of a faint in the bath may have been related to the diarrhoeal illness or a precursor to the pulmonary embolus.

The subsequent events leading to death would have been related to the pulmonary embolus."

Mr Drury explained that his reference to "copious" diarrhoea was based on his interpretation of the "++" against diarrhoea in the hospital notes. As noted above, that is not a correct understanding of the notation used. What was being recorded was a moderate amount of diarrhoea. He went on to note that the post mortem suggested death had been caused by a massive bilateral pulmonary embolus related to a DVT. He understood Dr Graham to confirm that the large clot causing the blockage would have come from the pelvic veins, though Dr Graham accepted that that might not have been where it originated.

[140] Question 4 asked whether it was likely that the cause of the pulmonary embolism suffered by Mrs Donald was a DVT and, if so, in which part of the body the DVT originated. He responded that he was unaware of pulmonary thromboembolism occurring without a previous DVT, though the only way of ascertaining whether there had been a DVT and, if so, its point of origin would have been at post mortem. After referring to Dr Graham's opinion that there was likely to have been a pelvic vein thrombosis related to immobilisation, obesity and a large uterus and leading to a pulmonary embolism, Mr Drury said this:

"It would be improbable to suggest that such a large amount of clot could come from the calf en masse, travel through a partially narrowed superficial femoral vein and obstruct the pulmonary arteries. It would have been more probable for calf clot to break off in small quantities and pass into the more peripheral lung circulation. This would have produced lung changes and possibly infarction, none of which was found by Dr Graham at post mortem."

I have already mentioned the question of the intensity of Dr Graham's examination of the lungs. It does not seem to me that the absence of such findings by Dr Graham provides much assistance to Mr Drury on this point.

[141] In Question 7, Mr Drury was asked:

"Do you believe that it is likely that the symptoms with which the deceased presented on 16 July, 28 July and 4 August 2003 were associated with DVT?"

His answer was examined in some detail, so I should set it out in full.

"Panic attacks, related to recent upheaval in household social circumstances, could have been associated with hyperventilation and associated tingling of the fingers. The tingling is caused by respiratory alkalosis reducing the serum calcium. It was entirely reasonable to treat the patient as having had such attacks. There were no symptoms to suggest a DVT ... [the remainder of this paragraph was not relied on by Mr Drury].

Tachycardia and hyperventilation are not usually symptoms of a DVT but could be indicative of a pulmonary embolus. Embolic events are usually associated with a shock state and the patient was not hypotensive and actually walked into the surgery. Also the ECG of 28 July did not show any right heart strain which could have been associated with pulmonary embolism. The patient was also on a β Blocker, Propranolol. This tends to lower the heart rate suggesting that the tachycardia may have been more 'voluntary' assuming no other pathology.

Particularly on 4 August, it would seem that the patient was about to develop an acute illness with diarrhoea and this could have explained the symptoms which were not typical of a DVT. ..."

[142] Mr Drury's conclusion was in the following terms:

"The deceased may or may not have had a previous pregnancy associated DVT but on a balance of probabilities this is unlikely for the reasons stated above.

Although a previous DVT can increase the risk of developing another DVT, there were new more important risk factors at the time of death. These were obesity, occurrence of diarrhoea and associated dehydration, bed rest and immobility. It would not take long for these factors on their own to put a patient such as Mrs Donald at risk of developing a DVT and possible pulmonary embolism.

I would agree that the cause of death was the massive pulmonary embolism originating in the pelvic veins. I do not believe that any history prior to the last days of diarrhoea, dehydration and immobility have any relevance to this lady's death."

[143] This passage in Mr Drury's report was scrutinised in cross-examination. Mr Drury appears to have linked the development of the DVT to certain "new more important risk factors at the time of her death". He listed these as obesity, occurrence of diarrhoea and associated dehydration, bed rest and immobility. As I understood his evidence, he envisaged the DVT as developing from about 4 August (probably after Dr Richardson's visit) and not just a matter of an hour or two before Mrs Donald's collapse on 6 August. It was "the last days of diarrhoea, dehydration and immobility" which were relevant to the development of the DVT. The difficulty, however, is that the risk factors identified by Mr Drury as "new" and "more important" than the fact of her previous history of DVT (if she had suffered from it previously) were either not new at all at this time or did not exist until the last hours of Mrs Donald's life. Obesity was not new; Mrs Donald had been obese for many years. She had been virtually immobile and taking bed rest a large part of the time from the time of her collapse on 16 July. So there was nothing new about those matters. Conversely, on my assessment of the evidence, Mrs Donald did not suffer from diarrhoea for any significant period before her death. It was limited to the morning of 6 August. Nor was Mr Drury correct in referring to copious amounts - the hospital records (and the evidence given by Ruth) point only to moderate diarrhoea. The dehydration associated with that diarrhoea would have kicked in within a similar time frame. Neither the diarrhoea nor the dehydration would have been instrumental in the development of DVT on 4 or 5 August.

[144] This link between the onset of DVT and these new and important catalysts appeared to me to be central to Mr Drury's thesis. Take away this linkage and he had nothing to support his case that the DVT developed rapidly during the last day or two before Mrs Donald's death. Without that linkage, he had no answer, so it seemed to me, to Professor Ruckley's opinion that it was likely that the DVT developed over a matter of weeks, and was likely to have been in existence when Mrs Donald saw Dr Cleland on 28 July and when Dr Richardson visited her at home on 4 August. Quite apart from that, however, I found Professor Ruckley more persuasive overall. His report provided a more in depth analysis of the problem than did that of Mr Drury and did not rely for its conclusion on information which proved to be unfounded. His analysis provided an explanation for Mrs Donald's constant and unrelenting breathlessness and immobility from 16 July or thereabouts, whereas Mr Drury's did not. Where they differed, I preferred Professor Ruckley's evidence.

What would have happened if Mrs Donald had been referred to hospital on 28 July?

[145] A further chapter in the expert evidence related what would probably have happened had either Dr Cleland on 28 July or Dr Richardson on 4 August identified the possibility that Mrs Donald was suffering from a DVT and had taken the step of referring her for further investigation. Since I have not found that Dr Richardson was negligent, the question is of importance only in respect of what would have happened had Mrs Donald been referred to hospital on 28 July. But in case I am held to be wrong in absolving Dr Richardson from the charge of negligence, I should make it clear that the same considerations apply equally to a referral on 4 August.

[146] This area of the case must, of course, proceed on the basis that Mrs Donald at that time was indeed suffering from a DVT - otherwise the question of what would have happened admits only of the answer that they would have discovered nothing of interest so far as this case is concerned. It must be assumed for this purpose that Mrs Donald was suffering from a DVT at the relevant time, and the questions that arise from

that are (i) would this have been picked up at the referral, had there been a referral, and (ii) would Mrs Donald have survived as a result.

[147] On the assumption of fact on which this question proceeds, I did not understand there to be any real dispute between Professor Ruckley and Mr Drury about the answer. Accordingly, I shall set out the evidence rather more briefly.

[148] Referring to the treatment Mrs Donald ought to have received, and the diagnosis that ought to have been made about her condition, on her admission to A&E on 6 August, Professor Ruckley said this in paras 5.30 and 5.31 of his report:

"5.30 Any A&E doctor should know that when a patient presents with the above features - [viz. breathlessness, tachycardia (pulse 110), hypotension (blood pressure 94/66) and hypoxaemia (sats 95% on 2 litres of oxygen)] - the last on the list of possible diagnoses which should be entertained is 'panic attack' or 'hyperventilation'. I have appended from Davidson's Textbook of Medicine 1995, a page of which lists the conditions to be considered when a patient presents with acute breathlessness. These include (i) heart failure, (ii) massive pulmonary embolism, (iii) acute severe asthma, (iv) acute exacerbation of chronic chest disease, (v) pneumonia, (vi) metabolic acidosis and lastly (vii) psychogenic causes. The important point about the first six conditions is that they are all life-threatening whereas psychogenic causes are not.

5.31 Heart failure, asthma and chest infections can be rapidly eliminated by history, examination and an emergency X-ray. If PE is even suspected and the patient is haemodynamically unstable and not bleeding from a known site, as in this case, treatment should be started immediately with heparin or heparin plus thrombolytic therapy (e.g. Alteplase) without waiting for investigations ..."

Professor Ruckley's conclusion was as follows:

"7.17 If Mrs Donald had been referred to hospital on any date between 16/7/03 and 6/8/03 a CTPA or lung scan would have been performed, PE would have [been] detected and she would have been treated with heparin and warfarin, plus thrombolytic therapy if necessary. There was around a 90% probability that she would have survived."

[149] As I have said, I did not understand that on this hypothesis, namely that Mrs Donald had a DVT or a pulmonary embolism at the time of referral, she would in all probability have survived. I do not propose, therefore, to set out the other evidence on this point.

[150] For the above reasons, I conclude that Dr Cleland's negligence on 28 July in failing to refer Mrs Donald to hospital resulted in her death. Had he referred her then, she would not have died of a pulmonary embolism on 6 August.

Quantum

[151] As indicated above, quantum was agreed as follows:

(a) Grief, sorrow and loss of society in terms of s 1(4) of the Damages (Scotland) Act 1976 are agreed at £40,000 for the first pursuer (Mr Donald) and £22,000 each for each of the second to fifth pursuers (Gilliam, Emma, Sarah and Ruth). Those sums are net of recoverable benefits and are exclusive of interest.

(b) Interest will run on one half of each of those sums at the rate of 4% per year from the date of death until the date of decree, and thereafter on each full sum at the rate of 8% per year until payment.

(c) Loss of support is agreed at £100,000. Interest on that sum will run at the rate of 8% per year from date of decree until payment.

Disposal

[152] It follows from the above that I should sustain the first plea in law for the pursuers in so far as directed against the second defenders; repel the second, third and fifth pleas in law for the second defenders; and grant decree in terms of the pursuers' 2nd, 3rd, 4th, 5th and 6th conclusions in the agreed amounts. However, rather than pronounce an interlocutor in those terms, risking a mistake in the arithmetic, I shall put the case out By Order so that parties can agree the figures to go into the interlocutor. They should liaise with my clerk. If figures can be agreed, I will sign an interlocutor without the need for a hearing.

[153] I reserve all questions of expenses except insofar as already dealt with.