OUTER HOUSE, COURT OF SESSION

[2020] CSOH 40

A402/14

OPINION OF LORD TYRE

in the cause

JENNIFER McCULLOCH and OTHERS

Pursuers

against

FORTH VALLEY HEALTH BOARDS

Defenders

First, Second and Sixth Pursuers: Sutherland QC, Waugh; Drummond Miller LLP
Third, Fourth and Fifth Pursuers: Bennett; Lefevres
Defenders: Doherty QC, E Campbell; NHS Scotland Central Legal Office

7 May 2020

Introduction

[1] Mr Neil McCulloch died on 7 April 2012, shortly after admission to Forth Valley Royal Hospital ("FVRH"), Larbert, having suffered a cardiac arrest at home. At the time of his death he was aged 39. The cause of death was recorded as idiopathic pericarditis and pericardial effusion. It is a matter of agreement that he died as a result of cardiac tamponade. Mr McCulloch had been discharged from hospital on the day before his death, having previously been admitted on 23 March, discharged on 30 March and readmitted on 1 April.

[2] The pursuers in this action are Mr McCulloch's widow (suing as his executrix, as an individual and as legal representative of her and Mr McCulloch's two children), his sister, father, mother, twin brother and stepson. They contend that Mr McCulloch's death was caused by the negligence of Dr Catherine Labinjoh, a consultant cardiologist employed by the defenders and for whose acts and omissions the defenders are responsible. The defenders deny liability. Except in relation to Mr McCulloch's two children, quantum of damages was agreed. The third, fourth and fifth pursuers, who were separately represented, did not participate in the proof.

[3] Evidence of fact was given at the proof by the first pursuer Mrs McCulloch; by Dr Fraser Wood, a consultant in respiratory medicine who treated Mr McCulloch during his first admission; and by Dr Labinjoh. Mrs McCulloch's evidence was given partly by way of oral testimony and partly by way of an affidavit and a supplementary affidavit, both of which she adopted. Her oral evidence consisted largely of being taken through the two affidavits which narrated, from her perspective, the history of her husband's hospital admissions and the way in which he appeared to her from time to time. The defenders lodged and maintained a note of objections to large parts of her affidavits on the ground that there were no pleadings on record for those parts. I repel this objection, which in my view misunderstands the purpose of written pleadings: ie to give notice of a party's case, and not to set out the evidence which is to be led in support of it. If material such as that contained in Mrs McCulloch's affidavit had to be pled, the pleadings would run to inordinate and wholly unnecessary length. In so far as her evidence may be inconsistent with the medical records or the evidence of other witnesses, that is not a matter of admissibility but of credibility and reliability; I comment on this where necessary below. In so far as statements in Mrs McCulloch's affidavits might be construed as allegations of fault in relation to

Mr McCulloch's medical care which are not reflected in the grounds of this action, I attach no weight to them. In advance of the proof Dr Labinjoh provided written answers to questions and supplementary questions from the pursuers. I accept the evidence of Dr Wood and Dr Labinjoh as credible and reliable.

[4] Expert evidence was given on behalf of the pursuers by Dr Andrew Flapan, consultant cardiologist, Royal Infirmary of Edinburgh, and by Dr Robin Weir, consultant physician, cardiology and general medicine, Hairmyres Hospital; and on behalf of the defenders by Dr Peter Bloomfield, retired consultant cardiologist. All were eminently well qualified to express expert opinion on the matters with regard to which they gave evidence. Dr Flapan and Dr Bloomfield provided explanations of medical terms central to the circumstances of this case. I have drawn on both in producing the brief glossary in the appendix to this opinion. In addition an expert report by Dr John Reid, a consultant radiologist, was agreed to constitute his evidence without the need for personal attendance.

[5] Reference is made from time to time in this opinion to Mr McCulloch's "EWS". This was explained by Dr Flapan as follows: In Scotland there is a standardised observation chart which is used to record measurements or observations of the following clinical parameters: oxygen saturation, temperature, pulse and blood pressure. A score, called the Early Warning Score (EWS) can be calculated for the clinical status of the patient using these parameters. A rising EWS suggests a deteriorating patient; a falling EWS suggests an improving patient. A score of 0 is a patient who is well. Recommendations set out on the EWS chart itself indicate that if the EWS is 0-1 then routine observations are all that is required. An EWS of 2-3 should lead to the nurse in charge being informed, and an EWS of 4 or above should lead to hourly observations and urgent further assessment.

Mr McCulloch's medical history, 23 March to 7 April 2012

[6] The following account is based primarily upon the narrative in the first expert report of Dr Flapan. I have abbreviated it to some extent but also supplemented it where appropriate with material from the medical records and from the first expert report of Dr Bloomfield. I have preferred to use Dr Flapan's report as my principal source for two reasons: firstly, it appears that when Dr Bloomfield prepared his first report he may not have had a complete set of medical records and, secondly, because Dr Bloomfield made use of material not produced at the proof, as discussed below.

[7] Prior to 2012, Mr McCulloch had suffered from stress. During the period between 2010 and 2012, he had lost weight and suffered from nausea with vomiting. Investigations had not identified a clear cause. There was a prior history for migraine.

First admission

[8] On 23 March 2012, Mr McCulloch became acutely unwell with severe pleuritic chest pains worse with inspiration and worsening nausea and vomiting. He attended the Emergency Department of FVRH at 20.10. Although it is no longer part of the pursuers' case that any negligent act or omission occurred during Mr McCulloch's first admission, the diagnoses made and treatment administered during that admission are relevant to assessment of the pursuers' claim that negligence occurred during his second admission.

[9] On arrival at FVRH, Mr McCulloch gave a short history of pleuritic chest pain and breathlessness on a background of worsening vomiting, weight loss and lethargy. He was noted to be peripherally shut down, pale and pyrexial. His temperature was 38.3 degrees, blood pressure was 82/44 and pulse 92 beats/minute regular. The respiratory rate was 20. He was reported to look unwell. He also complained of some abdominal pain.

[10] At 22.00 Mr McCulloch was seen by a doctor with a specialty in acute medicine; a similar history was taken. A history of weight loss was noted and also that he had been vomiting once a day for a year and had had a period of quite bad vomiting a week ago, thought to be due to a viral infection. On examination his temperature was 39 degrees, heart rate 120, respiratory rate 30 and blood pressure 90/50. His jugular venous pressure was normal and the heart sounds were normal.

[11] Initial investigations included an electrocardiogram (ECG) which showed a sinus tachycardia at 100 beats/minute. There were ECG abnormalities compatible with the diagnosis of pericarditis. A chest x-ray was also abnormal with fluid in the fissure, and blunting of the shadows over the left hemidiaphragm. Treatment with fluids and antibiotics was started to treat sepsis. There was a surgical review at 22.15, and then a CT scan which reported changes compatible with an atypical pneumonia. Other changes reported were the presence of a pericardial effusion, fluid in the abdomen and around the hepatic portal system. The mediastinal tissues were thought to be thickened.

[12] Mr McCulloch continued to deteriorate and was seen at 23.00 by Dr Howie, a consultant anaesthetist. By now he had a tachypnoea (respiratory rate 40 breaths/minute) and could no longer maintain a normal saturation (95% or more) on supplemental high flow oxygen. Dr Howie noted her impression as "? atypical pneumonia +/- pericarditis +/- intra-abdominal issue +/- vasculitis +/- immuno-compromised". Her plan was for assessment by the intensive treatment unit (ITU) team for intubation and ventilation and to add additional antibiotics to those already being given. She noted "Echo would be useful ++".

[13] At 01.30 on 24 March, a member of the ITU team noted that Mr McCulloch was intubated and ventilated. He required inotropic support for the circulation with

metaraminol. The working diagnosis was ARDS (adult/acute respiratory distress syndrome) due to infection.

[14] At 02.30, Dr Howie had a meeting with Mr McCulloch's wife and brother-in-law, and a history of vomiting ("? cause") and recent weight loss was noted. Dr Howie recorded: "I have discussed the serious nature of Mr McCulloch's condition and the dramatic decline over the last few hours. That at present we are doing all we can – antibiotics, fluids, ionotropes, but that he is continuing to worsen and we are not 100% sure why."

[15] At 04.20 on 24 March, Mr McCulloch was reviewed in ITU by Dr Longmate, whose contemporaneous notes include the observations "uncertain diagnosis" and "working diagnosis ΔΔ: sepsis; pneumonia; could pericardial constriction be cause?" Following changes in drug therapy, cardiac output increased from 4.1-5 litres/minute to just over 7 litres/minute.

[16] Mr McCulloch was then seen at 05.00 by Dr Fraser Wood, the consultant physician on call (who gave evidence at the proof). An echocardiogram was instructed. Dr Wood subsequently reviewed the radiological examinations with the consultant radiologist. It was felt that changes in the lung field that appeared and then resolved may have been due to pulmonary oedema. At 11.35 Dr Wood noted "Some of the abnormalities [ie in the lung field] could represent fluid overload".

[17] The sonographer's report of the echocardiogram on 24 March concluded: "Moderate pericardial effusion, predominantly at the right ventricle/right atrial wall… Pericardial wall thickness 4 mm".

[18] In the course of 24 March, Dr Wood investigated the possibility of transferring Mr McCulloch to Glasgow Royal Infirmary. The reason for this was to facilitate pericardiocentesis if this was found to be required, there being limited ability at FVRH to

intervene in the event of deterioration. At 18.00 Mr McCulloch was seen by Dr Hawkins, a consultant in intensive care. Dr Hawkins' note "written in retrospect" covering 24 March records "diagnostic uncertainty" after a "difficult situation overnight". A chest x-ray showed much improvement, and the radiological report of a CT scan suggested that "much could be result of fluid". Dr Hawkins further noted a marked pulse pressure variation "in keeping with some tamponade". However, given the improvement he had noted, and, in the light of the small size of the pericardial effusion, a decision was made at 18.00 not to transfer Mr McCulloch to Glasgow.

[19] On 25 March, Dr Wood saw Mr McCulloch again at 09.45 and noted various overnight improvements. Among the investigations he instructed were a cardiology review and a repeat echocardiogram. At 11.50, Dr Longmate noted "Huge improvement since yesterday". The working diagnosis was now stated as "pericarditis with chronic ill-defined ill health".

[20] On 26 March, Mr McCulloch was seen for the first time by Dr Labinjoh. Her note, which did not record the time of her visit, stated:

> "This man's presentation does not fit with a diagnosis of pericarditis. He has been unwell with weight loss for months and presents with vomiting, abdo pain, fever and hypotension, pleuritic chest pain. Anaemic on admission at 97. CRP 40. His JVP [ie jugular venous pulse] was not elevated making significant pericardial constriction very unlikely.
>
> I will discuss with Dr Woods [*sic*] who was exploring immunocompromise, malignancy. Care to continue under general medicine. I'll review echo."

Dr Labinjoh recalled the visit as having taken place during the afternoon.

[21] The second echocardiogram was carried out on 26 March. By this time Mr McCulloch was no longer intubated and ventilated. The sonographer reported:

"Pericardial effusion small (reduced in size from 2 days ago). Normal ventricle size, normal right ventricular free wall motion and no invagination detected at right atrial free wall".

[22] During the next few days, Mr McCulloch's condition continued to improve. On 30 March he was discharged home to continue with antibiotics, and to be seen by Dr Wood in four weeks' time, with a repeat echocardiogram and chest x-ray to be arranged in advance of that consultation.

Second admission

[23] On 1 April 2012, at 22.22, Mr McCulloch was re-admitted to FVRH with a complaint of central pleuritic chest pain, similar to the previous admission. The admission observations recorded that he was pale in colour, hypotensive with a tachycardia. The respiratory rate was 20, temperature 38.2 degrees, heart rate 115, and blood pressure 97/57. Oxygen saturation was 95% on room air. His jugular pressure was not elevated. There were some crepitations in the chest and the heart sounds were recorded as muffled. His EWS was calculated at 4. He was given intravenous fluids and antibiotics and admitted under the care of the medical team.

[24] At 04.05 on 2 April, Mr McCulloch was reviewed by Dr Cannon, a doctor from acute medicine, who noted that the presentation was similar to the previous week and expressed concern that the fluid (ie the effusion) was re-accumulating. The chest pain was not relieved by sitting forward. Dr Cannon noted an impression of ongoing lower respiratory tract infection with pleuritic chest pain, but wished to exclude a worsening pericardial effusion. The plan was to continue antibiotics and liaise with microbiology, and to measure the inflammatory markers.

[25] Later on 2 April, Mr McCulloch was transferred from A&E to the acute admissions unit ("AAU"), where he was seen by Dr Thetford. It was noted that he was pyrexial and blood pressure was 100/60. The liver enzymes were described as raised. Dr Thetford's impression was noted as "somewhat atypical Hx; presumed recent episode of; ? viral myo pericarditis; ? other eg atypical pneumonia". A repeat echocardiogram was instructed. On further examination at 11.30 the following day (3 April), a note of an examination recorded *inter alia* raised liver enzymes. The venous pressure was not considered to be raised. There was also a note to "chase echo".

[26] The echocardiogram, Mr McCulloch's third, was in fact carried out on 2 April. It was described as being a "focused study on assessment of pericardial effusion". The conclusion of the sonographer was "approx. 1.5 cm pericardial effusion seen at right heart with a degree of collapse at the freewall in late diastole. No inflow respiratory variation".

[27] On 3 April, a summary by Dr Hussey of all investigations since Mr McCulloch's last admission noted that all blood and urine cultures were negative. Virological tests, HIV test and legionella and mycoplasma antibodies were all negative. The rheumatoid factor was weakly positive. Dr Hussey then noted a discussion with the cardiology registrar on call (in fact Dr Labinjoh) regarding the echocardiogram. The sonographer's conclusions regarding the effusion and collapse in diastole were noted. The cardiologist was to "review images and get back to me today/tomorrow".

[28] Dr Labinjoh reviewed the echocardiogram on 3 April. Having carried out her review, she went to see Mr McCulloch in the AAU. As it is the acts or omissions of Dr Labinjoh on 3 April which form the basis of the pursuers' case against the defenders, I discuss the details of her review and visit in more detail below. After seeing Mr McCulloch she made the following (again untimed) note:

> "I note echo, essentially unchanged. No convincing features of tamponade or pericardial constriction.
>
> On examination
> tachycardia BP ~ 80 systolic
> no palpable paradox
> no oedema
> JVP low RR = 20
>
> - all of which go against pericardial constriction. The effusion is rather small to justify the risk of aspiration v possible diagnostic utility.
>
> I am not certain where to go for a diagnosis from here. Happy to liaise. Please keep us informed."

[29] Mr McCulloch was next seen by Dr Burnham on 4 April who noted that Mr McCulloch was lethargic and still vomiting and commented "Note cardiology review – thanks". Among other observations were "should exclude oesophageal rupture" and "JVP not visible – no HT reflex, JVP not fixed".

[30] No further ECG or echocardiogram recordings were made. On 5 April Mr McCulloch attended for a CT scan which showed a persisting small pericardial effusion. The C reactive protein was recorded as raised, indicating ongoing inflammation.

[31] On 6 April, Mr McCulloch was seen by ST2 Dr Fuller, who noted previous reviews and observed "we will clarify with cardiology if they want to follow patient up". The plan, subject to that clarification, was for discharge. It is noted that Mr McCulloch's wife, the first pursuer, was not happy for him to be discharged, and a discussion took place between Dr Fuller and Mr and Mrs McCulloch. Dr Fuller advised them that the CT scan showed that the pleural effusion had resolved. The note continues:

> "Reassured improving signs. Has follow-up with Dr Wood. Discussed with cardiology – happy for Dr Wood to follow up and be informed of any issues. Needs nutrition – likely to get this at home better than here. Extensively lx. We are not adding anything to management in hospital."

[32] The "discussion with cardiology" noted by Dr Fuller took the form of a brief telephone call on 6 April to Dr Labinjoh who, at the time of the call, was scrubbed up and about to operate in cardiac theatre in the Royal Infirmary of Edinburgh. She was accordingly unable to review the patient or give advice. When asked whether she agreed with the proposed discharge, she stated that that decision should be made by the responsible consultant with whom she was happy to liaise. She was informed of the plan for follow up with Dr Wood and indicated that she saw no need for a separate appointment with cardiology to be arranged at that time. She did not recall being informed either of any ongoing symptoms or that discharge was to take place the same day. No criticism is now directed by the pursuers against Dr Labinjoh in relation to anything said or done by her on 6 April.

[33] Mr McCulloch was discharged from hospital during the evening of 6 April. As noted by Dr Fuller, Mrs McCulloch was very unhappy about this. She described Mr McCulloch as very unwell, having to lean on her to walk. He complained of chest pain and a severe sore throat. She was told that he was not ill enough to be in hospital, and that his condition would improve once he was home and eating properly. He had to be taken out of the hospital in a wheelchair and helped into the car. He struggled to climb the steps to his house. She heard him retching and being sick during the night. I accept Mrs McCulloch's description of her husband's condition at the time of and after his discharge from hospital as credible and reliable.

Third admission

[34] The following day, 7 April, at about 14.00, Mr McCulloch suffered a cardiac arrest at home. An ambulance was called and the paramedics found him to have no cardiac rhythm.

He was taken to FVRH and there was a prolonged period of resuscitation in the Emergency Department. This was unsuccessful and was discontinued at 16.46. He died in the emergency room.

Dr Labinjoh's review, examination and conclusions on 3 April 2012

[35] Dr Labinjoh is a highly experienced cardiologist who has held the post of consultant cardiologist NHS Forth Valley for 13 years and has been clinical lead for cardiology NHS Forth Valley for eight years. She held those posts in April 2012.

[36] Dr Labinjoh explained that in FVRH in 2012, the cardiology unit provided specialist advice to other departments on request: these usually came from the combined assessment unit or the AAU. On 3 April, she received a telephone call from Dr Hussey asking for advice on interpretation of Mr McCulloch's third echocardiogram, which had been authorised by Dr Labinjoh and performed the previous day. The request for review was not stated to be urgent. At the time of her review and subsequent examination of Mr McCulloch, Dr Labinjoh was unaware that he had been discharged and readmitted: this was not mentioned to her when her advice was sought. Nor did she notice it in his medical records which appeared to be continuous. Dr Labinjoh emphasised that she was not asked to review the patient, but merely to assist with interpretation of the echocardiogram.

[37] It is convenient to describe here the manner in which echocardiographic information is obtained and recorded. An echocardiogram is an ultrasound examination of the heart and the immediately surrounding structures. The process is used to identify cavities such as the pericardium which may be fluid filled. Sound waves which leave a transducer placed on the chest return at different velocities and depths, and are then assimilated into a moving image on a screen. The device is moved across the patient in order to obtain views of the

chest area from different angles. There are standard positions from which views will be taken; one of these is the sub-costal view, when the device is placed at the upper abdomen and angled upwards. The sonographer operating the device will make a series of video recordings, each covering a period of about 2-3 heartbeats, with the device in the various standard positions. He/she may additionally record any feature identified as being of potential interest. The video recordings are available for subsequent review by the cardiologist. The sonographer produces a written report for the patient's records.

[38] Dr Labinjoh reviewed the video images that had been recorded by the sonographer the previous day. She did not recall having the sonographer's written report before her at the time of her review, but agreed that she had been advised of its terms by Dr Hussey. She noted that this had not been a full echocardiogram but rather a short focused study to look for the presence of a pericardial effusion. When she looked at the echocardiographic images she did not regard them as differing from the first two echocardiograms in a way that gave cause for concern. The first had been taken while Mr McCulloch was intubated and the second while he was still in the intensive treatment unit. One would therefore expect the pericardial fluid to look different. Her view was that what was important was whether any enlargement of the effusion was creating pressure on the heart. The sonographer's report mentioned a degree of collapse but did not specify which chamber, so Dr Labinjoh looked for that herself. She found a small degree of collapse of the right atrium which was of short duration. She did not recall seeing this in previous studies, but it was not a meaningful feature in the absence of other features to suggest compromise or cardiac tamponade. She found no such features. An examination of the right ventricle in all available views suggested an absence of compromise, as did absence of distension of the inferior vena cava.

[39] Dr Labinjoh nevertheless decided that it was appropriate to visit Mr McCulloch in the AAU to assess whether his clinical presentation was consistent with her interpretation of the echocardiogram. She observed him to be active around the ward; when she arrived he had just taken a shower. He looked much better than when she had seen him on 26 March. In response to specific questioning, he denied having any chest pain, palpitations, breathlessness on exertion or breathlessness lying flat. He did not wake from sleep with breathlessness and had no ankle swelling. He did not have dizziness on getting out of bed or standing up, and had had no blackouts, fevers or sweats. He made eye contact and engaged in conversation. She did not consider it necessary to include a complete history in her written note because this was not a review. She considered that his presentation was consistent with her interpretation of the echocardiogram as not giving cause for concern.

[40] Dr Labinjoh also emphasised that she was not at any time the consultant with overall responsibility for Mr McCulloch's care. Her understanding (which did not take account of Mr McCulloch's discharge and re-admission) was that the management plan agreed with Dr Wood was still in place. From the point of view of cardiology, she saw no reason to alter that. She saw no need to prescribe any medical treatment, and did not do so. In particular, she did not regard it as necessary or appropriate to prescribe any non-steroidal anti-inflammatory drug ("NSAID"), because he was not in pain. She accepted that if he had complained of pain, she would probably have prescribed a NSAID such as ibuprofen, in the absence of any contra-indication. She did not regard it as necessary to instruct another echocardiogram because a management plan providing for an echocardiogram was already in place. It was not common practice in 2012 to prescribe colchicine, another anti-inflammatory drug, and for that reason she did not do so. In any event having regard to Mr McCulloch's dehydration and the recent diagnosis of sepsis, it would have been very

unwise. Pericardiocentesis would not have been an appropriate course of action for the reasons stated in her note (above). If she had been aware on 3 April that Mr McCulloch had been discharged and re-admitted, it would have made no difference as that would not have altered either the echocardiogram or his presentation when she visited him in the AAU.

[41] It is appropriate to note here that in her affidavit Mrs McCulloch gave a rather different description of Mr McCulloch's condition on 3 April. She described him as very poorly, nauseous and unable to eat, complaining of a sore throat and chest pain. Mrs McCulloch's account receives some support from an entry in the medical records by Dr Hussey at 11.30 am on 3 April noting that Mr McCulloch complained of "nausea and vomiting ++" and that he was not eating/drinking adequately. There is, however, nothing in the medical records to support the description "very poorly" or any complaint of pain. On 2 April at 12.05pm there is a nursing entry recording "Nil further chest pain" and "EWS 1". Dr Hussey's entry refers to a complaint of right flank pain but makes no mention of any other pain. The EWS on 3 April was still 1, and there was a tick on the EWS chart for "no pain". Later on 3 April, Mr McCulloch is recorded by the nursing staff as objecting to a decision to transfer him to another ward as he was starting to feel better. In the absence of contemporaneous supporting material, I am unable to treat Mrs McCulloch's evidence as a reliable basis upon which to find that Dr Labinjoh erred in finding Mr McCulloch to be much improved from when she saw him previously, or that he made any complaint to her of chest pain.

Expert evidence

[42] In the following paragraphs I summarise the expert evidence thematically, setting

out in turn the evidence of the three independent expert cardiology witnesses regarding the following matters:

- whether Dr Labinjoh ought to have prescribed colchicine;
- whether Dr Labinjoh ought to have prescribed a NSAID;
- whether Dr Labinjoh ought to have instructed a repeat echocardiogram prior to discharge;
- whether the taking of appropriate measures would have prevented Mr McCulloch's death on 7 April.

[43] I have not included in the following summary the opinions of the expert witnesses as to whether Dr Labinjoh ought to have performed or arranged the performance of a pericardiocentesis. The three expert witnesses were in agreement that due to the small size of the pericardial effusion on 3 April, pericardiocentesis would have been a challenging and risky course of action. Drs Weir and Bloomfield did not regard it as indicated. Dr Flapan accepted in his oral evidence that treatment with NSAIDs was a better course, with pericardiocentesis being retained as an option if Mr McCulloch's condition deteriorated. In the light of the expert evidence I find no basis for a contention that pericardiocentesis was a course of action that ought, in the exercise of ordinary skill and care, to have been pursued on 3 April by Dr Labinjoh (who had previous experience of carrying out such operations), or indeed that it was a reasonable treatment option that she ought to have discussed with Mr McCulloch. I accordingly find that in so far as the pursuers' case on record asserts that Dr Labinjoh had a duty to discuss the option of pericardiocentesis with Mr McCulloch, and that if she had performed pericardiocentesis he would not have died, that case has not been made out.

(i) Prescription of colchicine

Dr Flapan

[44] In Dr Flapan's opinion, if Dr Labinjoh had decided not to perform pericardiocentesis, she should have started Mr McCulloch with both NSAIDs and colchicine, and made a plan to review him. The 2004 ESC Guidelines recommended the use of colchicine. Side effects could be minimised by prescribing a low dosage.

[45] Dr Flapan accepted that colchicine should be used with caution in patients with hepatic impairment. It was not however the case that colchicine was contra-indicated for Mr McCulloch. His liver function only became abnormal as a result of over-transfusion of fluid following upon his first admission. It was highly likely that his psychogenic vomiting might not have been affected by colchicine. A competent cardiologist would have identified abnormal transaminases as probably being due to hepatic congestion, and discussed the risks and benefits of colchicine with the patient. He could not be certain that every cardiologist would have prescribed colchicine.

Dr Weir

[46] Dr Weir's own practice was to prescribe both NSAIDs and colchicine from the outset. Studies had shown a reduced risk of recurrence if colchicine was used.

Dr Bloomfield

[47] In Dr Bloomfield's view, it would not have been good practice to prescribe colchicine to Mr McCulloch. It could have deleterious effects on the liver. Mr McCulloch's transaminases were much higher than normal. In a 2011 trial, it was noted that colchicine had a potentially serious drug-drug interaction with clarithromycin, which Mr McCulloch was receiving as part of his antibiotic treatment. Gastrointestinal intolerance was the most

frequent side effect in the 2011 trial, affecting 8% of those taking colchicine. Abdominal pain, nausea and vomiting were listed in the British National Formulary as common or very common side effects. Persistent nausea and vomiting were among Mr McCulloch's symptoms.

[48] It was not standard practice in 2012 to prescribe colchicine, although it has become more common since then. The 2011 review did not reveal any statistically significant benefit from prescription of colchicine on mortality or the occurrence of tamponade. It would not have been a reasonable treatment option for Dr Labinjoh to discuss with Mr McCulloch.

(ii) Prescription of NSAIDs

Dr Flapan

[49] Dr Flapan observed that non-steroidal anti-inflammatory drugs were regarded as the first line of treatment for acute idiopathic or viral pericarditis in every major textbook and publication in around 2000-2012. All ordinarily competent cardiologists would be aware of this. Guidelines produced in 2004 by the European Society of Cardiology ("ESC") on the Diagnosis and Management of Pericardial Diseases noted that NSAIDs were the mainstay treatment for acute pericarditis, and recommended their prescription until the pericardial effusion was resolved. Clinical experience confirmed that NSAIDs were effective in reducing an effusion because they reduced the inflammation that was causing it. It was not unusual for drugs to be prescribed on the basis of clinical practice based on experience, in the absence of randomised control tests ("RCTs").

[50] There were two reasons to prescribe a drug: to treat symptoms and to treat the underlying illness. NSAIDs reduced symptoms of pericarditis and probably improved outcomes. They were the standard drug treatment. In Dr Flapan's experience, all

cardiologists prescribed NSAIDs in the treatment of pericarditis, and not solely to relieve pain. If, following their prescription a repeat echocardiogram showed improvement, that would be very reassuring. In Mr McCulloch's case, the physical signs (tachycardia and low blood pressure), taken together with the echocardiogram findings, suggested that he was ill and required some form of treatment. If there was concern about the effect of an NSAID on his liver function, this could be monitored and gastric protection prescribed. In any event by 3 April his liver function had returned to normal; he was managing antibiotics without diarrhoea or vomiting.

Dr Weir

[51] Dr Weir would, on balance, have prescribed anti-inflammatory medication during Mr McCulloch's second admission. He accepted, however, that if no pain was reported and there were other issues such as suspected respiratory infection, there could be variations in practice regarding prescription of NSAIDs. The clinical assessment would dictate the patient's management. If there was nothing to indicate pericarditis there was nothing to be gained from prescription of anti-inflammatories.

Dr Bloomfield

[52] Dr Bloomfield accepted that use of NSAIDs was recommended in all text books as the first line of treatment, on the basis of clinical experience that patients got better following their prescription. But clinical experience also showed that many patients recovered from pericarditis spontaneously, and there was no evidence, based on scientific study, that NSAIDs caused patients to get better. Treatment was not always needed. Neither the 2004 ESC Guidelines nor their 2015 successor indicated that NSAIDs reduced the incidence of tamponade or the risk of death from pericarditis.

[53] The reason to prescribe NSAIDs was to relieve pain. That was Dr Bloomfield's practice. If a patient was not in pain, no criticism could be made of a decision not to start NSAIDs. NSAIDs have gastro-intestinal side effects. Aspirin can reduce such side effects but not eliminate them altogether.

[54] In Mr McCulloch's case, NSAIDs were contra-indicated. He did not complain of pain. His history of recurrent vomiting, weight loss and other gastro-intestinal symptoms suggested that NSAIDs would be unhelpful. He was more ill than a patient with acute pericarditis. Factors explaining the presence of the pericardial effusion (sepsis, pneumonia) had been identified. In these circumstances there was no evidence that NSAIDs would alter the natural history of the effusion. He did not accept that if Dr Labinjoh had assessed the full picture in the round, she had a duty to prescribe NSAIDs in the absence of a complaint of pain.

(iii) Instruction of further echocardiogram before discharge

Dr Flapan

[55] In Dr Flapan's opinion, Dr Labinjoh should have commenced treatment and also requested a further echocardiogram before Mr McCulloch was discharged, because his symptoms had returned. The purpose of the repeat echocardiogram was to confirm whether the treatment was working and the patient getting better. Mr McCulloch had been in intensive care, had improved and then got worse again, showing an abnormality of the right atrium. In these circumstances he would wish to know if the patient was getting better or worse before he was discharged. He did not think there would be any variation in practice.

Dr Weir

[56] Dr Weir considered that there were sufficiently significant concerns raised by the

third echocardiogram that a further echocardiogram should have been performed prior to discharge, to ensure that the pericardial effusion was not getting bigger. It could not be assumed that the effusion would reduce, especially as it had already reduced and then increased again. He thought the vast majority of cardiologists would instruct a repeat echocardiogram. A repeat in a few weeks' time would be acceptable if the patient was clinically stable; however, having seen the increase in the effusion he would repeat the echocardiogram even if the patient was clinically stable.

Dr Bloomfield

[57] Dr Bloomfield disagreed with Dr Weir's interpretation that there had been a significant increase in the size of the pericardial effusion or that there were early signs of compromise of right sided cardiac chambers, necessitating a repeat echocardiogram prior to discharge. There was a small increase in the size of the effusion since 26 March in the subcostal view, where pooling can occur as a result of gravity, but overall no important difference in its size. The CT scan showed that a pleural effusion present on 28 March had resolved: an indication of clinical improvement. It was reasonable to discharge Mr McCulloch on antibiotics, with a follow up plan in place for a repeat echocardiogram and clinical review.

[58] Dr Labinjoh was not the consultant responsible for Mr McCulloch's care, and was not planning his treatment. She saw him and noted that he was better than before. In these circumstances she had no duty to require a further echocardiogram to be arranged prior to discharge; liaison with the team in charge of Mr McCulloch's management was sufficient. If he had appeared to be unwell, it would have made sense to arrange a repeat echocardiogram. But if the patient was well, there was no need for one.

Causation – would Mr McCulloch's death have been prevented?

Dr Flapan

[59] Dr Flapan's view, on balance of probabilities, was that treatment with anti-inflammatory drugs, colchicine and bed rest, as outlined in the ESC Guidelines, would have prevented the cardiac arrest that led to Mr McCulloch's death. NSAIDs would have reduced the inflammation of the pericardium, leading to a smaller effusion and a resolution of his condition.

Dr Weir

[60] Dr Weir was not asked about this matter.

Dr Bloomfield

[61] Dr Bloomfield's view was that Mr McCulloch's chances of survival would not have been improved if he had been prescribed NSAIDs and/or colchicine on 3 April. On balance of probabilities it would have made no difference at all. If he had been kept in hospital for an echocardiogram, it is likely that this would have been arranged for Monday 9 April. Cardiac arrest occurred on 7 April and even in hospital he may not have survived it. With hindsight it was unfortunate that he was not seen by a cardiologist on 6 April prior to his discharge.

The legal test

[62] As is apparent from the foregoing summary, this is a case in which the court is faced with two opposing schools of thought among experts in the field. The legal principles applicable in that situation are not in doubt, although their application to the circumstances

of the present case is clearly a matter of dispute. The starting point is *Hunter* v *Hanley* 1955 SC 200, in which Lord President Clyde observed at page 206:

> "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."

[63] Where, as in the present case, the court hears conflicting evidence as to whether or not the course adopted by a doctor was in accordance with a usual and normal practice, the first point to bear in mind is the warning by Lord Scarman in *Maynard* v *West Midlands Regional Health Authority* [1984] 1 WLR 634 at 639:

> "…A judge's 'preference' for one body of distinguished professional opinion to another also professionally distinguished is not sufficient to establish negligence in a practitioner whose actions have received the seal of approval of those whose opinions, truthfully expressed, honestly held, were not preferred… For in the realm of diagnosis and treatment negligence is not established by preferring one respectable body of professional opinion to another."

[64] This does not mean that a pursuer can never succeed if the defender leads evidence from an expert in the relevant field who is of the opinion that the doctor was not negligent. That is made clear by the decision of the House of Lords in *Bolitho* v *City and Hackney Health Authority* [1998] AC 232, in which Lord Browne-Wilkinson observed at 241-42:

> "…The court is not bound to hold that a defendant doctor escapes liability for negligent treatment or diagnosis just because he leads evidence from a number of medical experts who are genuinely of opinion that the defendant's treatment or diagnosis accorded with sound medical practice. In [*Bolam* v *Friern Hospital Management Committee* [1957] 1 WLR 582, 587], McNair J stated that the defendant had to have acted in accordance with the practice accepted as proper by a '*responsible* body of medical men'. Later, at page 588, he referred to 'a standard of practice recognised as proper by a competent *reasonable* body of opinion'. Again, in the passage which I have cited from [*Maynard*, above], Lord Scarman refers to a 'respectable' body of professional opinion. The use of these adjectives – responsible, reasonable and respectable – all show that the court has to be satisfied that the exponents of the body of opinion relied upon can demonstrate that such opinion has

> a logical basis. In particular in cases involving, as they so often do, the weighing of risks against benefits, the judge before accepting a body of opinion as being responsible, reasonable or respectable, will need to be satisfied that, in forming their views, the experts have directed their minds to the question of comparative risks and benefits and have reached a defensible conclusion on the matter."

Having referred to two cases in which a practice supported by professional opinion was held not to be reasonable or responsible, Lord Browne-Wilkinson continued (page 243):

> "These decisions demonstrate that in cases of diagnosis and treatment there are cases where, despite a body of professional opinion sanctioning the defendant's conduct, the defendant can properly be held liable for negligence (I am not here considering questions of disclosure of risk). In my judgment that is because, in some cases, it cannot be demonstrated to the judge's satisfaction that the body of opinion relied upon is reasonable or responsible. In the vast majority of cases the fact that distinguished experts in the field are of a particular opinion will demonstrate the reasonableness of that opinion. In particular, where there are questions of assessment of the relative risks and benefits of adopting a particular medical practice, a reasonable view necessarily presupposes that the relative risks and benefits have been weighed by the experts in forming their opinions. But if, in a rare case, it can be demonstrated that the professional opinion is not capable of withstanding logical analysis, the judge is entitled to hold that the body of opinion is not reasonable or responsible.
>
> I emphasise that in my view it will very seldom be right for a judge to reach the conclusion that views genuinely held by a competent medical expert are unreasonable. The assessment of medical risks and benefits is a matter of clinical judgment which a judge would not normally be able to make without expert evidence. As the quotation from Lord Scarman makes clear, it would be wrong to allow such assessment to deteriorate into seeking to persuade the judge to prefer one of two views both of which are capable of being logically supported. It is only where a judge can be satisfied that the body of expert opinion cannot be logically supported at all that such opinion will not provide the benchmark by reference to which the defendant's conduct falls to be assessed."

[65] Lord Browne-Wilkinson's observations have been applied consistently by the Scottish courts: see eg *Honisz* v *Lothian Health Board* 2008 SC 235, *Dineley* v *Lothian Health Board* [2007] CSOH 154 (both decisions of Lord Hodge), and *MacLeod's Legal Representatives* v *Highland Health Board* 2016 SC 647 (a decision of an Extra Division). In England and Wales, it has been emphasised by the Court of Appeal (see *Marriott* v *West Midlands Health Authority*

[1999] Lloyds Rep Med 23 at 27) that it is not open to a judge simply to prefer the expert evidence of one body of competent professional opinion over that of another where there is a conflict between the expert witnesses.

[66] In the present case, the court is faced with conflicting expert evidence as to the usual and normal practice that ought to have been adopted by Dr Labinjoh on 3 April 2012 following her review of the third echocardiogram and her visit to assess Mr McCulloch's clinical presentation. The *Bolitho* test must accordingly be applied. It is not open to me simply to prefer one or other body of expert evidence. If the opinion of Dr Bloomfield that Dr Labinjoh adhered to a usual and normal practice is to be rejected, I require to be satisfied that that opinion is not reasonable and cannot logically be supported.

Argument for the pursuers

The case against Dr Labinjoh

[67] The pursuers' case against Dr Labinjoh, formulated in the light of evidence led at the proof, is as follows:

- Dr Labinjoh should have been aware:
    - that Mr McCulloch was presenting with hypotension and a tachycardia;
    - that he had been re-admitted to hospital with chest pain described as pleuritic which he said was the same as previously. This was recorded in notes that Dr Labinjoh had access to, and she could have asked him;
    - that where a patient re-presents with pericarditis and a pericardial effusion this is not straightforward; all the more so given his admission days earlier in March;
    - that should an acute pericardial effusion continue to increase in size this can cause tamponade and death;

  - that Mr McCulloch felt that the effusion was increasing in size, as this is recorded in his notes and he could have advised her of this;
  - that no cause had been identified for the pericarditis and the pericardial effusion in all the investigations performed;
  - that there was no diagnosis of sepsis from the records in the second admission;
  - that to form a proper management plan for Mr McCulloch's pericarditis and pericardial effusion or discount it, she needed to
    - take a proper history from both Mr McCulloch and the clinical notes;
    - look at the electrocardiograms;
    - look at the EWS chart;
    - look at any test results.
- It was Dr Labinjoh's duty to obtain a history of the presenting complaint and not to base her diagnosis and management plan on how she saw Mr McCulloch at the time. In making decisions about his management, she gave undue weight to the fact she thought he looked well. Had she considered the full picture including the EWS chart she would have appreciated that he was unwell. She should not have made a decision on whether to commence NSAIDs in this case based on the fact that he told her he had no pain at the time when she saw him.
- Dr Labinjoh recognised changes in the echocardiogram but did not respond appropriately to what she saw. She failed appropriately to consider the trend of the echocardiograms. No ordinarily competent cardiologist would have recorded that the third echocardiogram was essentially unchanged from the second one.
- Dr Labinjoh failed to provide a management plan to those treating Mr McCulloch who were not experts in cardiology and, despite saying she was going to discuss the case with the physicians, she did not do so. The management plan should have included commencement of NSAID drugs and colchicine, and review of his response to treatment.
- Dr Labinjoh should also have arranged a repeat echocardiogram prior to discharge to re-assess the size of the effusion, to ensure that it was reducing and not causing compression. This should have been done even if she had commenced NSAIDs and

was particularly required if she did not. No competent cardiologist would consider, given the trend in Mr McCulloch's case, that the pericarditis and this effusion would simply reduce. There was no reason that the echocardiogram could not be repeated, other than that she decided it was not necessary.

- Dr Labinjoh did not discuss the prescription of NSAIDs with Mr McCulloch. That was a failure in care in terms of the GMC Guidance. The decision was not one for her to make.

Supporting evidence

[68] In support of the foregoing case, the pursuers relied on the following evidence. No definitive diagnosis was made during the first admission, and no cause was found for the pericarditis and pericardial effusion. The blood results during this admission did not demonstrate a significant infective process as an explanation for the pericarditis. After Mr McCulloch re-presented as an emergency, the diagnosis was still uncertain. He did not present with sepsis.

[69] As regards interpretation of the three echocardiograms, the evidence of Dr Weir, with which Dr Flapan agreed, should be preferred. What mattered was the trend, which was of improvement between the first and second echocardiograms, but deterioration as between the second and third. The salient feature, as Dr Weir recorded, was that the degree of fluid surrounding the right atrium and the degree of right atrial collapse had increased. This was not straightforward pericarditis and, according to Dr Weir, the only way to monitor its progression was by serial echocardiograms. In those circumstances the view of Dr Weir and Dr Flapan that it was Dr Labinjoh's duty to instruct a repeat echocardiogram before discharge should be accepted. The echocardiogram arranged for Mr McCulloch as an out-patient had been instructed at a time when his effusion had decreased in size and his

condition was improving. The contrary view that there was no duty to repeat the echocardiogram was not logical.

[70] The EWS chart was a vital objective measurement of how well Mr McCulloch was during the second admission. Scores on the chart prior to Dr Labinjoh's visit were indicative of a patient who was not doing well, and were significantly worse than during his first admission when his condition was improving. Electrocardiograms performed during the first admission and on 1 April were consistent with pericarditis. Dr Labinjoh did not recall reviewing the ECG on 1 April.

[71] As regards prescription of NSAIDs, all of the experts agreed that these were used to treat patients with idiopathic pericarditis and pericardial effusion, ie where the cause was not identifiable. There was ample clinical experience that people got better after treatment with NSAIDs. As regards colchicine, Dr Flapan and Dr Weir both used it along with NSAIDs in 2012. Their evidence was supported by the 2004 ESC Guidance.

Dr Bloomfield's evidence

[72] The pursuers submitted that, applying the *Bolitho* test, the evidence of Dr Bloomfield that Dr Labinjoh was not negligent should be rejected, for the following reasons:

- Dr Bloomfield had not produced a full independent assessment of the case, but simply a rebuttal of the pursuers' expert reports. He had relied on statements by medical personnel which were never produced to the court, and had acceded to a request by the defenders' legal advisers to alter his report by deleting references to these. He had failed to take account of Mrs McCulloch's description of Mr McCulloch when he was discharged on 6 April. His chronology was incomplete: for example, it omitted important notes (above) by Dr Hawkins on 24 March

mentioning tamponade and by Dr Longmate on 25 March recording a working diagnosis of pericarditis, and also certain other matters during the second admission. He had had to depart from his initial report on an alternative cause of death because the records he had reviewed had been incomplete. His evidence should be rejected as not being an independent and impartial expert assessment, and as having been founded upon an incorrect or incomplete factual basis.

- Dr Bloomfield variously described the effusion on the third echocardiogram as "at most a moderate sized effusion" and as "small": an important difference. He failed to have regard to concerns recorded in the EWS chart at about the time of Dr Labinjoh's visit. He incorrectly represented what was seen on a CT scan, when compared with Dr Reid's agreed evidence. He failed to give proper weight to the post mortem findings. He failed to take account of the absence of any finding of sepsis on the second admission. There was no proper analysis of the ECG or blood results. A proper analysis of the blood results did not support Dr Bloomfield's opinion that there was pneumonia/chest infection. His analysis of liver function test results was incorrect. He took no account of the fact that steroids had been given during the first admission, resulting in an improvement when combined with diuretics for fluid overload. He had provided no reasonable explanation for why a further echocardiogram would not have been carried out until Monday 9 April. His focus was on the absence of features of tamponade rather than on changes in the right side of the heart which were part of a process leading to tamponade as an end stage.

For these reasons, it was submitted, Dr Bloomfield's opinion that Dr Labinjoh was not negligent was unreasonable and could not logically be supported. The *Bolitho* test was met.

Argument for the defenders

[73] On behalf of the defenders it was submitted that the pursuers had failed to establish either that Dr Labinjoh had been negligent or that any negligence had caused Mr McCulloch's death.

Interpretation of 2 April echocardiogram

[74] Any differences in interpretation of the echocardiogram taken on 2 April among the three expert witnesses and Dr Labinjoh could fairly be attributed to natural variations in interpretation among clinicians. The defenders' position was that this echocardiogram was not materially different from the previous one, and not concerning when the clinical picture was considered. This was not a scenario in which the effusion was increasing rapidly in size. Dr Labinjoh's contemporaneous view was supported by Dr Bloomfield, an experienced cardiologist with accreditation in interpreting echocardiograms and relevant experience. On application of the *Bolitho* test, there was no basis for rejecting Dr Bloomfield's view.

Option of treatment with colchicine

[75] Dr Bloomfield's evidence that it was not normal practice in 2012 to prescribe colchicine for first time pericarditis, and that it was contra-indicated for Mr McCulloch should be accepted. Drs Flapan and Weir had acknowledged that there was variation in practice in 2012 as regards use of colchicine as a first line treatment.

[76] Dr Flapan's reasoning in terms of both the requirement to prescribe colchicine and causation was unimpressive. He relied on the results of the 2011 CORP trial, but this trial considered recurrent pericarditis. The confidence intervals were wide and did not permit a conclusion on balance of probabilities. He omitted to note that Mr McCulloch would have

been excluded from the trial. There had been no RCT as at the date of issue of the ESC Guidelines, which in any event did not mandate the use of colchicine for a first episode of pericarditis. The reports founded upon (of the 2011 CORP trial and the earlier 2005 COPE trial) provided no statistical basis for Dr Flapan's conclusion that colchicine would have had a positive effect, let alone that it would have prevented Mr McCulloch's death. Dr Flapan also ignored the presence of contra-indications for colchicine, as detailed in Dr Bloomfield's report.

Option of treatment with NSAIDs

[77] The question whether or not NSAIDs ought to have been prescribed is linked to what their effect is known to be by an ordinarily competent cardiologist. The evidence fell short of establishing that NSAIDs will resolve a pericardial effusion and reduce the chance of death, with the only trade off being a risk of gastro-intestinal upset. Such trials as were available (the COPE and CORP trials) and founded upon by Dr Flapan did not support the proposition. There was no RCT evidence to show that treatment with NSAIDs was better than no treatment of acute pericarditis. Against that background, Dr Flapan's opinion that Dr Labinjoh ought to have prescribed a NSAID was an isolated one. Drs Weir and Bloomfield both regarded NSAIDs as indicated to relieve the pain usually created by acute pericarditis. Dr Flapan's explanation that by treating the inflammation of the pericardium the effusion was reduced was not supported by published material. In any event, Mr McCulloch's presentation was not straightforward acute pericarditis. Dr Weir's evidence demonstrated variations in practice in the situation that confronted Dr Labinjoh: a patient presenting as clinically better, with no pain. NSAIDs were not mandated in that situation.

[78] Dr Bloomfield's position was clear: if the patient had pain, NSAIDs were effective in reducing the pain. Without pain, there was no evidence of benefit and a risk of harm. Because Mr McCulloch was not complaining of pain, there was no reason to prescribe NSAIDs. It was not suggested to Dr Bloomfield that his position was illogical or unreasonable, and there was no basis, on application of the *Bolitho* test, for rejecting his evidence.

Repeat echocardiogram before discharge

[79] Although Dr Flapan and Dr Weir would have arranged a repeat echocardiogram before discharge, they both recognised that there could be variations in practice. Dr Bloomfield's position was again clear: a small to moderate effusion could persist for some time, and if the patient was well there was no need for a repeat echocardiogram. There was no basis, on application of the *Bolitho* test, to reject this evidence. In any event there was no evidence of what a repeat echocardiogram would have shown, what treatment if any would have been indicated, or whether such treatment would have avoided Mr McCulloch's death.

Decision

General observations

[80] The assessment that I must undertake is a specific one: to determine whether there were any acts or omissions of Dr Labinjoh on 3 April 2012 that were negligent when measured against the *Hunter* v *Hanley* standard, and but for which Mr McCulloch's death would not have occurred. It is not my function to attempt to reach a conclusion as to what was the correct diagnosis of Mr McCulloch's illness at the time of either his first or second admission: that would be to stray into the realm of medical expertise upon which I am not

qualified to pronounce. My task is to apply the *Bolitho* test, and to decide whether one or other of the bodies of expert opinion presented to me is not reasonable and cannot logically be supported. In approaching this task I will once again consider in turn the contentious issues of prescription of colchicine, prescription of NSAIDs, and instruction of a repeat echocardiogram before discharge. Before doing so, however, I address certain more general criticisms that were made by the parties of the expert evidence led by the other side.

[81] The defenders lodged a note of objections to parts of Dr Flapan's reports and other written evidence, on the ground that they contained criticisms for which there was no case on record. None of the passages objected to was relied upon by the pursuers and accordingly no live issue in this regard arises for determination. A further objection by the defenders to the admission of Dr Flapan's evidence based upon his professional relationship with Dr Labinjoh was not insisted upon.

[82] The defenders also criticised Dr Flapan's reliance upon the results of the COPE (2005) and CORP (2011) trials, and a further randomised trial conducted by Imazio *et al* (2013), on various grounds. First, the sample sizes were small and the confidence intervals correspondingly wide, so that no reliable conclusions could be drawn from them. Secondly, Dr Flapan sought to use the results of the trials to support propositions that had not been their object: for example to assess the value of using colchicine to treat an initial attack of acute pericarditis, or to demonstrate that NSAIDs were effective in resolving pericardial effusions. In my opinion these criticisms have some force. It is important to note that each of the trials referred to was concerned specifically with the effectiveness of colchicine in the prevention of *recurrent* pericarditis. The sample size was indeed small. Patients with potential hepatic side effects were excluded as participants. In so far as Dr Flapan sought to derive conclusions from the figures regarding the effectiveness of colchicine in resolving

acute pericarditis, or regarding the effectiveness of prescription of NSAIDs, it does not appear to me that these conclusions have a solid statistical foundation in any of the test results, and I do not attach weight to that part of his evidence.

[83] The problem that arose in relation to Dr Bloomfield's evidence was a different one. It became apparent while he was giving oral evidence that there were two slightly different versions of his initial report in circulation, both bearing the same date. What seems to have happened is that when Dr Bloomfield was instructed to prepare his report, he was provided with a set of documents which included a number of statements by the FVRH medical staff who had treated Mr McCulloch. In accordance with normal practice, he listed the documents provided at the beginning of his report. However, when he submitted his report to the defenders' solicitors he was asked, in my view improperly, to exclude the references to those statements. Unfortunately he acceded to this request, which only came to light because the earlier version of his report also remained in circulation. This had two consequences. In the first place, Dr Bloomfield's amended report, which was provided to the pursuers' agents, contained an incomplete and therefore inaccurate statement of the information relied upon by him in forming his professional expert opinion. In the second place, confusion arose from the fact that in his report Dr Bloomfield quoted a passage from one of the statements, which had been provided by Dr Longmate. At first sight this looked like a quotation from Mr McCulloch's medical records but of course it could not be found there.

[84] In my view this was an entirely inappropriate course of action for the defenders' solicitors and, I have to say, for Dr Bloomfield to have taken. No doubt if the pursuers had sought disclosure of the statements, questions might have arisen as to whether they fell within the scope of legal privilege as communications *post litem motam*. But these are

matters which ought to have been canvassed openly, and not concealed by the attempted deletion of any reference to them in Dr Bloomfield's report. I have considered very carefully whether I should regard this matter as impugning Dr Bloomfield's impartiality as an expert witness. Having heard his oral evidence, I have concluded that I should not, and that, despite his accession to this request, I am satisfied that his opinions, as expressed in his reports and in court, are entirely honestly held and impartially arrived at.

[85] I reject the pursuers' criticism that Dr Bloomfield's report amounted to no more than a rebuttal of the pursuers' experts' views. The onus of proof lay on the pursuers. It was for the pursuers to state their case, and the defenders' task was to meet that case. I do not therefore regard it as surprising or unusual for the defenders' expert evidence to take the form of a response to the pursuers' case rather than a self-standing assessment of the medical care received by Mr McCulloch. I also reject the criticism that Dr Bloomfield failed to take into account Mrs McCulloch's description of Mr McCulloch when he was discharged on 6 April. In so far as that had relevance to alleged negligence on the part of Dr Labinjoh three days earlier, it could have been put to Dr Bloomfield in cross examination.

Prescription of colchicine

[86] In my opinion it is not possible to reject either of the expert opinions regarding prescription of colchicine as unreasonable or as incapable of being logically supported. It was common ground that colchicine was used in 2012 to treat pericarditis, albeit less commonly than it is now. It was also common ground that colchicine required to be used with care for patients with hepatic impairment, and that Mr McCulloch's transaminases were abnormal. Dr Flapan's view was that these abnormalities were caused by over-transfusion of fluids during Mr McCulloch's first admission, and that the risks could be

minimised by a low dosage. Dr Weir's practice was to prescribe colchicine at the outset. Dr Bloomfield's view was that prescription of colchicine was contra-indicated by Mr McCulloch's abnormal liver function test results, because of its interaction with clarithromycin, and because of the risk of gastro-intestinal side effects.

[87] It is a recurrent theme in Mr McCulloch's medical records, during both his first and second admissions, that he presented as a complex case, whose diagnosis proved to be very challenging. The expert witnesses were in agreement that this was not a straightforward presentation of acute pericarditis. Against that background, I find that both expert opinions in relation to prescription of colchicine are capable of being logically supported. The potential effect of colchicine, if prescribed along with the antibiotics that he was taking, on Mr McCulloch's hepatic and gastro-intestinal functions were in my view matters on which professional opinion might vary, especially at a time when use of colchicine was not universal, and where its use was supported by studies in relation to prevention of recurrence as opposed to safety and effectiveness of initial treatment. It is true, as the pursuers pointed out in their submissions, that by 3 April some of Mr McCulloch's blood results had returned to the normal range, but this does not necessarily undermine Dr Bloomfield's view that where there is a history of hepatic abnormalities or gastro-intestinal problems, colchicine should not be prescribed. For these reasons, I conclude that the *Bolitho* test is not met.

Prescription of NSAIDs

[88] Again there was a measure of common ground in relation to prescription of NSAIDs to treat pericarditis. The experts agreed that it was standard practice to do so, and that clinical experience showed that the patient usually got better, often quite quickly. Their use

was advocated in the leading text books. Although their effectiveness was not proved by any RCT, their use was supported by the ESC Guidelines and by clinical practice. They were effective in relieving pain by reducing inflammation.

[89] There was, however, disagreement among the expert witnesses regarding prescription of NSAIDs to a patient who was not in pain. As noted above, Dr Flapan regarded it as usual practice to prescribe NSAIDs even in absence of pain, because treatment of inflammation would result in reduction in size of a pericardial effusion. Dr Bloomfield did not consider that there was any benefit from NSAIDs if they were not required for pain relief; there was no evidence from clinical trials that NSAIDs altered the natural history of pericardial effusions even if they successfully treated pain and inflammation. Patients often simply got better on their own. Dr Weir accepted that there could be variations in practice in the use of NSAIDs where no pain was reported and where there were other issues suspected, such as respiratory infection.

[90] Dr Labinjoh was clear in her recollection that when she visited Mr McCulloch on 3 April 2012 he did not complain of being in pain; he denied it on direct questioning. The pursuers argued that she was not entitled to form a judgment on the basis of how he appeared and described himself at the time of her visit: she ought to have taken a full history which would have revealed that he had been re-admitted two days previously with a complaint of pleuritic chest pain. In these circumstances, it was argued, prescription of NSAIDs would have accorded with the opinion and practice of all of the expert witnesses. I reject this argument for two reasons. In the first place, I accept the view of Dr Bloomfield that Dr Labinjoh's visit to Mr McCulloch is not properly characterised as a review which included a need to take a full history. As Dr Labinjoh emphasised, she had responded to a request to review the results of the echocardiogram taken on 2 April. The purpose of her

visit was not to carry out a review but to confirm that her interpretation of the echocardiogram was consistent with his clinical presentation. In these circumstances her duty did not extend to ascertaining whether there had been a history of pain that was no longer present. In the second place, the evidence does not indicate that if Dr Labinjoh had asked Mr McCulloch about pain over a longer period she would have obtained a response that would have prompted her to prescribe NSAIDs. The EWS chart for his second admission reported only mild pain on admission and no pain thereafter. I have already noted that a nursing note at 12.05pm on 2 April recorded "no further chest pain".

[91] The issue, then, is whether in circumstances in which a patient is not reporting pain, the view of either body of expert opinion in relation to prescription of NSAIDs to Mr McCulloch can be held to be unreasonable and incapable of being logically supported. In my view it cannot. The opinion of Dr Flapan has the support of clinical experience that patients who are prescribed NSAIDs usually get better. Any pericardial effusion usually diminishes. This course of action also has the support of text books and the ESC Guidelines. Gastric protection measures can be taken to minimise side effects, and liver function can be regularly monitored. On the other hand, there is logical support for Dr Bloomfield's view that there were good reasons not to prescribe NSAIDs for Mr McCulloch. This was not a straightforward case of acute pericarditis: the diagnosis remained uncertain. There is no study-based evidence in medical literature that NSAIDs prevent the development or progression of pericardial effusions, or that the effect of reduction of inflammation is reduction of the size of an effusion. Dr Bloomfield's view was that in the absence of pain it was unclear that NSAIDs would provide any benefit. Against this there were reasons not to prescribe NSAIDs: Mr McCulloch's history of gastric upset and other gastro-intestinal symptoms. It was not clear that side effects could be wholly eliminated. Neither of these

views can be described as unreasonable or as lacking in logical support, and it is not for the court to choose between them. I therefore conclude again that the *Bolitho* test is not met.

Requirement for repeat echocardiogram before discharge

[92] On the matter of instruction of a repeat echocardiogram before discharge, there was less common ground between Drs Flapan and Weir on the one hand and Dr Bloomfield on the other. For Dr Weir the crucial matter was the trend: the third echocardiogram showed a deterioration from the second one in that the effusion appeared to be larger and there were early signs of compromise of the right atrium and right ventricular wall. It could not be assumed that the deterioration would reverse without treatment. Dr Flapan was of the same view: if a repeat echocardiogram showed continuing deterioration, the situation might have to be urgently assessed. Dr Bloomfield agreed with Dr Labinjoh's assessment that the effusion shown in the echocardiogram taken on 2 April was not of sufficiently large size to cause concern. He did not regard it as showing early signs of compromise necessitating a repeat echocardiogram before discharge. In any event Dr Labinjoh was not the consultant responsible for planning Mr McCulloch's treatment. A plan was in place for outpatient review preceded by a repeat echocardiogram: that was sufficient.

[93] On this issue I have more difficulty with Dr Bloomfield's opinion. In so far as his view is based upon the fact that Dr Labinjoh was not the consultant in charge of planning Mr McCulloch's treatment, it appears to me to fail to take account of the fact that the consultants in the AAU were relying upon the cardiology specialists, and in particular upon Dr Labinjoh, for directions in relation to cardiology investigations, at a time when pericarditis was still in the frame as a possible diagnosis. The conclusion to Dr Labinjoh's note ("I am not certain where to go for a diagnosis from here. Happy to discuss. Please

keep us informed.") provided future readers of Mr McCulloch's medical records with no guidance as to what measures, if any, were required, from the point of view of cardiology, prior to discharge. It created the risk which eventuated when the matter of Mr McCulloch's discharge had to be determined by a relatively junior doctor at a time when Dr Labinjoh was occupied with other matters and unable to provide direct assistance.

[94] It also appears to me that Dr Bloomfield's opinion proceeds upon a factual assumption that at the time of Dr Labinjoh's visit Mr McCulloch was well, with the consequence that a repeat echocardiogram was unnecessary. In my opinion that assumption is not consistent with the echocardiogram which, in Dr Weir's words, gave an impression that Mr McCulloch had in general become less well since the previous echocardiogram. Unlike Dr Labinjoh at the time of her visit, Dr Bloomfield was of course aware when forming his expert opinion that Mr McCulloch had been discharged and re-admitted during the period between the two echocardiograms. The expert witnesses may have differed on the significance of the differences between the two echocardiograms, but there were undoubtedly differences. Where, as here, the trend in relation to pericardial effusion appeared to be moving in the wrong direction, it seems to me that Dr Bloomfield's view that it was unnecessary to take any action to confirm prior to discharge that that trend had reversed lacks logical support. The fact that a plan for review was in place does not, in my judgment, provide an adequate rationale when it is borne in mind that that plan had been formulated before the first discharge and second admission, at a time when the echocardiogram trend was moving in the right direction.

[95] Moreover, there was nothing in the evidence to indicate a good reason for not instructing a further echocardiogram, other than Dr Bloomfield's view that it was unnecessary. Making provision for a further echocardiogram before discharge would not

have prevented efforts continuing, as they did, to reach a definitive diagnosis, and the patient could in the meantime continue to be treated, as he was, with antibiotics, or otherwise as seemed appropriate to the medical team in charge of his care in the AAU.

[96] For these reasons I conclude that Dr Bloomfield's view that there was no necessity for Dr Labinjoh to advise that a further echocardiogram be instructed before discharge is not a reasonable one, and in this regard I consider that the *Bolitho* test is met. I accept the opinions of Dr Flapan and Dr Weir that a further echocardiogram ought to have been performed before Mr McCulloch was discharged, and I accept Dr Flapan's opinion that in failing on 3 April 2012 to make provision for this, Dr Labinjoh failed to meet the standard of care incumbent upon her. On this issue I therefore find the pursuers' case of negligence to have been established.

Causation: Would Mr McCulloch's death have been prevented?

[97] In view of the foregoing conclusion, it is necessary to address the question whether the pursuers have proved, on balance of probabilities, that Mr McCulloch's death would have been prevented if a repeat echocardiogram prior to discharge had been directed by Dr Labinjoh on 3 April. One is dealing here, of course, with a hypothetical scenario. It cannot be known what such an investigation would have disclosed, nor what treatment would have been put in place in the light of the findings.

[98] Nor indeed can it be known when a repeat echocardiogram would have been performed. Dr Bloomfield's assessment was that an echocardiogram would probably have been arranged for Monday 9 April (it will be recalled that Mr McCulloch died on 7 April). I do not feel able to make a finding to this effect, but equally there is no evidence to support a

finding that it is more likely than not that it would have been performed on or before Friday 6 April.

[99] The cause of Mr McCulloch's death was stated to be idiopathic pericarditis and pericardial effusion. These conditions resulted in cardiac tamponade on 7 April. With hindsight it may be inferred that by 6 April Mr McCulloch was very ill. One may therefore further infer that a repeat echocardiogram, if carried out on 6 April, would probably have disclosed a material deterioration in Mr McCulloch's condition, leading to a need for urgent treatment to be put in place. Beyond that, however, any findings by me would be entirely speculative. There is simply no basis in the evidence for an assessment of whether, at whatever time it was commenced, and whatever it may have consisted of, such treatment would have been likely to be successful in preventing Mr McCulloch's death. His case was a complex one, as all of the cardiologists concerned in this case have emphasised, and the outcome was tragic. But I do not feel able to hold, on balance of probabilities on the basis of the evidence before me, that but for the single negligent omission that I have identified, namely the failure to instruct a repeat echocardiogram before discharge, Mr McCulloch's death would not have occurred.

[100] For these reasons I find that the pursuers' primary case fails.

Material contribution

[101] The pursuers contended, in the alternative, that Dr Labinjoh's failure to prescribe NSAIDs made a material contribution to Mr McCulloch's death, and that the defenders should be found liable on that basis. It was submitted that causation was a question of fact based upon inferences from the evidence. If establishment of causation was a matter of scientific uncertainty, the courts had in some circumstances relieved the claimant of the

rigours of the "but for" test. The claimant did not require to establish that the defenders' breach of duty was the sole cause of damage if it could be shown that it made a material contribution to the damage.

[102] Since the material contribution argument was presented in relation to failure to prescribe NSAIDs, it does not strictly arise for decision because I have held that negligence on that basis has not been established. However as parties addressed me on the point it is appropriate to deal with it briefly.

[103] It is well settled that a pursuer will succeed if he proves that his injury was caused or materially contributed to by the negligence of the defender, and that "material contribution" in this context means a non-negligible contribution: see *Wardlaw* v *Bonnington Castings Ltd* 1956 SC (HL) 26, Lord Reid at 32. It may be a matter of controversy whether the law of material contribution is an application of the "but for" test or an exception to it (see eg SH Bailey: "Causation in negligence: what is a material contribution?" (2010) 30 Legal Studies 167). What is clear is that the material contribution principle arises where injury is said to have occurred partly as a consequence of one or more causes implying negligence on the part of the defender and partly as a result of one or more other causes, and where the extent of the contribution of the negligent defender's cause or causes cannot be scientifically determined.

[104] In *Bailey* v *Ministry of Defence* [2009] 1 WLR 1052, the material contribution principle was applied by the Court of Appeal in a medical negligence action. At paragraph 46, Waller LJ, with whom the other members of the court concurred, concluded that no distinction could be drawn in relation to material contribution between medical negligence cases and others. He continued:

> "…If the evidence demonstrates on a balance of probabilities that the injury would have occurred as a result of the non-tortious cause or causes in any event, the claimant will have failed to establish that the tortious cause contributed… If the evidence demonstrates that 'but for' the contribution of the tortious cause the injury would probably not have occurred, the claimant will (obviously) have discharged the burden. In a case where medical science cannot establish the probability that 'but for' an act of negligence the injury would not have happened but can establish that the contribution of the negligent cause was more than negligible, the 'but for' test is modified, and the claimant will succeed."

[105] Whether or not it is correct to categorise the material contribution rule as formulated here as a modification of the "but for" test (and there is high authority that it is – see *Fairchild* v *Glenhaven Funeral Services Ltd* [2003] 1 AC 32, Lord Rodger of Earlsferry at paragraph 129), the critical point is that it applies where there are cumulative causes whose respective effects cannot be separately assessed. But that is not the pursuers' case in relation to prescription of NSAIDs by Dr Labinjoh. The pursuers' contention on record is straightforward: had she commenced anti-inflammatory medication following her review, the deceased would not have died. That, in my opinion, is a statement of "but for" causation. In support of that averment, Dr Flapan was equally clear in his evidence that if, *inter alia*, NSAIDs had been prescribed, Mr McCulloch would probably have survived.

[106] As the Lord Justice-Clerk (Lady Dorrian) observed in *AW* v *Greater Glasgow Health Board* [2017] CSIH 58 at paragraph 330,

> "…The *Bailey* line of authority is a restricted, policy-based exception to 'but for' causation in cases where inadequacies in medical science result in the pursuer being unable to prove the full extent of the causation mechanism".

In the present case no question arose of the pursuers being unable, due to inadequacies in medical science, to prove the extent of the causation mechanism. There would accordingly, in my view, have been no room for application of any modification of the usual "but for"

test, even if I had held that the pursuers had proved that Dr Labinjoh was negligent in failing to prescribe an anti-inflammatory drug.

Duty to advise of risks of treatment

[107] The pursuers further contended that Dr Labinjoh was in breach of the duty held by the Supreme Court in *Montgomery* v *Lanarkshire Health Board* 2015 SC (UKSC) 63 to exist to take reasonable care to ensure that Mr McCulloch was aware of any material risks involved in her recommended treatment and of any reasonable alternative treatments. They averred that it was Dr Labinjoh's duty to discuss with Mr McCulloch the options of pericardiocentesis and the use of NSAIDs, colchicine and aspirin to reduce the size of the pericardial effusion; to discuss the risks and benefits of each option; and a duty to advise that doing nothing had significant risks including death. They submitted that, as a matter of fact, had the risks and benefits of the various options been explained to Mr McCulloch, he would have consented to the prescription of NSAIDs, despite the risk that this could cause hepatic or gastro-intestinal complications.

[108] In *Montgomery*, Lords Kerr and Reid (with whom most of the other members of the court agreed) observed at paragraphs 82 and 83:

> "82 In the law of negligence, this approach entails a duty on the part of doctors to take reasonable care to ensure that a patient is aware of material risks of injury that are inherent in treatment. This can be understood, within the traditional framework of negligence, as a duty of care to avoid exposing a person to a risk of injury which she would otherwise have avoided, but it is also the counterpart of the patient's entitlement to decide whether or not to incur that risk. The existence of that entitlement, and the fact that its exercise does not depend exclusively on medical considerations, are important. They point to a fundamental distinction between, on the one hand, the doctor's role when considering possible investigatory or treatment options and, on the other, her role in discussing with the patient any recommended treatment and possible alternatives, and the risks of injury which may be involved.

> 83 The former role is an exercise of professional skill and judgment: what risks of injury are involved in an operation, for example, is a matter falling within the expertise of members of the medical profession. But it is a *non sequitur* to conclude that the question whether a risk of injury, or the availability of an alternative form of treatment, ought to be discussed with the patient is also a matter of purely professional judgment. The doctor's advisory role cannot be regarded as solely an exercise of medical skill without leaving out of account the patient's entitlement to decide on the risks to her health which she is willing to run (a decision which may be influenced by non-medical considerations)…"

[109] *Montgomery* effected a significant development of the law, but care must be taken not to apply it to circumstances that lie beyond the scope envisaged by the Supreme Court. It is concerned with the discussion of, and obtaining of consent to, material risks identified by the doctor in connection with a recommended course of treatment. As the passage at the end of paragraph 82 above makes clear, there is an important distinction between the doctor's role when considering treatment options and his or her role when discussing with the patient the risks of injury in the course of the recommended treatment. The question of whether or not there are risks of injury inherent in a particular course of treatment remains a matter for the professional judgement of the doctor.

[110] In *AH* v *Greater Glasgow Health Board* 2018 SLT 535, the Lord Ordinary (Lord Boyd of Duncansby) considered and rejected an argument by the pursuer that what was a reasonable alternative requiring discussion was a matter to be defined by the patient. He preferred the defenders' argument that the range of alternatives for discussion were those that the doctor considered reasonable, exercising his or her skill and experience. At paragraph 43 he posed the following example:

> "Take, for example, the case of a patient with a pre-existing condition who is being treated for another illness. There is common and available treatment which is usually available to a patient with this illness. However it is dangerous for those with the pre-existing condition. That may arise where, for example, the combination of drugs used by the patient to treat the pre-existing condition with those used to treat the illness gives rise to complications imposing unacceptable risks to the

> patient. According to counsel for the pursuers the duty on the doctor is to advise the patient of the existence of the alternative remedy even if, in the particular case it is not considered to be a reasonable alternative by the doctors. The explanation for this approach is that the patient may wish to get a second opinion."

Lord Boyd did not consider that this was consistent with the approach in *Montgomery*. The example given is of interest in the circumstances of the present case in which the pursuers' contention is that Dr Labinjoh ought to have prescribed NSAIDs despite the risk of complications due to Mr McCulloch's pre-existing condition, and should have discussed those risks with him.

[111] I respectfully agree with Lord Boyd that *Montgomery* does not provide support for such a contention. *Montgomery* imposes an obligation on the doctor to discuss the risks associated with a recommended course of treatment and to disclose and discuss reasonable alternatives. It does not go so far as to impose upon the doctor an obligation to disclose and discuss alternatives that he or she does not, in the exercise of professional judgement, regard as reasonable. If the doctor is wrong either about the risks of the recommended course or about the reasonableness of any alternative, then he or she might be liable for any consequent loss or injury, but that would be decided by application of the *Hunter* v *Hanley* test.

[112] In the present case, the reason why Dr Labinjoh did not prescribe NSAIDs was not that she regarded them as a reasonable course of action but decided against it because of risks not discussed with Mr McCulloch. Rather, her evidence was that she did not prescribe NSAIDs because she did not, in her professional judgement, regard it as appropriate to do so when Mr McCulloch said that he was not in pain, and where there was no clear diagnosis of pericarditis. She did not consider colchicine at the time at all. There was, accordingly, no risk in a recommended course, or a reasonable alternative, to discuss with him. Properly

analysed, the pursuers' complaint is that Dr Labinjoh was negligent in her professional assessment, not that she identified a reasonable alternative (prescription of anti-inflammatories) but then failed to discuss it with Mr McCulloch. I have dealt with that complaint in the main part of my opinion.

[113] It is the case, as the pursuers pointed out in argument, that it is apparent from Dr Labinjoh's contemporaneous note in the medical records that she considered the possibility of pericardiocentesis, but decided against it. There is no evidence that she discussed this course of action with Mr McCulloch, but this is of no significance because no case is now made against her for failing to adopt or recommend it. In any event it is apparent from her note that she was considering the risks and benefits of pericardiocentesis only for diagnostic purposes and not because of concern about the size of the effusion.

[114] For these reasons I find that no case based on failure to advise of the risks of a recommended course of treatment, or of alternative courses of treatment, along the lines of *Montgomery*, has been made out.

Quantum

[115] In relation to most of the pursuers, quantum of damages for what I shall refer to as "loss of society" (ie an award under section 4(3)(b) of the Damages (Scotland) Act 2011), loss of support and loss of services was agreed in advance of the proof, and I am grateful to parties and their advisers for the work that enabled this to be achieved. A claim for funeral expenses was also agreed. I set out in the table below the relationship and age (where relevant) of each pursuer and the sums agreed by way of damages. Agreement was not reached in relation to loss of society claims by the first pursuer on behalf of her and Mr McCulloch's two children, and I deal with those claims below.

Relationship to Mr McCulloch	**Age at date of Mr McCulloch's death (where relevant)**	**Loss of society £**	**Loss of support £**	**Loss of services £**
Wife	N/A	120,000	376,544.72	45,229
Daughter	7	See below	47,102.35	7,500
Son	1	See below	76,419.85	7,500
Sister	N/A	25,000		
Father	N/A	30,000		2,500
Mother	N/A	30,000		2,500
Twin brother	N/A	40,000		
Stepson	13	70,000	17,784.85	5,000

In relation to the loss of society claims it was agreed that interest would run at 4% per annum on half of the loss from 7 April 2012 to the date of decree, with interest at 8% on the whole sum thereafter. The amounts agreed in relation to loss of support and loss of services were inclusive of interest to the date of decree.

[116] Mr McCulloch's daughter B was aged 7 at the date of his death and is now aged 15. A statement by the first pursuer was lodged to describe B's relationship with her father and the effect that his death has had upon her. She is described as having been a daddy's girl enjoying a very close relationship with her father, who took her to events such as birthday parties, swimming lessons and karate lessons. She made video messages for him while he was in hospital. After he died she struggled with relationships at school. She felt left out at family events when observing the relationship between male relatives and their own children. She stopped participating in activities that she had previously enjoyed, and dropped out of karate and other pursuits. She suffers from an eating disorder related to anxiety caused by her father's death. On occasions she feels unable to attend school and

refuses to leave the car and enter the school. She has a "card" that she shows to teachers if she needs time out from class to attend the Pupil Support area. B also provided a statement in which she emphasised how much she misses having her father, and regrets how little she is able to remember about him. She is conscious of the many aspects of her life that her father will not be there to share.

[117] Mr McCulloch's son J was 18 months old at the date of his death and is now aged 9. A statement by the first pursuer was also lodged to describe the effect of his father's death upon him. He was too young to have any memory of his father and has never had the experience of having a father/son relationship. He exhibits difficulties in dealing with the fact that his father is dead. He has problems interacting with people, both adults and children. He has little involvement with male relatives. He does not like to sleep alone at night. When his father died he became mute for some time, probably due to shock. He has struggled at school and sometimes refuses to attend.

[118] It has been settled since *Hamilton* v *Ferguson Transport (Spean Bridge) Ltd* 2012 SC 486 that in assessing the appropriate level of awards for loss of society, judges should have regard to jury awards in comparable cases as well as to past judicial awards. By way of guidance, I was referred by the pursuers to *Anderson* v *Brig Brae Garage Ltd* (25 June 2015, unreported; McEwan & Paton paragraph 13-166): a jury award of £80,000 to a child 6 weeks old at the date of her father's death and aged 3 at the date of the trial. It was submitted that a similar award should be made to each of the children in the present case. The defenders referred me in addition to *Ryder* v *Highland Council* 2013 SLT 847, a decision of my own in which I would have awarded the son of a 36-year old mother who was aged 17 at the date of her death and 21 at the date of proof the sum of £40,000 had his claim succeeded; and to *Stanger* v *Flaws* (17 June 2016, unreported; McEwan & Paton paragraph 13-167; in which a

jury awarded £50,000 to two sons in their 40s. On the basis of those awards it was submitted that an award of £60,000 was appropriate in principle, but that in view of the fact that agreement was reached in the present case that an award of £70,000 was appropriate for Mr McCulloch's stepson, the same sum should be awarded to B and to J.

[119] The closest parallel with the present case is clearly *Anderson* v *Brig Brae Garage Ltd*, in which a jury awarded £80,000. The claimants in *Stanger* were significantly older and an award of £50,000 to a claimant in his 40s is not inconsistent with an award of £80,000 to a very young child. The award of £40,000 in *Ryder* might appear to be somewhat lower, although again the claimant had reached adulthood by the date of proof, and the award did not require to reflect the loss of a parent throughout all or most of the claimant's childhood. Awards by juries must be accorded considerable respect. Having regard to the circumstances of the two children in the present case, as summarised above, I would have seen no reason to award a lesser sum than that awarded by the jury in *Anderson.* Accordingly, had the pursuers been successful, I would have made awards under section 4(3)(b) of £80,000 in respect of each of B and J, with interest on half thereof at 4% from 7 April 2012 until decree and at 8% thereafter.

Disposal

[120] In the light of my decision on the merits of the case, I shall grant decree of absolvitor. All questions relating to expenses are reserved.

APPENDIX

Glossary of terms

Pericardial sac: The heart is a muscular pump which sits within the pericardial sac. The outer surface of the heart is the visceral pericardium and the sac is the parietal pericardium. There is normally a small amount of fluid within the pericardial sac to allow free movement of the heart during contraction.

Pericardial effusion: Fluid can accumulate in the pericardial sac, due to inflammation, infection or secondary deposits of malignant cancerous cells. If the two layers of pericardium become separated by the accumulating fluid, this is a pericardial effusion. Pericardial effusions which accumulate gradually may become very large before compromising cardiac function, in contrast to rapidly accumulating effusions which may begin to cause cardiac compromise after only 300-400 ml.

Pericarditis: In most cases, inflammation of the pericardial sac is called pericarditis. As the pericardium becomes inflamed, more fluid is produced. In health the pericardium is elastic, but an inflamed pericardium loses its elasticity very quickly and cannot stretch to accommodate an effusion. Viral infections are one of the main causes of the inflammation which produces the effusion. Other conditions that can cause pericarditis and effusions include cancer; injury to the sac or heart from a medical procedure; heart attack; severe kidney failure; autoimmune disease; and bacterial infections. In many cases no cause can be found for the pericarditis and it is referred to as idiopathic pericarditis.

Pericardial tamponade: Tamponade occurs when a large pericardial effusion compresses the heart and does not allow adequate filling. Restriction in filling increases the pressure in the two main veins draining into the right side of the heart: the superior and inferior venae

cavae. As filling is reduced, blood pressure falls, and there is normally a compensatory increase in heart rate to help maintain cardiac output. Clinical features of tamponade are elevation of the jugular venous pressure, marked pulsus paradoxus, low blood pressure, and a compensatory increase in heart rate. Echocardiographic features of tamponade are imaging a large pericardial effusion, collapse of the right atrium, compression and collapse of the right ventricle, fixed distension of the inferior vena cava with a failure of this to collapse with respiration. Since the right atrium is thin walled and at low pressure, it is usually the first cardiac chamber to show signs of collapse when intra-pericardial pressure rises.

There are degrees of tamponade. Tamponade may be mild causing a reduction in cardiac output that may be compensated for by an increase in heart rate. Cardiac tamponade may be more severe causing a reduction in cardiac output such that despite an increase in heart rate there is inadequate cardiac output to perfuse vital organs such as kidney and brain. Cardiac tamponade may be complete such that there is no cardiac output.

Jugular venous pulse: The jugular venous pulse is a physical sign that is observed in the neck. In health the blood returns to the heart from the head through the jugular vein. Normally it is just visible at the clavicle. If there is an increase in the pressures in the heart (particularly the right atrium), this increase in pressure is transmitted to the jugular vein and the column of blood becomes visible as the vein distends and fills with blood.

Pericardial constriction: In constrictive pericarditis, the heart cannot expand or relax because it is held in a constricted tight pericardium with no elasticity. Pericardial constriction usually develops over a longer time course in comparison with cardiac tamponade resulting from a pericardial effusion. The two conditions both lead to a reduction in cardiac output but there are differences between them.

Pericardiocentesis: Also known as pericardial aspiration, this is a process whereby pericardial fluid is removed by aspiration through a needle. It is normally done under ultrasound guidance. This enables the size and location of the pericardial effusion to be precisely identified and the needle inserted along a safe track directly into the effusion. The risks are laceration of the liver if an inferior approach is used and laceration of one of the coronary arteries or puncture of the right ventricle if the needle is advanced too close to the heart itself.

Pulsus paradoxus: This term refers to the variation in strength of the pulse as measured in the blood pressure with the cycles of respiration. There is normally a small rise and fall in the strength of the pulse when breathing in or out. The term is a misnomer as it is not paradoxical but an accentuation of the normal respiratory variation in the strength of the pulse. A large pericardial effusion results in pulsus paradoxus as the chambers of the heart are constricted and cannot vary their volume in response to the changes of filling associated with respiration.