

SHERIFFDOM OF GLASGOW AND STRATHKELVIN AT GLASGOW

***INQUIRY HELD UNDER
FATAL ACCIDENTS AND***

SUDDEN DEATHS

INQUIRY (SCOTLAND)

ACT 1976

SECTION 1(1)(a)

SECTION 1(1)(b)

DETERMINATION by Andrew
Craig Henry, Sheriff of the Sheriffdom
Of Glasgow and Strathkelvin following an
Inquiry held at Glasgow on 18th, 19th, 20th, 21st,
22nd, 25th, 26th, 27th, 28th, 29th, November 2002;
3rd, 4th, 5th, 6th, 7th, February;
and 3rd and 4th March 2003
Into the death of KIRSTY RUTHERFORD
THOMPSON.

GLASGOW, 3 August 2004. The Sheriff having considered all the
evidence adduced

DETERMINES: in terms of the Fatal Accidents and Sudden Deaths
Inquiry (Scotland) Act 1976 section 6(1):

(a) That Kirsty Rutherford Thompson, who was born on 18th
June 1987 and resided at 8 Lauderdale Drive, Newton Mearns,
Glasgow, died on 17th March 2001, aged 13 years, having been
taken by ambulance from her home to the Victoria Infirmary,
Glasgow and was pronounced dead shortly after her arrival
there at 6.56 am.

(b) That the cause of death was:

- (a) Peritonitis, due to a
- (b) Perforated diverticulum, due to an
- (c) Intestinal obstruction, due to an
- (d) Internal hernia.

(c) That a reasonable precaution that might have prevented the
death of the patient was for a doctor to take into account
the current physical observations readily available relating
to the patient before deciding upon discharge.

(e) That the following facts are relevant to the circumstances of
the death:

1. In March 2001 Kirsty enjoyed generally good health. She had suffered from asthma when she was younger, but this had improved, and she had not needed to use her inhaler for about a year. She was booked to go on a school trip to America on a skiing holiday in a few weeks time.
2. On Thursday 8th March 2001 Kirsty was sent home from school at lunchtime. She was feeling unwell and complaining of pain in the lower part of her abdomen. That evening she did not have anything to eat and vomited on one or two occasions before going to bed about 10.30pm.
3. On Friday 9th March 2001 Kirsty was kept off school and in the afternoon was taken by her mother to an appointment at the surgery of her General Practitioner where she was examined by Dr. Quinn. He noted her history, that she had been vomiting over 24 hours but with no diarrhoea. He found that her pulse and temperature were normal. Her abdomen was soft but with some tenderness over the upper abdomen. Her bowel sounds were normal. His diagnosis was that she was suffering from a viral gastro-intestinal infection. He recommended home treatment by taking fluids and resting.
4. Later that evening Kirsty vomited twice more. Once, at about 6.00pm, when some clear blood was present in the vomit. At about 9.00pm she vomited again, and this time her parents noted with concern the presence of “coffee ground” blood in the vomit. They took her immediately to see a Doctor at the Glasgow Emergency Medical Services, beside the Victoria Infirmary. They arrived there at 10.21pm.
5. At the Glasgow Emergency Medical Services, Kirsty was examined by Dr. Barratt. Her blood pressure, temperature and pulse were within normal limits. Dr. Barratt noted her history of vomiting fluids during the day but with no diarrhoea. She had vomited foodstuffs initially, but was now producing “coffee ground” vomit. She was complaining of abdominal pain. On examination Dr. Barratt noted that Kirsty appeared

well hydrated. Her abdomen was tender generally with guarding or tensing of the muscles over the upper right abdomen. Dr. Barratt's diagnosis was haematemesis.

6. In the course of her examination by Dr. Barratt, Kirsty again vomited and the vomit contained "coffee ground" blood. Dr. Barratt arranged for her immediate transfer to the Accident and Emergency Department of the Victoria Infirmary.

7. Kirsty arrived at the Victoria Infirmary Accident and Emergency Department at 11.20pm. She was examined by Dr. Orr, who was the on-call Senior House Officer for Medical Patients. Dr. Orr noted the history of Kirsty's referral from Dr. Barratt, that Kirsty was suffering abdominal pain and haematemesis. She had suffered from 36 hours of bilious green vomiting and then had developed brown vomit. He noted that Dr. Barratt had been adamant that this was "coffee ground" vomit. Kirsty was also complaining of abdominal pain, especially in the left upper quadrant of the epigastrium. She was otherwise well and had previously been well.

8. On taking her history Dr. Orr noted that Kirsty had first started her monthly periods the previous month. He noted that she was not passing flatus. On examining Kirsty Dr. Orr recorded her pulse rate at 90. Her blood pressure was normal and she was afebrile. He observed that she looked well. He found her upper abdomen to be tender but he detected no rebound. He recorded "slight peritonism". The per rectal examination was normal. He concluded that Kirsty had suffered a Mallory- Weiss tear of the oesophagus occurring against a background of gastroenteritis. He proposed that she be admitted to Ward 10 overnight and arranged for a blood test to be carried out.

9. Dr. Orr also requested that Kirsty be examined by a surgeon and he also arranged for an X-ray examination to be carried out although he subsequently cancelled this. Mr. McNally was the on-call Senior House Officer for Surgical Patients and he examined Kirsty in the

Accident and Emergency Department at about midnight. He took into account the notes made by Dr. Orr and took a history of her symptoms from Kirsty herself. Mr. McNally recorded that Kirsty informed him that she had had 36 hours of vomiting and vague intermittent abdominal pain. The pain had no exacerbating or redeeming factors. She had had no previous pain like this. She had no systemic upset or fever or flu-like symptoms. He had enquired about her bowel habits and she told him that her bowels had opened normally the previous day, and that she had passed no diarrhoea, no blood and no mucus per rectum. She had had no recent upper respiratory tract infection and she had not been in contact with anyone who had been vomiting. She had her first period one month previously and had experienced only mild discomfort at that time.

10. On examination of Kirsty Mr. McNally noted that Kirsty appeared slightly flushed. Both her pulse and blood pressure were within normal limits. He recorded her pulse at 90. He made a systematic examination of her abdomen. He found her abdomen to be soft with some mild tenderness in the centre. There was no rebound or guarding. There was no swelling or distension of the abdomen. He could detect no abdominal masses or enlargement of any abdominal organ. Her bowel sounds were normal. There were no scars on the abdomen to suggest previous surgery, nor did he detect any hernia. He found nothing to indicate an intestinal obstruction. He concluded that she was probably suffering from viral gastroenteritis although early appendicitis was possible. He arranged to review her the next day. In the meantime, after discussion with Dr. Orr it was agreed that Kirsty should be admitted to Ward 10 under Medical Care.

11. Kirsty was received into Ward 10 at 01.00 On Saturday 10th March. Ward 10 is an acute medical receiving ward for women and girls aged 13 or over. On admission to the ward her pulse was 129. Her blood pressure and temperature were within normal limits. The treatment plan proposed for Kirsty at that time included, inter alia four hourly observations of her blood pressure, pulse and temperature together

with fasting and four hourly intravenous fluids. Kirsty vomited a further three times in the course of the night and early morning at 01.30, 03.30 and 6.30 producing coffee-ground vomit and blood.

12. The consultant physician in charge of Ward 10 was Dr. McIntyre but the overall consultant physician covering that Saturday 10th March 2001 was Dr. Vernon. Between 08.00 and 09.00 hours that morning, Dr. Vernon carried out his post-receiving ward round to examine inter alia acute patients such as Kirsty who had been received into Ward 10 within the previous 24 hours. Dr. Vernon examined Kirsty when she was in a three-bedded side room of Ward 13. He was aware of her history of having been ill for a few days with intermittent vomiting for some 36-48 hours. She had been complaining of abdominal pains and had vomited some blood which was the immediate cause of her admission to hospital.

13. Dr. Vernon spoke briefly with Kirsty and got the impression that she felt she was settling. Her tummy pain was not as bad, and for the time being she had stopped being sick. Her temperature was not raised. He examined her abdomen and found it to be soft and non-tender. He noted that she still felt sick but was no longer actively vomiting. He recommended that Kirsty be commenced upon bland fluids to be taken by mouth as a safe thing for her to take and as a simple trial in order to ascertain whether or not she was able to eat and drink. Dr. Vernon recommended that Kirsty should probably be kept in hospital until the Sunday.

14. Later the same morning, Saturday 10th March 2001, at the conclusion of the surgical ward round, Mr McNally discussed Kirsty's case with Mr Gray his consultant surgeon then on duty. Mr McNally informed Mr Gray of the details of Kirsty's case. Mr McNally explained to Mr Gray that he considered Kirsty to be an unlikely case for appendicitis but more likely a case of gastroenteritis that had caused the vomiting. Mr Gray agreed that Kirsty should be reviewed again by Mr McNally and if there was a change in her condition then

Mr Gray should be notified. Mr McNally then examined Kirsty at about 11.00am the same morning on Saturday 10th March 2001. Mr McNally noted that Kirsty still had lost her appetite and was still complaining of some nausea. Her temperature was normal and the blood test results showed that her white cell count was normal. He examined her abdomen as he had done before and found it to be soft with some central abdominal tenderness. This he had noted as being previously present. In particular he noted there was no tenderness in the area of the right iliac fossa, which would have indicated appendicitis. His impression remained that Kirsty probably had a viral illness, which had produced the vomiting. Repeated vomiting would then have produced irritation of the lower end of her gullet or her stomach, which would in turn have caused some bleeding, and production of her coffee-ground vomit. Mr McNally did not report his examination to Mr Gray as there appeared to be no change in Kirsty's condition.

15. Throughout the remainder of the morning and afternoon of Saturday 10th March 2001, Kirsty's condition remained relatively stable. She was able to go to the bathroom unaided. She was able to manage small amounts of fluid taken orally and was receiving intravenous fluids four hourly as prescribed. The nursing notes record that she was able to manage her diet in the evening. At about 7.45pm the intravenous fluids were discontinued.

16. Late on Saturday night and in the early morning of Sunday 11th March 2001, Kirsty had two further incidents of sickness producing coffee-ground vomit. She was prescribed short acting anti-sickness medication 'Maxalon' to help her settle. She was examined on Sunday morning by Dr Morris who was the on-call Senior House Officer. Dr Morris noted that there had been two episodes of coffee-ground vomiting overnight. She noted also that Kirsty's blood pressure and pulse rate, however, had been normal. Kirsty was complaining of intermittent upper abdominal pain but that she had not had any diarrhoea. Dr Morris examined Kirsty's abdomen and found it to be

soft with some tenderness at the upper abdomen but there was no evidence of rebound. Dr Morris also noted Kirsty's temperature as marginally raised at 37.3C and that Kirsty felt hot. There was a rash over the stomach and arms, which was pale, pink and non-blanching. Kirsty's pulse rate was raised at 120 per minute. Dr Morris arranged for intravenous fluids to be recommenced and sought a surgical review of Kirsty's case. Dr Morris further requested that an endoscopy be carried out the next day and changed the anti-emetic prescription from Maxalon to Stemetel.

17. Following her examination of Kirsty on the morning of Sunday 11th March 2001, Dr Morris consulted Mr McNally the same morning and requested his opinion generally on Kirsty's case and more particularly as to whether the endoscopy should be carried out that day as an emergency, or whether it could safely be done in the normal course on the Monday morning. Mr McNally examined Kirsty and noted the observations made by Dr Morris. Kirsty could not remember vomiting during the night. Mr McNally noted that the abdominal pain was the same as it had been on the previous day. She had experienced some difficulty passing urine. Kirsty appeared flushed. Her temperature was 37.3C. He found the rash was as described by Dr Morris. He examined her abdomen and found that it was soft. There was tenderness in the upper and lower abdomen. He could detect no rebound or guarding. Her bowel sounds were active and normal. There was no distension of the abdomen. He concluded that the endoscopy could be carried out in the normal course of the following day and that the urine should be tested in case she had a urinary infection.

18. The nursing notes show that on the Sunday morning Kirsty was receiving intravenous fluids four hourly but managed to take a small amount of diet and fluids orally. In the afternoon and evening she was not able to eat but tolerated oral fluids reasonably well. There was one recorded incident of vomiting about midnight.

19. On the morning of Monday 12th March 2001 Kirsty underwent an endoscopy performed by Miss Reid, Consultant Surgeon. In her report Miss Reid stated that Kirsty was suffering from severe oesophagitis, Grade 4. There was some blood in the fundus of the stomach but no obvious oesophageal tear could be detected. The distal stomach and abdomen were normal.

20. While Kirsty was in the operating theatre undergoing the endoscopy procedure, Dr McIntyre, the Consultant Physician at that time responsible for the patients on Ward 10, carried out his Monday morning ward round. He did not have an opportunity to examine Kirsty nor did he examine her subsequently.

21. On her return from the operating theatre, Kirsty was examined by Dr McMahon who was the Senior House Officer on duty that week on Ward 10. Kirsty's mother was present and Kirsty was quite sedated. Dr McMahon took note of Miss Reid's report of the endoscopy findings that Kirsty had Grade 4 oesophagitis, and recommended that Kirsty be started on proton pump inhibitor tablets to reduce acid production in the stomach. Dr McMahon considered the endoscopy findings were unusual in a girl of Kirsty's age and requested that Kirsty be referred for the opinion of a consultant gastroenterologist. She also requested that a full blood count, with urea and electrolytes, be obtained.

22. The nursing notes record that Kirsty appeared reasonably settled on Monday morning. Following the endoscopy, the intravenous fluids were continued four hourly. Kirsty was gently mobile to the bathroom. She was uncomplaining but remained quite lethargic.

23. About 6.15pm on Monday evening, Kirsty was examined by Dr Forrest, Consultant Physician and a specialist in gastroenterology. He did not make an abdominal examination. Kirsty did complain of a vague abdominal pain or discomfort that she herself attributed to her menstruation. He was content to accept her explanation as a possible cause. Dr. Forrest understood that he was simply being asked, as a

specialist, for his advice upon the treatment of Grade 4 oesophagitis. He noted the terms of the endoscopy report, which showed that the endoscopist considered that Kirsty suffered from oesophagitis of Grade 4 severity although no tear was seen. Dr Forrest was aware that Grade 4 is a grading specific to reflux oesophagitis and that reflux oesophagitis is the most common form of oesophagitis. He was slightly concerned that reflux oesophagitis did not fit entirely with the symptoms Kirsty had been describing. Reflux oesophagitis is an unusual condition to find in a 13-year-old child. It is generally a condition that affects adults. There was no history of heartburn or the regurgitation of foodstuffs that are the classical symptoms of reflux oesophagitis. Dr Forrest noted an initial differential diagnosis of reflux oesophagitis and noted also that other causes should be considered.

24. The other possible causes of Kirsty's oesophagitis noted by Dr Forrest were two viral conditions, namely, herpes simplex and cytomegalovirus. Those viruses can, quite rarely, cause lasting infection of the gullet. Dr Forrest noted that there was no history in Kirsty's case of any preceding flu-like illness, which might be expected with a viral infection. In order to test for a viral infection, Dr Forrest proposed that serological tests be carried out to look for evidence of the body responding to those infections and to see if there were any antibodies present. He wished also to repeat the endoscopy in order to obtain a biopsy of any particular ulceration present. He discussed this with Kirsty and her mother at the time. Kirsty indicated that she had found the endoscopy procedure traumatic and did not wish an immediate repeat.

25. Dr Forrest did not consider that a further endoscopy was an urgent matter. To take a biopsy and obtain the results of the tests could take several weeks. On balance Dr Forrest was satisfied that it was reasonable to treat the oesophagitis empirically on the basis of the information available that she had Grade 4 reflux oesophagitis and to observe how her condition responded to that treatment. He confirmed the treatment prescribed by Dr McMahon, namely, Lansoprazole

medication, in the form of Losec tablets, to suppress acid production. That could be expected to produce a systematic improvement within 24-36 hours.

26. The nursing note for the evening of Monday 12th March 2001 showed that Kirsty was being maintained on intravenous fluids four hourly and was not tolerating diet very well. She managed some fluids orally before settling. She was able to go to the bathroom independently. She slept quite well and was non-complaining.

27. On Tuesday 13th March 2001, Dr McMahon examined Kirsty in the course of her morning ward round. Sister Kyle was present. Dr McMahon reviewed the full blood test reports relating to Kirsty for 12th March 2001. She also reviewed her pulse, temperature and blood pressure chart. There was no record to cause concern as to Kirsty's condition. On this occasion Dr McMahon did not make any abdominal examination. Dr McMahon noted that Kirsty appeared well and decided that she could be discharged home for review as a medical outpatient in 6-8 weeks time. It had previously been agreed in discussion between Dr Vernon and Dr McIntyre that as Dr Vernon had seen and examined Kirsty, that Kirsty would remain under Dr Vernon's care and the outpatient review was set to take place at Dr Vernon's clinic.

28. At about 1.00pm on Tuesday 13th March 2001 Dr Forrest was visiting another patient in the same side room as Kirsty. He enquired as to how she was progressing and was informed that she was to be discharged home later that day. Dr Forrest noticed that Kirsty had an intravenous infusion and fluids still running. He enquired of the Staff Nurse who was present whether Kirsty was eating and drinking adequately and was informed that probably she was not. In view of this and in view of the fact that there had been no improvement in the symptoms since the start of her medication Dr Forrest considered that Kirsty should be kept in hospital overnight. He noted that she was still not eating normally and recommended she be observed overnight.

29. Nurse Roddick recorded Dr Forrest's instructions in the nursing notes "patient to remain on ward overnight to ensure that patient is eating and drinking sufficiently before discharge home". Nurse Roddick also recorded that Kirsty spent a reasonably settled afternoon although she remained quite lethargic. She was "gently mobile to the bathroom as desired". Kirsty was complaining of some abdominal discomfort possibly due to her currently menstruating. She was refusing the hospital diet but tolerating small amounts of fluid.

30. On the night of 13th March 2001 Nurse Carruthers was on duty from 9.30pm till 7.30pm next day. She noted that Kirsty was settled and slept well. Also that she was uncomplaining overnight. When asked if she was in pain or feeling pain, Kirsty replied that she "was fine". The impression gained by Nurse Carruthers was the Kirsty did not seem unwell. She recorded Kirsty's pulse rate at 7.30am on the morning of Wednesday 14th March at 135 beats per minute .She attributed the high recording to Kirsty being anxious about being able to go home. Kirsty was no longer on an intravenous drip. Nurse Carruthers did not see whether Kirsty had any breakfast. The breakfast was served by the nursing auxiliaries on the night shift and cleared away by the nursing auxiliaries starting the day shift. In Ward 10 it was the nursing auxiliaries who would usually note what was eaten. There is no record of what Kirsty ate or drank on the morning of Wednesday 14th March 2001.

31. On the morning of Wednesday 14th March 2001 Dr McMahon examined Kirsty in the course of her ward round at about 11.50am. She was accompanied by Nurse Rennie. When Dr McMahon arrived at the bedside Kirsty was in the bathroom. Nurse Rennie went to fetch Kirsty from the bathroom. As Nurse Rennie returned with Kirsty Dr McMahon appeared to be engaged in checking Kirsty's charts that were kept at the end of the bed. These consisted of the drug prescription chart, the observation chart, the electrolyte and fluid balance chart and the patient care plan. Nurse Rennie had been

fetching Kirsty from the bathroom and did not see the observation chart.

32. Kirsty was asked by Dr McMahon how she was feeling and Kirsty said that she felt better. Dr McMahon formed the impression that Kirsty was systemically well and was eating and drinking normally. She examined Kirsty's abdomen by palpating it. Kirsty did not mention pain or tenderness at that time. Dr McMahon decided that Kirsty could be discharged later that day if she continued to eat and drink without giving rise to further concern. She noted her findings and instructions as "Eating/Drinking. Allow home later if O.K."

33. At the conclusion of her examination of Kirsty, Dr McMahon was under the impression that her instructions as to Kirsty's discharge were sufficiently clear i.e. that Kirsty could be allowed home by the nursing staff without referring back to Dr McMahon.

34. At lunchtime on Wednesday 14th March 2001 Mrs Thompson had brought Kirsty some custard. She had done this on the two previous days in order to encourage Kirsty to eat. Kirsty had not been interested. On this occasion Kirsty ate two or three spoonfuls of hospital soup and two or three spoonfuls of custard. Despite her mother's encouragement to eat more Kirsty was unable to do so. She said, "Mum, I don't want any more. I am going to be sick". Nurse Rennie came to check what Kirsty had eaten for lunch and Kirsty told her that she had managed some soup and some pudding. Nurse Rennie considered that was a satisfactory soft diet. She did not expect a patient with severe oesophagitis to eat normally.

35. At about 1.45pm on Wednesday 14th March 2001 auxiliary nurse Colville offered Kirsty tea or coffee or milk and a biscuit. Kirsty said "No" and gestured toward her locker as if to indicate that she was all right-she had her own.

36. At 3.15pm Nurse McGregor took over the responsibility for the ward from Nurse Rennie. At the handover discussion Nurse Rennie informed Nurse McGregor that Kirsty was going home and had been discharged. Kirsty's Medical Notes and Nursing Notes were packed together for filing. Kirsty was sitting by her bed waiting for her parents to collect her and for her medication from the pharmacy. Nurse McGregor was not informed as to any need to monitor Kirsty's eating and drinking. In the course of the afternoon Nurse McGregor gave Kirsty her medication. She noticed nothing remarkable about Kirsty's presentation.

37. Mr and Mrs Thompson came to collect Kirsty at about 5.15pm that afternoon. Kirsty was sitting on her bed waiting and Mrs Thompson went with her to the bathroom to help her dress. Mrs Thompson obtained from the Nursing Station Kirsty's discharge letter to be passed to her G.P., No.5/5 of process. The letter bears to be signed by a Junior House Officer and is dated 13th March 2001. This records that the diagnosis at the time of discharge was "oesophagitis". The medication prescribed was Lansoprazole in the form Zoton tablets.

38. To her parents Kirsty appeared lethargic and only managed to walk from the ward very slowly with a slightly hunched posture. She walked slowly to hand in a box of chocolates and say "Thank you" at the Nursing Station as she left the ward. On leaving the ward Mrs Thompson was concerned about Kirsty managing to walk to the car park. At the stairwell at the end of the ward Mr Thompson obtained a wheelchair and Kirsty was happy to get into the wheelchair and be taken to the car. The nurses and auxiliary nurses on duty at Ward 10 did not notice anything to concern them about Kirsty's presentation or manner of walking as she left the ward, nor did they see her get into the wheelchair.

39. At the time of the discharge both Mr and Mrs Thompson were very happy that Kirsty was to be allowed home. Together with Kirsty's two older sisters they had visited at every visiting hour. Mrs Thompson had

visited on many occasions and was allowed to sit with Kirsty, outwith the regular hospital visiting hours. She had brought iced water lollipops and custard to tempt Kirsty to eat. Mr and Mrs Thompson were greatly relieved to learn that the diagnosis of Kirsty's condition was oesophagitis and that the treatment proposed was Zoton tablets. Mr Thompson himself had suffered for a number of years from reflux oesophagitis and the treatment prescribed had been Zoton tablets. They did not consider oesophagitis to be a life-threatening condition and as Kirsty did not appear to be improving in the hospital environment, from Monday 12th March 2001 onwards, they were anxious to have Kirsty at home where they hoped that home cooking and being surrounded by her family and friends would speed her recovery.

40. When she got home Kirsty continued to appear to her parents to be listless and lethargic. She went to the living room and lay down on the settee. She did not eat normally but ate a little melon. She was able to take her Zoton tablet at night and went to bed without being sick.

41. On Thursday 15th March 2001 Kirsty's condition was much the same. She lay on the settee in the living room watching television. She remained passive and lethargic. Her eating did not improve but she did take some fluids. Her friends telephoned and offered to visit but she did not wish to see them. One of her school friends did visit her but only stayed a short time. In the evening Kirsty was violently sick after taking her Zoton tablets with a glass of water. The vomit was brown coffee-ground as before. She complained that her stomach was still sore. Her parents considered that her sore stomach could be caused by her vomiting and retching, but they were concerned, and arranged to call the doctor in the morning.

42. On Friday 15th March 2001 Kirsty's condition remained apparently unchanged. Dr Ireland visited her at home at about 1.00pm. Kirsty was sitting or lying on the settee in the living room. Dr Ireland asked about Kirsty's vomiting and Mrs Thompson gave him the discharge letter from the hospital. Mrs Thompson made known her serious concerns

over Kirsty's condition, particularly her concern that Kirsty was not eating. Dr Ireland noted the terms of the discharge letter and examined Kirsty. He did not take a formal reading of her pulse and temperature. He observed that she generally looked well. Her breathing rate was normal. Her colour was normal. Her temperature appeared fine. She did not appear to be dehydrated or suffering from shock. She appeared to be bright and lively enough to contribute appropriately, for a thirteen year old, to the discussion of her condition that he had with her mother. He noticed nothing to give him concern about her medical condition.

43. Dr Ireland made a simple examination of Kirsty's abdomen and palpated it. He found her abdomen to be soft. There was no evidence of tenderness or guarding. Dr Ireland was well aware of the symptoms of peritonitis and had diagnosed the condition in patients on previous occasions. If peritonitis were present he would expect to find the patient lying flat with an abdomen too uncomfortable to sit up. The patient would be breathing rapidly. They would be clammy to the touch and would have a rigid board-like abdomen. Kirsty had none of these signs. Had he been concerned that Kirsty had an acute abdomen he would have referred her to hospital.

44. In the course of discussing with Mrs Thompson the cause of Kirsty's recent vomiting which had occurred after taking the Zoton tablets, Dr Ireland considered that the medication itself had possibly contributed to her being sick. In children of Kirsty's age swallowing capsules could sometimes be difficult. That was not uncommon and so Dr Ireland changed the Zoton prescription from tablet form to the form of soluble sachets to make the medication easier for Kirsty to swallow.

45. Dr Ireland reassured Mrs Thompson and Kirsty that eating solids was not the most important thing. The important thing was to maintain fluids. So long as Kirsty was taking fluids that would be all right. If she did not feel like eating, then food should not be forced down. He advised Mrs Thompson that if the problem did not settle over the weekend, then she should contact the surgery on Monday.

46. That afternoon and evening Kirsty's condition remained the same. She appeared to be very tired and listless when her father returned from work in the afternoon. In the course of the evening she went to sleep downstairs on her father's bed. At about 11.20pm her mother took her up to bed in her own room. At about 2.00am Mr Thompson was wakened by Mrs Thompson. He heard sounds of yelling and screaming. He went to the bathroom and found there Mrs Thompson, Kirsty and her older sister Lynne. Kirsty was sitting on the lavatory seat. She was straining and trying to pass a bowel movement but was unable to do so. She had not been able previously to have a bowel movement and they were trying to encourage her. Mr Thompson intervened to say that it should be forced. He went back to bed. Shortly thereafter Mrs Thompson arranged that he should sleep in Kirsty's bed and Kirsty would come to bed with her.

47. Kirsty was unable to settle in bed. She said to her mother that she wanted to watch television. They went into the television room and watched television before going back to bed. Kirsty was still unable to settle. She complained of feeling hot and then cold. She appeared feverish and shivering.

48. At about 5.45am again Kirsty said to her mother that she wanted to watch television. They each got up. Kirsty then started to sway. She shouted " Oh, Mum" and then she collapsed.

49. Mr Thompson was immediately awakened by his wife. He went upstairs and found Kirsty lying on the floor on her back. Her mouth was open and her eyes were rolling into the back of her head. Mr Thompson lifted her into the hall and placed her on the floor and tried to revive her with mouth-to-mouth resuscitation. Kirsty started to breathe again and appeared to be gasping for air. At that point Mr Thompson phoned for an ambulance. The time of his call was recorded

as at 5.54am on Saturday 17th March 2001. The ambulance arrived in about ten minutes.

50. As soon as he had made the call Mr Thompson returned to Kirsty. She appeared to have stopped breathing. Again Mr Thompson applied mouth-to-mouth resuscitation and massaged her heart. She started breathing again and gasping for air for two or three minutes then suddenly she was sick. Coffee brown vomit came through her mouth and through her nose. Mr Thompson cleared out her mouth and applied mouth-to-mouth resuscitation. She seemed to start breathing again and Mr Thompson went again to telephone about an ambulance.

51. The ambulance arrived at the house at about 6.09am on Saturday 17th March 2001. Kirsty's pulse had stopped by the time the ambulance paramedics arrived. They observed gross gastric distesia and a large amount of coffee-ground vomit in her pharynx and airways. She was intubated and they commenced resuscitation treatment. Despite their best efforts they were unable to restart her heart.

52. At 6.25am on Saturday 17th March 2001 the ambulance left the house taking Kirsty and her mother to the Victoria Infirmary and arrived there at about 6.35am. Kirsty remained asystolic and was noted as asystolic on arrival at the Accident and Emergency Department with no vital signs present. Further attempts to resuscitate Kirsty then continued without success. She remained asystolic. About one hour after her initial collapse further attempts to resuscitate were abandoned and Dr Ritchie certified her to be dead at 6.56am on 17th March 2001.

53. On the instructions of the Procurator Fiscal a post-mortem examination was carried out by Dr Howatson at the Royal Hospital for Sick Children, Yorkhill on 20th March 2001. He certified the cause of death as:

1a Peritonitis

1b Perforated ileal diverticulum

1c Intestinal obstruction

1d Internal hernia

The post-mortem report forms No.1 of the Crown Productions.

54. The post-mortem examination revealed that Kirsty had a very rare congenital abnormality. There was a 5cm diverticulum, a pouch-like sac, protruding from the wall of the ileum, or small intestine, about three feet from the ileocaecal valve. From the apex of the diverticulum there was a 3cm fibrous band or cord extending back onto the mesenteric surface. This formed a gap or window of about 2.5cm in diameter between the fibrous band the wall of the diverticulum. A loop of the small intestine below the diverticulum and fibrous band had extended into the gap so formed and had become trapped and constricted. A sketch illustration was drawn by Dr. Howatson in the course of his evidence on 25th November 2002 and is attached hereto as Appendix I.

55. This trapped loop of the small intestine constituted an internal hernia and formed an obstruction of the small intestine. This had caused the bowel to become dilated and distended.

56. The fibrous band or cord constricted and pressed each end of the herniated loop of bowel against the wall of the diverticulum. The loop of bowel that was constricted became engorged with blood as the arterial blood supply pushed in and the venous return blood at lower pressure could not get back out. This engorgement increased the pressure of the constriction. This pressure also restricted the blood flow to the wall of the diverticulum. The restriction of blood flow to the wall of the diverticulum caused the internal or mucosal surface of the diverticulum to necrotise and break down. This allowed bacteria from inside the bowel to invade further into the wall of the diverticulum causing it to become inflamed and infected. This inflammation and infection had progressed deeper and deeper into the wall of the diverticulum from the inside of the diverticulum outwards. This caused first the death of the cells in the mucosal wall, then the

sub-mucosa, then the muscle and, finally, this perforation of the wall of the diverticulum went all the way through, and the contents of the bowel spilled out into the peritoneal cavity.

57. The diaphragm of the abdomen was found to be intact, but pushed upwards as a result of distension of the gastrointestinal tract. The peritoneal cavity contained 1420mls of foul-smelling brown liquid, which was intestinal content. Most of the fluid was in the pelvis but it also tracked up both parabolic gutters to the level of the diaphragm. The peritoneal surface of the visceral and parietal peritoneum was dusky and not shiny.

58. The findings at the post-mortem indicated that perforation had occurred about 4-6 hours prior to the time of death. The escape of gas and fluid from the bowel by means of the perforation caused a diffused peritonitis. Polymorph cells were found to have left the bloodstream and entered into the tissues. This process generally begins to take place in about 4-6 hours following an acute inflammation, and in this case the process had just begun.

59. There was also a localised peritonitis with a mixed inflammatory cell infiltrate on the serosal surface of the intestine adjacent to the diverticulum. The localised peritonitis relating to the pathology of the diverticulum had been continuing for a greater length of time than the diffuse peritonitis. The process of necrosis leading to perforation of the diverticulum would have taken from 24-72 hours to reach the stage of perforation.

60. The vitreous fluid in the eye showed a relatively normal biochemical reading. A diffuse peritonitis occurring for 48 hours or more before death would be likely to show an abnormal biochemical reading.

61. The quantity of fluid found in the abdomen, and the distension of the intestine above the diverticulum, indicate that there was complete

and intermittent obstruction, or an incomplete obstruction, present for 2-3 days prior to death.

62. The post-mortem examination revealed that Kirsty had not been suffering from gastritis, colitis, or viral gastroenteritis before her death. There was nothing found to cause a rise in C-reactive Protein (CRP) before death beyond the pathology described in the post-mortem report.

63. The cause of Kirsty's intestinal obstruction was readily amenable to surgical treatment. By carrying out a laparotomy and then cutting the fibrous band the hernia would have resolved and Kirsty would have survived.

64. A number of circumstances made the diagnosis of Kirsty's bowel obstruction initially difficult. There were no predisposing factors present in her case. She was not elderly. She did not suffer from cancer and there was no risk of internal adhesions from previous operations. The form of obstruction was itself very rare. Meckels' diverticulum occurs in about 2% of the population. A much smaller proportion still present with a diverticulum which is offset in relation to the mesentery let alone connected to it by a fibrous band. The presentation of this obstruction was not initially clinically obvious. The obstruction was intermittent at first. The bowel sounds were normal. The classical signs of distension and rigidity of the abdomen were not present until about six hours before death.

65. The symptoms with which Kirsty presented were readily explained by causes, which masked the true underlying condition of an obstructed bowel. The haematemesis was explicable by the bleeding being caused by Grade 4 oesophagitis. Kirsty's complaints of abdominal pain were readily accounted for by the violent retching associated with vomiting, or by pain or discomfort attributed to her current menstruation.

66. At the time of Kirsty's discharge from hospital on Wednesday 14th March 2001, two important indicators of a possible inflammatory condition were readily available on Ward 10 and had not been noticed by the Clinical and Nursing Staff. The pulse rate chart, No. 5/53 of process, kept at the foot of Kirsty's bed, showed that at 7.00am on the morning of Wednesday 14th March 2001, Kirsty's pulse was recorded at 135 per minute and had been steadily rising since 11.00am on Monday 12th March 2001. The last four observations commencing from the evening of Monday 12th March 2001 were 108,118,128 and finally 135. The second indicator which was not noticed, was that, somewhere in Ward 10, in the paperwork process relating to Kirsty, was a biochemistry report in similar terms to No.4 of process showing that Kirsty's C-reactive Protein (CRP) reading for Tuesday for Tuesday 13th March 2001 was 56.

67. In March 2001 the request for a blood test normally required to be authorised by a doctor. The turnaround rate for routine biochemistry results was approximately 1-2 hours. Ninety five per cent of in-patient results were completed within 2 hours. After testing, the test results would be checked and authorised for issue by the Biochemistry laboratory. It would, in the first place, be issued by being entered in the hospital computer network. There is a computer terminal in each ward whereby the information can be speedily accessed if required. The result would also be sent in paper form, as in No.4 of process, showing the history of previous results.

68. On Tuesday 13th March 2001 the request for the blood test for Kirsty was received by the Biochemistry Laboratory at about 11.05am. The test was completed and issued on the computer system at 12.12pm. A paper copy of the test result report was sent to Ward 10 by the internal mail system and would have reached Ward 10 sometime that afternoon or evening. In any event the report would have been available at Ward 10 in the early morning of Wednesday 14 March 2001.

69. Upon the blood test report being delivered to Ward 10, the procedure was that the mail would be opened by the filing clerk. Any blood test report would be placed in a box to be checked by a junior house officer as and when his or her other duties permitted. Any abnormal result would be highlighted or circled by the junior house officer who would either bring the result urgently to the attention of more senior medical staff or else put the checked reports back in the box to be filed with the patient's case notes by the filing clerk. All patients' case notes and the box of unfiled reports were placed on the trolley, which accompanied the ward round. The paper report of Kirsty's blood test on Tuesday 13th March 2001 has gone missing. It could not be found for the hospital internal inquiry held in August 2001 and is still missing.

70. The hospital internal inquiry resulted in new procedures for the follow up of abnormal blood test results obtained after a patient has been discharged or moved from the ward. The Internal Inquiry Report and New Procedure for the Management of Reports and Investigation form respectively Nos. 9 and 10 of the Crown Productions.

71. The new procedure makes no provision to ensure that the test results obtained the previous day are already checked and filed within the patient's case notes and in time for the morning ward round.

72. The elevated pulse and CRP recorded on Tuesday reflected the commencement of the necrotising process occurring in the wall of the diverticulum that eventually led to Kirsty's death.

73. Had the elevation of either of these non-specific inflammatory markers been noticed by the medical staff the discharge of Kirsty would have been delayed to check the accuracy of the readings and to find an explanation for the cause of their elevation.

74. The necrosis was progressive. As it progressed, further observation and investigation of Kirsty's condition might well have identified the

underlying problem of the obstructed bowel. In any event as the pathology progressed, and became increasingly acute, the obstructed bowel would almost certainly have been diagnosed within the hospital environment.

75. Upon the discovery of the obstructed bowel, Kirsty's treatment would initially have been by conservative management. The currently accepted best practice in the surgical management of bowel obstruction is by conservative management. That is carried out by feeding the patient by means of an intravenous drip, and by relieving the pressure in the bowel by pumping out the stomach. Under this regime some 80% of cases will spontaneously resolve within 2-3 days. It is only if the condition does not resolve, or if the patient deteriorates and the abdomen becomes acute that laparotomy and surgical intervention will take place.

76. If treatment by conservative management did not resolve the obstruction within a reasonable time, or if Kirsty's condition had worsened, then a laparotomy would have been carried out and the hernia would have been resolved by surgical intervention and the cutting of the fibrous band.

NOTE

This Fatal Accident Inquiry arose out of the tragic and heart-rending sudden death of Kirsty Thompson. She was a young girl, aged thirteen, previously in good health who had been admitted to hospital for five days with abdominal pains and vomiting. She was then discharged, and died two and a half days later from peritonitis due to an obstructed bowel. It is hard to express to a parent feelings of sympathy that can adequately reflect the grief that they must feel in such circumstances.

In this Inquiry evidence was presented on behalf of the procurator fiscal by Mr. N.R.L. Bowie. Mr G.W. Lamont, Advocate appeared for

the relatives of the deceased; Mrs M.W.F. Robertson, Solicitor appeared for Dr. Roderick Ireland; Mr. D.W. Jessiman, Solicitor appeared for Dr. Marie McMahon, Dr. V. Khurana, Advocate, appeared for Glasgow University Hospitals NHS Trust. A list of the witnesses who gave evidence at the Inquiry is attached hereto and forms Appendix II.

The purpose of the Inquiry is defined in Section 6 (1) of the Fatal Accidents and Sudden Death Inquiry Scotland Act 1976 in the following terms:

“At the conclusion of the evidence and any submissions thereon...the sheriff shall make a determination setting out the following circumstances of the death so far as they have been established to his satisfaction –

- where and when the death and any accident resulting in the death took place;
- the cause or causes of such death and any accident resulting in the death;
- the reasonable precautions, if any, whereby the death and any accident resulting in the death might have been avoided;
- The defects, if any, in any system of working which contributed to the death or any accident resulting in the death; and
- Any other facts, which are relevant to the circumstances of the death.”

Accordingly the purpose of the Inquiry is primarily designed not to judge or apportion blame and certainly not to suggest that any individual involved has failed in any particular duty. The purpose is, with the wisdom of hindsight, to help those who may come after, and in the public interest to discover if there is any reasonable step that may be taken in the future that might prevent the same thing happening again.

A number of initial questions arising before evidence was led at the Inquiry have been sufficiently answered as to require little further discussion. An x-ray was not taken at the outset of Kirsty's admission, as her symptoms were not so specific as to suggest that this was a necessary step bearing in mind that current best medical practice is to avoid subjecting the abdomen and reproductive organs of female children to large doses of radiation. Equally, as the evidence progressed, it became clear that there was no difficulty in securing consultant support or advice. Dr. Vernon, Dr Forrest and Dr. McIntyre were readily available to be consulted by more junior medical staff. No criticism could be levelled at the standard of care Kirsty received during her initial period in hospital from the 9th to the 13th March 2001. It was also accepted that no criticism could be made of Dr. Ireland's examination of Kirsty at her home on Friday 18th March 2001.

There was no doubt that Kirsty had a very rare congenital condition that caused the bowel to herniate and become obstructed. The evidence made clear, however, that admission to hospital with bowel obstruction is a relatively common phenomenon. A busy surgical ward may expect to see at least two such cases per week. The central questions at the Inquiry were, firstly, whether Kirsty had been discharged from hospital prematurely on Wednesday 14th March 2001. There was no dispute but that surgical intervention would have saved her life. The secondary question that therefore arose was whether delaying her discharge might have led to surgical intervention. I am satisfied that the answer to both questions must be in the affirmative.

I accepted without reservation the evidence of Dr. Howatson the pathologist. In his report and in his evidence he described the two forms of pathological inflammation that he found post mortem. Firstly, there was the localised area of necrosis and inflammation where the perforation in the diverticulum occurred. This was a progressive necrotising inflammatory process developing over a period of 24-72 hours. This, I accept, accounts for the moderated rise in CRP of 56 recorded in the blood biochemistry report of 13th

March 2004. This was a progressive process, it having started on 13th March. I am satisfied that it would have continued to give elevated readings over succeeding days as the pathology developed to its tragic climax following perforation.

Secondly, Dr. Howatson described the diffused sepsis and generalised acute inflammation that developed very rapidly after perforation had occurred and the bowel contents had spilled into the abdominal cavity. I accepted his evidence that perforation had occurred about 4-6 hours before death.

Dr Howatson did concede in the course of his evidence the possibility that the elevated reading of CRP on Tuesday 13th March 2001 might have declined by the Wednesday. Given the timetable for the pathology he described and the fact that no other source of inflammation was found post-mortem, I considered that possibility to be highly improbable. The same considerations apply to the elevated pulse rate. In accepting the evidence of Dr Howatson as to the timing of the development of the pathology I reject the evidence of Mr Nixon. I recognised that he was a most experienced and thoughtful skilled witness, but I preferred the evidence of Dr Howatson. It was he who had carried out the post-mortem examination, and I considered that he was best placed to judge the extent to which the polymorph cells had left the bloodstream and entered the tissues. It follows from this that there was no question of the hospital, or indeed, Dr Ireland, failing to detect a diffused peritonitis in an acute abdomen. That state of the abdomen only came into existence in the last few hours before death.

However, perforation was likely to have been preceded by distension of the abdomen caused by the build-up of fluid found at the post-mortem examination. Dr Howatson considered that this had been gradually building up over about two days. He confirmed that there were distended loops of bowel found. Had Kirsty been in hospital care instead of at home during her last few traumatic hours

of her life. It is likely that in a hospital environment, her condition would have been noticed and her life might have been saved. In reaching this view I had in mind the evidence of Mr Nixon to the effect that the majority of patients who present with a perforated bowel are saved if they reach hospital within 6-12 hours of the perforation occurring.

The further question that arises out of the timing of the pathology is whether, without looking for signs of an acute abdomen, there were, nonetheless, symptoms or indicators apparent during her period in hospital that might have led to the diagnosis of Kirsty's underlying condition while it was still in its sub-acute form, and which should have prevented her discharge from hospital.

Two indicators stood out as alarm signals. They were only recorded in the last two days before Kirsty's discharge. The first was the steadily rising pulse to a reading of 135 at 7.00am on the morning of Wednesday 14th March 2001. This was a non-specific indicator that there was something systemically wrong with Kirsty that required an explanation. The medical evidence to this effect was overwhelming and I reject the contrary evidence of Dr Palmer, as an opinio singularis.

There was no explanation as to why Dr McMahon did not consider or check the pulse rate when deciding to discharge Kirsty. Her evidence was that she had simply no recollection of seeing it or of having it brought to her attention.

The second indicator that was an alarm signal was the biochemistry report of Tuesday 13th March 2001. This showed a CRP reading of 56. Again, this was a non-specific indicator but it was an indicator of some systemic infection or inflammation developing. Given the previous normal readings, this was a new development that would have merited further checking and investigation had it been known.

Sadly this was not referred to by or brought to the attention of Dr McMahon in the course of the ward round when she made her decision to discharge

There was no evidence led at the Inquiry as to what had happened to this document, whether it had been filed in the case notes, or whether it was sitting in the box of unfiled reports on the morning of Wednesday 14th March 2001. All that can be said with confidence is that it was probably somewhere in Ward 10. Dr McMahon had no recollection of seeing it or having it brought to her attention and it has now gone missing. Not surprisingly at the conclusion of the Inquiry I was invited to find that the absence of this report constituted a defect in the system of working that contributed to the death of Kirsty in terms of Section 6(1) (d) of the Act. However, without knowing where the document was at the time of the ward round, I cannot be satisfied that the system failed on this occasion, far less that the failure was generalised and systemic.

The third matter that was canvassed in evidence in relation to Kirsty's discharge from hospital concerned her clinical presentation and whether she appeared to be improving. She had principally improved in that her last episode of vomiting occurred on the night of Sunday 11th March 2001 and her biochemistry results, which had shown a mild state of dehydration upon admission, had become stabilised and normal. Her food and fluid intake orally was much harder to assess. No detailed observations or records of her oral intake of food were kept. The records of her fluid intake kept upon the Fluid and Electrolyte balance chart and the Fluid and Additive Medicine chart, Nos. 6/54 and 6/56 respectively, stop recording upon Sunday 11th March 2001 and yet she was still receiving intravenous fluids up until at least lunchtime on Tuesday 13th March 2001 when she was briefly reviewed by Dr. Forrest. That was the principal reason that caused Dr. Forrest to

overrule Dr. McMahon's first decision to discharge because Kirsty still had intravenous fluids running at that time.

Her oral input of food is equally hard to assess beyond saying that it was not very much at all.

There were no observations or records of her bowel movements kept or observations of bowel sounds after Mr McNally's third examination of Kirsty upon Sunday 11th March 2001 when he recorded the bowel sounds as active. The extent to which her bowel was functioning is hard to assess upon the available evidence. Her clinical presentation did not cause concern to Dr. McMahon or to the nursing staff and Dr. Ireland had no particular concerns although he was not in a position to consider the question of improvement. As at the date of discharge Dr. McMahon felt that Kirsty was improving. Her parents were concerned to get her home because they felt that that she was not improving in the hospital setting. Mr. Thompson's evidence was that Kirsty's condition was just about the same all along. I was inclined to prefer the evidence of a Mr Thompson who, I considered was more likely to be familiar with Kirsty's demeanour. I conclude that her presentation and demeanour was a neutral indicator as to her improvement and fitness for discharge.

The one critical matter that was available for consideration, and which was left out of account, was the record of the elevated and steadily rising pulse. Had it been noted and checked at the time of the ward round I am satisfied that it was likely to have been confirmed. From this other investigations would have followed. These might not have led immediately to a diagnosis of obstruction, but I consider it likely that Kirsty would have remained in hospital while investigations to explain the tachycardia continued. I cannot determine what precise form the investigations would or should have taken; whether by consulting the missing CRP report, whether by further CRP tests, or tests by ultra sound or

X-ray; or at what precise stage a consultant or consultant surgeon would have been involved. I am satisfied, however, that as the underlying pathology developed there was a very lively possibility that her condition would have been identified and her life might have been saved.