DETERMINATION INTO THE DEATH OF NICOLA WELSH UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND) ACT 1976

SHERIFFDOM OF TAYSIDE CENTRAL AND FIFE AT DUNDEE

UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY

(SCOTLAND) ACT 1976

DETERMINATION

by

SHERIFF FRANK R CROWE

into the death of

NICOLA WELSH

Under the Fatal Accidents &

Sudden Deaths Inquiry (Scotland)

Act 1976

DUNDEE, 11 December 2003

The Sheriff having resumed consideration, **DETERMINES** under the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 ("the Act") as follows:-

- that in terms of Section 6(1)(a) of the Act Nicola Welsh died on 25 September 1999 at 9.15 am at Ninewells Hospital, Dundee
- that in terms of Section 6(1)(b) of the Act the cause of her death was
  - Raised Intercranial Pressure
  - Acute Hydrocephalus
  - Posterior Fossa Mass Lesion (probable cerebellitis)
  - that in terms of section 6(1)(c) of the Act, there were reasonable precautions which may have prevented the death.

    Had a CT scan been instructed late afternoon on 22 September or on the morning of 23 September 1999 this is unlikely to have been normal and would have alerted medical staff that Nicola had raised intercranial pressure.

    Had the steps that were taken on the morning of 24 September to reduce the intercranial pressure taken place at that earlier stage "coning" of the brain leading to brain stem death could have been avoided. Nicola would

have had a reasonable chance of making a complete recovery and accordingly the death might not have occurred.

- that in terms of section 6(1)(d) of the Act there were no defects in any system of working which contributed to the death
- that in terms of Section 6(1)(e) of the Act that the following facts are relevant:-

- Although Nicola's stay in hospital until her death lasted less than 4 days (87 hours) she was seen by at least 17 doctors. I was told that changes in the National Health Service designed to reduce the hours worked by junior doctors mean that in-patients are likely to see an increasing variety of staff from different shifts. As a consequence note-taking and briefing staff taking over the care the patients at the start of each shift becomes all the more critical.

  In cases such as this one when it is necessary to review notes and have procedures scrutinised externally by experts accurate, clear, consistent and uniform notes are essential.

  The appropriate authorities should ensure that common abbreviations and phrases are used to denote observations and symptoms and the tests carried out to check for or eliminate certain conditions are standardised. In this way others requiring to access notes can be confident of what they mean and the steps carried out at the time when the patient was seen.

  Guidelines should be promoted whereby the doctor in charge of ward round checks, countersigns and if necessary amends the case notes made of the ward round by a Junior Doctor.

  It was difficult to determine what information was considered, what examinations had been carried out and what diagnoses had been made owing to the brevity of notes made by Junior Doctors. The consultant or doctor in charge of the ward round should see and if necessary amend the note at a convenient time after the ward round.

- While there was a general acceptance by medical staff at Ninewells, that with hindsight, a scan should have been instructed at some stage on 23 September 1999 during the day, none of the staff was confident that such a scan would have been carried out that day as Nicola's case was not thought to be a priority.

  The appropriate authorities should consider the criteria and priorities for instructing scans on in-patients and the procedures and protocols that are involved. Resources are finite and there needs to be a proper structure to ensure efficient use of expensive equipment and fair access for all based on need, circumstances and urgency. In cases such as Nicola's, where patients have been in hospital for some time and no definite diagnosis can be made there should be some priority to ensure a scan takes place that day where there is a possibility of raised intercranial pressure.

- It is recognised that specialists such as paediatric neuro-radiologists cannot be based in every major hospital. Consideration should be given to the feasibility of

teleradiological links between Ninewells Hospital and other specialists centres to enable locally based staff to obtain a specialist's second opinion at short notice in problematic cases.

- Tayside University Hospitals NHS Trust should ensure that all doctors receive training in the criteria for reporting deaths to the Procurator Fiscal. In particular medical staff should familiarise themselves with the likelihood that an autopsy and organ donation are not incompatible. They should be aware that complaints by next-of-kin about medical treatment relevant to the death of the patient must be reported. They should also be aware of the correct procedures and protocols for recording causes of death. If they are unsure of the cause of death they should consider reporting the circumstances to the Procurator Fiscal for advice.

Sgd. Frank R. Crowe

Sheriff

Note

INTRODUCTION

This inquiry was held in terms of Section 1(1)(b) of the Act following an application made by the Procurator Fiscal on 30 July 2002. I had a brief preliminary meeting with some of the parties on 25 September 2002. Evidence began on 30 September and after submissions on 1 October continued on 3 and 4 October, 8-11 October and 11-15 November 2002. The remaining evidence was heard on 24, 27 and 28 March 2003 by which time a total of 26 witnesses had given evidence. Submissions were heard on 10 April 2003.

Mr F Keane, Advocate, presented evidence on behalf of the Crown. Miss H A Glen of Messrs Robertson Smith, Solicitors, Dundee appeared for the parents of the late Nicola Welsh. Mrs M Robertson of Messrs Shepherd & Wedderburn, Solicitors, Glasgow appeared on behalf of Drs Croft, Main, Wilkie, Naismith, El Jamel and McGeehan. Miss L J Donald of Messrs Dundas & Wilson, Edinburgh appeared on behalf of Professor Olver and Miss T A Turnbull appeared on behalf of Tayside University Hospitals NHS Trust.

The following witnesses were called by Mr Keane:-

Mrs Audrey Gordon, the mother of Nicola Welsh

Mr Frank Welsh, the father of Nicola Welsh

Dr Krisni Thurairajah, locum for Wallacetown Health Centre, Dundee

Dr Andrew Mitra, Paediatric Registrar

Dr Michael Colvin, Paediatric Registrar

Dr Karen Naismith, Consultant Paediatrician

Professor Richard Olver, Consultant Paediatrician, all Ninewells Hospital, Dundee

Dr Anne McGeechan, Consultant Paediatrician, Salisbury District Hospital, Salisbury

Mrs Jenny Borland, Senior Staff Nurse

Dr Rosalie Wilkie, Consultant Paediatrician

Miss Alison Rae, Staff Nurse

Mrs Margaret Deuchar, Play Co-ordinator, Children's Unit

Mrs Kathleen Reid, Staff Nurse

Miss Jill Gibson, Staff Nurse

Mrs Elizabeth Lemon, Senior Staff Nurse

Dr Gavin Mair, Consultant Radiologist

Mr Mustah Salem El Jamel, Neurosurgeon

Dr Sally Croft, Consultant Anaesthetist, all Ninewells Hospital, Dundee

Dr Philip Chetcuti, Consultant Paediatrician, Leeds General Infirmary, Leeds

Dr Roderick Gibson, Consultant Neuro-Radiologist, Western General Hospital, Edinburgh

Dr Timothy Lewis, Consultant Neuro-Radiologist, Frenchay Hospital, Bristol

Dr Martin Kirkpatrick, Consultant Paediatric Neurologist, Ninewells Hospital, Dundee

Dr Thomas Marshall, Consultant Paediatrician, The Royal Hospital for Sick Children, Edinburgh

Professor Derrick Pounder, Forensic Pathologist, Forensic Medicine Department, University of Dundee

No other witnesses were called on behalf of the family of the late Nicola Welsh. Neither Mrs Robertson nor Miss Turnbull called any witnesses. The following expert witnesses were led by Miss Donald:-

Dr Christopher Steer, Consultant Paediatric Neurologist, Victoria Infirmary, Kirkcaldy

Dr. David Eunson, Consultant Paediatric Neurologist, Royal Hospital for Sick Children, Edinburgh.

The Following productions were lodged at the outset (unless otherwise noted) and spoken to in evidence: -

- Death certificate
- Wallacetown health Centre Records (further correspondence lodged on 3 October 2002)
- Ninewells Hospital records (extracts)

3A Ninewells Hospital records (complete) (Lodged 3 October 2002)

4. CT Scans

5.Letters dated 4 and 8 January 2001 and extract from Medical staff handbook re Procurator Fiscal's cases

6. Report by Dr. Lewis dated 6 February 2001

7.Report by Dr. Gibson dated 23 October 2000

8.Report by Dr. Chetcuti dated 8 August 2001

9. Report by Dr. Marshall dated 20 October 2001

10.Letter from Dr. Naismith dated 21 April 2000 (lodged 4 October 2002)

11. Statement by Margaret Deuchar dated 24 September 1999 (lodged 3 October 2002)

12.Letter by Professor Pounder dated 1 December 1999 (lodged 12 November 2002)

13.Code of Practice for the Diagnosis of Brain stem death dated March 1998 (lodged 12 November 2002)

14.Report by Dr. Steer dated 25 February 2003 (lodged 24 march 2003)

15.Report by Dr. Eunson dated 27 January 2003 (lodged 28 march 2003)

THE GENERAL CIRCUMSTANCES OF THE DEATH

I was satisfied from the evidence adduced and the productions referred to that the general circumstances of the death were as follows:-

(1) Nicola Welsh was 12 years of age at the time of her death, having been born on 18 August 1987. By all accounts she was a bright young girl and had hopes of training to become a doctor.

- Apart from having an ectopic or pelvic right kidney and a brief admission to hospital in August 1997 for abdominal pains Nicola kept in good general health. She had no history of headaches or migraines nor was there a family history of migraines.
- On Friday 17 September 1999 Nicola was sent home from school after complaining of a sore head and stomach. Her father picked Nicola up from

school around lunch-time and brought her home. She was given paracetamol and went to bed.

- By that evening Nicola felt better and went to a sleepover party, which was being hosted by one of her friends. Nicola began to feel unwell again in the night and was sick. Arrangements were made to bring her home early the following morning Saturday 18 September 1999 around 6 am.
- Nicola had both a sore head and stomach and while she slept on and off she was crying with pain when awake. Her parents had seen nothing like this before and gave her further paracetamol but apparently to no effect.
- Nicola remained in bed all day on 18 September but started to vomit again.
- On 19 September 1999 Nicola's parents phoned their doctor's surgery and explained the symptoms.
- Advice was given for Nicola to take paracetamol for the pain and plenty of fluids. The doctor thought that Nicola was suffering from a virus.
- On Monday 20 September 1999 Nicola's condition was no better. She had been awake most of the night and after phoning for an emergency appointment Nicola's father took her down to the surgery.
- Nicola was distressed, nauseous and continued to complain of a sore head and stomach. She was given paracetamol but was no better. Nicola returned to see the doctor that evening and was given a prescription for anti-sickness tablets.
- Despite this Nicola had an uncomfortable night and kept crying out with pain. The next morning 21 September 1999 her parents phoned the GP surgery and arrangements were made for a home visit.
- The doctor's visit took place around 9.20 am when it was noted the abdominal pain had continued into a fifth day. Nicola had been vomiting and had a headache. Nicola's chest was wheezy and she was given antibiotics for this in addition to the medicine already prescribed.
- About 3 pm on 21 September 1999 Nicola collapsed in the bathroom and was crying and complaining of the pain in her head. A doctor's appointment was arranged. Dr Thurairajah saw Nicola at the Wallacetown Health Centre after Nicola was taken there by car by her parents.
- Dr. Thurairajah found Nicola distressed, complaining of a severe headache and vomiting. Dr. Thurairajah found no abdominal pain or signs of meningitis. Nicola did not have a high temperature and her chest was clear.
- In view of the fact that her symptoms had continued for more than 4 days and there had been no improvement the doctor arranged that Nicola be admitted to Ninewells. Hospital. This was done about 6 p.m. Dr. Thurairajah's diagnosis was that Nicola probably had some form of viral illness.
- Nicola was taken by her parents in their car to Ninewells Hospital along with a referral letter from Dr. Thurairajah and was admitted to the children's ward at 6.55 p.m. on 21 September 1999. On admission Nicola complained of a sore stomach and headache.
- Working diagnoses were noted as: -

  Mesentery adenitis (where a viral infection which affects the throat travels down the bowel and inflames the lymph nodes to produce an abdominal pain

  Or migraine/abdominal migraine.

- Dr. Mitra, Paediatric Registrar, was of the view that the main issue was Nicola's lower abdominal pain rather than her headache. Nicola did not have a raised temperature and there were no signs of meningitis. Nicola was given ibuprofen to relieve the pain.
- An abdominal X-ray did not reveal anything of significance. A urine test suggested that Nicola might have some sort of infection or virus. Nicola's parents left the hospital that night about 11pm and felt she was a lot more settled. They thought the stomach pain had reduced but the headache still remained.

(20) At 2.30 a.m., on 22 September 1999 Nicola was seen by a Dr. Yau. Nicola was not complaining of a sore abdomen at that time, but a headache and was unable to sleep. She eventually settled at 4.30 a.m. Dr. Mitra was sufficiently concerned about Nicola to visit her that morning at 7.45 a.m., before going off to work elsewhere in the hospital that day.

(21) Professor Oliver who had been the Paediatric Consultant on duty at the time of Nicola's

admission to Ninewells ospital saw ssaw Nicola as part of his ward round around 11 a.m., on 22 September.

He had discussed Nicola's case with Dr. Mitra the previous night and thought at that stage that Nicola's headache was part of a virus which she had picked up which would also explain the abdominal pain. He carried out a limited neurological examination principally to exclude meningitis.

(22) Dr. Besaans, a junior paediatrician, was asked by the nursing staff to see Nicola at 4 p.m. on 22 September 1999 as she was complaining of severe headaches. Dr. Besaans was not called as a witness, as she had since moved to another hospital. Her examination findings were that Nicola's headaches were worse than before and she was experiencing some dizziness and double vision but a neurological examination was normal. The headaches were described as being severe and mainly at the back of the head.

(23) Nicola continued to be unsettled and in pain. At 5.30 p.m. she was given codeine phosphate but to no effect. She vomited at 6.30 p.m. and was given dyhydrocodeine, a strong painkiller at 7.30 p.m., which provided some relief.

(24) At 3 a.m. on 23 September however, Nicola was awake and complaining of a headache. She was seen by a doctor, given analgesia, vomited an hour later, then settled.

(25) When Nicola's parents returned to the hospital later that day (23 September 1999) about

9.20 a.m., they found Nicola in the playroom with the playleader Mrs Deuchar. Nicola complained at one point that she couldn't see. Nicola was then taken away for an abdominal ultrasound test.

(26) The next medical involvement occurred on Thursday 23 September 1999 when Dr. Colvin a Paediatric Registrar carried out the ward round at 10 a.m., that day. Dr. Colvin had spoken to Nicola's parents the previous evening following a discussion with Dr. Besaans.

(27) Dr. Colvin tested Nicola for meningitis but found no signs of this. There was no neck stiffness and no aversion to light. Dr. Colvin explained how he also tested Nicola's reflexes. A complete neurological examination had not been carried out. He found that Nicola no longer had an abdominal pain but continued to have a headache despite being prescribed reasonably strong pain relief. He decided to await the results of Nicola's abdominal ultrasound then to speak to Professor Olver.

(28) Subsequently that morning 23 September 1999 the results of Nicola's abdominal ultrasound examination became available which gave no indication as to the cause of her symptoms. The results of a urine test found that Nicola had probably had some form of urinary tract infection when admitted to hospital. If so this had now cleared up and accordingly antibiotics were stopped.

(29) Dr. Colvin discussed Nicola's case with Professor Olver later that morning and repeated that the nursing staff had raised concerns. These were that Nicola's symptoms appeared to be worse in the presence of family members and there might be an emotional or psychological reason rather than a medical one for the headaches. The possibilities of a CT Scan and thereafter, if necessary, a lumbar puncture were discussed that time but it was agreed Professor Olver would examine Nicola beforehand.

(30) At this stage medical staff were not clear what was causing Nicola's headaches and since tests had proved negative, the conclusion was that Nicole was probably suffering from some form of viral illness.

- Medical staff told Nicola's parents that they thought Nicola was suffering from abdominal migraine. Staff encouraged Nicola to take some food but she was sick immediately thereafter.

(32) Nicola's parents were informed that Professor Olver was going to examine Nicola that afternoon around 2.15 p.m., and it was suggested they go for lunch first. When they returned they learned that the examination had taken place.

(33) Professor Olver had attended at 2 p.m., carried out a 20-minute examination of Nicola in the presence of a Dr. Graham Adamson, senior house officer, Dr. Colvin and senior staff Nurse Boreland. This extended to examining the top of Nicola's limbs and reflexes because of her continuing unexplained headaches. Nicola was not asked to get out of bed and walk as part of the tests. Professor Olver concluded Nicola was suffering from abdominal migraine with a psychosomatic element and prescribed pizotifen to be taken twice a day. This is a slow acting drug often given as a preventative medicine and to out patients with recurring symptoms.

- Nicola's parents remained with her for the rest of the day until about 9.30 p.m. during which time she continued to complain of headaches and was sick.

(35) Around 10 p.m. that night nursing staff noted that Nicola appeared confused after waking up from a brief sleep. Staff Nurse Reid tended to Nicola and she responded after a few minutes and turned over in bed to go back to sleep. However, shortly afterwards about 11 p.m., Nicola rolled over and fell out of bed. Nurse Reid attended immediately and found Nicola lying on the floor face up. She was not orientated and appeared rigid. Help was summoned and Nicola was put back into bed.

(36) Dr. McGeechan, the paediatrician on duty was in the ward at that time at the nurses' station and attended immediately. Dr. McGeechan had noticed some involuntary movement in Nicola's arms and legs and a droopy face when she was on the floor but these signs disappeared once Nicola was back in bed.

(37) Nicola had been able to assist when she was put back in bed. Dr. McGeechan checked Nicola over and found that she responded visually and vocally and could move her arms and legs. Nicola's responses provided a score of 13 out of 15 on the Glasgow Coma Scale. Nicola's blood pressure was raised at 151 over 96 compared to a normal reading of 120 over 70 and 80. Dr. McGeechan noted the general concern nursing staff had about Nicola's condition and agreed to carry out further neurological observations through the night. Nicola was transferred to the High Dependency Unit to enable monitoring to take place more easily. This transfer occurred at 11.35 p.m.

(38) The next set of neurological tests were carried out on Nicola by Senior Staff Nurse Lemon at 11,45 p.m., on 23 September 1999 and once again produced a Glasgow Coma Scale of 13 out of 15. Blood pressure had improved to 130 over 80. The High Dependency Unit is part of the children's unit at Ninewells Hospital and the transfer is a short one. Nursing staff were however concerned about Nicola's condition by then and Dr. McGeechan examined Nicola shortly after Nurse Lemon. In less than 10 minutes Nicola became unresponsive and her pupils became unequal, the right pupil dilated.

(39) Dr. McGeechan re-examined Nicola and she became more responsive and her pupils equalised and responded to light. A fundoscopy test on the nerves at the back of the eyes proved normal.

(40) However about 10 minutes later shortly after midnight on 24 September 1999 Nicola's heart rate rose to 160 beats per minute and her heartbeat was irregular - ventricular tachycardia.

Her blood pressure plummeted to 60 over 30. Dr. McGeechan realised at that time that there was something wrong with Nicola's brain and immediately called for assistance from senior colleagues. By this stage Nicola's Glasgow Coma Scale had dropped to 4 out of 15. Nicola's left eye appeared normal and was reacting but most of the rest of the tests produced no response. Intermittently Nicola straightened her arms and legs.

(41) Dr. Wilkie, the consultant on call, attended about 12 05 on 24 September 1999 and it was agreed Nicola required an urgent CT scan and so the appropriate staff were called in. By 12 20a.m. Nicola's Glasgow Coma Scale assessment had

dropped further to 3 out of 15 and arrangements were made to give Nicola airway support by giving oxygen through a facemask.

This helped to manage her airway and support her breathing. Dr. McGeechan said she had never seen a child become so sick so quickly as Nicola did. Nicola was transferred to the Intensive Care Unit at 12 30a.m.

(42) Nicola's condition continued to deteriorate, her heart rate was high, blood pressure low and she required further assistance to maintain her breathing. Under anaesthetic Nicola was intubated by having a longer tube inserted into her mouth and neck to provide support to her breathing on a ventilator.

(43) Around 2 a.m. Nicola was given a CT scan and 2 images were taken, with and without contrast. Dr. Main, the consultant radiologist called out to view and interpret the scans concluded that Nicola had suffered a sub arachnoid haemorrhage, which he graded as 4. As a consequence of this Nicola had acute hydrocephalus- an excess of fluid on the brain. Nicola was given Mannitol, a powerful drug in an attempt to reduce the pressure on her brain.

(44) Mr El-Jamal, the neurosurgeon, performed an operation on Nicola during the night to relieve the pressure of fluid on her brain. A drain was inserted and cerebrospinal fluid was drawn off. This fluid was clear in appearance but was not further examined. Nicola's pupils remained dilated after the operation, which was considered to be a poor prognostic sign. She was transferred back to the Intensive Care Unit from theatre for further care.

(45) Nicola's parents had been kept informed of her condition and had attended at hospital shortly after midnight. They had been told Nicola had had to be resuscitated and prior to the CT scan taking place were told that Nicola had a suspected Berry aneurysm in her brain. They gave their consent to surgery and thereafter saw Nicola who was unconscious. They were told that Nicola's condition was critical and the next 48 hours would be crucial.

(46) Nicola's parents were advised to go home and return at 5 p.m. that day for a meeting with doctors. At that meeting Doctors Wilkie, Naismith, Kirkpatrick and Croft told Nicola's parents that Nicola was so severely brain damaged that she was unlikely to survive and the hospital would require to carry out brain stem tests. Nicola continued to require a life support machine at this stage.

(47) Drs. Croft and Kirkpatrick performed brain stem tests the following morning, 25 September 1999 at 9 15 a.m. and 9 45 a. m. These test showed Nicola to be unresponsive and to have suffered brain stem death.

(48) A meeting took place later that morning after the tests had been carried out. Nicola's parents and siblings were present. Drs. Croft and Naismith spoke to the family on behalf of the medical staff at Ninewells Hospital.

(49) According to Mrs Gordon, Nicola's mother, the family was told that Nicola was clinically dead and the Procurator fiscal would have to be informed. The family thought this meant that Nicola had been given a lethal injection by mistake. Mr.

Welsh became upset and left the room. Mrs. Gordon was told that this was not the case but was asked if she wished the Procurator fiscal informed. The family was advised that if the Procurator Fiscal became involved then an autopsy might have to be performed on Nicola and if that was done it would not be possible to donate Nicola's organs.

(50) The family wished Nicola's organs to be donated if possible because they thought Nicola would have wished that in view of her own ambitions to become a doctor. They had reached this decision following their earlier meeting with doctors when the gravity of Nicola's condition and prognosis had been explained. As far as the family was concerned they were given the choice of reporting the circumstances of Nicola's death to the Procurator Fiscal and jeopardising donation of organs or agreeing to donation and not informing the Procurator Fiscal. The family chose the latter course. Mrs. Gordon and Mr. Welsh both stated that Mr. Welsh was asked to sign a form to that effect. The family was told that a further meeting with doctors would be offered in about 10 weeks time to go over the circumstances of Nicola's death if this was requested.

(51) Following the two sets of brain stem tests Dr Croft granted a death certificate giving Nicola's cause of death as "Sub Arachnoid Haemorrhage". In terms of the Code of Practice for the Diagnosis of Brain Stem Tests, the time of Nicola's death was given as 9 15 a.m. on 25 September 1999, being the time of the earlier negative tests, albeit that death could not be pronounced until the second set of tests had been completed.

(52) Subsequently various organs were harvested from Nicola's body for transplant purposes by a separate teams of doctors from another hospital.

EVENTS LEADING TO FATAL ACCIDENT INQUIRY

(53) Needless to say Nicola's parents were distraught at the sudden and tragic turn of events where, in less than a week, their healthy, happy daughter had begun to feel ill, required to be hospitalised and then suffered a catastrophic collapse.

(54) Ninewells hospital staff, both doctors and nurses alike were affected by Nicola's sudden death and a meeting of staff was held to discuss Nicola's case. The main purpose of the meeting seems to have been to inform nursing staff of the brain haemorrhage Nicola had apparently had and to reassure staff that everything possible had been done.

(55) On 7 October 1999 Dr. McGeechan attended a meeting of colleagues at the Scottish Paediatric Neurology Group. Dr. McGeechan was at that time a staff grade paediatrician at Ninewells and split her time between general paediatrics and paediatric neurology. She attended the S.P.N.G. as part of her interest in neurology.

(56) Dr. McGeechan took Nicola's X-rays and CT scans to the meeting to present the case for peer review and discussion among her colleagues who attended from different hospitals. At that meeting doubt was cast on the cause of Nicola's death being sub arachnoid haemorrhage. Dr. McGeechan checked the cause of death with her colleagues at Ninewells who re-affirmed it to her. Dr. McGeechan made further

researches into Nicola's case but was unable to find all of the case notes at that time as they were still in different parts of the hospital. She also checked Nicola's samples for signs of infection as her group had suggested. She found that tests carried out when Nicola was in intensive care under Dr. Croft's care revealed no signs of a mycoplasma infection. This is a virus that starts in the abdomen and can produce a subsequent brain infection. It was noted however that no tests had been carried out on the cerebrospinal fluid removed from Nicola when the operation was carried out to reduce inter cranial pressure.

(57) On 18 November 1999 Professor Olver wrote a letter to Nicola's parents offering to meet them and discuss the circumstances surrounding Nicola's death. A meeting took place on 3 December 1999 at Wallacetown Health Centre, Dundee between Nicola's parents and Professor Olver and Dr. McGeechan. Nicola's parents raised a number of complaints about her treatment at hospital, the diagnosis and the cause of death.

(58) By this time Nicola's parents had placed the matter in the hands of their solicitors who requested copies of her medical notes on 21 December 1999. The circumstances of Nicola's death appear to have been reported to the Procurator Fiscal by the time the meeting had taken place. The Fiscal instructed that statements be taken from witnesses and subsequently reports were instructed from a variety of experts including paediatricians and radiologists.

THE EXPERT WITNESSES' FINDINGS

(59) Dr. Gibson of the Western General Hospital, Edinburgh and Dr. Lewis of the Frenchay Hospital, Bristol, independently examined Nicola's CT scans. Each was clear that the cause of Nicola's acute hydrocephalus was not due to a subarachnoid haemorrhage but was as a result of distortion in the posterior fossa area of the brain. This was due to an inflammatory process in the region of the brain stem probably due to cerebellitis. A magnetic resonance imaging (MRI) scan would have shown more clearly that area of Nicola's brain than could be shown on a CT scan. However by that time Nicola's condition was too grave to have undertaken this type of scan. Although the diagnosis of subarachnoid haemorrhage had been incorrect, the operation to relieve intercranial pressure by drawing off cerebrospinal fluid had been the correct step to take in the circumstances.

(60) The swelling that arose underneath Nicola's brain led to upward pressure on the brain and compressed the fourth ventricle of the brain. This in turn prevented the natural flow of cerebrospinal fluid through the brain and gave rise to acute hydrocephalus. As a result of the increase in pressure a downward force was exerted on the brain forcing it into a small area at the base of the skull and irretrievably damaging the brain stem. This process known as "coning" had begun to take place by the time Dr. McGeechan had begun to examine Nicola at 11p.m. on 23 September 1999. By that stage nothing could be done to prevent Nicola's deterioration.

(61) Dr. Chetcuti, a consultant paediatrician at Leeds General Hospital, was of the view that a CT scan should have been instructed after Dr. Besaans' examination of Nicola that took place at 4p.m. on 22 September 1999. Failing that he considered

that a scan should have been instructed after the ward round the following morning. These views were based on the length of time Nicola's headaches had persisted. The headaches were at the back of the head and Nicola also complained of pain in her neck. The headaches occurred overnight and were associated with vomiting. Increasingly strong medication was used to ease Nicola's headaches. Nicola complained of dizziness and double vision when seen by Dr. Besaans on 22 September.. Nicola complained of momentarily being unable to see when playing games with Mrs. Deuchar on the morning of 23 September and she was noted as being photophobic (complaining of light) when examined by Professor Olver at 2p.m. on 23 September.

(62) Dr. Marshall, a consultant paediatrician at the Royal Hospital for Sick Children at Edinburgh was of a similar view. He said that a CT scan should have been requested within 24 hours of Nicola's arrival in hospital and certainly during 23 September to exclude the possibility of a brain tumour having been the cause of Nicola's headaches and vomiting.

THE CAUSE OF DEATH

(63) Professor Pounder, the Professor of forensic Medicine at the University of Dundee confirmed the views of the expert witnesses that the circumstances of Nicola's death should have been reported to the Procurator Fiscal on 25 September 1999. Had this been done the Fiscal would have asked him to make enquiries at the hospital. These enquiries would have enabled an autopsy to have been carried out on Nicola's brain and neck area and this would have allowed organ donation to have taken place also in keeping with the family's wishes.

(64) In terms of the Tayside University Hospitals NHS Trust Medical Staff Handbook Nicola's death fell into a number of the categories of death which must be reported to the Procurator Fiscal. Nicola's death: -

- occurred while she was under medical care,
- came in circumstances when its immediate arrival had been unexpected and sudden,
- had been due to an unexplained cause and
- gave rise to complaints from her next of kin about the medical treatment given.

There had been suggestions that the medical treatment given to Nicola may have contributed to her death.

(65) An autopsy could have been performed on Nicola restricted to her head and neck areas. This would have enabled the family's wishes regarding organ donation to have been respected also. Such an autopsy would have timeously informed medical staff and could have been considered at the meeting of doctors and nurses that took place shortly after Nicola's death. Professor Pounder considered it would have been unlikely for the Fiscal's Office to deny organ donation in Nicola's case. In Professor Pounder's experience such vetoes are only deployed in those murder cases where organ donation might interfere with the evidence in the case.

(66) Even if the diagnosis of subarachnoid haemorrhage had been correct in Nicola's case this would not have been a satisfactory cause of death to put on a death certificate in isolation. No mention had been made of any antecedent causes or morbid conditions giving rise to death.

(67) Based on the views of the various experts and utilising Professor Pounder's expertise in this context I have concluded the causes leading to Nicola's death were

- raised intercranial pressure due to
- acute hydrocephalus due to
- posterior fossa mass lesion (probable cerebellitis)

COMPLAINTS MADE BY THE FAMILY

(i) Doctors focus on Nicola's abdominal pain rather than her continuing headaches

(68) It seems clear that at the time of Nicola's admission to hospital on 21 September 1999 the pain that Nicola had in her abdomen was of more concern than her headache. Given Nicola's previous medical history of having an ectopic right kidney and a previous hospital admission for non-specific abdominal pain in August 1997 this seems to have been a reasonable approach. Early working diagnoses of mesenteric adenitis or abdominal migraine seem entirely reasonable in the circumstances. Appropriate measures were taken to treat Nicola's headaches. An abdominal X-ray was instructed and tests were carried out for infections and viruses that can provoke the symptoms displayed.

(69) However by 2 30a.m. on 22 September 1999 Dr. Yau noted that Nicola was not complaining of a sore abdomen but was complaining of a headache which was preventing her from sleeping. On the other hand the nursing note completed around this time states that Nicola was still complaining of a sore abdomen.

(70) As events progressed and test results were received it became clear by Dr Besaans' examination of Nicola at 4 p.m. on 22 September 1999 that headaches were Nicola's main complaint and not stomach pains.

(71) Unfortunately nursing staff seem to have formed the view that Nicola's headaches were worse when her parents were visiting. This lead to the view among nursing staff and doctors that Nicola's headaches might well be psychosomatic. Apparently this condition can manifest itself if a parent or someone close to the child is an invalid. Nicola's mother, Mrs. Gordon is wheelchair-bound. Medical staff thought it therefore that Nicola's headaches might be attention seeking.

(72) This view seems to have affected diagnosis in Nicola's case. While in many cases raised intercranial pressure can be detected, focal signs are not usually present until a very late stage. Nicola's repeated complaints of headaches, regular vomiting, disturbed sleep and occasional bouts of double vision, dizziness, temporary loss of vision and photophobia should have alerted medical staff of the need to carry out a CT scan. The decision to scan could have been taken on 22 September after Dr. Besaans' examination and certainly should have been taken after the ward round on 23 September. I am of the view that had such a scan been

carried out on late 22 September or during the day of 23 September raised inter cranial pressure would have been apparent. Steps to alleviate the pressure could have been carried out before "coning " of the brain occurred late on 23 September or early on 24 September.

(73) As I have indicated the length of Nicola's stay in hospital and the fact that she was transferred to high dependency and intensive care and had an operation meant that numerous doctors attended her- at least 17 over a period of just over 87 hours.

(74) I was advised that due to the reduction in junior doctors' hours it was likely that in future in patients could be seen by a number of different doctors over a period of days so that no doctor is required to work excessively long hours.

(75) The old system was rightly criticised for requiring doctors to work or be on call continuously for very long periods. The only advantage of the old system was the continuity that was provided. The doctor who would have been on duty overnight was then in a position to brief the consultant or senior doctor who carried out the ward round of patients the following morning.

(76) It was not clear who was in attendance at ward rounds. Dr. Mitra who had been involved in Nicola's admission was not present at the ward round which took place at 11 a.m. on 22 September 1999. Nor does it seem that Dr. Yau was present either. A different doctor, a senior house officer made a note of what he considered were the main features and findings of Professor Olver's examination. Nurse Borland was in attendance having taken over from Nurses Rae and Reid who had dealt with Nicola in shifts from her admission the evening before.

(77) Similarly at 10 a.m. on 23 September when Dr. Colvin carried out the ward round a different doctor- a Dr. Brewster took notes. Senior Staff nurse Borland was again in attendance. It does not appear that either the senior house officer, or Dr. Yau or Dr. Besaans who had seen Nicola in the interim were present. This is not a criticism merely a reflection of normal practice. It does however place a premium on those involved in the ward round to be properly briefed on patients at the start of each shift. Those staff need to be able to inform the doctor in charge of any significant developments and to record what takes place and is decided.

(78) When Professor Olver examined Nicola at 2 p.m. on 23 September 1999, Nurse Borland was present and a Dr. Adamson took a brief note of the examination of Nicola, main findings and medicine prescribed. The note does not do justice to what was said to be a thorough examination of some 20 minutes' duration. Although not noted Dr. Colvin was present also.

(79) It must not be lost sight of that Nicola's circumstances were unusual and her probable illness a very rare one. There were no obvious signs of raised intercranial pressure only what the experts described as "softer" more subtle ones. These needed to be gathered together to provide a sufficient reason to seek and press for an early CT scan.

(80) One of the difficulties for Professor Olver and Dr. Colvin when giving evidence on these matters 3 years after the events was that most of the notes attributed to

them were not their own. There was no system in place to ensure what was recorded of their discussions, examinations, findings and decisions was correct and complete.

(81) It is crucial that there should be sufficient, clear, concise and standardised notes available to facilitate the hand over of patients from one doctor to another. Medical history, observations and findings on examination or through tests are crucial in assisting the recovery of patients. Similarly good records are vital if a check requires to be made to ascertain what steps were taken and what if any diagnoses had been made.

(82) It may be that more standardised forms require to be prepared so that where for example a neurological examination is carried out the elements which require to be tested are listed and entries can be made at the appropriate places. To some extent this is already done in relation to Glasgow Coma Scale tests and scoring. However it may be necessary to specify that examination of the cranial nerves took place, examination of the back of the eyes, looking at eye movements and visual fields. In addition there may need to be examination of the power and reflexes of the arms and legs and checking balance co-ordination and orientation.

(83) So far as the ward round is concerned there ought to be recorded who was present, who was in charge, the main tests carried out and findings obtained, any diagnosis made and treatment prescribed. There should also be a note to show that doctors and nurses notes have been considered, together with the results of any tests carried out and in light of any medication taken. This may be the only time in a day when a doctor sees an inpatient and it is important that preparations should have been made for the meeting and what took place is recorded.

(84) Responsibility falls on the doctor in charge of the ward round but if he does not see the note made on his behalf until much later it is difficult to assert what actually took place if the note is silent or unclear on certain aspects. Those in charge of such practices and procedures should consider whether the doctor in charge should sign the note at the time or see it shortly after to countersign or amend as appropriate.

(ii) Nicola's Fall from Bed

(85) This occurred at 11 p.m. on 23 September 1999. By this time I am of the view that Nicola was suffering from acute hydrocephalus due to raised intercranial pressure. She may have rolled out of bed due to discomfort or loss of orientation. Nicola does not appear to have been injured as result of this fall. Given the initial cause of death it is not surprising that Nicola's family thought this incident was a matter of concern affecting her treatment.

(86) Since subarachnoid haemorrhage can be excluded as a factor in Nicola's death, it can be confirmed that Nicola was not injured in the fall. By the time Nicola fell out of bed her condition was far advanced. The fall from bed was a late indicator of Nicola's condition and was not due to negligence on the part of staff. However by that stage I am of the view that "coning" of the brain had occurred, was occurring or was about to occur and nothing could have been done by medical staff then to alleviate Nicola's condition.

(iii) The Involvement of Margaret Deuchar

(87) Various complaints were made and have been directed at Mrs. Deuchar in submissions made on behalf of Nicola's family. The family's solicitor undertook no cross-examination of this witness. I found Mrs. Deuchar to be a thoroughly credible witness. I appreciate that the family may have been concerned to find Nicola in the playroom on the morning of 23 September. However Mrs. Deuchar was doing her best, as instructed, to try to deflect Nicola from her headaches.

(88) Mrs. Deuchar has over 20 years experience as a play co-ordinator at Ninewells Hospital where she is in charge of a team. She is an integral part of the staff in the children's wards. It is not a surprise that Mrs. Deuchar was asked to help the nurses assess the pain Nicola was experiencing and assesses this at a time when Nicola's parents were not present.

(89) When Mrs. Deuchar was playing games with Nicola on the morning of 23 September Nicola called out at one point and said she could not see and screwed up her eyes. According to the expert witnesses this could have been an indicator of raised intercranial pressure but equally could have been a momentary effect of a headache. Mrs. Deuchar said she passed this information on to Dr. Colvin who saw Nicola later that morning as part of his ward round. Dr. Colvin had already given his evidence on 4 October 2002 when Mrs. Deuchar gave this evidence. No motion was made to recall Dr. Colvin.

(90) Mrs. Deuchar's statement was drawn up by her on 24 September 1999 after she heard of Nicola's condition but for some reason it did not form part of Nicola's medical records although it had been intended to do so. Dr. McGeechan said that in early October 1999 she was unable to locate all of Nicola's records since they seemed to be in different parts of the hospital. Mrs. Deuchar's note was not lodged until 3 October 2002 a few days prior to her giving evidence and at the same time as Nicola's complete records were made available to the inquiry.

(91) While this aspect is not entirely satisfactory it is not crucial. Even if Mrs. Deuchar's observation was not taken account of by doctors there were sufficient signs for them to have instructed a CT scan at or shortly after the ward round on 23 September.

(iv) The Prescribing of Dihydrocodeine

(92) The nursing notes indicate that sometime around 7 30 p.m. on 22 September 1999 Dr. Colvin spoke to Nicola's mother who was in hospital visiting Nicola. Nicola was described as being very unsettled and crying out in pain. Codeine phosphate had been given at 5 30p.m. with no effect. Dr. Colvin decided to prescribe dihydrocodeine and a small dose was given then. Nicola went to sleep until 3 a.m. the following morning.

(93) Dr. Colvin made no entry in the medical record section of Nicola's hospital notes. However the type and amount of the drug administered was recorded in Nicola's Medicine Records Sheet which formed part of the case notes. That sheet

was comprehensive and showed the increasing amounts and strengths of analgesia used to alleviate Nicola's headaches.

(94) Analgesia (pain relieving medication) recorded as having been given to Nicola from her admission to hospital until her admission to the high dependency unit was as follows: -

21/9/99 19 15Ibuprofen200mgs.

22 00Diclofenacsupp. 50mgs.

23 45Paracetamol750mgs.

22/9/9901 40Paracetamol750mgs.

08 00 Paracetamol750mgs.(Vomited)

12 00 Ibuprofen200mgs.

13 30Paracetamolsupp.500mgs.

15 00Diclofenac50mgs.

17 30Codeine Phosphate30mgs.

19 30 Dihydrocodeine30mgs.

23/9/9903 00Dihydrocodeine30mgs.

06 30Paracetamol750mgs.

08 00Diclofenac50mgs.

08 00Dihydrocodeine30mgs.

12 00Paracetamol750mgs.

14 00 Dihydrocodeine30mgs.

17 20Paracetamol500mgs.

20 00Diclofenac50mgs.

20 00Dihydrocodeine30mgs.

(95) I accepted Dr. Chetcuti's evidence that Nicola was treated with a significant number of analgesics that were of increasing strength. This programme was carried out without apparently considering if there was something serious going on inside Nicola's head. There were adequate notes for expert witnesses to check what had been prescribed for Nicola and how effective or otherwise they had been.

Accordingly I placed no significance on the lack of a note by Dr. Colvin when he prescribed Nicola Dihydrocodeine on 22 September. There was a very full nursing note that explained the reason for the action taken and there were appropriate entries in the Medicines Sheet.

(v) The Failure to Carry out a Full Neurological Examination and Early CT Scan

(96) There was general agreement among the expert witnesses that a CT scan should have been instructed at least by some stage during the day of 23 September 1999. It was suggested that due to the demands on such equipment and the uncertainty of Nicola's illness such a request might not have been accommodated until the following day by which time of course Nicola's condition had deteriorated to the irreversible and terminal.

(97) I found the concession by some of the hospital witnesses that, with hindsight, they would have instructed a scan earlier but that it might not have been accommodated until a time when it would have been too late, too pat an excuse.

(98) Dr. Chetcuti would have ordered a scan after Dr. Besaans' examination at 4 p.m. on 22 September or at latest by 10 a.m. on 23 September after the ward round and abdominal ultrasound. He would have expected the scan to have taken place as soon as possible after instruction and at least during the course of daytime on 23 September.

(99) Most of the other expert witnesses Drs. Marshall, Eunson and Steer would have instructed a scan at some stage on 23 September. So too, with hindsight, would have Professor Olver.

(100) The difficulty in Nicola's case was the absence of obvious signs of raised intercranial pressure. However it is clear from the evidence of Mr. El-Jamal, Dr. Eunson, Dr. Chetcuti, Dr. Marshall and Dr. Steer that had Nicola been given a CT scan during the day of 23 September it would probably have shown raised intercranial pressure.

(101) While it was generally accepted by all of the expert witnesses that the diagnosis of subarachnoid haemorrhage made on 24 September was incorrect it had no bearing on the outcome of Nicola's case since by that time brain stem compression "coning" had occurred.

(102) The CT scans taken of Nicola were done as an emergency in the middle of the night after calling out staff to operate the equipment and interpret the results. Ninewells is one of the designated head injury centres in the United Kingdom. Nicola was fortunate that equipment was on hand and she did not require to be transferred to another hospital.

(103) Dr. Main, the radiologist who examined and interpreted the scans had an interest in neuro-radiology but was not a specialist. There are relatively only a few such specialists scattered throughout the country. These specialists require a larger caseload than exists at Ninewells for such a post to be viable both in financial terms and to maintain and develop the post-holder's skills.

(104) Ninewells Hospital does not have teleradiological links with another hospital with specialist facilities to enable scans to be sent electronically and considered remotely by an expert. While it is unlikely that it would have been possible to have made use of such a link in Nicola's case given that she was scanned in the middle of the night, this is a matter which the appropriate authorities may wish to consider.

(105) It appears that the appropriate technology exists to send suitable quality scans electronically. These could be sent to another hospital for examination and interpretation or directly to the expert's home to obtain a specialist opinion quickly. There may be a need in some cases for the specialist to see the original scans. However the examination of scans remotely by an expert may be of assistance to hospitals such as Ninewells where the catchment area is not large enough to merit the employment of a specialist neuro-radiologist.

(106) Examination of the fundi at the back of the eyes is likely to show signs of raised intercranial pressure only at a late stage. The signs that should have led to the early instruction of a CT scan to exclude raised intercranial pressure were of course Nicola's complaints of recurrent headaches, waking from sleep with a headache, vomiting, photophobia etc.

(107) Nicola's headaches took over from the abdominal pains that seemed more severe on admission. Nicola was woken from sleep two nights running with headaches. She was regularly sick and was given increasingly stronger pain killing medication to relieve these headaches.

(108) Although Nicola was examined regularly during her stay in hospital, expert witnesses were critical and doubtful about the extent of neurological examinations due to the apparent lack of standardised procedures and sparse note taking.

(109) Given what is now known about Nicola's condition and how it led to raised intercranial pressure, it is probable that she was suffering from cerebellitis or possibly some swelling or tumour in that area of the brain. This would have had an effect on balance and co-ordination. Professor Olver conceded he did not ask Nicola to walk during his examination of her and there was little in Nicola's notes commenting on her gait and steadiness or otherwise.

(110) Dr. Kirkpatrick, whose main involvement was to corroborate the brain stem tests carried out with Dr. Croft, is a consultant paediatric neurologist and was available for consultation throughout Nicola's stay in hospital. Had Dr. Kirkpatrick been consulted he might have requested a CT scan during the course of 23 September but he was unable to say whether this would have revealed intercranial pressure.

(111) It should not be overlooked that Nicola's underlying condition that led to her death was an extremely rare one. Dr. Eunson was able to refer to a similar sad case involving a 13-year-old girl in Pittsburgh, USA. (See "Sudden Death from Fulminant Acute Cerebellitis" by Levy and others- Paediatric Neurosurgery 2001; 35: 24-28)

(112) The paper indicates that acute cerebellitis is a rare condition. In the case described the girl had a 10-day history of progressive headaches and worsening

balance that first appeared at her ballet lessons. An early CT scan 4 days before her fatal collapse revealed no abnormality.

(113) The expert witnesses did in my view exclude in their evidence the possibility that Nicola's raised intercranial pressure had been due to the growth of a tumour since the effect on the patient is much slower.

(114) The cerebellar hemisphere is located underneath and to the rear of the brain and controls balance and co-ordinating functions. Nicola's complaints of headaches were often at the back of her head and neck.

(115) It is appreciated that CT scanning equipment is at a premium and resources are finite. It is also a process that doctors will not submit patients particularly children to without good reason as there are potential side effects. It seemed that paediatricians were prepared to keep Nicola in hospital and monitor her condition. They did not consider that being an in patient with persistent headaches over a period of several days would have no priority over out patients and others due to be scanned. I gained the impression that in light of Nicola's case CT scans would be instructed more readily should a similar set of circumstances to Nicola's present themselves.

(vi) Failure to Report Nicola's Death to the Procurator Fiscal

(116) Had Nicola's death been reported to the Procurator Fiscal at the time an autopsy would in all probability have taken place. As a result there would have been no doubts about the causes and mechanism of death. Both Nicola's family and hospital staff would have been properly informed at the time and could have understood better the sequence of events. Hospital staff too would have been able to consider the full circumstances of Nicola's death at the time and been able to put in place any changes in procedure in light of an autopsy report.

(117) Conflicting accounts were given of the meeting between Drs. Croft and Naismith and Nicola's family on 25 September 1999. I preferred Mrs. Gordon's version that I have recorded at paras. 49& 50 above. I could not place the same reliance on Mr. Welsh's evidence as he conceded that he had been angry at the time and he appeared to have blacked out certain details from his mind. Perhaps this was a way of compensating for the loss of his daughter. I did believe Mrs. Gordon and Mr. Welsh when they said they were asked to sign a form at that meeting.

(118) Drs. Croft and Naismith said that they had a meeting with Nicola's parents and family at 11 a.m. on 25 September 1999 after brain stem tests had confirmed that Nicola was clinically dead.

(119) The family did not express concern about the care that Nicola had received in intensive care. However they did express their concerns about the management of her case in the paediatric wards prior to her admission to intensive care. The family indicated that they felt that Nicola's symptoms had not been given consideration.

(120) Notwithstanding these complaints medical staff did not report the circumstances of Nicola's death to the Procurator Fiscal for consideration in terms of their Trust's guidelines.

(121) Instead the family were left to "decide" between reporting the case to the Procurator fiscal or allowing arrangements to be made to donate Nicola's organs. This was an invidious position to be put in. After a brief discussion among themselves the family chose to donate Nicola's organs and matters were left that there would be a follow up meeting with Professor Olver and colleagues in due course.

(122) When this meeting took place on 3 December 1999, it was clear that Nicola's family had various complaints about her treatment in hospital prior to death and that these complaints were relevant to her death. Indeed the Procurator Fiscal appears to have had Nicola's death reported to his office by then and had been in contact with Professor Pounder- see Production No. 12- a letter dated 1 December 1999. No notes of this meeting were with Nicola's medical records. Professor Olver's notes of the meeting have been retained by him but perhaps by that stage given the involvement of the Procurator Fiscal he may have decided the notes should be retained by him rather than form part of the records.

(123) The doctors who dealt with Nicola's family on 25 September 1999 had been involved in Nicola's care after she suffered a collapse on the night of 23 and 24 September and after subarachnoid haemorrhage had been diagnosed as the reason for raised intercranial pressure.

(124) Nicola's family had no complaints with Nicola's care during her stay in the intensive care ward and this may have been a factor in the doctors' approach. However the " cause of death" given to the family on 25 September 1999 was not a proper and sufficient cause of death for certification purposes. As it is now known all expert medical opinion was that subarachnoid haemorrhage did not feature in the mechanisms leading to Nicola's death.

(125) While I do not consider the doctors deliberately tried to avoid an autopsy- a hospital one was offered; the family were left with the clear view that organ donation and a report to the Procurator Fiscal with its inevitable request for an autopsy were incompatible. The doctors may have thought that a Fiscal's autopsy would be a full one whereas hospital autopsies are often more specific and limited and would not preclude organ donation.

(126) The doctors should have been able to report the circumstances of Nicola's death to the Procurator Fiscal and also clearly expressed the family's wish for organ donation. The Procurator Fiscal would have required to seek independent medical advice from Professor Pounder or one of his colleagues. That advice would have been that an autopsy could have been carried out on Nicola's head and neck area leaving organs available for donation.

(127) I was left with the impression that the doctors were not as familiar with the rules regarding the reporting of deaths to the Procurator Fiscal as they should be. Tayside University Hospitals NHS Trust should ensure that all front line doctors are

familiar with the criteria. In particular they need to be aware that the possible need for an autopsy and a wish to donate organs are not incompatible. They also need to be clear that where complaints are made by next of kin about the treatment of a patient that may have a bearing on death occurring, the circumstances of the death should be reported to the Procurator Fiscal without delay. In that way any problems or difficulties can be resolved sooner and the best information can be gathered from witnesses when it is fresh in their mind.

(128) Nicola's parents have indicated a preference that cause of death 1(c) should be left as

Posterior Fossa Mass Lesion. The family considers that due to the length of time since June 2000 when they became aware of uncertainties as to the certified cause of death, the addition of "probable cerebellitis" would simply highlight the level of uncertainty in relation to Nicola's death.

(129) While I appreciate that viewpoint it is clear that the experts and a number of the doctors involved in Nicola's case have taken considerable time and care to research and evaluate the available evidence.

(130) Having heard all of the evidence I considered that I was able to exclude tumour arising in the area of the brain stem, given the suddenness of Nicola's symptoms over a few days. Similarly A.D.E.M.-acute disseminated encephalomyelitis appeared to be discounted by most of the experts. The thrust of the expert evidence tended towards cerebellitis- inflammation of the cerebellum as the probable cause. I was informed that brain stem glioma (tumour) was less likely given the relative shortness of Nicola's medical history in her final illness. Accordingly I consider probable cerebellitis should be added in cause of death 1 (c) after posterior mass lesion. The word probable is only included because the precise reason for the lesion was not capable of being identified on the CT scan. That process is not good at showing features in the bony area at the base of the skull. An MRI scan would have shown the cerebellum clearly and of course an autopsy would have allowed the precise cause to have been identified beyond doubt. On the evidence before me however there was sufficient on a balance of probabilities for me to conclude as I have done in relation to the causes underlying Nicola's death.

CONCLUSIONS

(131) I was impressed with the calibre of staff at Ninewells Hospital who gave evidence, both doctors and nurses alike. Professor Olver did not attempt to shirk from the responsibility of being the consultant in charge when Nicola was admitted. It is not the function of an inquiry such as this to apportion any blame. As I have indicated I am not clear if all of the relevant information was brought to Professor Olver's attention when he examined Nicola nor was the extent of his examinations properly recorded, particularly after the 23 September consultation. Professor Olver also attended the call out of staff on the night of 23 and 24 September to offer his advice and experience. He also took steps to ensure that the family was seen soon afterwards to discuss Nicola's case.

(132) Nicola's final illness was a very rare one and had complications of a type only recorded once before in medical literature. It was hard to detect the subtle signs of raised intercranial pressure when the obvious ones were not apparent. To identify the underlying problem of raised intercranial pressure in Nicola's case required careful consideration of the signs recorded in her medical records by doctors and nurses.

(133) From Dr. McGeechan's evidence it would seem that in the period after Nicola's death her medical notes were not altogether. Mrs. Deuchar's note made on 24 September 1999 was presented at the inquiry some days after the start separate from the rest of Nicola's medical records though it had been intended the note should have been put with the records at the time.

(134) It is not clear if nursing notes were referred to as part of the information presented and considered at the ward rounds on the mornings of 22 and 23 September when Nicola was seen and examined. However I was impressed with the nursing staff who gave evidence and the quality and clarity of their notes. Their evidence about handovers at the shifts and presence at ward rounds suggests that information was there if requested and that information was volunteered and available at ward rounds.

(135) When Nicola was given a neurological examination it was not clear from the medical notes the precise extent and nature of the tests performed. While Dr. Besaans referred to Nicola experiencing dizziness and double vision it is not clear whether this was a history noted or whether tests were carried out to check Nicola's balance, co-ordination and orientation. It does not appear that Nicola was observed walking when test were carried out at either ward round or the examination on the afternoon of 23 September. Tests of this type would have given medical staff the best opportunity to determine whether there was any problem with Nicola's cerebellum. Any concerns that might have arisen would have given a basis to seek and press for a CT scan as a matter of urgency.

(136) It is unfortunate that in their quest to determine the cause of Nicola's headaches the feeling arose among staff that they might be psychological and attention seeking. The feeling that Nicola's headaches were more severe when her parents were present may have coloured clinical judgment and caused other signs of underlying harm to be overlooked. It seems as a result that Professor Olver's examination of Nicola at 2p.m. on 23 September was arranged in such a way as to ensure her parents were not present. This was unfortunate. While Nicola was a bright and intelligent 12-year-old there would have been merit in speaking to Nicola's parents and confirming their views of Nicola's condition since her arrival in hospital.

(137) It only remains for me to offer my condolences to Nicola's family. Because no autopsy was performed at the time it took a long time before the family's complaints were acted upon, enquiries begun and expert opinions sought.

(138) I regret that this determination has taken much longer than I had hoped to produce. Matters were not assisted by the piecemeal way in which inquiry evidence had to be heard on 15 days over a period of 6 months. The inquiry took far longer than parties estimated and it was difficult for the court to accommodate additional

days as this inquiry proceeded in the wake of the FAI into the death of James Mauchland. Some of the solicitors were involved in both inquiries that affected the timing of additional days. Unfortunately transcripts of evidence were not as accurate as they might have been due to difficulties in audibility when transcribing the tapes and as a result their production was considerably delayed.

(139) Since the inquiry was held the Sheriff Principal of Glasgow and Strathkelvin has published a practice note. 2003 SLT (News) 159. This declares that preliminary hearings will take place in every FAI scheduled to take place in Glasgow. Questions such as whether the evidence is recorded by tape or shorthand writer are to be considered. It is likely that this good practice will be followed in this Sheriffdom in future.

(140) Although there are fewer FAI's held nowadays those that do take place tend to be of some length and complexity. If the estimate of their likely duration proves to be an underestimate it is likely that some months may elapse before a suitable dates or dates can be found. Little can be done during this period to prepare a determination when evidence still has to be lead and the full extent of the evidence is not known.