Surgeon, Dr C

Anaesthetist, Dr E

Private Ambulance Service

A Report by the

Health and Disability Commissioner

(Cases 01HDC15000, 02HDC00077)

Health and Disability Commissioner
Te Toihau Hauora, Hauātanga

Parties involved

Twin 1	Consumer
Twin 2	Twin 1's twin sister
Mr A	Complainant, twins' father
Mrs A	Complainant, twins' mother
Dr B	Provider, General Practitioner
Dr C	Provider, Surgeon
Dr E	Provider, Anaesthetist
Ms D	Friend of Mrs A
Mr F	Advanced Paramedic, Private Ambulance Service
Ms G	Ambulance Officer, Private Ambulance Service
Mr I	Regional Ambulance Manager, Private Ambulance Service
Ms H	Registered Nurse, Day Surgery Manager, Private Hospital
Mrs J	Registered Nurse, Charge Nurse, Day Surgery Post-Anaesthetic Care Unit, Private Hospital

Complaint

On 21 December 2001 the Commissioner received a complaint from Mr A and Mrs A about Dr C, Dr E, and a Private Ambulance Service. The complaint was summarised as follows:

Dr C

On 3 September 2001 Dr C made an appointment for bilateral myringotomy and insertion of ventilation tubes and adenotonsillectomy on Twin 1 and Twin 2 without:

- *reviewing their patient notes*
- *offering any alternatives to surgery*
- *providing any information about risks relating to the surgery*
- *providing any literature about tonsillectomy.*

In addition, Dr C did not see Twin 1 and Twin 2 again prior to surgery and did not adequately assess their condition at any time following the operation.

Dr E

On 18 September 2001, Dr E consulted with Twin 1 and Twin 2 and their parents only briefly prior to Twin 1's and Twin 2's bilateral myringotomy and insertion of ventilation tubes and adenotonsillectomy, and did not discuss their medication, condition, allergies, previous health problems and recent poor health.

Names have been removed to protect privacy. Identifying letters are assigned in alphabetical order and bear no relationship to the person's actual name.

Private Ambulance Service

When Twin 1 haemorrhaged at home on 25 September 2001 it took 16 minutes for an ambulance to arrive and a further 18 minutes before it was able to leave for the hospital.

An investigation was commenced on 22 March 2002. Following initial advice from Ambulance New Zealand the investigation was extended to include ambulance officers Mr F and Ms G, as follows:

Mr F

Mr F did not provide care of an appropriate standard to Twin 1 on 25 September 2001. In particular:

- *When Twin 1 haemorrhaged at home on 25 September 2001 it took 16 minutes for the ambulance carrying paramedic Mr F to arrive, and a further 18 minutes before it was able to leave for the hospital.*

Ms G

Ms G did not provide care of an appropriate standard to Twin 1 on 25 September 2001. In particular:

- *When Twin 1 haemorrhaged at home on 25 September 2001 it took 16 minutes for the ambulance carrying ambulance officer Ms G to arrive, and a further 18 minutes before it was able to leave for the hospital.*

Information reviewed

- Letter of complaint dated 12 December 2001 from Mr and Mrs A, including a diary of events, supporting letter dated 18 December 2001 from Twin 1's and Twin 2's grandparents, and photocopies of informational literature supplied to the Mr and Mrs A and annoted by Mr A
- Letters of response from Dr C, dated 7 May and 1 November 2002
- Opinion dated 23 June 2002 from an otolaryngologist, submitted by Dr C's legal counsel
- Opinion dated 25 June 2002 from a paediatric otolaryngologist, prepared for the District Coroner
- Letter of response from Dr E, dated 28 May 2002
- Initial response from the Private Ambulance Service dated 30 May 2002, including summary of service provided, incident report, patient report form, introduction to paramedic patient care procedures, and excerpts from the Private Ambulance Service operations manual

- Further information from the Private Ambulance Service, dated 12 June 2002, including letter from the district manager regarding the outcome of internal investigation, crew report, and medical advisor report
- Information and notes from the Private Hospital, dated 18 April 2002 and 29 January 2003, including summary of service provided, statement from day surgery manager, day surgery admitting procedure, post-tonsillectomy information, and the Private Hospital policy and procedures and bylaws
- Statement from day surgery unit charge nurse, the Private Hospital, dated 10 May 2002
- Notes from Dr B, Twin 1's and Twin 2's general practitioner
- District Health Board patient records for Twin 1
- Recording of Private Ambulance Service wave tapes of call from Mr A and contact with ambulance on 25 September 2001
- Transcript of interview with Mr I, Regional Manager, Private Ambulance Service Ambulance
- Transcript of interview with Mr F, Paramedic, Private Ambulance Service Ambulance
- Transcript of interview with Ms G, Ambulance Officer, Private Ambulance Service Ambulance
- Transcript of phone interview with Mr A
- Map of ambulance route to hospital
- Transcripts of Police interviews with Mr A and Ms D
- ACC documentation and findings
- Independent expert advice from Dr Nicholas McIvor, otolaryngologist/head and neck surgeon; John Ayling, Chief Executive, Ambulance New Zealand; and Dr Geoffrey Hughes, emergency medicine specialist
- Transcript of interview with Mr and Mrs A, 15 April 2003.

Information gathered during investigation

Twin 1 and Twin 2, twin girls, were born on 8 April 1999. In August 2001 Mr and Mrs A took Twin 1 and Twin 2 to Dr B, their general practitioner, because of recurrent ear problems. Dr B referred Twin 1 and Twin 2 to an ear, nose and throat (ENT) specialist, Dr C.

Initial pre-operative consultation

On 3 September 2001 Twin 1 and Twin 2 were seen by Dr C. According to the letter Dr C wrote to Dr B following the consultation, Twin 1's diagnosis was recurrent ear infections, glue ear and recurrent tonsillitis, and Twin 2's diagnosis was recurrent ear infections and recurrent tonsillitis. Dr C noted that Twin 1 had been suffering from recurrent ear infections since the age of one year and suffered more sore throats and colds and snored more than her sister. He recorded that according to their parents, Twin 1 and Twin 2 were allergic to erythromycin. On examination Twin 1 had moderate sized, slightly red tonsils with palpable tonsillar nodes and bilateral glue ear; Twin 2 had moderate sized tonsils that were not inflamed, large tonsillar nodes in the neck, and an effusion behind the left eardrum. According to Dr C's letters to Dr B, the options for treatment were insertion of tubes or an adenotonsillectomy and insertion of

tubes. Dr C noted his view that Twin 1 would "do much better" with the latter option, and that "Twin 2's parents have opted for the latter".

Dr C did not refer to the general practitioner's patient notes during the assessment. He advised me that he does not request notes from the general practitioner when booking a patient for surgery as he takes a patient history and performs an examination himself. Twin 1 and Twin 2's parents gave him a detailed history and he saw no need for further information.

Dr C booked the operation at a Private Hospital Day Surgery for 18 September 2001 although Mr and Mrs A did not confirm their decision to go ahead with the operation until 4 September 2001, the day after the consultation.

Pre-operative information provision
Mr and Mrs A recalled that Dr C did not offer any alternatives to surgery. Dr C advised me that the alternative to surgery was to wait and see. As Twin 1 and Twin 2 had recurrent ear infections he was concerned that developmental delays could occur if they were left untreated. Dr C said that both he and the general practitioner recommended the surgical option due to the benefits of protecting and enhancing the girls' hearing and general development. In response to my provisional opinion Mr and Mrs A said that their general practitioner expressed surprise at Dr C's recommendation to remove the girls' tonsils.

Dr C said that tonsillectomy was not initially considered, but Mr A pointed out that the girls suffered from recurrent sore throats. In view of the contribution the tonsils made to the girls' poor ENT and general health Dr C added tonsillectomy to the operation. Dr C said that his discussion with Mr and Mrs A focused on the tonsillectomy, as this was the major procedure and it required a longer recovery period.

Mr and Mrs A said that prior to the surgery they were not provided with verbal or written information relating to surgical risks, and were not given any literature about tonsillectomy. Dr C recalled that the risks of ear and tonsil surgery were discussed and that he emphasised that the addition of tonsillectomy made the operation more major, requiring ten days' recovery. However, Dr C accepted that his view that it is a safe procedure is inevitably reflected in the way he communicates the risks.

Dr C advised me that he did not specify the risks of primary or secondary haemorrhage because he has had no problem with such complications in his practice and, in his view, the significant improvement in the safety of the operation obviated the need to disclose this risk. Dr C is unsure exactly what information he provided during this consultation. His printed handout ('After Tonsillectomy') identifies the possibility of bleeding and he usually refers to the handout during the initial consultation. Mr A said that they were not given the handout concerning tonsillectomy until after the operation. Dr C supplied two pieces of information prior to the operation: 'Otitis Media and Ventilation Tubes', an article written by him and published in the *New Zealand Practice Nurse* journal (August 1995), and a fact sheet on ear ventilation tubes (identifying what they are, what they are used for, complications of having the tubes in, and precautions while they are in).

In response to my provisional opinion, Mr and Mrs A confirmed that they were not given literature on tonsillectomies; Dr C viewed the procedure as safe, and did not give them the information they needed to make an informed decision. Mr and Mrs A said they had no knowledge of what was involved with Twin 1's and Twin 2's operations. Dr C told them that the operation was minor and that they would be home by lunch time. It was Dr E who told them that Twin 1 and Twin 2 would vomit up blood and would not go home until late in the afternoon. Mrs A arranged to take only a week off work as Dr C had advised her of a week's recovery time and that it was "no big deal and kids get over it".

On 7 September, approximately ten days before the operation, Twin 1 was "chesty" and Mr and Mrs A took her to the GP. Before going they rang Dr C to check whether it was acceptable for her to be on medication before surgery. Dr C confirmed that it was. According to Dr B's records, Twin 1 had been coughing over the previous two nights and Mrs A thought the cough was "tight and wheezy". Dr B noted that bronchospasm was more likely than infection and commenced Twin 1 on Betnesol and Ventolin.

On 9 September Mr A completed and signed the Private Hospital Day Surgery admission forms and Mrs A delivered them to the Private Hospital on 10 September. Dr E informed me that the admission form is part of the pre-anaesthetic preparation and assessment and is provided to patients at the time of their consultation with the surgeon, prior to the operation.

Pre-operative assessment

On 18 September 2001 Mr and Mrs A took Twin 1 and Twin 2 to the Private Hospital Day Surgery Unit. Ms H, Day Surgery Manager, said that Twin 1 and Twin 2 were weighed and it was noted that they were allergic to erthyromycin. Twin 1 did not have her temperature recorded as she became distressed. It was noted that she was cool to touch and did not appear febrile. On the Day Surgery Admission Form Mr A had noted that Twin 1 had had wheeziness and shortness of breath at night over the past year, and that Twin 1 had had a head cold, throat infection and bronchitis within the previous two weeks and had taken co-trimoxazol, paracetamol, Ventolin and Betnesol within the past four weeks and was allergic to erythromycin. Mr A had noted that Twin 2 had had wheeziness over the past year and had taken co-trimoxazol, paracetamol and Synermox suspension over the past four weeks, and was allergic to erythromycin. The forms recorded consent to the operation of adenotonsillectomy and tubes, and were signed by Dr C and Mr A.

Mr and Mrs A said that Dr E, anaesthetist, consulted with them only briefly and did not discuss Twin 1's and Twin 2's medication, condition, allergies or recent poor health. Dr E said that he met with Mr and Mrs A at 8am and reviewed the girls' records and checked the consent forms. He then reviewed the admission questionnaire, questioned Mr and Mrs A about Twin 1's chronic health problems, looked up the pre-operative notes, observed Twin 1 for signs of active infection, advised on the operation and post-operative care, and answered any questions. Dr E said that Mr and Mrs A expressed concern about the twins' ill health and he discussed their repeated infections. There was no sign of current infection and, according to the parents, the twins were as well as they ever seemed to be. In light of this information and his assessment, Dr E determined the anaesthetic risk to be low and recorded each child as "well" on the anaesthetic record.

Dr E advised me that pre-anaesthetic preparation and assessment is a multi-layered process involving in the first instance a review of information obtained by the surgeon. A pre-operative anaesthetic assessment may also be offered in cases where problems or potential problems are identified (although this was not the case with Twin 1 or Twin 2). A detailed pre-anaesthetic questionnaire completed by the patient (or parent) is an important document. Dr E goes over every patient's questionnaire. Mr A answered "no" to the question "Have you any anxieties or concerns about your forthcoming anaesthetic that you would like to discuss with your anaesthetist?" on this questionnaire. Dr E explained that the admitting nurse also has an important role in recording observations, medications, allergies, etc, and will draw the anaesthetist's attention to specific concerns. Additionally, Dr E always asks if there are any other questions.

Mr and Mrs A said that Dr C did not consult them or visit the twins prior to surgery. Dr C advised me that it is not customary to re-examine patients unless there is a reason to do so, but that he did say hello to Mr and Mrs A and was available to answer any questions. He said that there is a close liaison between surgeon and anaesthetist, and both Dr E and Dr C said that it is not uncommon to cancel surgery if the patient is found to be unwell.

Operation

The operation on the twins proceeded uneventfully. According to Dr C's interpretation of the operation record there was thick glue in both of Twin 1's middle ears and ventilation tubes were put in. Twin 2 had thin glue in her left middle ear. Moderate sized adenoids were removed and tonsils were removed "by routine tension and bipolar dissection with silk ties used". The tonsils "did not dissect easily, as if they had been inflamed frequently" but blood loss was not excessive.

Post-operative care and information

Mrs J, charge nurse, said that Twin 1 arrived in the Post Anaesthetic Care Unit at 10.16am. Her vital recordings were stable and no abnormal secretions from her mouth were noted. Twin 1 was receiving intravenous fluid. According to the recovery room record Twin 2 had woken from her anaesthesia at 10.00am and was settled and sleeping again at 10.30am. At 11.45am Twin 2 was noted to be tolerating sips of fluid and was given Panadol.

Post-operatively, Dr E saw the twins in the recovery room on at least two occasions and said there were "no anaesthesia related complications of any significance in either child".

Twin 1 was conscious at 10.30am and at 12.30pm her temperature was recorded as normal. According to the recovery room record Twin 1 was slightly wheezy but this cleared with coughing. At 1.10pm Twin 1 was given a lollipop and water. Mr and Mrs A recalled that Twin 1 held the fluid and lollipop in her hands but did not ingest them. At 1.30pm Twin 1 was given Panadol and noted to be happy. Mrs J said that Twin 1 was taking oral fluid and was able to take the oral Panadol. According to the recovery room record entry for this time Twin 1 vomited a small amount of old blood and was given an antiemetic.

Dr C saw the twins in the recovery room at 1.30pm and recalled talking to Mr and Mrs A. However, Mr and Mrs A said that Dr C did not speak to them and did not come any closer to the twins than three metres.

Mrs J said that she discussed with Mr and Mrs A the twins' fluid requirements, rest, diet, analgesia and antibiotic administration, contact details if problems arose, and calling Dr C if necessary. Dr C said that the importance of watching for bleeding and contacting him was contained in the fact sheet he hands out. Mrs J said that, at the time of discharge, recovery room staff go over the fact sheet with parents and re-emphasise the details. A copy of the fact sheet identifies clearly in bold capital letters: "Do contact me if vomiting persists, bleeding occurs or the pain medication seems inadequate." The form states that Dr C is unavailable at home at the weekend but for urgent problems the patient should ring the Public Hospital (number supplied) and ask for the ENT surgeon on call.

Dr C informed me that he has now changed his practice to incorporate the Royal Australasian College of Surgeons' handout on tonsillectomy including discussion of the risks of haemorrhage.

At 3.30pm Twin 1 and Twin 2 were discharged home. Dr C's following letter to Dr B noted that "everything went smoothly". He noted that "a telephone call in the evening established that there were no immediate problems".

Post-operatively, Twin 2 continued to improve and was noted to be a lot better than Twin 1.

Care after discharge
Following discharge Mr or Mrs A made a number of calls to Mrs J at the Private Hospital, which were recorded in the Private Hospital Post Discharge Register.

Mrs J recalled that Twin 1's parents rang her at 8am on 19 September to report that Twin 1 had had a further vomit of blood during the night. She was having difficulty taking fluids but was taking her medication. Mrs J advised the parents to ensure that the fluid intake was maintained and that pain relief was given regularly. At 10am and 2pm Mr and Mrs A rang Mrs J again to say that Twin 1 was "much improved". The following morning, 20 September at 8am, Mrs J rang Mr and Mrs A to check on the twins and was advised that they were much improved. However, at 4pm Mr A rang to say that Twin 1 was still not as well as her sister and Mrs J advised him to ring Dr C, as she was unable to provide further advice over the phone. Mr A said that he rang Dr C and was told to stop the antibiotic and the Betnesol and advised that some people react differently to others. Mrs J said that she rang Mr and Mrs A again on 21 September to check on Twin 1 and was advised that she had had a reasonable night and was much improved. Mr A said that at midday he rang Dr C, who returned the call later that afternoon and spoke to Mrs A, who explained that she and Mr A were concerned about Twin 1. Mr A said that Dr C appeared unconcerned.

On 22 September Twin 1 was lethargic and slept a lot. She was not taking Panadol and reluctant to eat or drink much. Mr A rang Dr C at home at 6.30pm and then took the twins to see him. According to Dr C's records he noted that Twin 1 was not as well as her sister but not unwell or dehydrated. She was noted to be unhappy. He examined Twin 1, found her chest to be clear and showed the parents how to give Twin 1 paracetamol medication via a syringe. Mr A said that Dr C provided the option of admitting Twin 1 to hospital for intravenous therapy but did not feel this was necessary. In response to my provisional opinion, Mr and Mrs

A said that they sought Dr C's expert guidance on whether Twin 1 should have been admitted to hospital as they did not feel they had the expertise to make that decision.

On 23 September at lunchtime Dr C telephoned to check on Twin 1, and the following day, 24 September, Dr C's secretary rang to check on Twin 1.

25 September 2001
Mr A recalled that during the day of 25 September Twin 1 continued to improve and although quiet she was eating and drinking more.

At 5.30pm Twin 1 started to haemorrhage. Mr A dialled 111 and asked the operator to ring an ambulance. Mr and Mrs A complained that it took 16 minutes for an ambulance to arrive and a further 18 minutes before it was able to leave for the hospital.

From receipt of call until arrival of ambulance
According to the Private Ambulance Service call and despatch details log, the call was received at 5.33.54pm and at 5.34.08pm the ambulance was despatched. Mr I, Regional Ambulance Manager, said that although there was an ambulance life support unit located closer to Mr and Mrs A's house, this unit had been despatched two minutes earlier to another life-threatening situation. According to the ambulance wave tape recordings Mr A told the ambulance call operator that Twin 1 was "throwing up blood flat out", that she was two and a half years old, and that she had had her tonsils out a week ago.

Mr F, advanced paramedic, recalled the pager message as "an unconscious child" and that en route communications advised that the child was having a seizure. Mr F said that they headed to Mr and Mrs A's road "under lights and siren". Ms G, the ambulance officer with Mr F, remembered the pager message saying "unconscious two year old". At 5.37.46pm while the ambulance was en route, the call operator notified Mr F that they were responding to "a two and a half year old, unconscious, is breathing".

During the time that the ambulance took to arrive, Mr A remained in telephone contact with the ambulance call operator, who provided reassurance. According to the ambulance wave tapes the ambulance operator told Mr A to clear Twin 1's airway and encouraged him to stay calm following Mr A's advice that Twin 1 was unconscious and going blue. She told Mr A to try to calm Mrs A and get her to take Twin 2 out of the room. The ambulance operator advised Mr A that the ambulance was on the way and asked if Twin 1 was breathing. He responded that she was and the operator told him to tilt her head to the side and maintain the airway. Mr A said that he managed to insert his finger into her mouth and that she was biting hard on it. Mrs A had rung her friend, Ms D, and went to the gate to wait for the ambulance. Mr A told the ambulance operator that they had been concerned all week about Twin 1 and had phoned the surgeon several times. At some point during this time Ms D arrived and took over the phone from Mr A. Ms D told the operator that Twin 1 was breathing and had stopped convulsing. Ms D provided reassurance to Mr A and Twin 1 and advised the ambulance operator that there was a lot of congealed blood. Twin 1 continued to clamp her teeth on Mr A's finger.

Mr F said that en route to the Mr and Mrs A's house the ambulance operator advised them that Twin 1 was having a seizure. At 5.42.22pm Mr F advised the ambulance operator that his location was approximately two kilometres away. At 5.47.07pm the ambulance located Mr and Mrs A's house. The house was down a driveway on a back section. Mr F drove into the driveway rather than backing and Mr F said that once the vehicle was stationary he would have pressed the locator button.

The time taken for the ambulance to arrive at the scene from the time it was despatched was just under 14 minutes.

Time at Mr and Mrs A's home
Ms G went into the house and Mr F followed with the paramedic kit, oxygen therapy unit and a defibrillator. Ms G had to go back to the ambulance to get the suction unit.

In regard to his assessment and treatment of Twin 1 before transport to hospital Mr F provided the following statement:

> "We found [Twin 1] lying on the lounge floor on her side being comforted by her father [Mr A]. The initial scene assessment noticed blood discharging from [Twin 1's] mouth and nose and some blood on the carpet on the floor and some blood stained towels around at her head. The appropriate primary survey was carried out in an assessment of her airway breathing and circulation pulse, oxygen was given via an acute mask at 8 litres per minute, her vital signs recorded her heart rate was 70 with respiration rate of 30 and a Glasgow Coma score of 9 comprising of 2, 2 and 5 (level of consciousness scale divided into three types of behaviour: eye opening; verbal response and motor response), skin was pale and cool, cyanosis, blue, was present around her lips. [Twin 1] appeared lethargic and postictal (slow recovery phase following a seizure marked by confusion and tiredness) … her parents explained while she was sitting on the couch, I believe attempting to eat and drink, she had a seizure. History was gathered from parents and now I believe grandparents were present at the house. Our first thoughts were possibly a head injury, our pager messages are often quite vague and it gives us an idea of what we may be attending but not really exactly so we never read into a pager message. On the basis of the fact that her airway was compromised with blood I sent my partner [Ms G] to the ambulance for the suction equipment. At that stage I was happy with her position lying on the floor to drain blood from her airway. I attempted one intravenous access and was unsuccessful. I attempted one intraosseous needle access (emergency intravenous access where needle is inserted into the bone marrow of one of the leg bones) and was unsuccessful. During the procedures I explained to the parents that I needed to give this child some fluid to replace the blood that she was losing, however I did explain to the parents that the procedures – sticking a needle into initially her arm and hand and then the needle attempt into her lower leg was somewhat barbaric and if they didn't want to watch then please turn away at that stage. Recognition at that stage that the child was indeed exsanguinating her blood volume and recognising that this was of some urgency to get [Twin 1] to hospital to get medical care as soon as possible and indeed that was enforced and prompted twice by her father 'let's get going to hospital' I think were his words. I asked [Ms G] to get some details off the people at the house and she brought

> a patient report form and started to fill that out and I also asked [Ms G] to phone the emergency department and tell them that we were on the way in with a two and a half year old child who was haemorrhaging. As history evolved we found out that she was indeed post-tonsillectomy seven days and that was the cause of the haemorrhage potentially, so off we went to hospital …
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> … The decisions of fluid infusion for haemorrhage and blood loss, I believe that what we saw was again exsanguination, a large loss of blood that required intravenous fluid resuscitation, that is difficult to perform en route to hospital and I chose to do that to improve her chances of survival before we left for hospital with two attempts, one at IV and one at intraosseous. The airway management procedure I indeed performed en route to hospital in the moving ambulance, my concern was that she was aspirating blood into her lungs so I had to protect that airway and I chose to perform an endotracheal intubation, there was no time wasted there with that procedure because the vehicle was moving. Other skills performed, aspiration airway with suction and worked well, and that didn't delay the transport of the patient and didn't delay the proceedings in the back of the ambulance. Drug therapy as per procedures I had no IV or intraosseus access so the best route for those drugs was down the ET tube and again that was performed on route or just after my assistants had arrived post intubation …"

Transport to the Public Hospital

Due to the acuity of the situation, Mr F travelled in the back of the ambulance with Twin 1 and Mr A and Ms G drove the ambulance. Ms G had not driven the ambulance previously. Mr I said that Ms G had been with the Private Ambulance Service for six weeks only and had not undertaken the industry training driving course (a normal car licence is required for driving an ambulance). Ms G said that she knew she had not pressed the depart button as it was the first time she had driven the ambulance and it was not something she thought of. Mr F initially thought that Twin 1 had suffered a cardiac arrest while the ambulance was still stationary and before it had left the driveway. However, he was not clear on this point except that he remembered having to resuscitate Twin 1 and knew that the ambulance must have been stationary in order to do this. Ms G said that en route to the hospital Mr F instructed her to pull over as Twin 1 had arrested and he needed to defibrillate her. Mr A, who was also travelling in the back of the ambulance, said that the ambulance stopped en route approximately two kilometres from Mr and Mrs A's house. Ms G said that she activated the depart button at some stage during the resuscitation stop, which would have been several minutes after leaving the house for the hospital.

In regard to activation of the ambulance depart button, Mr F provided me with the following statement:

> "Indeed and I think my instructions were probably something like '[Ms G] you will have to drive, I need to stay in the back, are you okay to back the vehicle out the drive?' and I think she was happy to do that and then 'we need to go to hospital with beacons on and you to siren if you need to travel through a red light' now I gave her some instructions there.
>
> …

> The depart button was activated late during the stress of the situation. I believe that the transport or depart button was pressed by [Ms G] after a prompt from me, she had overlooked that and it may have been pressed several minutes en route to hospital. That may be reflected in the transport time to hospital which I would have to consult my incident report to do that. That may reflect that it was pressed late and hence the extended scene time as per the computer dispatch system."

At 6.08.25pm Ms G called the ambulance operator for backup and at 6.09.05pm a second ambulance was despatched. The second ambulance intersected the first ambulance at approximately two kilometres from the Public Hospital and a paramedic from the second ambulance went to assist Mr F with Twin 1.

Summary of ambulance times

Call answered	17.33.54
Referred to dispatcher	17.34.08
First unit assigned	17.34.25
First unit en route	17.35.36
First unit arrived	17.47.07
Time left scene	18.05.23
Located at hospital	18.19.37

The distance from the Private Ambulance Service base to Mr and Mrs A's home is approximately nine kilometres. It is a similar distance from Mr and Mrs A's home to the Public Hospital.

The closest available ambulance responded to Mr A's call within 1 minute 42 seconds. Travelling time to the call was 13 minutes 13 seconds from the time the call was answered.

The time at the scene is recorded from the time the arrival button is activated until the time the depart button is activated. This is recorded as 18 minutes and 16 seconds; however, it appears that the depart button was activated at some time following departure from Mr and Mrs A's home, probably at the time the ambulance stopped approximately two kilometres from Mr and Mrs A's road. Both Mr F and Ms G estimated the time to have been "several minutes" after leaving Mr and Mrs A's home.

Travelling time from activation of the depart button to the Public Hospital is recorded as 14 minutes and 14 seconds. Assuming the depart button was activated at the time the ambulance stopped, the distance from this point to the Public Hospital is approximately 7 kilometres. During this time the ambulance stopped to pick up extra support crew and change drivers.

Hospital care

According to the Public Hospital Emergency Department records Twin 1 arrived at 6.19pm. Following a cardiac arrest en route to the hospital, Twin 1 was in electro-mechanical dissociation (a condition with a poor prognosis, where there is electrical activity in the heart but no pulse). Between 6.30pm and 7.30pm Twin 1 continued to be actively resuscitated in the Emergency Department until her heart rate returned. At 7.45pm arrangements were made for Twin 1 to be taken to operating theatre. An anaesthetist in the Emergency Department,

discussed Twin 1's prognosis with her parents and advised Mr and Mrs A of the severity of her condition. At 8.30pm Twin 1 went to the operating theatre and Dr C cauterised and tied the bleeding site. At 9pm Twin 1 was admitted to the Intensive Care Unit. She did not regain consciousness and died the following morning.

Independent advice to Commissioner

Otolaryngology advice
The following expert advice was obtained from an independent otolaryngologist/head and neck surgeon, Dr Nicholas McIvor:

> "Thank you for asking my opinion on this case. I am also an ACC advisor and have already submitted a detailed opinion based on the information that was supplied to me. I supply a copy of that opinion.
>
> In response to your specific questions:
>
> **1. What information did [Dr C] require when deciding to carry out bilateral myringotomy and insertion of ventilation tubes and adenotonsillectomy on [Twin 1] and [Twin 2]? How should [Dr C] have obtained this information?**
>
> It would be normal practice to have a referral letter accompanying or preceding the patient stating specific problems and the reason for referral. It would then be the surgeon's responsibility to take a further detailed but directed history and to perform the appropriate examinations and whatever tests were deemed necessary. With respect to this case, the referral was brief and could not have been very helpful to the surgeon. Otitis media was the only problem stated in the letter. [Dr C] then obtained a history of recurring ear infections associated with upper respiratory tract infections and frequent sore throats. He diagnosed middle ear problems on examination as well as enlarged neck nodes which are common in children of this age group. He came to the conclusion that [Twin 1] was suffering from recurring ear infections and recurring tonsillitis and on this basis it was not unreasonable to advise adenotonsillectomy and insertion of grommets.
>
> **2. Given the diagnosis made by [Dr C], what alternatives to surgery were possible for [Twin 1] and [Twin 2]? What were the advantages and disadvantages of such alternatives for [Twin 1] and [Twin 2]?**
>
> The alternatives to surgery for recurring ear infections (as with persisting middle ear effusions) are prolonged antibiotics, in some cases conservative treatments such as nose blowing, and also a wait and see policy in the hope that the situation may resolve itself. I think surgery in the form of bilateral myringotomy and insertion of ventilation tubes was the correct option here. What is at issue is the indications for tonsillectomy.
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> As stated in my ACC opinion there are differing opinions as to the indications for tonsillectomy. In children it is mainly advised for obstructive enlarged tonsils or for

troublesome recurrent tonsillitis. The latter appeared to be the indication for [Twin 1]. Tonsillectomy is not indicated for recurrent otitis media per se. The alternatives to tonsillectomy are a wait and see approach, prolonged antibiotics, or in some cases alternative medicine remedies. The advantage of adenoidectomy and grommets for [Twin 1] were reduction in frequency of otitis media avoiding the associated systemic upset and improved hearing. The advantages of tonsillectomy would be to rid her of a source of chronic infection. With respect to this it is noted that [Twin 1] was frequently unwell and was the smaller of the two twins. The disadvantages of tonsillectomy are the morbidity of the procedure in very young children, particularly the risk of dehydration. There is also significant risk of postoperative haemorrhage occurring at any time within the first two to three weeks although the risk is lowest in young children.

3. What are the risks of haemorrhage following tonsillectomy? Should [Dr C] have informed [Mr & Mrs A] of the risks of primary and secondary haemorrhage following tonsillectomy?

The risks of haemorrhage following tonsillectomy are outlined in detail in my ACC opinion but in summary there is a less than 1% chance of significant bleeding within 24 hours of surgery and approximately a 2% risk after 24 hours of surgery but at some time within three weeks of surgery. The risk is highest in adolescents and adults and lowest in young children such as [Twin 1]. Certainly [Mr and Mrs A] should have been warned of the risk of bleeding following tonsillectomy. In my report to ACC, I commented on that information sheet which was provided to [Mr and Mrs A] stating that the surgeon should be informed should there be any bleeding. However, according to the parents in their submission to the Commissioner, this information sheet was not provided until after surgery. If indeed this was the only time that the risk of bleeding was raised with the parents then this would fall short of what is acceptable practice. The timing of fully informed consent needs to be established as there appears to be a conflict between statements from [Mr and Mrs A] and [Dr C].

4. What is acceptable practice in providing written information about tonsillectomy?

There is a trend to provide written information about health conditions and treatments but I don't think it is unacceptable that written information is not provided prior to a procedure. What is most important is that sufficient information is provided in whatever means that may take. It must always include a thorough explanation of the pathological process and whatever treatment is advised including the alternatives. With [Twin 1] written information was provided on the post-operative care for tonsillectomy patients although it appears that this was given on the day of surgery rather than preoperatively.

5. What assessment was [Dr C] required to make when [Twin 1] and [Twin 2] were admitted for day surgery?

It would be appropriate for the surgeon to meet with [Twin 1] and [Twin 2] and their parents to make sure that there were no further issues to discuss. He should have specifically asked whether they had any further questions and explained the sequence of events leading up to surgery and the postoperative management. As the decision for surgery is based primarily on history, it would not be necessary for either patient to have her throat or ears examined preoperatively as they had been examined only 15 days earlier. An exception to this would be if the patient had developed a further sore throat/infection which was present on the day of surgery. If acute infection was present on examination the surgery would be deferred until the patient was better.

6. Did [Dr C] appropriately assess [Twin 1] and [Twin 2] following surgery prior to their discharge home?

Following tonsillectomy and prior to discharging a young child, the surgeon must be satisfied that there is no on-going bleeding, that the child will be able to swallow fluids and that the child is otherwise well. He should also establish that instructions for postoperative management are understood by the parents and should answer any questions or concerns they have. I don't think it is necessary that the child's throat is directly examined as there are other signs that are evident to a skilled recovery nurse and surgeon that would indicate bleeding such as fresh blood coming from the nose or mouth, repeated swallowing, vomiting fresh blood and a rapid pulse rate. [Twin 1] did vomit after the surgery but this was probably swallowed blood either from the surgical procedure or in recovery. The sequence of events does not indicate that [Twin 1's] fatal secondary tonsillar haemorrhage on the seventh postoperative day was in any way related to the initial events after surgery.

7. Did [Dr C] appropriately assess and treat [Twin 1] when he saw her on 22 September 2001?

The requirement would be for the surgeon to establish that there is no bleeding, that the child is well-hydrated and well-nourished, that there is no fever and that the child is otherwise well. It is not unusual for pain to be quite severe in the first week following tonsillectomy and while some children seem to recover very quickly, other children are quite miserable. This difference was certainly evident between the two children. [Dr C] did examine [Twin 1's] throat and apparently checked her breathing pattern. There is no record of an assessment of hydration or temperature. This may have been done but not recorded. It was appropriate that the option of admitting [Twin 1] to hospital was raised. Apparently this was to administer intravenous fluids and therefore there were concerns about her fluid intake. The following day she was showing signs of improvement and [Dr C] phoned for a progress report. It certainly would be easy to say that if [Twin 1] had been admitted that day then the subsequent fatal event would not have occurred but I believe this is an over-simplification. I don't believe that the problems that [Twin 1] was experiencing were that much different from many patients in the first week following tonsillectomy and they are not per se indicators of the subsequent fatal bleed from the

lingual artery. If [Twin 1] had been admitted that day it is quite likely that she would have been discharged either the following day or on the morning of the fatal bleed.

In summary, I think the issues here relate to the information given prior to the procedure including the explanation that there was a risk of bleeding in any person undergoing tonsillectomy. The incidence of primary haemorrhage occurring within the first 24 hours (less than 1%) and of secondary tonsillectomy haemorrhage (approximately 2%) should have been given together with the implications so that the parents could make an informed opinion. Preferably the surgeon's own figures should have been provided. Should [Mr and Mrs A] have been warned that [Twin 1] could die following tonsillectomy? I believe that there is a general understanding that anaesthesia and surgery carries risk and that death is one of them. Just as we know that there is a risk every time we travel in a car or aeroplane. Some surgeons explain that the worst thing that can happen following surgery is death but this is certainly not done by all surgeons and in all cases. Few surgeons would know of the true mortality rate because of the rarity of these cases within any surgeon's wider experience.

Tonsillectomy is an effective operation in those patients who are getting a chronic or recurrent severe tonsillitis that significantly impacts on their health and it is important to be aware that Otolaryngologists continue to put themselves as well as their own family forward for this operation when they feel it is going to improve their well-being."

Advice re ambulance services

The following independent expert advice was obtained Mr John Ayling, Chief Executive, Ambulance New Zealand:

"By way of background, I set out a brief description of how the ambulance service is organised and the role of Ambulance New Zealand.

Ambulance New Zealand is a charitable Trust, representing the following members:

- Auckland Rescue Helicopter Trust
- Taranaki Healthcare Ltd
- Philips Rescue Helicopter Trust
- Wairarapa Health Ltd
- The Order of St John
- Wellington Free Ambulance Service
- Wellington Life Flight Trust
- Nelson-Marlborough Health Services Ltd
- Garden City Helicopters

- Helicopters Otago

A governing Board of Trustees, chaired by an independent Chairperson, manages the affairs of the Society.

The role of the ambulance service in New Zealand is to provide emergency care and transport to people in need. The service is an essential component of the New Zealand health service by providing out-of-hospital care and, where necessary, transport for the sick and injured by land, air and sea.

Having regard for the above, and noting your wish for the representative body [of which the [Private Ambulance Service] is a member] to provide advice, I need to declare and disclose that this is a matter of potential conflict.

I have reviewed the file in terms of the ambulance response and recorded actions at the scene and comment as follows.

[i] Time for ambulance to arrive

The explanation provided seems reasonable, given the circumstances.

[ii] Information available prior to arrival and immediately on arrival at the scene

It is not clear whether the attending ambulance crew were aware that they were responding to a case of a child with post-operative complications.

- The paramedic account of the event [letter dated 9/6/02 – page 2] states the presence of a possible head injury, to account for blood loss.
- The incident log from [the Private Ambulance Service] [page 3 of Tab B of folder] notes that the control centre recorded at 17.40 that the crew were responding to a case of a child having had recent surgery [tonsils removed].
- It is unclear as to whether this information was relayed by radio or pager from the control centre to the crew, prior to their arrival at the scene.
- It is assumed that the child's father [presumably '[Mr A]'] would have made known to the crew on arrival that his daughter had recently had surgery.

[iii] Actions at the scene

Clinical practice of paramedic staff is guided by the use of a controlled document – 'Authorised Patient Care Procedures – Paramedic – July 2000'. They provide guidance on how the responsibilities of an ambulance officer are applied in responding to calls for emergency assistance.

- In this particular case the child would appear to be in a state of hypovolaemic shock – shock caused by bleeding. The procedure guidelines state that the aim is to rapidly transport the patient to hospital.

- The above-mentioned procedures also establish that certain life-threatening conditions require urgent treatment to hospital for immediate definitive treatment. This includes patients who have a Glasgow Coma Score [GCS] of 12 or less, noting that in this particular case the child had a GCS of 9.

- The records provided do not give commentary as to why the paramedic on the scene attempted to undertake haemorrhage control at the house, when other indicators suggested immediate transport.

- With the knowledge of post-operative bleeding and a GCS score of 9, it is not clear as to why the case was not managed as a 'load and go' – ie, transport without delay. Whether the outcome for the patient would have been any different is problematical and outside my capacity to comment.

In summary, it is clear that the ambulance service and its staff were having to deal with a very ill child towards the end of a sequence of events, involving other parts of the health service. The actions of the paramedic – a senior and experienced ambulance officer – to undertake IV therapy at the house can only be assumed to have been judged necessary in order to sustain the life of the child, pending transfer to hospital. For this, the practice cannot be faulted.

It is open to conjecture whether immediate transport to definitive treatment would have necessarily saved the tragic loss of this young child's life."

Emergency medicine advice

The following expert advice was obtained by Dr Geoffrey Hughes, an emergency medicine specialist:

"I, Dr Geoffrey Hughes, am employed as a consultant and clinical director to the emergency department at Wellington Hospital, Capital and Coast District Health Board.

I have been asked by the Health & Disability Commissioner to provide a report on this sad case, involving the death of a child. The complaint from the child's parents is about the quality of care provided by an ambulance service and its staff. Consequently the Commissioner asks me to state my experience and background to justify why I am in a position to comment on ambulance and paramedic practices. A copy of my curriculum vitae is in the Commissioner's office.

The relevant background that I have is as follows:

1. I have been the Clinical Director of two emergency departments (in the UK and New Zealand) for nearly 13 years. Inevitably one interacts with ambulance personnel and officials and is aware of ambulance and paramedic practices. This experience comes from both clinical and management settings.

2. From 1991 to 1997 I was a member of the Avon Ambulance Paramedic Steering Committee. The Avon Ambulance Service served the county of Avon and the urban centre of Bristol in the south west of England. It was a metropolitan ambulance service.

3. In 1993 I was commissioned by the United Bristol HealthCare Trust and Avon Ambulance to visit Toronto Canada, to observe the Ontario ambulance despatching systems and methods.

4. From 1995 to 1997 I was medical director to the Avon Ambulance Service. I ended this role when I moved to New Zealand.

5. In Wellington I have frequent informal and formal meetings with the Wellington Free Ambulance service and am aware of many local and national ambulance issues.

6. I am the medical director and a Trustee to the Lifeflight Trust (Air Ambulance) service based in Wellington. Although this is an air rather than a road ambulance service I do become aware of relevant road issues through this role.

7. In 2002 I was invited to be a member of the renamed Ambulance New Zealand and participate in the Training and Education standing committee. Although my attendance at these committee meetings has been difficult because of commitments, I receive agendas, papers, minutes etc.

8. Work is in progress to look at redefining and redescribing ambulance dispatch and delivery protocols. This work is being done on behalf of ACC, the Ministry of Health and Ambulance New Zealand. Although I am not involved in this committee work I have seen the first draft of the recommendations.

9. I have read the New Zealand Standard NZS 8156:2002 'Ambulance Service Sector Standard'.

The clinical background to the complaint

This tragic case involves the death of a young girl from haemorrhage some days after a tonsillectomy operation. She started to haemorrhage at home. The parents called the ambulance service for help. She was treated at home initially by the ambulance crew, then transported to hospital. She subsequently died at the intensive care unit.

The complaint from the parents revolves around the response by the ambulance service on the 25th September when the haemorrhage occurred.

The Commissioner has given me a bundle of papers, which include clinical records, statements from various people, policies of the [Private Ambulance Service] and interview transcripts. Also included is a CD, which records the conversations (by

telephone) between the girl's father [Mr A] and the ambulance service on 25th September 2001.

The precise and specific details of the case are well documented in all the papers that I have been given and I do not feel the need to repeat them verbatim here.

Questions asked by the Health & Disability Commissioner

As a result of the complaint the Commissioner has asked me the following questions about this case.

1. **Was the time taken for the ambulance to reach [Mr and Mrs A's] residence from first emergency call acceptable? Please comment.**

2. **[Mr F] said 'our pager messages are often quite vague and it gives us an idea of what we may be attending but not really exactly so we never read into a pager message'. When arriving at the scene the ambulance crew said they were given the information that [Twin 1] had had a seizure and was unconscious. They noticed blood coming from her nose and mouth and had to determine the cause of the bleeding.**

   - **Should all information received by the control centre be passed onto the ambulance crew?**

   - **What responsibility do ambulance officers have to ensure they have as much information about a call as possible?**

   - **What other information could they have been given?**

3. **[Mr F] had one attempt to gain intravenous access and one attempt at intra osseous access and both were unsuccessful. Was this an appropriate action given the clinical situation?**

4. **Following his attempts at intravenous/intraosseous access [Mr F] determined that [Twin 1] was haemorrhaging post-tonsillectomy. Should he have determined this sooner? Would this have changed the order or choice of treatment?**

5. **The ambulance arrived at [Mr and Mrs A's] residence at 17.47 hours and the Ambulance vehicle depart button was activated at 18.05 hrs. The depart button was not activated on leaving the house. Once en route to the hospital the ambulance stopped approximately 4 to 5 minutes into the journey so that the paramedic could carry out CPR and use the defibrillator. At some point during the stop the depart button was activated. The time at the scene was therefore approximately 12 minutes (and not 18 minutes as the incident report states). Was this an acceptable time according to Private Ambulance Service policies? Please comment.**

6. [Ms G] had not driven the ambulance before. Was it acceptable that she was the second officer where there was a possibility that she may have to drive?

General Comments

Before going on to specifically answer the questions put to me by the Commissioner I wish to make some general observations and comments.

1. Included with the bundle of papers from the Commissioner is a CD which has recorded on it the calls between the father [Mr A], and the ambulance service. It has seven sections. They are an audible record of the conversations between [Mr A] and ambulance control, as his daughter was haemorrhaging and he was seeking urgent assistance.

I am an experienced and seasoned emergency physician and have witnessed many tragedies in the course of my medical career. Listening to this CD is one of the more harrowing and difficult events that I have witnessed. The distress and emotion that [Mr A] is experiencing is almost palpable. My heart and sympathies go out to him and his wife in their loss.

2. Haemorrhage following tonsillectomy is a recognised complication of the procedure. It is a well-known complication that can lead to death from airway obstruction or haemorrhagic shock. It is traditionally classified as being either reactionary or secondary. Reports of the incidence of post-tonsillectomy haemorrhage vary but one reference I have checked says it occurs in one to ten percent of cases.

Classically the haemorrhage occurs between five and ten days post operatively but it has been seen as late as six weeks post-operatively. There is a significantly higher incidence of bleeding between the age of 16 and 25 with males being slightly more common than females.

In general terms, the emergency management of post-tonsillectomy bleeding consists of ensuring an adequate airway and attempts to control the bleeding. Massive bleeding is rare but when it occurs intubation (inserting an endotracheal tube into the trachea) may be the only means of protecting the airway. Exact circumstances dictate how each patient is managed but general guidelines include placing a patient on a monitor, gaining intravenous access, typing and cross matching blood and applying direct pressure to the bleeding tonsil bed (in the throat) while ENT consultation is obtained. The combination of trying to manage the airway and treat an exsanguinating shocked patient can be extremely difficult.

An old anaesthetic textbook of mine, which I used in my younger days, says that the provision of anaesthesia for post-tonsillectomy haemorrhage can be a very serious and difficult responsibility. In addition to managing the shock, the actual insertion of the tube into the trachea is not always straightforward. Anaesthetic drugs are usually needed to

facilitate the intubation. Amongst other things there is a significant risk that blood will be aspirated into the lungs.

3. The situation that actually occurred in [Mr and Mrs A's] home was an awful clinical scenario. [Twin 1] was clearly having a massive post-tonsillectomy haemorrhage that rapidly caused her to go into haemorrhagic shock. The clinical management of such a case is difficult enough in a properly equipped hospital resuscitation room or operating theatre, let alone in the back of an ambulance or in a domestic setting.

For a paramedic or paramedic team I believe that this must be one of the more difficult clinical scenarios to face. The treatment options available to them are limited.

I believe the ambulance crew did everything they reasonably could have done. I do not think any blame can be placed upon them or the ambulance service for [Twin 1's] death. I will expand on this view in answering the questions given to me.

Answering the questions from the Commissioner:

1. Was the time taken for the ambulance to reach [Mr and Mrs A's] residence from first emergency call acceptable? Please comment.

Yes.

At the time of the incident (September 2001) there was no specific legislation or regulation covering the means by which ambulance services are organised, funded and provided. Ambulance New Zealand have recently published a document under the banner 'Standards New Zealand' NZS 8156:2002, released in 2002. A copy is submitted with this report.

Appendix D (page 34) tables a **proposed** response time and capability for Road Services. The recommendation is that for an urban service area (such as in this case) the short term goal is for 50% of calls to have a scene response time of eight minutes and 95% of calls a twenty minute response time.

As the introduction to NZS 8156:2002 states (page 2) 'the Standard when adopted will be the benchmark against which ambulance services will need to demonstrate that capability. It will also present a challenge for funders of ambulance services to ensure that the necessary resources are available'.

Thus a response time of 16 minutes, as here, fits within the proposed target for 95% cases.

2. [Mr F] said 'our pager messages are often quite vague and it gives us an idea of what we may be attending but not really exactly so we never read into a pager message'. When arriving at the scene the ambulance crew said they

were given the information that [Twin 1] had had a seizure and was unconscious. They noticed blood coming from her nose and mouth and had to determine the cause of the bleeding.

- **Should all information received by the control centre be passed onto the ambulance crew?**

No, not ALL information needs to be passed on in all cases. Appropriately 'edited' relevant information is all that is needed. It is a matter of judgement by the despatcher as to how much is relevant and how much is 'edited'. It does take experience to be wise in knowing how to do this safely. If in doubt it is reasonable to expect the dispatcher to pass on all information obtained, without editing.

The NZS 8156:2002 document Appendix L (page 45) defines a proposed standard for communication centres. Bullet points (h) and (i) refer to information quality. The appendix (L) will be amended when the national review of communication centres is completed.

It is my view that even if more information had been passed on from the dispatcher the management and treatment at the scene or final outcome will not have been any different.

- **What responsibility do ambulance officers have to ensure they have as much information about a call as possible?**

Their role requires them to ask supplementary questions as they feel or deem appropriate in any given set of circumstances. In most cases there will be a trust that they are being provided with all that is relevant.

- **What other information could they have been given?**

More information about the haemorrhage and the tonsillectomy could have been passed on. It can be argued that this extra information may have made a marginal shortening to the time at the scene, although I think it is a fragile argument. Even if the scene time were shortened I am not convinced the final outcomes will have been different.

Also it is to be noted that the dispatcher was doing an excellent job in trying to deal with and respond to the distress and emotion coming from [Mr A]. I am very impressed with how she handled the situation.

3. [Mr F] had one attempt to gain intravenous access and one attempt at intra osseous access and both were unsuccessful. Was this an appropriate action given the clinical situation?

Yes.
As stated above in my general introductory comments, the basic emergency management of a case such as this is airway control and shock management, including haemorrhage

control. Shock management includes the insertion of cannulas into the veins or bone marrow to gain access to the circulation to try and improve it. [Mr F's] actions were appropriate and reasonable.

Attempting to gain access in a case like this in a hospital can be difficult. Trying the same in a 'field' setting can be even more difficult. One attempt at each form of vascular access is reasonable.

The papers sent me by the Commissioner included [papers supplied by the Private Ambulance Service]. In them is a list defining what are considered to be vital 'scene' procedures. This list includes include airway and circulation establishment.

[Mr F's] actions were appropriate and reasonable.

4. Following his attempts at intravenous/intraosseous access [Mr F] determined that [Twin 1] was haemorrhaging post-tonsillectomy. Should he have determined this sooner? Would this have changed the order or choice of treatment?

Purists might argue that [Mr F] should have considered the haemorrhage was a post-tonsillectomy complication sooner. In the context of the whole scenario it is not surprising that he did not. Massive post-tonsillectomy haemorrhage is not seen very often. Any individual emergency health care provider will see a case rarely in a lifetime. Whenever an emergency health care provider first assesses a scene it takes time to evaluate what is happening. Things are not always what they may first appear to be.

I do not think that an earlier diagnosis of post-tonsillectomy haemorrhage or consideration of it would have changed the order or choice of treatment.

5. The ambulance arrived at [Mr and Mrs A's] residence at 17.47 hours and the Ambulance vehicle depart button was activated at 18.05 hrs. The depart button was not activated on leaving the house. Once en route to the hospital the ambulance stopped approximately 4 to 5 minutes in to the journey so that the paramedic could carry out CPR and use the defibrillator. At some point during the stop the depart button was activated. The time at the scene was therefore approximately 12 minutes (and not 18 minutes as the incident report states). Was this an acceptable time according to [the Private Ambulance Service] policies? Please comment.

Yes.

In reality twelve minutes is not very long, although it may seem like eternity to onlookers. To arrive at a scene, make an assessment, perform some vital practical measures (or attempt to) and then to transfer the patient to an ambulance takes time.

6. [Ms G] had not driven the ambulance before. Was it acceptable that she was the second officer where there was a possibility that she may have to drive?

This surprises me. I do expect that two officers in an ambulance will have driven the vehicle before. I am unaware of any standards in place at the time to support this view of mine.

The NZS 8156:2002 document has some proposed standards in this area, on pages 21, 22 and Appendix J page 42. There is much detail here but I cannot find a specific comment on driving experience. The intuitive and derivative conclusion, to me, is that both officers should have the skills to drive the vehicles they are in. The logical deduction is that this includes experience in actually driving it.

Conclusion

This is a sad case, as indeed is any that involves the death of a child.

Management of massive (post-tonsillectomy) haemorrhage is difficult. Even in the ideal setting of a fully equipped and staffed hospital resuscitation room or operating theatre a similar outcome can result. Management in a domestic setting is even more difficult and hazardous. The treatment options available for the ambulance service are limited.
The response of the officers in this case was reasonable and appropriate.

The response and scene times were reasonable.

I do not think that much more could have been asked of them.

I trust that my opinions, given objectively and in good faith, will be of some comfort and reassurance to [Mr and Mrs A], as they continue to grieve for their daughter [Twin 1]."

Response to Provisional Opinion

Information
Following the receipt of my Provisional Opinion Mr and Mrs A requested a meeting. During the course of the meeting it became clear that Mr and Mrs A had little understanding pre-operatively of the operation Twin 2 and Twin 1 were to undergo. They also had only limited understanding about what to expect in the immediate and longer term post-operative period. They understood the operation to be minor and that Twin 1 and Twin 2 would recover quickly.

Following Twin 1's death Mr and Mrs A were understandably concerned about Twin 2 and said that Dr C provided no care for Twin 2 or reassurance for them.

Coroner's report
A report prepared for the Coroner by an expert otolaryngologist, was reviewed subsequent to the release of my Provisional Opinion and found to be consistent with the other expert opinions reviewed.

Expert advice
Mr and Mrs A noted that my expert advisor, Dr McIvor, described Twin 1 as the smaller of the twins when Twin 2 was the smaller. Dr McIvor advised that this information did not change his original advice.

ACC

The Accident Compensation Corporation found that Twin 1's death from secondary haemorrhage following adenotonsillectomy was a medical mishap (a rare and severe complication of treatment properly given).

Code of Health and Disability Services Consumers' Rights

The following Rights in the Code of Health and Disability Services Consumers' Rights are applicable to this complaint:

RIGHT 4

Right to Services of an Appropriate Standard

1) Every consumer has the right to have services provided with reasonable care and skill.
2) Every consumer has the right to have services provided that comply with legal, professional, ethical, and other relevant standards.

RIGHT 6

Right to be Fully Informed

1) Every consumer has the right to the information that a reasonable consumer, in that consumer's circumstances, would expect to receive, including –

a) An explanation of his or her condition; and

b) An explanation of the options available, including an assessment of the expected risks, side effects, benefits, and costs of each option; …

…

4) Every consumer has the right to receive, on request, a written summary of information provided.

Opinion: Breach – Dr C

Discussion of options, including risks and benefits
Under Right 6(1)(b) of the Code, Mr and Mrs A were entitled to an explanation of the options available for treating Twin 1 and Twin 2, including an assessment of the expected risks, side effects, benefits, and costs of each option. Mr and Mrs A complained that, prior to the operation, Dr C did not discuss non-surgical options, and did not provide them with information on the risks associated with tonsillectomy.

During the pre-operative consultation, Dr C discussed two treatment options with Mr and Mrs A. The first option was insertion of tubes alone. The second option was insertion of tubes plus adenotonsillectomy. As stated in his letter to Twin 1's general practitioner, Dr C recommended the second option as he thought Twin 1 would "do much better" with this option.

Dr McIvor, my expert surgical advisor, noted that alternatives to tonsillectomy include a "wait and see" approach or prolonged antibiotics. Dr C stated that, in discussing the girls' tonsils with Mr and Mrs A, he recognised that the "wait and see" approach was valid. However, he advised against it, as it seemed likely that with this approach the girls would need to come back at some future time and would require a second anaesthetic.

Dr C said that during the pre-operative consultation he discussed the risks of ear and tonsil surgery. In particular, he emphasised the fact that the addition of tonsillectomy made the procedure more major, requiring ten days for recovery. This was not the impression gained by Mr and Mrs A; to the contrary, they understood that the operation was minor and that the girls would recover quickly.

Dr C accepted that he did not set out the risks of primary or secondary haemorrhage following tonsillectomy, as he had had no problem with such complications in his practice. It was his view that the significant improvement in the safety of the operation obviated the need to discuss the risk of haemorrhage.

Dr C stated that he usually refers to his printed handout "After Tonsillectomy" during the initial consultation, but he could not be sure whether he did so during the consultation with Mr and Mrs A. I accept Mr and Mrs A's evidence that they were not given the handout or any other information about the risk of bleeding until after the operation.

My surgical advisor, Dr McIvor, stated:

> "[Following tonsillectomy] there is a less than 1% chance of significant bleeding within 24 hours of surgery and approximately a 2% risk after 24 hours of surgery but at some time within 3 weeks of surgery. The risk is highest in adolescents and adults and lowest in young children such as [Twin 1]. Certainly [Mr and Mrs A] should have been warned of the risk of bleeding following tonsillectomy."

The otolaryngologist who provided an opinion for Dr C, stated that life-threatening or fatal bleeding following tonsillectomy is extremely rare. He estimated that the risk was in the order of 1 in 700,000, and went on to say that "[Twin 1] suffered a rare and terrible complication following tonsillectomy … The New Zealand perspective is that we would expect one such complication once every three or four generations of ENT surgeons – i.e. approximately once every 60 to 80 years."

In my opinion, reasonable parents in Mr and Mrs A's situation would have expected to be informed of the risk of bleeding after a tonsillectomy. I accept that the risk of death due to post-operative haemorrhage (estimated at approximately 1 in 700,000) was too remote to require discussion. However, the generally reported risk of significant bleeding (in approximately 2% of cases) was certainly not too remote to discuss, and should have been raised at the initial consultation or pre-operatively as part of the process of seeking informed consent. If Dr C did in fact experience lower rates of post-tonsillectomy haemorrhage, he was also entitled to share this information with Mr and Mrs A.

Dr C breached Right 6(1) of the Code by failing to discuss the risk of post-tonsillectomy bleeding with the Mr and Mrs A at the initial consultation. While this information may not have altered their decision, it would have enabled them to make an appropriately informed choice about whether to proceed with the tonsillectomy.

Opinion: No Breach – Dr C

Review of patient notes

Mr and Mrs A were surprised that Dr C did not request and review the girls' medical notes from Dr B, general practitioner, as part of his pre-operative assessment. Dr C acknowledged that he did not review the general practitioner's medical notes during the assessment. He stated that his usual practice is to take a patient's history and perform the examination himself, and to obtain further information if necessary.

My surgical advisor, Dr McIvor, stated:

> "It would be normal practice to have a referral letter accompanying or preceding the patient stating specific problems and the reason for referral. It would then be the surgeon's responsibility to take a further detailed but directed history and to perform the appropriate examinations and whatever tests were deemed necessary."

In this case, Dr C had received a referral letter from the general practitioner. During the pre-operative assessment he was satisfied with the detailed history provided by Mr and Mrs A, and his own examination, and saw no reason to obtain further information from the general practitioner. I am satisfied that Dr C's approach to pre-operative assessment complied with professional standards, and did not breach the Code.

Provision of written information on tonsillectomy
Mr and Mrs A said that during the pre-operative consultation they were not given a written handout or any other literature about tonsillectomy.

During the pre-operative consultation, Dr C had a responsibility to provide sufficent information to enable Mr and Mrs A to make an informed choice. The information did not need to be in a written form, as long as it was provided in a form that made it understandable. Right 6(4) states that every consumer has the right to receive, on request, a written summary of information provided. In this case, there is no evidence that Mr and Mrs A requested a written summary of information at the initial consultation.

In my opinion, Dr C's omission to provide written information on tonsillectomy at the initial consultation did not constitute a breach of the Code. However, I note that Dr C did have available written information sheets on tonsillectomy. It would have been prudent for Dr C to provide an information sheet at the initial consultation to assist Mr and Mrs A's understanding, rather than wait until after the surgery.

Further pre-operative assessment
Mr and Mrs A said that Dr C did not provide a consultation on the day of the surgery. Dr C said that while he cannot specifically recall talking to Mr and Mrs A just prior to the operation, he was available to answer questions if need be. He said that he liaised closely with the anaesthetist and the nursing staff and, as there was no indication that Twin 1 was unwell on the day of surgery, he saw no reason to re-examine her before the surgery.

My surgical advisor, Dr McIvor, noted that it would have been prudent for Dr C to meet with Twin 1 and Twin 2 and their parents on the day of surgery to make sure that there were no further issues to discuss. In particular, he should have asked whether they had any further questions and explained the sequence of events leading up to surgery and the post-operative management. Dr McIvor advised that it was not necessary for Dr C to re-examine Twin 1 and Twin 2 unless they had developed a further sore throat or infection that was present on the day of the surgery.

In the light of this advice I accept that Dr C's failure to provide a further pre-operative consultation did not constitute a breach of professional standards.

Post-operative assessment
The operation on the twins appears to have been carried out with reasonable care and skill. I am satisfied that the severe bleeding that Twin 1 suffered a week after surgery was a rare complication unrelated to Dr C's surgical technique.

It also appears that Dr C took adequate steps to assess the twins post-operatively. My surgical advisor, Dr McIvor, provided the following advice on post-operative care:

> "Following tonsillectomy and prior to discharging a young child, the surgeon must be satisfied that there is no on-going bleeding, that the child is able to swallow fluids and that the child is otherwise well. He should also establish that instructions for postoperative management are understood by the parents and should answer any questions or concerns they have. I don't think it is necessary that the child's throat is directly examined as there are other signs that are evident to a skilled recovery nurse and surgeon that would indicate bleeding such as fresh blood coming from the nose or mouth, repeated swallowing, vomiting fresh blood, and a rapid pulse rate. Twin 1 did vomit after the surgery but this was probably swallowed blood either from the surgical procedure or in recovery. The sequence of events does not indicate that Twin 1's fatal secondary tonsillar haemorrhage on the seventh postoperative day was in any way related to the initial events after surgery."

There is conflicting evidence about whether Dr C saw Twin 1 in the recovery room at 1.30pm and whether he spoke with Mr and Mrs A. I have no reason to doubt Mr and Mrs A's statement that Dr C did not physically examine Twin 1 or Twin 2, or go closer than three metres to their beds post-operatively. However, he was satisfied prior to discharge that Twin 1 was taking some oral fluid and seemed happy, although she had vomited dried blood.

I am guided by Dr McIvor's advice that a surgeon relies on nursing staff to make accurate assessments post-operatively and inform him of any deviation from normal. The nursing staff did not detect any problems and consequently there was nothing untoward to report to Dr C.

Mr and Mrs A were given an information sheet emphasising the importance of watching for bleeding, and they were advised to contact Dr C or the Public Hospital if any problems arose.

My opinion, guided by the comments of my expert advisor, is that in the immediate post-operative period Dr C appropriately assessed Twin 1's condition, and did not breach the Code.

Later post-operative assessment

Dr C assessed Twin 1 again on 22 September 2001. At this time he established that Twin 1's throat was not bleeding and there was typical slough in the tonsillar fossae. Although Twin 1 was not as well as her sister, her chest was clear, her skin was warm, and she was not dehydrated. Dr C showed Mr and Mrs A how to give Twin 1 paracetamol from a syringe. The option of hospital admission was discussed, but decided against.

Dr C advised me: "Colleagues I have discussed this case with have suggested that even if I had readmitted Twin 1 to hospital she would likely have been discharged prior to haemorrhage occurring. I will never know the answer to this. It is certainly a matter that continues to haunt me."

My surgical advisor, Dr McIvor, stated: "I don't believe that the problems that Twin 1 was experiencing were that much different from many patients in the first week following

tonsillectomy … If Twin 1 had been admitted that day it is quite likely that she would have been discharged either the following day or on the morning of the fatal bleed."

In my opinion, Dr C's assessment on 22 September 2001 was carried out with reasonable care and skill, and it was appropriate for him to raise the option of hospital admission. I am guided by my expert advice that the eventual decision to allow Twin 1 to go home again was a reasonable one, and unlikely to have impacted on the tragic events that followed.

Opinion: No Breach – Dr E

Mr and Mrs A said that the pre-anaesthetic consultation with Dr E prior to the operation was only brief and did not cover the girls' medication, condition, allergies, previous health problems and recent poor health.

Dr E said that he met with the Mr and Mrs A, reviewed the medical records and checked the consent forms. He reviewed the admission questionnaire, questioned Mr and Mrs A about Twin 1's chronic health problems, looked up the pre-operative notes, observed Twin 1 for signs of active infection, advised on the operation and post-operative care, and answered any questions. Mr A had signed the pre-anaesthetic and consent forms prior to admission and had not identified the need for further discussion with the anaesthetist. Mr A had noted the girls' allergies and previous health problems on the pre-admission form.

Following his assessment Dr E recorded on the anaesthetic record that the girls were "well".

I accept Dr E's explanation that pre-anaesthetic assessment has a number of components, including the form completed prior to the operation. I note that Mr A identified allergies and health status on the forms and that Dr E reviewed the forms with Mr and Mrs A on the morning of the operation. I note also that Mr A was provided with an opportunity to express any concerns or ask further questions but did not do so. In these circumstances, Dr E acted appropriately and did not breach the Code.

Opinion: No Breach – the Private Hosptial

I notified the Private Hospital that it could be vicariously liable for the actions of Dr C and Dr E. However, as no issues of vicarious liability arose, the Private Hospital is not in breach of the Code.

Opinion: No Breach – Mr F, Ms G, and Private Ambulance Service

Travelling time to the scene
Mr and Mrs A complained that the ambulance took sixteen minutes from the time Mr A telephoned until the time it arrived at their home, despite being told of the circumstances of the emergency.

Mr A rang the Private Ambulance Service at 5.33.54pm on 25 September 2001 and advised the call centre operator that Twin 1 had had a tonsillectomy a week ago and was "throwing up blood flat out". He then reported that she was unconscious. The ambulance was dispatched at 5.34.25pm hours and the crew received a pager message. Ms G said the message was that the patient was an unconscious two-year-old. Mr F said that en route they were advised that the child was having a seizure. At 5.37.46pm the operator advised the ambulance crew: "You are responding to a two and a half year old, unconscious, is breathing." The information about bleeding was not given to the ambulance crew.

My emergency medicine expert, Dr Hughes, advised that not all information received by the operator is necessarily passed on to the ambulance officers:

> "Appropriately 'edited' relevant information is all that is needed. It is a matter of judgement by the dispatcher as to how much is relevant and how much is 'edited'. It does take experience to be wise in knowing how to do this safely. If in doubt it is reasonable to expect the dispatcher to pass on all information obtained, without editing. It is my view that even if more information had been passed on from the dispatcher the management and treatment at the scene or final outcome will not have been any different."

According to the Private Ambulance Service records the time from when the Private Ambulance Service call centre operator first picked up the phone until the time the locator button in the ambulance was activated on arrival at Mr and Mrs A's home was 13 minutes and 53 seconds.

My advice from Ambulance New Zealand and from Dr Hughes is that the time taken to reach the scene was reasonable. Dr Hughes referred me to the New Zealand Standard NZS 8156:2002 'Ambulance Service Sector Standard'. Although introduced in the year following these events, the proposed response times provide a guide. The proposed response time for an urban service area is that 50% of calls will have a scene response time of eight minutes and 95% of calls a twenty-minute response time. The response to Mr A's call is within the 95% target.

Accordingly, I am satisfied that the Private Ambulance Service response time was within accepted limits and that Mr F, Ms G and Private Ambulance Service did not breach the Code.

Time at the scene
Mr A said that the ambulance officers spent 18 minutes at Mr and Mrs A's home before leaving for the hospital.

The Private Ambulance Service call log recorded the time the ambulance arrived at Mr and Mrs A's as 5.47.07pm and the time the ambulance left as 6.05.23pm. The ambulance has an arrival button and a departure button, which are activated manually by the driver on arrival at and departure from the scene. Mr F, an experienced paramedic, drove the ambulance to Mrs and Mrs A's home and remembered activating the arrival button once the vehicle was stationary in Mr and Mrs A's driveway. Ms G, the more junior ambulance officer, drove the ambulance from Mr and Mrs A's home to the hospital as Mr F was needed in the back of the ambulance with Twin 1 and Mr A. Ms G had not driven the ambulance before and therefore did not know to activate the depart button.

Several minutes into the journey Mr F asked Ms G to stop the ambulance en route to the hospital so that he could defibrillate Twin 1. The ambulance stopped approximately two kilometres from Mr and Mrs A's home. Mr F asked Ms G to activate the departure button at some time during the stop. Therefore, the recorded time of 18 minutes at the scene is not accurate; the actual time at the scene was probably about 14 minutes.

My emergency medicine expert, Dr Hughes, made the following comments about the time at the scene:

> "In reality twelve minutes is not very long, although it may seem like eternity to onlookers. To arrive at a scene, make an assessment, perform some vital practical measures (or attempt to) and then to transfer the patient to an ambulance takes time.
> …
>
> Management of massive (post-tonsillectomy) haemorrhage is difficult. Even in the ideal setting of a fully equipped and staffed hospital resuscitation room or operating theatre a similar outcome can result. Management in a domestic setting is even more difficult and hazardous. The treatment options available for the ambulance service are limited.
> …
>
> The response of the officers in this case was reasonable and appropriate.
> …
>
> The response and scene times were reasonable…"

I am guided by my expert advice. In my opinion, Mr F and Ms G acted appropriately when confronted by an "awful clinical scenario", and the time taken at the scene was within acceptable limits. In these circumstances, Mr F, Ms G and the Private Ambulance Service did not breach the Code.

Comment

When Mr A first telephoned the Private Ambulance Service he told the dispatcher that Twin 1 had recently had a tonsillectomy and was bleeding. It is not clear that this information was ever conveyed to the ambulance officers. Mr F and Ms G both informed me that prior to reaching the scene they were unaware that Twin 1 was bleeding. My expert advised that "appropriately edited, relevant information" should be conveyed to the ambulance officers and, where there is

doubt, all information obtained should be provided. I note that my expert commended the dispatcher for doing an excellent job in providing support to Mr A prior to the ambulance arriving.

Actions following the complaint

Dr C advised me that following Twin 1's death he changed his practice in a number of ways. In particular, during his initial discussion on tonsillectomy, he now routinely mentions the risk of primary and secondary haemorrhage following tonsillectomy. He also provides patients with a handout on tonsillectomy developed by the Royal Australasian College of Surgeons. Pre-operatively, he sits down with the patient and/or his or her family and talks through all the matters discussed at the earlier consultation, and checks whether there are any further questions or concerns.

The Medical Council has informed me that Dr C is scheduled to undergo a competence review.

Further actions

- I recommend that Dr C apologise to Mr and Mrs A for not discussing the risk of post-tonsillectomy haemorrhage at the initial consultation. The apology is to be sent to my Office and will be forwarded to Mr and Mrs A.

- A copy of this report will be sent to the Medical Council of New Zealand, with a recommendation that it be considered as part of the Council's review of Dr C's competence.

- An anonymised copy of this report will be sent to the Royal Australasian College of Surgeons, the Australian and New Zealand College of Anaesthetists, and Ambulance New Zealand, and placed on the Health and Disability Commissioner website, www.hdc.org.nz, for educational purposes.