

## The Inquiry into Pediatric Cardiac Surgery in Manitoba

Justice Murray Sinclair  
Court of Queen's Bench of Manitoba  
October 22, 2005

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
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## The Inquiry into Pediatric Cardiac Surgery in Manitoba

- Background
- The children who died and what happened
- Findings and recommendations
- The role of the experts

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## The events of 1993

- Head of pediatric cardiac services left
- Pediatric cardiac surgeon resigned
- Three of four pediatric cardiologists resigned.
- The program was facing a crisis.
- Government was cutting back
- New administrative model was developed

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## Events of 1994

- New surgeon was hired
- His credentials were impressive but his references were not checked.
- He had never operated on his own before.
- He was appointed the Head of pediatric cardiac surgery and was to report to the head of surgery as well as the head of pediatrics
- This reporting mechanism was to prove problematic when decisions had to be made about him later.
- No new pediatric cardiologists.

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## Gary Caribou

- Born August 22, 1993 to an Aboriginal family in northern Manitoba.
- Underwent a heart operation on March 14, 1994, and died in the Intensive Care Unit (ICU) on March 15, 1994.
- He was six months twenty days old.
- His was only the second open heart procedure that the surgeon had ever performed without supervision.

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## Gary Caribou

- Relatively simple procedure
- Operation took inordinately long, probably due to the surgeon's inexperience, and also probably due to the fact that the surgeon had not prepared the operative team properly.
- Gary was taken to the ICU in an extremely weakened state. He died while the ICU staff was attempting to drain fluid from his abdomen.
- His death was preventable.

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## Jessica Ulimaumi

- Born August 18, 1993, to Inuit family from Nunavut
- Underwent cardiac surgery on March 24, 1994.
- She died on March 27, 1994.
- She was seven months nine days old.

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## Jessica Ulimaumi

- Operation took much longer than necessary
- The surgeon failed to make the proper repair initially, and had to re-operate.
- There is evidence to suggest that even after trying again, the repair was not done successfully.
- She had to be placed on an extended bypass machine in the ICU.

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## Jessica Ulimaumi

- Jessica bled to death after the surgeon attempted to remove her from the bypass machine in the ICU, whose staff was not prepared for such a procedure.
- During the removal procedure, he removed a cannula from Jessica's heart and failed to clamp it off before laying it down on the bedside. A great deal of her blood was lost through that cannula. Clearly an error.
- Time was lost sending staff to look for essential equipment that was not in the ICU.

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## Jessica Ulimaumi

- Jessica’s family was never told of the failed operation or of the circumstances of her death.
- Jessica’s death was preventable.
- After this operation, the operating room nurse approached the head of pediatric surgery to watch the young surgeon
- The request was declined. The Chief of Surgery stated he “did not take orders from nurses”.

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## Vinay Goyal

- born March 2, 1990, had two operations in 1994, the first on March 17, and the second on April 18.
- He died during the second operation, which was necessitated because the repair undertaken during the first operation had failed.
- He was four years one month sixteen days old.

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## Vinay Goyal

- During one of the operations, the surgeon sprayed adrenaline on the child’s heart causing it to contract violently. It is not clear why he did so. It was clearly unnecessary and risky.
- Additionally, the operation took much longer than necessary. This again appeared to be due to the surgeon’s inexperience.

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## Vinay Goyal

- During the second operation, there is evidence that suggested that the surgeon removed a cannula from a blood vessel attached to Vinay's heart without advising the other members of the surgical team. Vinay bled to death before it could be replaced.
- His family was not told what happened.
- The evidence suggests that this was a preventable death.

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## Vinay Goyal

- After this surgery, the OR nurses decided to keep notes on what happened during each operation.
- At their meeting the nurses agreed that matters were likely going to end up in court and that they better be prepared.
- The pediatric cardiac anesthetists collectively discussed their concerns and decided to appoint a spokesman to take those concerns up with the program head and others.

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## Daniel Markus Terziski

- Born March 18, 1994,
- Underwent cardiac surgery on April 20, 1994.
- He died the same day.
- He was 33 days old.

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## Daniel Markus Terziski

- His operation involved a very complex procedure called a Norwood procedure, performed very rarely in Canada and with a very high fatality rate. His family wanted to bring in a surgeon from Montreal who was considered Canada's finest at the procedure, but was dissuaded, after being told that the Winnipeg surgeon and the program was just as capable. That was hardly the case. Neither the surgeon nor the program had successfully performed such an operation at the time and the surgeon had never attempted one.

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## Daniel Markus Terziski

- The head of the pediatric cardiac surgery program, who was also the consulting cardiologist, did not reveal any of the concerns to the Terziskis from the previous incidents that had been raised.
- The evidence suggests that the chances of preventing this death would have increased if Daniel had been referred out of province.

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## Daniel Markus Terziski

- After this death, the operating room nurses again approached senior officials in the department of surgery but were not reassured that anything was going to be done.
- They decided to keep making notes about what was going on in the OR.

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## Alyssa Still

- Born November 14, 1993,
- Had heart surgery on May 5, 1994.
- She died May 6, 1994.
- She was five months twenty-two days old.
- The evidence suggests that this death might have been preventable.

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## Alyssa Still

- This death led directly to the anesthetists withdrawing their services
- They were persuaded to return to work if the program did only low risk procedures pending a review

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
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## Shalynn Piller

- Born July 20, 1994,
- Had surgery on August 1, 1994.
- She died August 3, 1994.
- She was 14 days old.
- The circumstances of her death were inconclusive.

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## Shalynn Piller

- It was not possible to determine on the basis of the evidence if this was a preventable death.
- However, her case was not one that fell within the parameters of those the team was permitted to do during this time frame.

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## Aric Baumann

- Born December 7, 1993
- Underwent cardiac surgery on June 30, 1994.
- He died on August 21, 1994, due to a pre-existing, undetected, congenital fatal condition.
- He was eight months fourteen days old when he died.
- The evidence suggests that this was not a preventable death.

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## Marietess Tena Capili

- Born December 15, 1991,
- Underwent surgery on September 13, 1994.
- She died September 14, 1994.
- Marietess was two years nine months old.
- The evidence suggests that this was a preventable death.

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## Marietess Tena Capili

- Marietess died because the surgeon sutured two major blood vessels in her heart too narrowly, thereby constricting blood flow from her head and upper body.
- Before Marietess was taken from the operating room, the anesthetist felt that her condition ought to be addressed surgically, and asked for an x-ray to be performed in the operating room to confirm that.

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## Marietess Tena Capili

- This was a simple step and could have been easily accommodated.
- The surgeon, backed by the acting head of the program, however, refused to authorize an x-ray and felt that Marietess' condition could be addressed through the use of medication.
- He was wrong.
- She died within a very short time.

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## Erica Nicole Bichel

- born September 29, 1994.
- Erica underwent a heart operation on October 4, 1994.
- Also a Norwood procedure.
- She died while still in the operating room.
- She was five days old.
- Erica would have stood a better chance of survival in the hands of a more experienced surgeon and surgical team, but the evidence also suggests that it is not likely that this death was preventable.

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## Ashton John Feakes

- Born April 15, 1993,
- Underwent heart surgery on November 1, 1994.
- He died November 11, 1994.
- He was one year three months twenty-seven days of age.
- His death was preventable.

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
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## Ashton John Feakes

- Ashton's case had been scheduled for surgery in 1993, but had been delayed when the program had to wait for the appointment of a new surgeon.
- Although they ought to have been sent to another surgical center in another province in accordance with then existing policy, the family was persuaded to wait for the new surgeon.

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
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## Ashton John Feakes

- His death led to the Head of Surgery directing that the surgeon had to have another experienced cardiac surgeon assist him in any medium or higher risk cases.

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## Jesse William Maguire

- Born November 25, 1994,
- Underwent heart surgery on November 27, 1994.
- He died while still in the operating room.
- He was two days old.

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## Jesse William Maguire

- His operation ought to have involved two surgeons as had been directed by the Chief of surgery, but the pediatric cardiac surgeon had decided on his own to proceed without calling the second surgeon.

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## Jesse William Maguire

- Clear evidence of error during the operation.
- The surgeon accidentally dislodged a cannula while the operation was ongoing, causing a serious loss of blood.
- While attempting to replace the cannula, the repair site was torn and the repair had to be re-done.
- This placed the child in a highly vulnerable state from which he could not recover.

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## Erin Petkau

- Born December 17, 1994,
- Underwent heart surgery on December 20, 1994.
- She died on December 21, 1994.
- She was three days old.

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## Erin Petkau

- Erin's case started out as a relatively simple procedure but it quickly became complicated by the fact that the surgeon was unable to perform the initial repair properly.
- He also failed to call in the adult cardiac surgeon as was required when they had to go to an open heart procedure.
- The evidence suggests that this death was preventable.

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## The aftermath

- The neonatologists refused to refer any more of their patients to the program.
- Program was shut down by the new head of pediatrics Dr Brian Postl pending a review
- The review was conducted by Drs Williams and Roy from Toronto

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## The aftermath

- The program review was sent to the parents who found out for the first time about problems within the program
- The program was suspended for another six months.
- An inquiry was called in March 1995.

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
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## The inquiry's experts

- Nursing
- Cardiology
- Anesthesiology
- Surgery
- Perfusion
- Pathology
- Human factors Medical Error and Quality Assurance

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
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## The role of the expert

- To advise
- To teach
- To analyze
- To contextualize
- To report
- To testify

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## Problems identified

- Surgical skills
- Administrative and supervisory inadequacies
- Systemic faults

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## Solutions identified

- Systemic changes needed
- Identification of patient rights
- Changes to consent procedure (more information on surgical records)
- Changes to the appointment of staff
- Changes to supervision of individual staff
- Changes to program administration
- Changes to the supervision of hospitals
- Protection for "whistle blowers"
- Changes to the delivery of service

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## The law relating to experts

- *Kelliher (Village of) v. Smith*, ([1931] S.C.R. 672):

[t]he subject matter of the inquiry must be such that ordinary people are unlikely to form a correct judgment about it, if unassisted by persons with special knowledge. (p. 684)

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## The law relating to experts

- *R. v. Mohan*, ([1994] 2 S.C.R. 9, at 23 Sopinka J stated that expert evidence must be both *necessary in assisting the trier of fact* and *relevant*.
- Expert evidence was not to be admitted if the subject of the testimony concerned an issue which was within the common knowledge of the trier of fact

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## The law relating to experts

- *R. v. Turner*, [1975] Q.B. 834, at 841:  
An expert's opinion is admissible to furnish the court with scientific information which is likely to be outside the experience and knowledge of a judge or jury. If on the proven facts a judge or jury can form their own conclusions without help, then the opinion of an expert is unnecessary.

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## The law relating to experts

- *R v Mohan at p 23*:  
...the evidence must be necessary to enable the trier of fact to appreciate the matters in issue due to their technical nature.

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## The law relating to experts

- *R v Mohan at p 21:*

Evidence that is otherwise logically relevant may be excluded ... if it involves an inordinate amount of time which is not commensurate with its value or if it is misleading in the sense that its effect on the trier of fact, particularly a jury, is out of proportion to its reliability.

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## The law relating to experts

- *R v Mohan at p 25:*

[E]xpert evidence which advances a novel scientific theory or technique is subjected to special scrutiny to determine whether it meets a basic threshold of reliability and whether it is essential in the sense that the trier of fact will be unable to come to a satisfactory conclusion without the assistance of the expert.

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## The law relating to experts

- US Federal Court Rule 702:

- **Rule 702. Testimony by Experts**

- If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

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## The law relating to experts

- *Daubert v. Merrell Dow Pharmaceuticals, Inc.* ([1992] 509 U.S. 579):
  1. Whether the theory or technique "can be (and has been) tested."
  2. Whether the "theory or technique has been subjected to peer review and publication."
  3. In the case of a particular technique, what "the known or potential rate of error" is or has been.
  4. Whether the evidence has gained widespread acceptance within the scientific community.
- The issue in dispute in *Daubert* was whether the drug Bendectin, when taken by pregnant women, caused birth defects

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## The law relating to experts

- *Kumho Tire Co. v. Carmichael*, ([1999] 131 F.3d 1433)
  - A number of passengers in the plaintiff's vehicle were injured when a tire blew out. An expert in tire failure analysis relied in part on his own (extensive) experience to conclude that the blow out was caused by a defect and not by misuse on the part of the plaintiff.

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## The law relating to experts

- *Kumho Tire Co. v. Carmichael*, ([1999] 131 F.3d 1433)
  - As the expert's testimony did not meet any of the criteria set out in *Daubert*, the issue in *Kumho* was whether "technical and other specialized knowledge," as defined in Rule 702, was to be subjected to the same criteria as was "scientific knowledge."
  - The Court ruled that it was not.

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## The law relating to experts

- *Kumho Tire Co. v. Carmichael*, ([1999] 131 F.3d 1433)
  - The function of Rule 702 was not to restrict expert testimony to a narrow set of "scientific" disciplines, but to "... make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field".

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
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## Final thoughts on the role of the expert witness

- Understand your role
- Understand your audience
- Avoid being an advocate for one side or the other
- Be objective
- Be clear

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