# STATE CORONER'S COURT

# OF NEW SOUTH WALES

| | |
|---|---|
| **Inquest:** | Inquest into the death Luke Wood |
| **Hearing dates:** | 20 – 24 October 2014 |
| **Date of findings:** | 19 November 2014 |
| **Place of findings:** | State Coroner's Court, Glebe. |
| **Findings of:** | Magistrate Sharon Freund,<br>Deputy State Coroner |
| **File numbers:** | 2011/390507 |
| **Findings:** | I find that Luke Wood died on 31 August 2011 at Westmead Hospital as a result of an intraperitoneal haemorrhage from an anastomotic leak from a transplanted renal artery. |
| **Recommendations** | The Director-General of the Ministry of Health<br><br>that consideration be given to the development of a policy or protocol for the timely provision of all medical records to the coroner when a death is notified pursuant to s.6(1) (b) and (e) of the *Coroners Act 2009* |
| **Representation:** | Mr P Griffin instructed by Ms M Heris, solicitor, Crown Solicitor's Office, as Counsel Assisting;<br>Mr M Ayache, solicitor, of One Group Legal, for the family of Luke Wood;<br>Mr S Woods instructed by Henry Davis York, solicitors for Western Sydney Local Health District and Doctors Gupta, Fedderson, Ali and Muralitharan;<br>Mr C Jackson instructed by MDA National for Dr Thwaites. |

# FINDINGS

Luke Wood was just 35 years old when he passed away at Westmead Hospital ("**Westmead**") eleven days after he had undergone a kidney transplant operation in that same hospital.

Luke is survived by his parents Marie and Bernard, fiancé Nora, brother Adam and sisters Joanne and Danielle. His death has left those that loved and knew him clearly struggling to understand why an apparently healthy and fit young man left them so unexpectedly. Luke known as "Moose" to his brother Adam, and "Big Luke" to those in the body building community, was described to me as a caring man who was larger than life and who always put others first. Adam spoke on the final day of the inquest and gave me some insight into his "little" big brother, their bond was evident from those first words and it is clear that Adam was proud of his brother's achievements and Luke appreciated his brother's advice and mentoring. Nora, Luke's fiancé, also bravely spoke of the loss of her soul mate on the inquest's final day. Luke's death was only eight weeks before their wedding, all their plans and dreams for the future ended on that evening of 31 August 2011. Both Adam and Nora spoke so eloquently and gave me much personal insight into the man, son, brother and fiancé known with awe and great fondness as "Big Luke Wood".

Luke was, until he retired in 2009, a professional body builder and achieved domestic and international success in this competitive and demanding field. In 1996, when he was just 20 years old, he won the Australian International Federation of Body Builders ("**IFBB**") Junior Title and two years later he became the youngest competitor to be granted Professional Status by the IFBB. He won the Australian championship on six occasions. Luke also competed in international events and was so highly regarded that he received a personal invitation from Arnold Schwarzenegger to compete in the Arnold Classic in Columbus, Ohio.

In about 2008, Luke underwent testing at Liverpool Hospital that revealed that he had an enlarged heart and that his kidneys were not functioning at anywhere near their optimal capacity. The advice Luke initially received was that he would not need to undergo dialysis.

However, eighteen months later, in March 2010, Luke was referred by his GP to Dr Mark Penny, a nephrologist at St Vincent's Hospital. Dr Penny's diagnosis of Luke's kidney problems revealed that the situation was more serious than originally assessed. Luke began to see Dr Penny on a monthly basis and he was also treated regularly by Dr Newman, a cardiologist.

In January 2011, on a referral from Dr Penny, Luke began regular dialysis at the NephroCare Bondi Dialysis Centre. It is at about this time that investigations began about the possibility of a kidney transplant and in July 2011 Luke was placed on the kidney transplant list at Westmead.

On 19 August 2011 a suitable kidney became available and Luke was admitted to Westmead for the purposes of a transplant.

On 20 August 2011, a three hour kidney transplant operation was performed by Dr Vincent Lam assisted by Dr Stephen Thwaites. The usual surgical procedure was not modified due to Luke's musculature and the procedure was reported to be uneventful.[1]

On 23 August 2011, three days after the surgery, early signs of rejection emerged. A renal biopsy was performed under ultrasound guidance by a transplant physician. This procedure was not documented in the progress notes. However, it was documented in the "kidney transplant progress sheet" ("**Flow Sheet**"),[2] which I note was only produced by Westmead on the second day of the inquest.

Thereafter, on 24 August 2011, thymoglobulin an anti-rejection drug was administered to counter the organ rejection.

On 25 August 2011, five days after the surgery, the nursing staff observed and recorded marked bruising of Luke's abdominal wall, scrotum and thighs. A plain non-contrast CT scan of his abdomen was conducted and revealed that the fluid collection shown was

[1] Exhibit 1, Tab 15, paragraphs 13-15; and Tab 22, paragraphs 8-10;
[2] Exhibit 5;

most likely to be blood. However, the evidence from Dr Thwaites was that the Doctors were satisfied at this time that there was no active bleeding.[3]

Luke was discharged from Westmead on 26 August 2011 and commenced daily outpatient care to monitor his recovery.

On 27 August 2011, Luke saw Dr Moses at the outpatient clinic and his swelling and bruising was assessed.

The notes from the outpatient clinic,[4] and the Flow Sheet,[5] indicate that Luke attended the outpatient clinic daily after he was discharged from Westmead on 26 August 2011. These records indicate there was nothing untoward in his progress at this time. Despite this, at about 1pm on 31 August 2011, eleven days after his surgery, Luke reported severe abdominal pain and became unconscious. Upon regaining consciousness he vomited and had diarrhoea. The pain was reported to extend from his chest to his legs. He was taken by ambulance to Westmead.

The ambulance records state that:[6] "*Transplant Team requested pt t/port to Westmead Hosp*". Luke arrived at the Emergency Department of Westmead at approximately 2:55pm.[7] Thereafter, he was seen and treated by a number of medical practitioners from the emergency department, intensive care and renal transplant team.

Ultimately, at 9.05pm, approximately six hours after his admission into the Emergency Department, Luke was taken to the operating suite for an emergency laparotomy. At 9.51pm, Drs John and Mohammadieh commenced Luke's anaesthesia. Upon intubation, Luke immediately developed a sinus tachycardia with a loss of palpable pulse. Metaraminol was administered, but Luke went into bradycardic arrest. CPR and blood transfusions were commenced. At 10.35pm, Dr Tran, the consultant anaesthetist arrived and conducted a transthoracic echocardiogram and then a transoesophagael echocardiogram. Those tests identified that there was no evidence of cardiac

3 Oral evidence of 21/10/14 and Exhibit 1, Volume 1, Tab 22, paragraphs 16-18;
4 Exhibit 1, Volume 2, Tab 27;
5 Exhibit 5;
6 Exhibit 1,Volume 2, Tab 27D;
7 Ibid – the ambulance records indicate that Luke was triaged at this time and was off the stretcher at 3:10pm;

tamponade, no myocardial activity and marked ventricular hypertrophy. It is uncontroversial that despite requesting Luke's medical records from his transplant surgery prior to the commencement of the emergency laparotomy, those records were never received.

At 11.15pm, the planned laparotomy was conducted by Dr Lam, the consultant transplant surgeon and Dr Thwaites, transplant surgery fellow. A large amount of intra-abdominal fluid was discovered. Manual compression of the aorta was commenced, however the doctors were unable to locate any obvious bleeding site, although a possible site in the venous anastomosis was sutured.

CPR was unsuccessful and Luke was pronounced dead at 11.40pm on 31 August 2011.

The role of a Coroner, as set out in s. 81 of the *Coroners Act 2009* ("**the Act**"), is to make findings as to:

1. the identity of the deceased;
2. the date and place of a person's death;
3. the physical or medical cause of death; and
4. the manner of death, in other words, the circumstances surrounding the death.

A Coroner, pursuant to s.82 of the Act, also has the power to make recommendations, which concern any public health or safety issues arising out of the death in question.

There is no issue in relation to the identity, date, place or exact cause of Luke's death. The issues for this inquest arise solely out of the surrounding circumstances of his death as set out by Mr Griffin, Counsel Assisting in his opening address. They are:

1. Were the care and treatment provided to Luke in the Emergency Department of Westmead on 31 August 2011 adequate?

2. Were the manner and form of anaesthesia administered to Luke at Westmead on 31 August 2011 appropriate? and

3. Are there any recommendations that ought be made, arising from the care and treatment provided to Luke at Westmead on 31 August 2011?

I shall deal with each of the issues in turn.

However, before doing so I think it prudent to comment, so far as it is relevant, on Luke's use of steroids. Luke was a professional body builder who trained intensively and abided by a strict diet however, his extreme musculature was consistent with the use of steroids. Luke did admit to the use of steroids to at least some of his treating medical practitioners.

Dr Margaret Stark, the Director of the Clinical Forensic Medicine Unit of the NSW Police Force provided an expert statement dated 15 March 2013.[8] Her evidence can be summarised as follows:

1. Anabolic and androgenic steroids ("**AAS**") and performance and image enhancing drugs ("**PIEDS**") are listed as prescribed restricted substances under the Poisons and Therapeutic Goods Act 1966;

2. It is illegal to possess AAS without a prescription in Australia;

3. Polypharmacy, namely usage of more than one drug, is common in AAS and PIEDS users for the side effects of the steroids, for example use of diuretics to counteract fluid retention and tamoxifen to reduce gynaecomastia;

4. Individuals may take steroids by injection or orally and will use doses that exceed therapeutic level;

5. Chronic usage may affect the heart causing enlargement – myocardial hypertrophy and cardiomyopathy – and cause an increase risk of thrombosis, and abnormalities in the blood lipids. There may also be abnormal liver function and formation of liver cysts and/or cancerous tumours.

[8] Exhibit 1, Tab 23;

As stated by Counsel Assisting at the outset, this inquest was not about the use and abuse of steroids. However, during the investigation undertaken in preparation for the inquest, some of the independent medical experts consulted by the Court were asked whether steroid use and Luke's extreme musculature were relevant factors in relation to his care and treatment. Expert opinion received for this inquest revealed inter alia that such use would not have impacted on Luke's suitability for the kidney transplant surgery.[9] There was also evidence before me that high protein diets and anabolic steroid use are known risk factors for developing chronic renal failure.[10] I also note that Luke had focal and segmental glomerulosclerosis ("**FSGS**") and that his high protein diet and hypertension would have accelerated his progression toward end stage renal failure.[11]

## WAS THE CARE AND TREATMENT PROVIDED TO LUKE FOLLOWING HIS KIDNEY TRANSPLANT ON 20 AUGUST 2011 ADEQUATE?

While the care and treatment provided to Luke prior to his admission to the Emergency Department on 31 August 2011 was not formally an issue for consideration at the commencement of the inquest, it is a matter that was averted to in the preparation of this matter for hearing, including with respect to initial expert opinions obtained.

In particular, Professor Steve Chadban, Nephrologist and Transplant Physician, was engaged by the Court to provide an expert opinion regarding the care and treatment Luke received. His report is dated 30 June 2013.[12] He also gave oral evidence on the third day of the inquest. He concluded that the post-operative **inpatient care** received by Luke, including his discharge on 26 August 2011 was appropriate.[13]

Following his discharge on 26 August 2011, Luke received outpatient care by way of daily attendance at the Westmead Transplant Clinic in order to monitor his recovery and progress. Professor Chadban opined inter alia that being seen daily by a consultant physician and a nurse "represents very adequate care".[14]

---

9 Exhibit 1, Volume 1, Tab 24, pages 1 - 3 - Expert opinion of Professor Steve Chadban;
10 Dr Vincent Lam - Exhibit 1, Volume 1, Tab 15, paragraph 11;
11 Professor Steve Chadban – Exhibit 1, Volume 1, Tab 24, paragraph 15;
12 Exhibit 1, Volume 1, Tab 24;
13 Ibid at page 3, paragraphs 3-5 inclusive;
14 Ibid, at page 4, paragraph 7;

Luke's family, were reportably (and understandably) particularly distressed by the extensive bruising and alleged inadequacy of his pain management. However, the overwhelming evidence received by this inquest was that the bruising was consistent with the nature of the surgery and Luke's extreme musculature. The treating practitioners and the experts expressed a shared view that the pain management was, in the circumstances, appropriate, especially as it was determined and calibrated by pain management experts, and reviewed and adjusted as necessary.

Accordingly, I am satisfied on the balance of probabilities that the care and treatment received by Luke was adequate whilst he was both an inpatient and outpatient, immediately following his kidney transplant surgery.

**WAS THE CARE AND TREATMENT PROVIDED TO LUKE ON 31 AUGUST 2011, IN THE EMERGENCY DEPARTMENT OF WESTMEAD ADEQUATE?**

Luke was last examined by Dr Nankivell in the Transplant Clinic on the morning of 31 August 2011. The evidence of Dr Nankivell was that Luke's post-operative recuperation was progressing in accordance with expectations and that Luke "looked in the best condition since the transplant operation".[15]

Upon re-admission the sequence of events was complicated by the fact that practitioners from different teams were involved in his assessments and decisions in relation to his care and treatment.

Prior to Luke's arrival at the Emergency Department, the transplant team at Westmead had been notified of Luke's condition and requested that he be transported directly to their hospital[16]. Additionally, the evidence indicates that Dr Thwaites, the transplant surgical fellow that had assisted in Luke's transplant operation eleven days earlier, had been informed that Luke was returning to Westmead because he was unwell and had abdominal pain[17].

---

15 Exhibit 1, Volume 1, Tab 22B, paragraph 9;
16 Exhibit 1, Volume 2, Tab 27D;
17 Exhibit 1, Volume 1, Tab 22, paragraph 20;

Upon arrival, Luke was triaged as Category 2 and seen by Dr Muralitharan, Emergency Registrar. The evidence indicates that Dr Muralitharan saw Luke within five minutes in the Emergency Department as he attended where the ambulance was taking Luke off the stretcher and placing him on the hospital bed. Whilst Dr Muralitharan was present with Luke, members of the renal transplant team, namely Doctors Ali and Ng arrived. This occurred no later than 3:40pm but possibly earlier.

Doctor Ali at the time was an advanced trainee in nephrology. He had prior knowledge of Luke and had seen Luke post-transplant when he was still an inpatient, and also once in the outpatient clinic. It was the evidence of Dr Ali, inter alia, that during his review of Luke, in the Emergency Department, he discussed the case with Dr Nankivell over the phone. Dr Nankivell was one of the consultants involved in Luke's treatment, and had seen Luke both prior to, and post, surgery.

Thereafter, Dr Thwaites, Transplant Surgery Fellow, proactively attended the Emergency Department at about 5:00-5:30pm, to ascertain what was happening with Luke's care. He was then advised by Dr Fedderson that Dr Nankivell had been consulted and a CT scan had been ordered. Dr Thwaites then contacted the radiology department to effectively "chase up" the CT scan and its results. He was informed that Luke was currently undergoing the CT scan, so Dr Thwaites waited by a computer so he could immediately access the results.

The unequivocal opinion of Professor Fulde, Professor in Emergency Medicine, and independent expert retained by the Court, is that the transplant team should have assumed responsibility for Wood even though he was a patient in the Emergency Department. Mr Woods, Counsel for Westmead, submitted that that is exactly what happened. That is true, however, it was also the view of Professor Fulde that the care and treatment of Luke, a complex patient lacked "consultant involvement" from the "very beginning" of his care and that as a result opportunities were missed. While giving oral evidence Professor Fulde expressed a view to the effect that it is well known that the sooner a more senior person is involved, the better the patient outcome. He also expressed the view that a more senior practitioner has the experience and clout within an hospital setting to appropriately prioritise patients, and their individual requirements, in accordance with a clear command structure. In this matter, Professor Fulde was

unable to identify a clear command structure, or anyone who had primary carriage of Luke's care and treatment.

Similarly, Professor Chadban opined that patient management from after the triage stage to when he was taken to theatre "appears to have lacked urgency and consultant input".[18] In evidence on 22 October 2014, Professor Chadban acknowledged the timing of certain facts and treatment that was more favourable to the Westmead staff. However, he ultimately did not resile from his opinion.

It is true that Dr Ali liaised with with Dr Nankivell and that Dr Thwaites was advised of Luke's pending arrival to the Emergency Department. However, at no point during the first one and a half to two hours after Luke's admission to the Emergency Department, did a consultant on the Renal Transplant Team attend to Luke personally or chase up the results of the CT scan which were highly significant as to the ultimate course of his treatment and its timeliness. Accordingly, I am satisfied on the balance of probabilities that unfortunately, although adequate, there were some missed opportunities in relation to Luke's care and treatment. However, I am also of the view that had these opportunities been seized, it is unlikely the ultimate outcome would have changed at the end of the day.

**WERE THE MANNER AND FORM OF ANAESTHESIA ADMINISTERED TO LUKE AT WESTMEAD HOSPITAL ON 31 AUGUST 2011 APPROPRIATE?**

Clinical Associate Professor Ross MacPherson, the Senior Staff Specialist, Department of Anaesthesia and Pain Management, Royal North Shore Hospital, provided an expert report in relation to anaesthetic issues dated 1 July 2014.[19]

Professor MacPherson was not required for cross-examination.

His report responded to a series of questions, most of which specifically related to anaesthesia. In summary he concluded that the level of care provided to Luke in the Emergency Department at Westmead was appropriate.[20]

---

18 Exhibit 1, Volume 1, Tab 24, page 4, pt.9;
19 Exhibit 1, Volume 1, Tab 25A;
20 Exhibit 1, Volume 1, Tab 25A, Page 1, Q1;

He identified various risks and challenges in respect to the administration of anaesthesia arising from Luke's renal problems such as:

1. difficulties with venous and arterial access;
2. electrolyte imbalance;
3. anaemia;
4. fluid balance; and
5. drug metabolism.

Professor MacPherson discussed each of these issues and concluded that they were adequately addressed by the anaesthetists who attended Luke on 31 August 2011.

None of the testimony of the other witnesses called to give evidence challenged the conclusions of Professor MacPherson. Accordingly, I am satisfied on the balance of probabilities that the manner and form of anaesthesia administered on 31 August 2011 were appropriate.

**ARE THERE ANY RECOMMENDATIONS ARISING FROM THE CARE AND TREATMENT PROVIDED TO LUKE AT WESTMEAD HOSPITAL ON 31 AUGUST 2011?**

On 31 August 2011 those treating Luke were unable to gain access to medical records relating to him as they were locked in the transplant unit room in a separate part of the hospital.

This was of particular concern to those responsible for administering the anaesthetic during the proposed emergency surgery.

It was fortunate that the available surgeons, namely Doctors Lam and Thwaites had personal knowledge of his recent transplant surgery – but even this familiarity is no substitute for being able to consult the complete records. The expert evidence is that even if these records were available it is unlikely that the ultimate outcome would have

been different. However, it is a fundamental principle that relevant records should be accessible.

A secondary issue that became relevant during the course of this inquest was the provision of relevant medical records by Westmead to this Court. Despite numerous subpoenas and correspondence between the Crown Solicitor and those representing Westmead, and enquiries made by the officer in charge, documents clearly significant and relevant to the treatment of Luke were not provided to the Court until during the actual hearing. The failure to provide the medical records in a timely manner caused distress to the family and unhelpfully fuelled conspiracy theories by those who loved and cared for Luke on the basis that those treating him were trying to cover up some wrong doing. This was ultimately not the case and the delay in the provision of the documents was explained, but it came at a price.

Finally, following Luke's untimely death, Westmead conducted a root cause analysis, which made various recommendations. A table of all current outstanding recommendations, provided by Westmead, was provided to the Court.[21] It indicates that all but one of the recommendations have been implemented.

The recommendation to which there is no evidence of implementation relates to the management of issues resulting from extreme bodybuilding. It envisages providing information to the Ministry of Health and the Coroner "for advice and propagation". [Item 11035.2].

The subject matter of many of the recommendations that have been implemented is identical to matters that have been examined in this inquest. Whether the changes made have been efficacious is beyond the scope of this inquest.

[21] Exhibit 1, Tab 26;

Accordingly, I now turn to the findings I am required to make pursuant to section 81 of the *Coroners Act 2009*.

**I find that Luke Wood died on 31 August 2011 at Westmead Hospital as a result of an intraperitoneal haemorrhage from an anastomotic leak from a transplanted renal artery.**

For the reasons set out in these findings I make the following recommendations pursuant to section 82 of the *Coroners Act 2009*:

To:
The Director-General of the Ministry of Health:

That consideration be given to the development of a policy or protocol for the timely provision of all medical records to the coroner when a death is notified pursuant to s.6(1) (b) and (e) of the *Coroners Act 2009*.

19 November 2014

Magistrate Sharon Freund
Deputy State Coroner