Coroners Act, 1996
[Section 26(1)]

Western Australia

RECORD OF INVESTIGATION INTO DEATH

Ref No: 44/12

I, Alastair Neil HOPE, State Coroner, having investigated the death of Julienne Maria McKAY-HALL, with an Inquest held at Perth Coroners Court on 26-30 November 2012 find that the identity of the deceased person was Julienne Maria McKAY-HALL and that the death occurred on 19 May 2008 at Fremantle Hospital as a result of Complications Following Cardio Respiratory Arrest in Association with an Air Embolism During a Gastroscopy and Stenting Procedure for a Chronic Abdominal Fistula Following a Sleeve Gastrectomy for Obesity in the following circumstances

Counsel Appearing:

Anthony Willinge assisted the Coroner

Julian Johnson (Julian Johnson Lawyers) appeared on behalf of the family.
Mark Herron (instructed by Catherine Elphick DLA Piper) appeared on behalf of St John Health Care and nurses Kym Rogers, Claire Bourhill, Karen Pene, Elizabeth Laja, Gloria Kuyper, Beth Baloyi, Jodi Windram and Jane Farquhar
Terry Palmer (instructed by Puja Menon MDA) appeared on behalf of Dr Chandraratna and Dr Tan
Scott Denman (Pynt & Partners) for Mr Ahmed
Robyn Hartley (State Solicitors Office) on behalf of Fremantle Hospital & Professor Fletcher

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INTRODUCTION

Julienne Maria McKay-Hall (the deceased) was a 46 year old female. She was a married woman who had two children.

In 2007 she decided to undergo elective bariatric surgery, laparoscopic sleeve gastrectomy, at St John of God Hospital at Murdoch. Laparoscopic sleeve gastrectomy was a relatively newly introduced procedure at the time. It involved cutting away a large potion of the stomach and stapling the remaining section to prevent leakage.

The deceased underwent the sleeve gastrectomy on 9 November 2007. It was noted when using the staple gun that one of the staples did not fire properly. The area was oversewn and tisseel glue was applied to the staple line.

After the procedure there was a leak from the staple line and the deceased became extremely unwell, suffering from sepsis. Imaging of her abdomen showed a collection within the peritoneal cavity. On 12 November 2007 she underwent a laparotomy for an intra abdominal abscess and repair of a leak from a defect in the staple line. At that time it was noted in the operation notes that there was a 1cm defect in the staple line near the antrum and on further examination it appeared that the staples had given way.

The deceased continued to be extremely unwell and early in the morning of 22 November a copious amount of bile stained fluid was drained from the abdominal wound. A decision was taken for her to return to theatre that day. It appears that a laparotomy procedure was performed. Operative findings refer to three holes in the gastric wall

staple line and these were closed with an interrupted suture technique and then copious lavage.

A further laparotomy with lavage (the third laparotomy and fourth procedure on this patient) was undertaken on 24 November. She was required to go back to the operating theatre on 7 December and underwent endoscopic positioning of a stent.

After this the deceased remained in the Intensive Care Unit until 24 December and during this time abdominal drains showed ongoing small volume leaks.

Further complications occurred including the development of a painful swollen leg on 30 December and investigations revealed that an extensive deep vein thrombosis extended from her calf up through the iliac system. The deceased also suffered from a left side foot drop presumed to be due to peroneal nerve injury and a gastric fistula (leak from the stomach to the skin).

On 16 January 2008 after some improvement in her condition the deceased was transferred to Fremantle Hospital for further care from both the surgical unit and the rehabilitation unit.

Some time after this the abdominal wall did break down and she developed a drainage consistent with gastrocutaneous fistula. She was eventually able to be discharged home on 12 March, with home services providing nursing support for care of the fistula.

Subsequently it was determined that she had two openings in the abdominal wall consistent with gastrocutaneous fistulation.

It is clear that this ongoing leakage from the stomach through the skin severely compromised the deceased's quality of life.

This was described by the deceased's husband, Vincent Hall, in a statement dated 12 December 2011 as follows:

> Jules felt good about being home but was still unwell. She complained of having a hot spot on her abdomen, this became a hole and we were told she had developed a fistula.
>
> An adhesive bag was applied over the fistula, because after she ate or drank anything there would be seepage from the fistula. This was very distressing for her: in addition the bag caused a rash, which was very painful.
>
> Jules developed another 3 of these fistulas. Each had its own bag and each site developed rashes.

A decision was made that it would be appropriate to attempt to close the fistula using a stent placed endoscopically with glue application. She was admitted to Fremantle Hospital on 13 May 2008 for this to take place, however, during the course of the endoscopy she suffered a massive cardiovascular collapse as a result of a gas embolism. In spite of resuscitative measures which were instituted she had a documented period of about 45 minutes of pulseless electrical activity. She was transferred to the Intensive Care Unit, but on 15 May 2008 it became apparent that there was no sign of brain function and life support measures were withdrawn. On 19 May 2008 she died.

As part of a coronial investigation into the circumstances of the death an expert report was sought from Professor Jeffrey Hamdorf, Head of Surgery and Chair of Teaching Activities at the School of Surgery at the University of Western Australia. Professor Hamdrof holds a PhD in Surgery from the University of Western Australia and Fellowship of the Royal Australasian College of Surgeons, with a subspeciality in upper gastrointestinal surgery.

In Professor's Hamdorf's opinion:

> Mrs McKay-Hall died as a result of complications which can be drawn directly from her primary surgical procedure, a laparoscopic vertical sleeve gastrectomy on the 9th of November.
>
> There were clearly problems relating to the use of the stapling device during the operative procedure and the operation report was limited to the comment that the stapling device did not fire 'correctly'. This led to inadequate closure of the cut edge of the stomach although a suture technique was employed following which the application of fibrin glue was also used.

Following death a post mortem examination was conducted by forensic pathologist, Dr Jodi White, who formed the opinion that the cause of death was: complications following cardiorespiratory arrest in association with an air embolism during a gastroscopy and stenting procedure for a chronic abdominal fistula following a sleeve gastrectomy for obesity.

Dr White, in a letter to the Deputy State Coroner dated 14 January 2009, observed:

> A chronic fistulous tract was identified extending from the stomach at the base or inferior aspect of a stapled line to the anterior abdominal wall. Along the fistulous tract there was an opening to the right, which consisted of an abscess cavity which involved the abdominal wall fat and also extended in and around/behind the duodenum and behind the left lobe of the liver.

In the same letter Dr White provided the following view in relation to the mechanism of death:

> It is my opinion that it is possible that whilst the stomach was inflated with air, that with the slippage of the stent that air may have been pushed through along the fistulous tract into the abscess cavity in and around the duodenum, and behind the liver causing dissection and shearing of tissues, and damaging small veins which has allowed for the entry of air into the portal venous system, liver and subsequently the heart. The tissues here were weakened and inflamed and consisted of fresh scar tissue due to the presence of the chronic fistula and ongoing infection. This, may have predisposed the deceased to the

> injury and subsequent bleeding (on Warfarin also) in this area with the sudden passage of air.
>
> Following the passage of air into the heart, the deceased has suffered a cardiorespiratory arrest and cardiac standstill, as a consequence Mrs McKay-Hall has suffered a hypoxic brain injury (possibly added to by air embolisation to the brain) and large areas of myocardial infarction impairing heart function, which has led to the development of cardiovascular instability, respiratory and renal failure.

Although this opinion is only expressed as a possible explanation, and it may not be possible to determine the precise mechanism of death with confidence, in my view it is clear that the tragic sequence of events which culminated in the death very much commenced with the procedure of 9 November 2007. In addition it is clear that it was as a result of the ongoing, and at times horrific, complications of that procedure that the procedure which ultimately resulted in death was considered appropriate.

While the surgeon who performed that procedure, Professor David Fletcher, observed that even on examining the literature a gas embolus from endoscopic procedures is extraordinarily rare, as the forensic pathologist pointed out in the passage quoted above, the air embolism occurred in a context of weakened and damaged tissues with fresh scar tissue and the presence of a chronic fistula and ongoing infection. In my view it is extremely likely that the compromised environment in which the procedure was being conducted enabled the unusual passage of air which resulted in death.

In my view, having reviewed the evidence, the crucial period in the deceased's treatment was the period from 9 November to 12 November 2007. If the procedure had been conducted differently and there had been no leak none of the problems which ultimately resulted in death would have arisen. In addition, had there been earlier robust intervention and treatment prior to the time when sepsis took

hold and the deceased's stomach was damaged by the infection (which compromised the outcome of surgery conducted on 12 November 2007), the course of her management would have been very different. Had intervention occurred earlier it should have been possible to stop the leak and provide effective treatment which would have avoided most or all of the subsequent problems and procedures.

The focus of this inquest has been on the circumstances of the procedure of 9 November 2007 and the events which followed, particularly in a context where it appeared that there was an inexcusable failure on the part of those responsible for the deceased's medical treatment to take urgent action as her condition deteriorated in the period leading up to the procedure of 12 November 2007.

THE BACKGROUND TO THE PROCEDURE OF 9 OCTOBER 2009

The deceased had three sisters and two brothers. She married Vincent Hall on 10 October 1993 and they had two children born in 1999 and 2002.

The deceased was clearly held in the highest regard by those who knew her and had a loving family.

Over time the deceased had become increasingly concerned about being overweight. She had tried various diets, read self-help books and had even been to a health farm without success. It was in this context that she sought recourse to bariatric surgery.

BARIATRIC SURGERY

Bariatric surgery is surgery done to control weight, so in patients who are morbidly obese it is surgery which is designed to reduce their weight.

Currently there are three types of operation which are regularly performed in bariatric surgery. One is the gastric bypass, which while popular in the United States and Europe, is not popular in Australia. Another is gastric banding, which has been the most common form of weight loss procedure since the early 1980s. In more recent years the operation called a sleeve gastrectomy has been the procedure of choice in many cases in Australia. It was this procedure which the deceased chose in consultation with surgeon, Hairul Ahmad.

Dr Ahmad first saw the deceased in his rooms on 8 August 2007, at which time he noted that she weighted 111kgs, with a height of 1.63m and a body mass index of 42 (normal is 20-25). Her comorbidities included hypertension and diabetes.

According to Dr Ahmad, he discussed the merits and possible complications of the laparoscopic adjustable gastric banding and laparoscopic sleeve gastrectomy procedures. In respect of the gastric banding he advised that the mortality rate was 0.05% and that the mortality rate for laparoscopic sleeve gastrectomy was higher, primarily due to the possible complications of intra-operative bleeding or staple line leak (risk factor of 1-2%).

The deceased decided to opt for laparoscopic sleeve gastrectomy.

LAPAROSCOPIC SLEEVE GASTRECTOMY

With laparoscopic sleeve gastrectomy the stomach is first disconnected from its attachments so that it is free and floppy within the abdomen.

A bougie is then inserted into the stomach in order to calibrate the size of the remaining stomach so that the surgeon can staple up against the bougie.

Most of the stomach is then cut away using a device which simultaneously cuts and staples. The knife blade cuts between six rows of staples, so three rows are left on either side of the cut.

The residual stomach is then about 12.6 mm in diameter, so it is quite small.

At the inquest Dr Harsha Chandraratna, who assisted Dr Ahmad with the procedure of 12 November 2007 and had ongoing involvement with the deceased's case, provided an example of the stapler to the court. This stapler was called a 'long articulating endoscopic linear cutter'. It comprised a firing mechanism to be held in the hand with a long attachment at the end of which was a scissor and stapler-like section which could be used to both cut and staple.[1]

THE LAPAROSCOPIC SLEEVE GASTRECTOMY PERFORMED ON 9 NOVEMBER 2007

The deceased underwent gastric gastroscopy followed by a laparoscopic vertical sleeve gastrectomy on 9 November 2007.

[1] Exhibit 5

Dr Ahmad's report on the procedure contained in an Operation Note document on the St John of God file contained the following observation in respect of the procedure:

> The Echelon stapler (45 millimetre long, green staples) was used. Unfortunately one of the staples did not fire properly. This area was therefore oversewn. Tisseel glue was then applied to the staple line.
>
> The staple line was inspected for leak. Irrigation of the operative site performed. A 19F Blakes drain was placed. Closure was achieved with 3/0 monocryl to the skin.

There were, as Professor Hamdorf noted in his report and evidence, clearly problems relating to the use of the stapling device during the procedure. The Operation Report and the subsequent evidence of Dr Ahmad at the inquest provided no information as to how the problem arose, it was simply noted that the stapling device did not fire "correctly". This led to inadequate closure of the cut stomach and although a suture technique was employed, following which glue was used, that was not effective in preventing further leakage.

In respect of the time of the procedure Professor Hamdorf noted that it took about three hours to complete based on the anaesthetic charts and that would appear to be roughly two to three times longer than this operation would generally take for an experienced laparoscopic bariatric surgeon. Professor Hamdorf, therefore, concluded that the operation note underestimated the difficulty encountered during the procedure.

In evidence Professor Hamdorf discussed the risks associated with a staple gun misfire in the following passage:

> If a staple gun misfires, then there's a clear and present risk of a leak of gastrointestinal contents through a disrupted staple line, and it's a surgical catastrophe. I mean, I use 'catastrophe' pointedly. It's not – there's no surgical definition for 'catastrophe' in that point but it really does make – turn the operation from a routine operation into a

challenging technical procedure, the major challenge being is that we're stapling against a device inside the stomach called a bougie, which is just a French terminology for a device that we use, which allows us to have a constantly-sized gastric remnant. The bougie we use is 40 French, which means 40 millimetres circumference or around 12.6 millimetres in diameter. So if you have to suture a staple line which is part of the circumference of a gastric remnant which is already down to 12.6 millimetres and you're seeking to get two to three millimetres of distance from the free edge of the disrupted staple line, then there's a risk of making things quite a deal worse. So stapling – sorry, suture a disrupted staple line is a challenge.

Yes. Why is there a risk of making things much worse? What is it about the scenario you've painted that makes - - -?---I'll ask you to imagine that you've got a tube which – the calibre of which is 12.6 millimetres across and then there's a disruption to it. In seeking to get good tissue to heal across this disruption I'm going to want to have two to three millimetres of fresh tissue away from the edge which I'm going to suture together. Those two to three millimetres compromise the lumen.

Yes?---If we compromise the lumen beyond 12.6 millimetres we're setting up a situation where there will be narrowing and perhaps the development of a fibrotic stricture below. A fibrotic stricture increases both the stress on the staple line above by pressure. Imagine a narrowing in a hose, the pressure increases above, and if fibrosis sets in, then it will generally narrow further and almost inevitably require further major correction.[2]

There are various mechanisms which can be used to assist with the identification of a leak in these circumstances, one of which is the anaesthetist may pass an orogastric tube through which a dye such as methylene blue may be instilled to determine the water tightness and air tightness of the repair. This was not done.

At the inquest Dr Ahmad explained that in his view he was confident that he had effectively closed the defect.

He stated that at the time he conducted this procedure, he had previously performed 15 laparoscopic sleeve gastrectomys and had

[2] T. 326

never previously had to oversew an area of failed stapling. He claimed, however, that he has "good technique to ensure good closure of the suturing". [3]

At the time of the procedure performed on 12 November 2007 it was discovered that there was an area of leak which must have been adjacent to, or encompassing, this area of sutured repair. It is clear, therefore, that Dr Ahmad was not successful in closing the leak.

It was contended on behalf of the family that this fact indicates that Dr Ahmad did not complete an appropriately careful inspection of the staple line following his discovery of the problem and it was also contended that he should have checked the integrity of the staple line either by using the methylene blue dye or by another mechanism described as "air insufflation", to double check the integrity of the anastomosis line and his repair.

The expert evidence at the inquest did not enable a definitive view to be reached in respect of these issues. It was certainly the view of a number of the experts that it may have been reasonable for Dr Ahmad to conclude that he had achieved effective closure, based on close visual inspection. The difficulty in this regard is that it is not now possible for me to determine the nature, extent and quality of the inspection conducted by Dr Ahmad.

It is, however, relatively clear that there was a problem and that problem was not fixed by Dr Ahmad on 9 November 2007.

The possibility of a staple line leak clearly existed following the problems with the procedure and Dr Ahmad should have been alert to the possibility that there could be ongoing leakage.

[3] T, 388

While Dr Ahmad had confidence in his ability to achieve good closure by suturing, that was by no means an easy task in a context where much of the stomach had already been removed and the amount of available tissue for suturing was limited.

Dr Ahmad was well aware that the mortality rate for laparoscopic sleeve gastrectomy was higher than the mortality rate for gastric banding, particularly because of the possible complications of intraoperative bleeding or staple line leak and this is a fact which he claims he communicated to the deceased prior to the procedure being conducted. Any leak of stomach contents would almost inevitably result, if not immediately addressed, in sepsis. The possible implications of an ongoing leak from the staple line were, therefore, likely to be extremely sinister and potentially life threatening.

POST OPERATIVE CARE

Immediately following the procedure the post operative care appears to have been reasonable.

The deceased was returned to the ward at about 3pm on 9 November 2007. A Frequent Observations Chart was completed by nursing staff and that chart required half hourly observations for the first two hours, followed by one hourly observations for two hours, two hourly observations for four hours and then four hourly observations unless otherwise clinically indicated.

The vital signs recorded were within the normal range up until 10.45pm on 10 November 2007. At that time there was a significant increase in the cardiac rhythm and blood pressure and oxygen saturations dropped to 83%. The next reading, timed at 2.45am,

recorded a drop in the cardiac rhythm, but still a substantial increase in the blood pressure although following provision of oxygen, the oxygen saturation levels had returned to normal. The next reading taken at 4.45am recorded the cardiac rhythm being even further elevated and a very significant increase in the respiration rate (which had been in the order of 14-18 on 9 November, to 22). In the 'Comments and Interventions' column of the same form it was recorded that the deceased was 'sweating + +'.

It is now clear that these observations indicate that by this stage the leakage was infected and the deceased was suffering early signs of sepsis.

These observations were taken by Advanced Skills Enrolled Nurse Elizabeth Laja.

In addition to making these observations, Nurse Laja completed an entry in the Integrated Progress Notes timed at 5.30am on 11 November in which she recorded an even higher blood pressure, which was then at 166/88, and had previously been as low as 100/56 on 9 November. She noted that the deceased was complaining of 'shoulder tip pain +++' and was given morphine. Nurse Laja also recorded that green fluid was found in the drain.

In the context of the now known problems with leakage from the stomach, it is very clear that by this stage the deceased was suffering from sepsis.

Shoulder tip pain can result from fluid (stomach contents) or blood in the abdominal cavity. Stomach contents or blood in the abdominal cavity irritates the underside of the diaphragm which results in referred pain to the shoulder tip.

The green fluid indicated a bile leak.

Nurse Laja's note also records that at the time the deceased was hyperventilating.

Based on the various observations that were taken from then on it appears that the deceased's respiration rate never returned to a level of 14-18 which it was recorded at during much of 9 November. The description of Nurse Laja of the deceased "hyperventilating" is consistent with these elevated respiration rates.

A description of how the deceased appeared to others was given by her older sister, Noreen Moncrieff, who rang her on the Sunday 11 November and in her statement dated 21 December 2011 described the conversation in the following terms:

> On the Sunday I spoke to her on the phone. It was very disturbing. She was panting and could not talk properly; her speech was halting, like she was trying to hold her breath.
>
> Julienne told me she was in pain. She told me not to visit, as she said that she did not want to see anyone.

On that morning Dr Ahmad saw the deceased and made an untimed entry in the Integrated Progress Notes. That note was written immediately below the entry written by Nurse Laja referred to above. In that entry he described her observations as "stable". This was clearly inaccurate.

In a statement provided to the inquest dated 16 November 2012 Dr Ahmad claimed that while the time of his review of the deceased was not recorded, his standard practice was to do the post operative ward round first thing in the morning, normally between 8am and 9am. In his statement he claimed that on his examination she looked well,

although complaining of shoulder tip pain and abdominal wall tenderness.

In the statement he contended that at that stage her presentation was consistent with post operative chest infection, which he claimed was not uncommon in obese patients who undergo an upper abdominal procedure. He stated that her blood pressure and oxygen saturation levels were normal.

Dr Ahmad's note did refer to the complaint of shoulder tip pain and he was questioned about that entry in the following exchange:

> In relation to shoulder tip pain, while you've mentioned it might be quite common for patients to complain of that following laparoscopic surgery, is it also the case that shoulder tip pain can be an indicator that there is a leak?---Yes.
>
> Did you understand that in November 2007?---Yes.
>
> On this morning when there was a record of shoulder tip pain, you were also aware, weren't you, that there had been a problem with the use of a staple gun during the procedure?---Yes.
>
> And that, as you recorded in your operation note, one of the staples did not fire properly?---Yes.
>
> And you were aware that when a staple did not fire properly, one possible risk that arose could be a leak?---Correct.

Dr Ahmad was asked at the inquest about the reference to "green fluid" in the notes made by Nurse Laja immediately above the entry which he made, to which he claimed that he had missed that notation.

Dr Ahmad was questioned about the various entries in the Frequent Observations Chart and the Integrated Progress Notes and made the following response:

Would you have read all of that information?---As my lawyer stated this morning in our submission, I have missed that actual notation on the 5.30 in the morning. [This is a reference to Nurse Laja's note].

What do you mean you missed it? You [wrote] directly underneath it?---Yeah, I have not read it, your Honour, despite writing underneath it.

But do you say you didn't even glance at it, because just the most basic glance refers to the 'pain, plus, plus, plus,' plus morphine, her cardiac rate going up etcetera, aren't they the sorts of things that you look at?---If I have noted what was written, that would be alarm – that would be ringing alarm bells in my head, your Honour.

Right, so just then going back, the frequent observations that we looked at a moment ago show an increased cardiac rhythm going up from 90, 81, 77, 82, 81, 82, now to 104; respiration rate doubling from 22:45 to 04:45. I'm just looking at the frequent observations chart?---Yes.

And the blood pressure which has gone up from quite a low level, 111, 112, 114; it has now gone up to 155, now 160, and in this note, 166, and then the oxygen saturations have gone down, although these appear to be corrected with oxygen. Taking that together with green fluid, all of that together indicates sepsis, doesn't it?---Together with the green fluid appearance, yes, your Honour.

Yes. Were you aware of the vital signs being out of the ordinary?---I believe so, your Honour, but I attributed that to other causes because I did not know about the green fluid. It was my – please forgive my choice of word – my oversight in not reading the progress note.

What I don't really understand is if you were aware of vital signs out of the ordinary in a context where there have been problems with the procedure and there have been problems with the staple gun firing, why you wouldn't have been very careful to read the note of that morning?---I was misled by other possible differential diagnosis to explain the situation.

Isn't a leak really one of your number 1 concerns when conducting this procedure?---Correct, your Honour.[4]

It appears clear from the above evidence that Dr Ahmad did not take care to read the Integrated Progress Notes in spite of the fact that the deceased was at that time in significant pain which required

[4] T, 398

provision of morphine and was hyperventilating. In the context where he was aware of the difficulties involved in the procedure performed on 9 November 2007 this was an inexcusable failure on his part and had catastrophic consequences.

At this stage, on the early morning of 11 November 2007, the sepsis was not well established and the damage to the stomach would have been considerably less than it was at the time of the procedure which finally took place at about 8pm on 12 November 2007.

In my view had robust action been taken at this time the complications which followed would never have happened to the extent they did and the deceased would not have died as a result of this elective surgery.

In respect of the actions of Nurse Laja, clearly the readings which she took required immediate action. In evidence she claimed that she "must have" consulted with the Nurse Co-ordinator concerning such findings. Unfortunately at the time of the inquest St John of God Hospital was not able to provide the court with the identity of that person and so this claim could not be either confirmed or refuted.

Nurse Laja claimed to have no independent recollection of the deceased and so it is difficult to now review the actions which she took It is, however, concerning that in her statement she claimed:

> I did not detect anything out of the usual in Mrs McKay-Hall's condition.

While it is clear that nursing staff should have taken more direct action, particularly in a context where the vital signs were changing significantly and there had been a period of very low oxygen levels,

these inadequacies are relatively minor in the context of Dr Ahmad's involvement that morning.

Later on the morning of 11 November nursing staff discontinued recording the vital signs on the Frequent Observations Chart and recommenced making four hourly observations on the Observation Chart. This was in spite of the fact that more frequent observations were clinically indicated by the changing vital signs.

11 NOVEMBER 2007 MORNING NURSING SHIFT

No evidence was given by the nurse caring for the deceased after Nurse Laja completed her shift.

St John of God Hospital were requested on a number of occasions to provide the identities of nurses who cared for the deceased, however, the hospital was unable to provide a comprehensive list. Whether this was as a result of records being destroyed in the intervening period since 2007 or because of poor record keeping was never explained.

The Observation Chart was completed at 12.30pm when it is clear that the deceased's condition was deteriorating, compared with the earlier entry which was timed at 8.30am. She now had a temperature of close to 38 degrees (normal 36-37 degrees) and her pulse had increased from 95 to 110. Her respiration rate had increased from 20 to 24. There is no indication in the Integrated Progress Notes or elsewhere that these changes were brought to Dr Ahmad's attention.

There is an entry in the Integrated Progress Notes timed at 2.30pm which records that the deceased was having episodes of shortness of breath of which Dr Ahmad was aware and that her vital signs were 'stable'. The last entry was clearly incorrect.

11 NOVEMBER 2007 AFTERNOON/EVENING SHIFT

Registered Nurse Jodi Windram was responsible for the deceased's treatment on the afternoon/evening shift of 11 November 2007. She noted that the deceased's pulse was as elevated as 130 at 6pm and the pulse remained elevated from that time.

At the time St John of God Hospital had in place calling criteria, which required the calling of an emergency number "55" in the event of certain changes in a patient's vital signs. A pulse of over 130 satisfied that calling criteria.

Nurse Windram did not make a call to the medical emergency team (a MET call). She stated that this was because a patient's overall condition needed to be taken into account and she would have initiated a MET call if she had been concerned.

While Nurse Windram had no independent recollection of the deceased at all, and, therefore, could not at the time of the inquest make any observations as to the appearance of the deceased, family members vividly recall the events of that day.

The deceased's older sister, Josephine McKay-Engdahl, described visiting her sister on 11 November 2007. Mrs McKay-Engdahl described her sister's condition in the following terms:

> She was breathing very rapidly, like she was panting, was very pale and had a fan on her because she felt hot. She looked to me like she was fighting something like an infection.
>
> There was no emotion on her face, no smile, which was just not like Jules.
>
> It was terrible. She looked tense and helpless.

> I said something to the nurses and they said the doctor had already seen Jules. They sort of threw up their hands, like that was all that they could do.

The above description of the deceased on that day accords with the objectively recorded vital observations and the fact that, for example, her respiration rate had increased significantly from the day before.

Although she did not make a medical emergency call, Nurse Windram increased the frequency of the deceased's observations and contacted Dr Ahmad because of her concerns as to the changes in the deceased's condition and the fact that she now had an abnormally high heart rate with a pulse as elevated as 130 bpm. Dr Ahmad ordered that the deceased be commenced on intravenous antibiotics, namely, intravenous Timentin four times a day.

Nurse Windram was concerned that the deceased was not voiding her bladder and thought it possible that she may be suffering a urinary tract infection.

Based on the timed record of the Timentin order, it appears that the discussion between Nurse Windram and Dr Ahmad took place at about 7pm that evening.

Dr Ahmad gave evidence that he was aware of the deceased's tachycardia (abnormally high heart rate) and fever on the evening of 11 November 2007 and accepted that her pulse reading was concerning and met the hospital's criteria to initiate a medical emergency call.

Dr Ahmad gave evidence that his presumptive diagnosis and explanation for these abnormal observations was a chest infection. Dr Ahmad did not come in to the hospital to see his patient.

In my view this was not a satisfactory response to the deceased's declining health as communicated to him. These readings merited Dr Ahmad's attendance at the hospital and immediate review of his patient's condition.

In this context I accept submissions made on behalf of the family that it was:

> … inexplicable and inexcusable for him, being aware of the staple gun misfire in theatre, to have not appreciated the seriousness of Ms McKay-Hall's condition and arranged urgent intervention (MET call and immediate attendance).

THE NIGHT SHIFT 11-12 NOVEMBER 2007

A nurse responsible for the deceased on the night shift of 11-12 November 2007 was registered nurse Gloria Kuyper. Nurse Kuyper took observations which continued to show a very high pulse and respiration rate.

In spite of the fact that the observations were outside the normal range, Nurse Kuyper did not increase the frequency of observations that night and her only observations were at midnight and 4am, standard four hourly observations.

Nurse Kuyper's explanation for a failure to initiate a medical emergency response or to call Dr Ahmad was that Dr Ahmad was aware of the deceased's tachycardia previously and had commenced her on antibiotics which would need time to work.

12 NOVEMBER 2007 AM SHIFT

On the morning of 12 November 2007 the deceased's temperature had fallen though her pulse rate remained extremely elevated and her respiration rate was very high.

The deceased's oxygen saturation dropped to 92%, but subsequently returned to 98% when she was provided with three litres of oxygen.

As the day progressed the deceased's condition deteriorated rapidly and her temperature fell to below 36 degrees. Her pulse rate continued to rise until it was over 140 and her respiration rate at 12 noon was 40. Clearly at that stage the deceased's condition constituted a medical emergency and the Medical Emergency Team should have been called.

Further observations do not appear to have been taken until 2pm when the deceased's respiration rate was again 40. As a respiration rate in excess of 30 should have required the call of the Medical Emergency Team, it is difficult to understand what was happening at this time.

It is not now known who completed the entries in the Frequent Observations Chart and the Observation Chart which recorded these measurements. An entry was made in the Integrated Progress Notes at 2pm by Registered Nurse Karen Pene who was the senior nurse allocated to the deceased's section on that morning.

She claimed in evidence that she had not read the Observation Chart or the Frequent Observation Chart at the time when she wrote the shift summary on the progress of the deceased because she expected that a junior nurse would communicate any concerns to her. She

claimed to be unaware of the alarming observations which were being recorded and accepted that by the end of her shift, with respiration rates recorded of 40 and low urinary output which was also identified by that stage, the hospital's criteria for a Medical Emergency Team call were clearly satisfied.

It is difficult to understand how it was that Nurse Pene came to complete an entry in the Integrated Progress Notes at 2pm, unaware of the fact that the deceased's condition was deteriorating alarmingly.

It is clear that whoever the nurse was who recorded the alarming elevation in the respiration rate of the deceased at 12 noon and 2pm, that nurse took no action to alert either Dr Ahmad or the Medical Emergency Team of what was, by then, clearly a medical emergency.

It is also remarkable that after the observations in the Frequent Observation Chart taken at 2pm no further observations of the deceased were recorded until the time of the procedure which took place at 8pm that night, by which time she was almost dead.

This failure to take regular observations of a patient who was seriously ill and, later that day, close to death, constituted a gross failure on the part of the hospital and the nurses involved in the treatment of the deceased.

12 NOVEMBER 2007 PM SHIFT

Precisely what happened during the PM shift of 12 November 2007 remained unclear and confusing at the end of the inquest in spite of all efforts being made to endeavour to receive evidence from involved staff.

What is clear is that while the deceased became more and more seriously ill, no-one was adequately monitoring her condition.

Particularly confusing in this context was the evidence of Registered Nurse Beth Baloyi, who provided a statement dated 20 November 2012 in which she stated she believed that she was working in a different ward on the afternoon of 12 November 2007, but was asked by another nurse to assist with the deceased so that she could be prepared for surgery on that day.

At the time of the inquest, however, Nurse Baloyi stated that she understood that she had been assigned to look after the deceased, but only recalled one incident during the time when the deceased was in her care.

The records reveal that Nurse Baloyi did have involvement with the deceased on a number of occasions on that afternoon. At 3pm she made an entry in the Fluid Balance Chart recording the deceased as having voided 250mls of urine. Nurse Baloyi made an entry in the Medication Chart timed at 3.10pm which recorded giving the deceased paracetamol. Nurse Baloyi also completed an entry in the Intravenous Fluid and Additive Order Sheet recorded giving IV fluid at 4.30pm.

Nurse Baloyi completed entries in the document known as the Peri-Operative Record Pre-Operative Check List. These entries are of significance as at the time of completing this document Nurse Baloyi recalled that the deceased had asked to use the toilet and while seated in the toilet had become dizzy and faint.

According to Nurse Baloyi she assumed that this was a vasovagal response triggered by positional hypotension. Nurse Baloyi pressed the staff assistance button and portable oxygen was obtained. Following the

application of oxygen, according to Nurse Baloyi, the deceased said that she felt better and another nurse and Nurse Baloyi assisted the deceased from the toilet onto a commode chair and she was then transferred to her bedside and then her bed.

When this incident occurred was unclear. Nurse Baloyi suggested in her evidence that she would have started work at about 1 o'clock and believed that she was approached to prepare the patient at about that time, however, she also claimed to recall that there was an Asian man who was wearing blue scrubs present at the ward at around that time and the only person who appeared to fit that description would appear to have been Dr Tan, who was not involved until after about 6.30pm that evening.

Nurse Baloyi said that had she been aware of the 2pm observations she would have either made a medical emergency call or at least spoken to the shift co-ordinator.

What is clear is that Nurse Baloyi did not make a medical emergency call.

Nurse Baloyi made no entry in the Integrated Progress Notes and though she saw the deceased on a number of occasions she does not appear to have checked her vital signs or taken any other steps to monitor her condition.

It is clear that during the afternoon of 12 November 2007 nursing staff and St John of God Hospital did not provide adequate care to the deceased. Her vital signs were not monitored and she was not taken to the Intensive Care Unit or otherwise treated as suffering a medical emergency.

THE OBSERVATIONS OF DR LUCAS TAN

In the absence of any observations recorded after 2pm on 12 November 2007, in order to understand the extent to which the deceased's condition deteriorated prior to the procedure conducted at 8pm that day a helpful insight is provided by the evidence of Dr Lucas Tan.

Dr Tan is an anaesthetist who was asked to assist with the 12 November procedure. He was asked by Dr Ahmad to conduct the anaesthesia although he was not on call that day and had not been involved in the initial surgery. Dr Tan agreed to assist Dr Ahmad as a favour because Dr Ahmad had been unsuccessful in attempts to contact the anaesthetist involved in the initial surgery or the on call anaesthetist.

When Dr Tan saw the deceased she was extremely unwell.

Dr Tan's notes show that on examination the deceased had low oxygen saturation, tachypnoea (high respiratory rate) and reduced air entry which indicated impaired respiratory function. Her high pulse rate and low urine output suggested cardiovascular compromise with possible renal impairment.

The examination findings indicated that she required immediate intervention to avoid a full-blown multi-organ failure. Dr Tan started resuscitation immediately with intravenous fluid and supplemented oxygen prior to her being transferred to the operating theatre.

Dr Tan spoke to the deceased and her husband and advised that she was extremely unwell and needed immediate treatment to correct the underlying cause of her multi-organ dysfunction. He informed her that there were high risks of major anaesthetic complications due to the

severity of her condition, including myocardial infarction (heart attack), cardiovascular accident (stroke) and death.

A question for consideration at the inquest is how it was the deceased was allowed to become so seriously ill without robust intervention at a much earlier stage. It is obvious that the Medical Emergency Team should have been involved and the involvement of that team should have resulted in further action being taken to address the problems as a matter of urgency.

In this context the movements of Dr Ahmad on 12 November 2007 were clearly extremely significant.

THE ACTIONS OF DR AHMAD ON 12 NOVEMBER 2007

Dr Ahmad made an entry in the Integrated Progress Notes on 12 November 2007 which is untimed and briefly records the deceased suffering from tachycardia and being afebrile as well as suffering from shoulder tip pain. It appears that at that time a CT scan was ordered. In evidence Dr Ahmad stated that at this stage he suspected that the deceased was suffering from sepsis.

According to Dr Ahmad he probably reviewed her about 8 o'clock in the morning, following which he would have attended a team meeting at Fremantle Hospital until about 9.30am. He stated that his usual practice was then to return to his rooms and said that he believed he had no other commitments for the day, apart from those relating to the deceased.

This was a Monday morning and Dr Ahmad stated it was his usual practice to leave Monday mornings free.

Dr Ahmad claimed that he would have reviewed CT scan images which were taken at about the time they were taken. While the notes do not indicate when the CT scan took place, an entry in the Integrated Progress Notes by Nurse Pene timed at 2pm recorded that following the CT scan Mrs McKay-Hall's blood pressure had become elevated and she was tachycardic. It appears, therefore, that the CT scan must have taken place prior to 2pm.

The note also records that Dr Ahmad was to review the CT scan and her development of shortness of breath overnight. It appears, therefore, that Dr Ahmad had not reviewed the CT scan at 2pm.

Dr Ahmad stated in evidence that he would have spoken to the radiologist about the timing of the scan and would have gone to the reporting room to view the results not long after the scan had been completed. Whether this happened soon after 2pm or not cannot now be determined.

The results of the scan were significant because these revealed that there was a leak, confirming that the deceased was suffering from sepsis.

After the period when he viewed the CT scan up until the time of the procedure at about 8pm, it is difficult to understand precisely what Dr Ahmad was doing.

Dr Tan was not contacted to assist with the procedure until relatively late that day, when he was having his evening meal. Dr Chandraratna was contacted after the completion of his afternoon theatre list, which must have been at about 6.25pm.

At the time when he became aware of the results of the CT scan Dr Ahmad appreciated that the deceased was suffering from sepsis.

In spite of this Dr Ahmad stated that he did not review the medical notes and particularly did not review the Observation Chart or the Frequent Observation Chart which revealed that the deceased's respiration rate was such that there was a medical emergency.

At the inquest the following exchange took place in relation to that issue:

> CORONER: Just generally, I think what counsel's getting at is, in 6 hours you would have had plenty of time to look at the notes?---I admit that, your Honour.
>
> So he's really asking is there any possible explanation you can proffer as to how it was, or why it was you didn't look at the notes in that 6 hour period?---I was preoccupied with the patient. But I admit that I should have looked at the notes.
>
> You weren't preoccupied with this patient for 6 hours?---Most of my attention that afternoon would be directed to this patient.
>
> That's what I can't understand, because as counsel is putting, a few phone calls for an anaesthetist, even if you were calling and then calling back, wouldn't take up that much time?---Yes, your Honour. I mean, that's all I could offer. I obviously did not know about the 2 o'clock observation.
>
> Or the 12 o'clock observation?---Or the 12 o'clock observation.
>
> Yes.

It is difficult to see how Dr Ahmad could have spent a number of hours dealing with the patient without being aware of her grossly deteriorating condition. The deceased's difficulties with breathing were graphically described by family members as these appeared on the day before, by this time with her respiration rate as high as 40 it must have been obvious to any observer that she was seriously unwell. In that

context Dr Ahmad's failure to review the observation charts was difficult to understand.

That failure is even more difficult to understand because it appears that Dr Ahmad spoke to the deceased on the late afternoon of 12 November and obtained her consent for the procedure which was to take place. At that time the deceased must have looked seriously ill and as at that time Dr Ahmad knew about the existence of the leak and the fact that she was suffering from sepsis, it is very difficult to understand why he did not check the observation charts or ensure that there were regular ongoing observations being taken so that urgent action could have been taken in the event that her condition deteriorated catastrophically.

Dr Ahmad accepted in his evidence that had he been aware of the observations recorded at 12pm and 2pm he would have taken further action to expedite the deceased's return to surgery and would have arranged for the Intensive Care Unit to provide assistance to stabilise her while they waited for her to go to theatre.

While Dr Ahmad claimed that during this period much of his time was taken up attempting to organise access to a theatre and an anaesthetist, I do not accept that those tasks involved him in hours of telephone calls and so his failure to more adequately monitor the deceased's condition is unexplained.

In respect of Dr Ahmad's suggestion that he experienced great difficulties in organising the theatre and arranging for the attendance of an anaesthetist, I note the evidence of Jane Farquhar, who was then the Clinical Nurse Shift Coordinator responsible for the day-to-day running of the floor where the theatres were located. She was responsible for

allocations of staff and surgeons, ensuring that the theatres ran well and on schedule and was in charge of any 'trouble shooting' issues. [5]

Ms Farquhar gave extensive evidence at the inquest in relation to the arrangements which were in place at the time for allocation of theatres and for contacting anaesthetists in the event of a need for urgent procedures to be conducted. I do not propose to review that evidence in detail herein, but observe that in my view Ms Farquhar was clearly an highly efficient, well organised person, well capable of the difficult task of the day-to-day running of the operating suite.

At the time there were ten theatres available for procedures and theatre allocations were recorded on an allocation sheet.

In the case of an emergency, such as that which in fact existed in relation to the deceased, there were a number of options available to ensure that a theatre would be made available.

It was clearly the approach of St John of God Hospital that patients would not die simply because of unavailability of theatres, being used for non-essential surgery.

Ms Farquhar explained that at the time there were a number of surgeons who could have been asked to delay or interrupt procedures to enable a genuine emergency procedure to take place. In the event that there was no possibility of using a theatre at St John of God Hospital, there remained the option of transferring the patient to Fremantle Hospital where the patient would have been transferred straight to an operating theatre.

[5] T,247

Ms Farquhar had no recollection of Dr Ahmad pressing for access to a theatre on the afternoon of 12 November 2007. While the events took place in 2007, I am confident that had there been serious issues raised with Ms Farquhar and for some reason a theatre could not be made available for a patient known to be suffering a life threatening condition requiring urgent surgery, that is something that she would have recalled.

In my view it is clear that Dr Ahmad did not contact Ms Farquhar in the early afternoon of 12 November and stress that there was an urgent case which required immediate access to a theatre and immediate availability of an anaesthetist. I note in this context that Dr Ahmad accepted in his evidence that had he been aware of the deceased's vital signs on that day he would have taken further action to expedite the deceased's return to surgery.[6]

THE PROCEDURE OF 12 NOVEMBER 2007

On 12 November 2007 at about 8pm a procedure was finally performed with a view to correcting the leak responsible for the sepsis which had resulted in the deceased being near death.

An Operation Note was completed by Dr Ahmad which indicated that the operation was a laparotomy for gross intra abdominal abscess and repair of a leak from the staple line.

Dr Ahmad noted that the deceased had been becoming septicaemic and that the CT scan had revealed a significant amount of free fluid in the intraperitoneal cavity.

By way of findings he recorded that a significant amount of stomach content had been found free in the intraperitoneal cavity.

[6] T, 501

There was a one centimetre defect in the staple line near the antrum. He wrote, 'On further examination it appears that the staples have given way'.

The procedure was described as being a midline laparotomy. The peritoneal cavity was lavaged thoroughly and the perforation was identified. The perforation was oversewn and bioglue was applied to the whole of the staple line.

Present during the operation and assisting was Mr Chandraratna, the anaesthetist was Dr Tan.

Following the procedure the deceased was transferred directly to the Intensive Care Unit and given intravenous antibiotics.

According to Dr Tan at the end of the surgery the deceased was still critically unwell but was stable with oxygen supplement and high requirement of inotrope.

Dr Chandraratna, in a letter to counsel assisting dated 7 September 2012, noted that during surgery she had suffered a cardiovascular collapse.

THE ONGOING INVOLVEMENT OF DR AHMAD

Following the procedure of 12 November 2007 Dr Ahmad continued to be the deceased's doctor.

On 22 November 2007 Dr Ahmad and Dr Chandraratna conducted a further laparotomy.

On that occasion a leak from the staple line (three holes) and the duodenum was identified. The leak was again repaired.

An operation record completed by Dr Ahmad for that day refers to a gastroscopy being performed. According to Dr Ahmad he does not recall performing one and considers it more likely that it was a laparotomy which was performed. Dr Chandraratna completed an Operation Record for that date and described the operation as being a laparotomy.

On 24 November 2007 Dr Ahmad and Dr Chandraratna again took the deceased to theatre for a further laparotomy. On this occasion when her wound was opened they found there was no leak and the wound was closed.

On 7 December 2007 Dr Ahmad performed a gastroscopy on the deceased and at that time noted evidence of inflammation in the antrum, but no obvious perforation.

Gastroscopic stenting of the leak was undertaken using a stent, however, a check gastroscopy revealed that the length of the stent was insufficient and as a longer stent was not immediately available, that aspect of the procedure was not successful.

On 20 December 2007 Professor Fletcher removed an existing stent and placed a second stent to cover the hole.

On 16 January 2008 the deceased was admitted to Fremantle Hospital for rehabilitation.

The deceased continued to leak stomach content and on 30 January 2008 the stent was removed by gastroscopy by Dr Ahmad. She was then referred to Dr Fletcher's outpatient clinic for further management of the stomach fistula.

On 30 April 2008 following a gastroscopy Professor Fletcher and a radiologist performed a sonogram and glueing of the enterocutaneous fistula. This initially resulted in a cessation of the leak, but five days later problems persisted and she was readmitted on 12 May 2008, for a gastroscopy, glueing and restenting of the fistula by Professor Fletcher.

On 13 May 2008 this was undertaken and a stent was put in place, however, this slipped and was repositioned. Positioning the stent had become particularly difficult because there was then a marked deformity of the stomach due to substantial scarring which had occurred over time. After the procedure had been continuing for over 90 minutes during which the stomach was being insufflated with air to maintain vision, the deceased arrested. Resuscitation was commenced and a transoephageal ultrasound probe showed air in the heart, chest cavity and inferior vena cava. Resuscitation efforts continued and the deceased was transferred to the Intensive Care Unit where she required some inotropic support and ventilation. The deceased had, however, suffered hypoxic brain damage and brain stem testing confirmed brain death on 18 May 2008. She passed away on 19 May 2008.

THE RESPONSIBILITY OF NURSING STAFF AND ST JOHN OF GOD HOSPITAL

In the circumstances outlined in these reasons it is clear the deceased was not provided with adequate treatment and care while she was a patient at St John of God Hospital at various times in the period from 10.45pm on 10 November 2007, when her vital signs indicate that she began to suffer from sepsis, until about 8pm on 12 November 2007 when she was close to death.

In 2007 St John of God Hospital did have in place a policy designed to support the timely and effective care of all patients. This policy was known as Medical Review-Process for Seeking Prompt Review.

The purpose of the policy was to ensure that the patient's medical practitioner would be contacted and a review sought to address a patient's condition prior to a medical emergency team call having to be made.

This policy required that in the case of a patient's condition deteriorating the responsible medical practitioner should be sought to address the patient's condition, that all information including the time and name of the doctor being contacted should be recorded in the patient's medical record and that in the event that the patient's condition did meet the medical emergency team criteria, a blue call bell should be pressed and if there was no blue bell, then the number 55 should be dialled and prompt medical review sought.

It is clear that this policy was not always complied with particularly during 12 November 2007.

To be fair to the nurses involved, however, it should be noted that Nurse Windram did contact Dr Ahmad on the evening of 11 November 2007 to advise him of changes in the deceased's condition including the fact that her pulse was as elevated as 130 bpm. This was in a context where the medical emergency calling criteria for the hospital included a pulse greater than 130 bpm.

When Dr Ahmad declined to attend the hospital and see the patient face to face, it was reasonable for nursing staff to assume that he

was aware of the situation and that the problem was being addressed by the order for Timentim which he made.

The time when action clearly should have been taken and was not was the period when the deceased was becoming extremely ill on 12 November 2007. A nurse, who the hospital has been unable to identify, recorded very concerning observations in the Observation Chart at 12 noon. Included in those observations was the fact that the respiration rate had then reached 40, well in excess of the level required for the calling of a medical emergency.

It is clear that a medical emergency was not called and this was a serious omission.

Dr Ahmad has denied that he was ever informed of that observation and in the absence of any entry in the Integrated Progress Notes to the effect that he had been alerted to it, I have no alternative but to accept his evidence in that regard.

This was an important omission as in addition to providing emergency treatment, the medical emergency team could have been expected to ensure that some action would be taken promptly to address the underlying condition which was causing such extreme symptoms.

While the deceased was taken for a CT scan in accordance with Dr Ahmed's orders at some time in the late morning or early afternoon of 12 November 2007, it appears clear that the CT scan was complete and the records, if not also the patient, were available at the ward by 2pm when Nurse Pene made an entry in the Integrated Progress Notes. That is because the entry timed at 2pm refers to the CT scan having been completed and that post procedure the blood pressure had been elevated and the patient had been tachycardic. This reveals at least

some knowledge of the patient post procedure. Based on that entry it appears likely that the Frequent Observations Chart was available to Nurse Pene at 2pm when she made the entry as she emphasised the elevated blood pressure and heart rate, which were significantly more elevated at the time of the 2pm entry in the Frequent Observations Chart than at the time of 12 noon entry in the Observation Chart.

The fact that no further observations were recorded in the period between 2pm and 8pm seems extraordinary and fell far short of appropriate care on the part of either nursing staff or the hospital.

In this context it is noted that the submissions on behalf of the hospital contained a contention:

> While SJGHC considers it highly unlikely that no observations were taken at all during the afternoon of 12 November 2007, it regrettably, cannot explain why there are no records of any such observations.

As the deceased was undoubtedly suffering from sepsis and was grossly unwell at the time of the last recorded observation at 2pm and her condition was deteriorating, I consider it likely that if any other observations were taken they would have revealed the worsening and more alarming condition of the deceased as she approached multi-organ failure.

If such readings were taken and they revealed such worsening of her condition, it would have been grossly negligent on the part of any person taking those readings to have not at least recorded the readings and alerted the medical emergency team, neither of which were done.

In my view it is far more likely that there were in fact no observations taken during this period.

The hospital submissions also contain a contention that it cannot be confidently assumed that the deceased was on the ward, as opposed to in the radiology department or somewhere in between, when the observations at 12 noon and 2pm were actually recorded.

As noted above, however, at the time of making the entry in the Integrated Progress Notes at 2pm Nurse Pene was aware that after the CT procedure the deceased's blood pressure was elevated and she was tachycardic. For Nurse Pene to have made that observation she must have either had access to the patient, or to her observations, or more likely both. It is further noted that the entry continues, after referring to the CT scan and the subsequent elevated blood pressure and tachycardia, to the fact that the deceased was anxious and required significant amounts of reassurance. Nothing about that entry suggests that the deceased was not on the ward at the time of its being made.

Based on the information available it appears likely that at 2pm the deceased and her records were on the ward.

In the above context Nurse Pene, the unidentified nurse who made the two observations referred to, and the nurses who then took over should have all ensured that the medical emergency which they were witnessing was addressed. Dr Ahmad or the MET team or both should have been advised of the observations and that advice should have been recorded in the Integrated Progress Notes.

This did not happen.

THE INVOLVEMENT OF DR AHMAD

In my view the quality of care and treatment provided by Dr Ahmad was grossly inadequate.

There were a number of features of the case which should have resulted in Dr Ahmad being particularly careful to closely monitor the patient's condition, yet he apparently did not do so.

Relevant factors which should have encouraged Dr Ahmad to closely monitor his patient following the procedure of 9 November 2007 include:

1. The procedure which he had performed was relatively new, had only been performed by him previously on 15 previous occasions, and was a potentially dangerous elective procedure;
2. He was aware at the time of the procedure that there had been problems with the stapling which required oversewing;
3. He was aware that in the event there was a leakage, that could have catastrophic consequences; and
4. His patient was becoming increasingly unwell.

In spite of the above, examples of lack of care on the part of Dr Ahmad include:

1. On the morning of 11 November 2007 when his patient was not well and was complaining of potentially sinister shoulder tip pain he made an entry in the Integrated Progress Notes but did not even read the entry immediately above his own which was short, but contained alarming information which should have alerted him to the fact that his patient was suffering from sepsis by that time;
2. On the evening of 11 November 2007 when advised by Nurse Windram that his patient was suffering a change for the worse in her condition, including a pulse rate as elevated as 130 beats per minute, he did not attend the hospital to see his patient even though he was aware that, for example, the

calling criteria for medical emergency for the hospital included a pulse rate of over 130 beats per minute;

3. On 12 November 2007 after visiting his patient in the morning and suspecting that she had sepsis, following which he organised a CT scan, he did not ensure that her condition would be continuously monitored. In spite of not having any major commitments after 9.30am that day and the results of the CT scan being available prior to 2pm on the afternoon, he did not at any stage read the observations of 12 noon or 2pm which showed that beyond any doubt his patient's condition then constituted a medical emergency; and
4. Although he claimed to have spent a significant time at the hospital on the afternoon of 12 November 2007 consenting his patient and arranging for a procedure to take place that evening, Dr Ahmad appears to have failed to appreciate that his patient's condition had deteriorated dramatically. His patient had a respiration rate of 40 at both 12 noon and 2pm and presumably that did not improve and was as bad or worse when Dr Ahmad saw her, so she would have been obviously very unwell and struggling for breath yet he did not even check her vital signs.

Dr Ahmad was not able to provide any adequate explanation as to why he did not take measures to acquaint himself with his patient's observations on 12 November 2007 and how it was he allowed her to reach a near death state, which she reached prior to the arrival of Dr Tan, the anaesthetist for the procedure, who appears to be the first person to take the deceased's worsening state seriously.

Section 50 of the Coroners Act 1996 provides in part as follows:

50. Reference to a disciplinary body

(1) A coroner may refer any evidence, information or matter which comes to the coroner's notice in carrying out the coroner's duties to a body having jurisdiction over a person carrying on a trade or profession if the evidence, information or matter –

(a) touches on the conduct of that person in relation to that trade or profession; and

(b) is, in the opinion of the coroner, of such a nature as might lead the body to inquire into or take any other step in respect of the conduct apparently disclosed by the evidence, information or matter so referred.

In the context of the evidence referred to above I consider that it is appropriate to make such a reference in the case of Dr Ahmad to the Australian Health Practitioner Regulation Agency (AHPRA).

CONCLUSION

The deceased had weight problems with associated hypertension and diabetes but was otherwise a relatively healthy 46 year old woman.

The deceased opted to undergo bariatric surgery, and after consultation with surgeon, Dr Ahmad, she opted for surgery known as laparoscopic sleeve gastrectomy.

This was a relatively new procedure at the time and her surgeon, Dr Ahmad, had only previously performed 15 similar procedures.

The procedure involved use of a staple gun to cut and staple the stomach, leaving the remaining stomach very small.

During the course of the procedure which took place on 9 November 2007 there was a staple failure and though this was identified and oversewn by Dr Ahmad, there was continued leakage from the area.

Staple failure during this procedure is a very significant event, it turns a routine operation into a challenging, technical procedure.

From at least 10.45pm on 10 November until 12 November 2007, as a result of the leak from her stomach into her abdominal cavity, the deceased suffered from sepsis and became increasingly unwell until she was close to death.

At the time of the procedure on 12 November 2007, which was again conducted by Dr Ahmad, this time with assistance from Mr Chandraratna, it was noted there was a one centimetre defect in the staple line and it appeared that staples had given way. By that stage infection was advanced and the remaining stomach was compromised.

Although the deceased underwent numerous further procedures she suffered from ongoing complications up until the time of her death.

Six months after the initial procedure the deceased was still suffering from these complications which included a leaking fistula.

On 13 May 2008 an attempt was made by Professor Fletcher to address this problem surgically. During that attempt the deceased suddenly arrested. A transoephageal ultrasound probe showed air in the heart, chest cavity and inferior vena cava. In spite of determined resuscitation efforts her condition did not improve and she was transferred to the Intensive Care Unit. It was found that she had

suffered hypoxic brain damage and brain stem testing confirmed brain death on 18 May 2008. She died on 19 May 2008.

A post mortem examination was performed by forensic pathologist Dr White who found that the cause of death was air embolism during a gastroscopy and stenting procedure for a chronic abdominal fistula following a sleeve gastrectomy for obesity.

While the precise mechanism of death has not been determined, it is clear that the fatal procedure of 13 May 2008 was one of a series of procedures which resulted from the procedure of 9 November 2007.

The procedure of 13 May 2008 was complicated by the fact that there was then a marked deformity of the stomach due to substantial scarring which had occurred over time and had resulted directly or indirectly from the procedure of 9 November 2007.

These problems all arose because of the failure to seal the stomach at the time of the procedure of 9 November 2007 or shortly thereafter. There were inexcusable delays in addressing the problem, particularly as the deceased suffered from sepsis which became increasingly severe from at least 10.45pm on 10 November 2007 and by the afternoon of 12 November 2007 was life threatening.

The poor quality of treatment and care provided to the deceased by her surgeon, Dr Ahmad, and particularly on 12 November 2007, by nursing staff and St John of God Hospital Murdoch, contributed to her death.

I find death arose by way of misadventure.

COMMENTS ON HEALTH AND SAFETY ISSUES

St John of God Hospital Murdoch continues the practice of team based nursing as an integral part of its patient-centred model of care and this team based nursing was in place in 2007.

Unfortunately it is clear from the evidence of a number of nurse witnesses that there were serious inadequacies in the extent of communication between nurses in relation to the deteriorating health of the deceased. In particular nurses gave evidence that they would have made a medical emergency call, had they been alert to observations contained in the observation charts, but said that these had not been drawn to their attention. It appeared that there was a lack of communication between nurses on the shifts and a lack of communication at the time of handover from shift to shift.

In order to improve the quality of communication, if the hospital has not already done so, I make the following recommendation to St John of God Hospital Murdoch:

RECOMMENDATION 1 – COMMUNICATION ABOUT ABNORMAL VITAL SIGNS

(a) In the event that vital signs of a patient are significantly outside the normal range, the nurse taking the observations should be required to advise the senior nurse of the shift of those changes.

(b) At the time of the next handover information about any significantly outside the normal range vital signs detected during the shift should be communicated to the next nursing shift; and

(c) There should be an entry in the Integrated Progress Notes relating to those vital signs indicating why it was considered that the vital signs were out of range, whether they were improving or getting worse and what action was being taken in respect of those signs.

(d) When observations record vital signs outside the normal range, the next observations should be taken within a short period of time, not left until the next routine observations are required.

OBSERVATIONS IN RESPECT TO RECOMMENDATION 1

In my view the hospital should mandate the communication of significantly outside normal range vital signs and the recording of these in the Integrated Progress Notes. This is not a matter which should be left to the discretion of individual nurses.

In respect of the requirement that these be recorded in the Integrated Progress Notes, it is important to recognise that doctors are expected to write in those notes and, therefore, these entries in the notes should be readily available to all treating practitioners.

The recommendation that there should be an entry in the Integrated Progress Notes is intended to be additional to observations recorded in the charts and not in any way in substitution for correctly recorded observations being recorded in the charts.

MET CALL CRITERIA: AUDITS

At the inquest Leonie McNeil on behalf of St John of God Hospital Murdoch gave evidence in relation to the changes that the hospital has introduced to improve its medical emergency response. In addition Ms McNeil provided a copy of a new Observation Chart document in use at the hospital, which is coloured and provides visual prompts for nurses to take action in the event of vital signs constituting a medical emergency.

The use of the coloured observation charts is an excellent innovation and these charts appear to be easy to use and very clear.

A concern in the present case is the fact that it appeared that nursing staff were aware of the Medical Emergency Team (MET) calling criteria, but did not take the required action. In part at least this may have been because of a reluctance on the part of nursing staff to contact a doctor at home or away from the hospital.

In order to ensure that the new forms are being used as intended and MET calls are instigated in appropriate cases, in my view it is important for the hospital to conduct effective audits.

These audits should be routinely conducted in cases where there has been an identified medical emergency to ensure that action was taken promptly. It should be recognised that medical emergencies are often time critical and so the audit should identify not only whether there was a call, but whether the call was made when the calling criteria were first met.

In addition the hospital should conduct random audits in respect of all cases to determine whether there are medical emergencies which have not been identified, but should have been.

RECOMMENDATION 2

I RECOMMEND that St John of God Hospital Murdoch put in place a system of audits to ensure that when MET calling criteria are met, MET calls are in fact being instigated and appropriate action is being taken.

GENERAL COMMENT

While the focus of this inquest has necessarily been on the treatment of the deceased at St John of God Hospital Murdoch and the above recommendations are made in that context, it has come to my attention in other cases that this is not an isolated case where MET criteria have not been complied with. It would be helpful to all caregivers if there was consistency of approach throughout the state in relation to this very important issue.

In the above context I propose to forward a copy of these reasons and recommendations to the Department of Health in the expectation that the department will take action to promote consistency of approach to medical emergencies throughout the public and private hospitals in the state. Ideally MET calling criteria should be the same and the documents being used should be very similar throughout the state.

As noted above, St John of God Hospital Murdoch has prepared new Observation Charts with coloured banding in order to visually alert caregivers to the fact that an observation is outside expected parameters. In my view it would be helpful if the same or a similar design of

observation charts with coloured banding was used in every hospital in Western Australia.

A N HOPE
STATE CORONER
17 January 2013