CANADA
Province of Alberta

Report to the Minister of Justice and Attorney General
Public Fatality Inquiry

Fatality Inquiries Act

WHEREAS a Public Inquiry was held at the Provincial Court of Alberta

in the City (City, Town or Village) of Calgary (Name of City, Town, Village), in the Province of Alberta, from

the 28th day of May, 2012 (year),

to the 1st day of June, 2012 (year),

before Michael C. Dinkel, a Provincial Court Judge,

into the death of Andres Eduardo Martinez (Name in Full) 24 (Age)

of Calgary, Alberta (Residence) and the following findings were made:

Date and Time of Death: March 29, 2010 at 6:26 a.m.

Place: Rockyview General Hospital – Calgary, Alberta

Medical Cause of Death:
("cause of death" means the medical cause of death according to the International Statistical Classification of Diseases, Injuries and Causes of Death as last revised by the International Conference assembled for that purpose and published by the World Health Organization – The Fatality Inquiries Act, Section 1(d)).

Perforation of the Left Common Iliac Artery due to attempted Laparoscopic Appendectomy for Appendicitis as per the Autopsy Report of the Office of the Medical Examiner

Manner of Death:
("manner of death" means the mode or method of death whether natural, homicidal, suicidal, accidental, unclassifiable or undeterminable – The Fatality Inquiries Act, Section 1(h)).

Accidental

Circumstances Under Which Death Occurred:

Introduction

On March 28, 2010 Mr. Andres Martinez ("Andres" or "Andres Martinez" or "the patient") attended at the Rockyview General Hospital with his father Mr. Eugenio Martinez ("Mr. Martinez"). Andres was complaining about abdominal pain. Dr. Samer Elkassem, a surgeon, examined Andres and it was suspected that he had acute appendicitis and should be operated on immediately. Mr. Martinez went home to retrieve some of Andres' personal belongings for his anticipated stay in the hospital. When Mr. Martinez returned to the hospital Andres had already gone into surgery. The surgery began in the early hours of March 29, 2010. Shortly after the surgery began, problems arose as Andres' left common iliac artery was damaged. The injury occurred when Dr. Elkassem blindly inserted a sharp bladed trocar into Andres' abdomen and unexpectedly cut the major vessel. The injury resulted in extensive abdominal bleeding. Numerous doctors, including a vascular surgeon, were called in to assist. The bleeding vessel was located and a series of repairs began which met with varying degrees of success. At one point, Andres' condition had stabilized. However, the combination of the massive loss of blood and other related factors eventually caused Andres to develop coagulopathy, which meant his blood was not clotting in the normal fashion. This proved to be fatal. After hours of attempted repairs and resuscitation by the medical team, it was determined that any further efforts would be futile. Andres was moved to the Intensive Care Unit (ICU) and was pronounced dead at 6:26 a.m.

The Procedure Related To Fatality Inquiries

The Fatality Inquiry is a public inquiry under Part 4 of the Fatality Inquiries Act of the Province of Alberta to hear evidence so as to make certain findings in respect of the death of Andres Martinez. The Attorney General did not direct that a jury be summoned. Accordingly, I held the Inquiry as a Provincial Court Judge sitting alone with all the powers of a commissioner appointed under the Public Inquiries Act. It was not a trial. It was a factual inquiry. At the conclusion of the Inquiry, I am required to submit this written report to the Attorney General.

The Report must contain my findings as to the following: the identity of the deceased; the date, time and place of death; the circumstances under which the death occurred; the cause of death; and the manner of death.

My report may also contain recommendations as to the prevention of similar deaths. However, I am not permitted to, nor will I, make any findings of legal responsibility (see Section 53(3)) or draw any conclusions of law (see Section 48(1)). What follows is a review of the Inquiry including the circumstances of the death of Andres Martinez, and my final decision on recommendations.

It is my understanding that government of Alberta in receiving this report may do one of the following:

1. Accept recommendations made and implement them; or
2. Accept recommendations made, but not implement them; or
3. Not accept any recommendations.

The Scope Of This Fatality Inquiry

It is important to note that the focus of this Inquiry is extremely limited. To address matters outside the scope of the Inquiry would be improper. The focus of this Inquiry is to make recommendations that will prevent similar deaths from occurring in the future.

The Course Of The Andres Martinez Fatality Inquiry

The Fatality Inquiry was conducted over the course of five days, from May 28, 2012 to June 1, 2012. Ms. Nancy McCurdy and Ms. Catherine Nugent appeared on behalf of the Attorney General. Mr. James Peacock, Q.C. appeared on behalf of Dr. Elkassem, Dr. Larsen and Dr. Nutley. Mr. Michael Waite appeared on behalf of the Alberta Health Services. Finally, Mr. Martinez was given leave to appear on behalf of the Martinez family as the next of kin of the deceased and Ms. Deborah Prowse, Q.C, assisted him from time to time.

Ten witnesses were called including Dr. Elkassem, the surgeon who performed the operation, Mr. Martinez, medical professionals including certain members of the surgical team and administrative personnel. At the conclusion of the Inquiry, all parties involved were permitted time to make representations in writing as to what, if any, recommendations should be made. I received correspondence from all parties including specific recommendations from Mr. Martinez, which were communicated via Ms. McCurdy on June 18, 2012. Mr. Peacock, Q.C. commented on the suggested recommendations of Mr. Martinez in a letter dated June 27, 2012. The last correspondence received was from Mr. Waite dated July 19, 2012, confirming that he concurred with Mr. Peacock, Q.C.'s comments and that no further recommendations had been received from Mr. Martinez.

The Evidence At The Fatality Inquiry

It is my understanding that a copy of the Transcript of the Inquiry will not be attached to this decision, therefore I intend to review the relevant evidence and then proceed to analyze it before addressing any recommendations.

The Witnesses

Dr. Samer Elkassem – General Surgeon For The Laparoscopic Appendectomy

After providing the court with an extensive review of his medical background, Dr. Elkassem gave evidence regarding his dealings with Andres Martinez on March 28th and 29th, 2010.

He stated that he performed multiple surgeries earlier on March 28th, including at least one other appendectomy. The appendectomies would have typically ranged anywhere from 35 to 90 minutes. In Andres' case, Dr. Elkassem was the primary surgeon and was to carry out a laparoscopic appendectomy.

On the night of March 28th, Dr. Elkassem stated he was contacted by an Emergency Room Physician and told there was a patient with suspected appendicitis. Dr. Elkassem attended at the Emergency Room with a student to assess the patient, who turned out to be Andres. They met in a private room. The doctor performed a history and physical exam and reviewed laboratory examinations all of which indicated acute appendicitis. The options were to proceed with a CT Scan, go directly to surgery or not to proceed with surgery. All options were presented to Andres and he was advised about the risks associated with each approach, including the risk of injury to any associated organ. Dr. Elkassem did not make notes of his initial consultation with Andres, but the medical student did and Dr. Elkassem reviewed the notes, concurred with the assessment and counter-signed the assessment. In reviewing Andres' history, Dr. Elkassem found no risk factors to be present. Dr. Elkassem confirmed that the standard of care for appendicitis was to operate. He said a failure to operate could lead to a perforated appendix and the patient could develop sepsis and become very toxic and possibly die. After discussing the various options, Andres agreed to proceed with the surgery and signed a consent form for a laparoscopic or open

appendectomy. The Martinez family was not present during the discussion of the options available and the risks associated with each course of action. Dr. Elkassem confirmed that this was typical when dealing with an adult patient, as no consent from any other family member was required. Although not mentioned by Dr. Elkassem, it was my understanding from hearing the evidence of a subsequent witness that Andres did go for a CT Scan prior to surgery.

Dr. Elkassem gave evidence as to the difference between laparoscopic and open appendectomies. He stated the benefits of laparoscopic surgery included: minimizing incisions, less trauma to the body and quicker patient recovery. He also confirmed that the majority of his training was in laparoscopic surgery. He stated that he would typically only perform open appendectomies if the patient could not tolerate having gas filled into their abdomen for a laparoscopy. He stated that the weight and size of the individual did not typically affect the risk related to laparoscopic surgery.

Dr. Elkassem also gave evidence on the cross-matching of blood prior to surgery. He stated that cross-matching required sending the patient's blood to the blood bank in advance to confirm a match. This was done in cases where blood was required, so that the cross-matched blood would not interact adversely with the patient's own blood. The doctor was not sure, but did not believe that Andres' blood was cross-matched and further stated that it would not be typical to cross-match in situations involving an appendectomy because major bleeding would not be expected. Dr. Elkassem also stated that he would only cross-match a patient's blood if the patient had a coagulation deficit (such as using blood thinners), which was not the case with Andres.

Dr. Elkassem addressed his own experience with laparoscopic surgery. He gave evidence that he had observed hundreds of surgeries of this type. He was not able to say how many laparoscopic appendectomies he assisted on, but stated that the appendectomy was one of the most common procedures he assisted on over the course of his five-year residency. He detailed the progression that he went through over the course of a number of years in learning how to do laparoscopic surgeries from observing how each staff surgeon performed the surgery, to participating by performing parts of the procedure, to eventually doing the whole procedure in his third or fourth year of residency under the supervision of the staff surgeon. Dr. Elkassem confirmed that when he graduated from his residency in January of 2009 and started his locum at the Rockyview Hospital that he was capable of doing laparoscopic surgeries on his own. Dr. Elkassem described a locum as a doctor who is hired to provide certain services without being a permanent staff member. Up to February of 2010, Dr. Elkassem performed 74 appendectomies all of which were done by the laparoscopic approach, with 15 percent converted to an open procedure.

Dr. Elkassem gave evidence that the medical staff present during an appendectomy included an anaesthetist, an assisting doctor and possibly residents and medical students. Nurses present typically included a scrub nurse and two circulating nurses. The scrub nurse would assist in the surgery by handing instruments to the surgeon and the circulating nurse assisted by providing any instruments to the scrub nurse. Ms. McCurdy reviewed all the names of those present during Andres' surgery and Dr. Elkassem confirmed he recognized the names and believed he had worked with all of them on prior occasions.

When asked to describe in layperson terms how a typical laparoscopic appendectomy was performed, Dr. Elkassem stated the following starting at page 30, line 12:

> Okay. So the patient is given a general anaesthetic. And the patient is then positioned and prepped with sterile material to create a sterile field. And the next step is actually making an entry poi -- point into the abdomen, typically in or around the naval area, at the bellybutton. And that -- we will make a cut and dissect and cut tissues until we get down to the innermost portion of those tissues that separate the abdominal cavity from the

> outside. And we have to make a hole in that layer to gain open access into the abdominal cavity. This is called a Hasson technique, or an open cut down technique.

Dr. Elkassem described a second technique that was also used, starting at page 30, line 32:

> Yeah, another method of gaining access to the peritoneal cavity is using what's called a Veress needle. And it's a -- it's a thin needle that has a tip on it that's sharp. It could be put into the -- into the naval as well, blindly, or it could also be put in another area of the abdominal surface. It's inserted blindly. And once the needle is inside the perineal cavity, or the abdominal cavity, a gas connection is hooked to it. And the belly is filled up with gas. Usually it's carbon dioxide gas.
>
> And once that's filled up with gas, then an additional port is put in.

He confirmed that the additional port is where a tube would be inserted.

Dr. Elkassem stated that he used the Hasson Technique because it was the one he used during his training and it was the procedure he was most familiar with. He was unable to say if one technique was safer than another.

When asked to describe the Hasson Technique in greater detail, Dr. Elkassem stated the following, starting at page 31, line 24:

> So once in the -- a hole is made in the -- the linings of the abdominal wall and we have entry into the abdominal cavity, a cylindrical tube, which is called a trocar, is then inserted into the abdominal cavity under direct visualization. And that tube is then -- has a additional connection that allows gas to be delivered into the peritoneal cavity, into the abdominal cavity. And it's typical carbon dioxide gas.
>
> The gas will -- will make a -- or create a space within the abdominal cavity. And after the space is created a camera then can be inserted through this port or this trocar and allow you a panoramic view of the abdominal cavity and insert additional ports as needed to perform your surgery.

Dr. Elkassem added that the space created by the gas was known as the pneumoperitoneum and it was established to create a working space for the surgeon within the abdominal cavity.

The trocar was used to introduce both the gas and a camera into the abdomen. In this case, **Dr. Elkassem gave evidence that he used a 12-millimetre disposable trocar**. He was unaware of the brand name of the trocar. **He stated that it was his normal practice to use the 12-millimetre reusable trocar**, as it was on his preference list (later described as a pick list), but it was not available for this surgery. In commenting on the difference between a "disposable" and a "reusable" trocar, Dr. Elkassem gave the following evidence starting at page 33, line 19:

> Right. The difference between the two, the one that I typically use, it's a -- it's a cylindrical port and it has an introducer inside of it that has a blunt tip on the inside. So when -- when I make the hole in the -- in the abdomen, I put my trocar in, we always have an introducer to help with introduction of the port inside. And then that introducer is taken out. And then you can put the camera in its place. …
>
> That wasn't available. This re -- sorry, disposable port, or trocar, was available. It has a -- a conical tip to it. It's not blunt, but it's actually a conical -- the end of it's not sharp. And I believed it was -- would be a safe alternative at the time. …

> Right. The other difference is the disposable one that I used in this case has a blade that's concealed. And there is a -- a shield that will cover it when it is deployed.
>
> To explain the trocar, the one that I had used, there is a -- a blade on the side that only deploys when it meets resistance. And once the resistance is relieved, a shield will come and cover that blade. But when it's in its typical state, the blade is not exposed.

Dr. Elkassem confirmed that the reusable trocar that he typically used did not have a blade and the disposable trocar that he did use in Andres' surgery had a shielded blade that would be exposed when it met resistance. He also stated that he had used the disposable trocar in previous surgeries including gallbladder operations and appendectomies. He stated that he used the disposable trocar on previous occasions because it allowed for the introduction of a larger camera and larger instruments such as a stapler.

Dr. Elkassem said that, as the general surgeon, it was his responsibility to confirm that the instruments he wanted were present and available in the operating room. He looked for his preferred reusable trocar, but it was not present. He said it was his impression, based on conversations with the scrub nurse and the circulating nurses, that the trocar was not "immediately available and there was an alternative that I saw was on the set that I thought I could use safely." (page 36, lines 25 and 26).

Dr. Elkassem was then asked to describe what happened in the operating room in the early morning hours of March 29, 2010. He answered, in the course of an exchange with Ms. McCurdy, as follows, starting at page 37, line 26:

> A So after the patient was given a general anaesthetic, he was put to sleep. He was also positioned properly and he was prepped and draped with surgical drapes.
>
> And then the next step is to do the Hasson technique. So that entails making a cut at the belly button and cutting down through the tissues and arriving to the -- the thick layer that covers the muscle. And that needs to be cut. And I placed a suture into this layer. And that suture would actually hold the trocar in place later on.
>
> Q And what -- what instrument did you use to make these cuts?
> A It's a -- a knife and scissors.
>
> Q Okay. Go on.
> A And then I continued to cut down until I reached the very last layer that separates his abdominal cavity from the rest of his tissues. And I recall there was -- I had to cut that with a knife as well. And then I had an opening into the abdominal cavity at that point in time.
>
> He had a fairly thick abdominal wall and it was a fairly deep hole. And I had placed -- because it was deep, I had placed a retractor, it's a sigmoid-type shape retractor, into the hole to lift -- to be a guide and to lift the abdominal cav -- wall up.
>
> Q Okay.
> A So I then used the trocar, and using that retractor as a guide, and inserted the – the trocar inside the hole.
>
> Q And this particular trocar, with a blade on the end that is shielded, as I understand --
> A Correct.
>
> Q -- how does that work? When you inserted the trocar, is the blade out or shielded?
> A So when -- when I inserted the trocar it -- the blade is actually concealed.

> Q Okay.
> A The blade will come out if it encounters any type of tissue resistance. And once that resistance is relieved, the shield will pop over the blade. So in doing this procedure, he had a very, again, thick abdominal wall. And I believe that if there was any type of resistance on the tissues going in, the blade may come out. But once it's in the abdominal cavity there -- that shield would come in.
>
> So the intention was that the -- the trocar would go in without the blade being exposed. If there's any resistance on the skin tissues, it may cut. But once it's inside the abdominal cavity the pressure will be relieved, the -- the cap will come out. The hood will come out. And it should be a safe entry. That was my intention.
>
> Q Okay. And the purpose of inserting the trocar was, then, that you could have the gas expand the abdominal wall and establish the pneumoperitoneum. Correct?
> A Correct.
>
> Q Okay. And what happened then?
> A So then I attached the gas connection to the port. And once I established the pneumoperitoneum, so the gas in the abdominal cavity, I proceeded and placed the camera that I was using. It was a 5-millimetre size camera, with a 30-degree angle on it.
>
> And once I put the camera in it was smeared with blood. So I took it out and washed it again and put it in a second time. It's also smearing with blood. At that point I asked for a larger camera, so a 10-millimetre camera. So that was in the room and that was brought to me. And then I placed this camera on -- on the inside. And it was also smearing with blood.
>
> At that time I was concerned that an injury had occurred. And the anaesthetist was telling me that there was some changes in the physiology of the patient, that he was asking if there was something wrong. And I said, I believe there's -- there might be something wrong and I'm going to open up the patient right away.

When asked whether his entry into the abdominal cavity was an accepted technique that he had done properly, Dr. Elkassem responded, "it wasn't something I would - typically would do." (page 39, line 18). And this was the case, "Because we'd always use the other type of trocar." (page 39, line 21).

Dr. Elkassem confirmed that it was at this point in the surgery that the anaesthetist advised him that there were some changes in the patient's condition including his CO2 levels. This coincided with Dr. Elkassem's concern that there may be a vascular injury. He initially believed the vascular injury was to the inferior vena cava, which is the major vein that delivers blood back to the heart. **When asked if the "blade of the trocar" was the only thing that could have caused the vascular injury, Dr. Elkassem responded, "As far as I know**." (page 40, line 11)

At that point, Dr. Elkassem stated that he opened up the abdomen and saw a lot of blood in the belly so he packed the abdominal cavity and advised the anaesthetist that a vascular surgeon would be needed. Attempts were also made to control the bleed with suction and pressure. Dr. Udell Larsen, the anaesthetist, called for more O-negative blood and also called, Dr. David Ablett, a second anaesthetist, who was already working in the hospital. Dr. Elkassem also paged Dr. Mark Nutley who called back at about 2:00 a.m., at which time Dr. Elkassem confirmed there was a major vascular injury and Dr. Nutley should come right away. Dr. Nutley arrived at approximately 2:30 a.m. Another general surgeon, Dr. Lea Austen, was also contacted and he arrived at about 3:00 a.m. Dr. Elkassem stated that the team was controlling the bleeding,

resuscitating the patient and giving blood products. Specifically, he stated that they initiated the "major transfusion protocol." According to Dr. Elkassem, the surgery started at 1:13 a.m. and it was 15 minutes into the surgery before the vascular injury was discovered.

By 3:00 a.m. Dr. Elkassem described the patient as "well-resuscitated and stable." The patient's blood pressure was good and the bleeding was under control. For the next number of hours the team, headed by Dr. Nutley, tried to isolate the area of the bleed and repair it. Dr. Elkassem stated that his original belief that the inferior vena cava had been injured was wrong and that it was in fact the left iliac artery that had been damaged. He described the aorta as the major artery that delivers blood to the lower part of the body and then it splits into two veins called the left and the right iliac veins or arteries. Dr. Elkassem said that the only surgical methods available in the case of a damaged vessel, artery or vein were to repair the injury or to cut out a piece of the vessel and sew the remaining parts together.

Multiple attempts were made to repair the damaged vessel and this appeared to be successful until the patient stopped making clots and developed coagulopathy. As Dr. Elkassem stated, "this was an issue for the whole case." When asked what causes coagulopathy generally, Dr. Elkassem stated at page 45, starting at line 30:

> When -- when a patient loses blood and is given replacement factors, they could start becoming coagulopathic. When they become cold, when they have an acidic environment in their blood system, they could become more coagulopathic.

In his post-operative notes, Dr. Elkassem specifically referred to "DIC" or disseminated intravascular coagulopathy. He described this as being different from coagulopathy. He said at page 46, line 4:

> They're not the same. Coagulopathy just describes the fact that the patient can't clot. Once it comes to a very difficult stage where it's disseminated, that's what "DIC" actually means.

Dr. Elkassem stated that he was unaware of whether or not Andres had difficulty with blood clotting prior to the surgery. He also stated that DIC could happen in circumstances where there was a massive transfusion and massive blood loss over the course of a longer surgery.

Dr. Elkassem stated that it was his understanding that the anaesthetic team was managing the, "administering [of] products such as platelets and fresh-frozen plasma and cryoprecipitate, as per a Massive Transfusion Protocol." (page 46, lines 35 and 36) He was unaware of any delays in getting the required blood products. He also confirmed that Factor VII, a clotting product, was administered as was an artificial tissue agent called CoSeal. Dr. Elkassem believed that a similar product called Floseal was not available to Dr. Nutley. Dr. Elkassem described the situation at that point in the following manner, starting at page 48, line 20:

> Well, to clarify, at the time when the CoSeal was administered it was a time when all the major bleeding was dealt with and the patient was showing signs of oozing from multiple sites. And it was deemed at the time the patient is severely coagulopathic and he's not clotting. And to spend more time oversewing was going to be futile.
>
> So that's when Dr. Nutley decided to try to control bleeding locally with a combination of pressure, with packs and to use local agents that promote clotting, such as the CoSeal, which is a glue-like substance -- it helps fibrin deposition -- in addition to Surgicel, which is also a cloth-like material that also aids in clotting and GELFOAM, which is a foam-like material that also has some properties in assisting in clotting locally.

> So all of these materials were placed at the areas that had some bleeding sites, and in addition to placing pressure with multiple packs. …
>
> So the recognition was that the patient was severely coagulopathic and needs to be further resuscitated. And there was a hope that if the patient can be resuscitated further, and we could control the local bleeding sites with pressure and local clotting assistance, that there was a chance that he could be resuscitated in the ICU and be brought back for another look. That was the goal at the time.

At that point the decision was made to transfer the patient to ICU. Dr. Elkassem asked Dr. Nutley for a second opinion considering the gravity of the situation and Dr. Nutley called his colleague, Dr. Petrasek. The patient was then transferred to ICU and the doctors waited for the second opinion. The second opinion was provided and it was understood by Dr. Elkassem that Dr. Petrasek had said that, given the circumstances, nothing else could be done.

Dr. Elkassem stated that he spoke to Mr. Martinez during the course of the time Andres was in ICU. He said they first spoke in ICU and then moved to a waiting room outside of the ICU. Dr. Elkassem explained the tragic nature of the circumstances of the situation to Mr. Martinez and attempted to give him some hope that Andres could recover. Shortly after that, Andres Martinez passed away in the ICU at the Rockyview Hospital at 6:26 a.m. on March 29, 2010.

Dr. Elkassem confirmed that following the death of Andres, an Administrative Review was conducted by the Calgary Health Region to review the case and offer any recommendations at to what to do next. He stated that Dr. Francis Sutherland conducted the review and met with him on several occasions, shortly after the incident, for that purpose. Dr. Elkassem stated that during the course of the review he was asked to recount the events surrounding the surgery including the technique he used to enter the abdominal cavity and his use of the trocar. He stated that Dr. Sutherland advised him that "the entry" was unconventional and that Dr. Elkassem should continue to work under a supervised capacity for the remainder of his locum. Ms. McCurdy then put Dr. Sutherland's findings to Dr. Elkassem and read the following from Dr. Sutherland's report, at page 53, starting at line 25:

> **He used a disposable 12-millimetre port, only partly opened the peritoneum, and used some pressure to introduce the trocar into the abdomen blindly with no previous pneumoperitoneum established. …**
>
> Dr. Elkassem recognizes now this was a mistake and was very forthcoming with this investigation.

Although Dr. Elkassem could not specifically recall his conversation with Dr. Sutherland on this point, he did state that he recognized in hindsight that a pneumoperitoneum was necessary in order to establish the trocar safely and that the technique he used was improper.

Dr. Elkassem stated he did return to work on a supervised basis and after approximately one month he received a note from Dr. Kortbeek (Department Head of Surgery) saying that Dr. Elkassem's "technique was safe" (page 54, line 19) and there were no concerns with his "technical…capacities." (page 54, line 20)

Dr. Elkassem stated that he also undertook additional training including a fellowship in minimally invasive surgery in Toronto in July of 2010.

When asked by Ms. McCurdy if his laparoscopic appendectomy technique had changed since the incident, Dr. Elkassem stated that he continued to use the open Hasson technique, but was more

comfortable with using the veress needle. With respect to the open Hasson technique itself, Dr. Elkassem stated that he now only used a blunt introducer. He recommended that, for him, it was best to only use the instruments he was comfortable with. Specifically, he would have preferred to have his trocar of choice present prior to the surgery. He was unaware of any drugs, medication or other equipment that could have been used to prevent the death of Andres or any similar deaths in the future.

Mr. Waite clarified the operation of the trocar. He asked Dr. Elkassem if there was a triggering mechanism on the side of the trocar. Dr. Elkassem confirmed there was "a switch to engage the blade. It's still not exposed, but it's basically ready to be exposed if needed." (Page 60, lines 31 to 32). He stated that the switch engaged the blade, but it would only be exposed when it met resistance.

Mr. Waite also questioned Dr. Elkassem as to why he felt he needed the blade, to which Dr. Elkassem gave the following response at page 64, starting at line 21:

> Well on the one hand I wanted to have that whole instrument, the trocar with that introducer all engaged in one, so that it wouldn't pop out. Because it was a deep hole. And putting it in, I just believed that if there was any resistance that that shield would come in -- pop out once we were inside the belly. Because I had an open hole and I had things retracted up. So I thought it would be a safe thing to do.

Mr. Martinez also examined Dr. Elkassem at length. At one point, he asked why the doctor did not send a nurse to pick up the right trocar. Dr. Elkassem's reply was as follows, starting at page 76, line 19:

> Yeah. Mr. Martinez, we were talking about this. The issue was the instrument was not in the room and I can't recall exactly the exact conversation but it seemed that it wasn't immediately available and I didn't want to delay the case any further because it was an emergency. And that was -- when I saw there was an alternative that I thought I could use, that's why I went ahead with that other instrument.

Mr. Martinez also inquired as to whether it was Dr. Larson who was the first to raise a concern during the course of the surgery. Dr. Elkassem stated that both he and Dr. Larson had concerns at the same time. Dr. Elkassem also confirmed that he took a voluntary leave of absence after the incident.

When questioned by Mr. Peacock, Q.C., Dr. Elkassem stated that the open Hasson technique he used during the surgery on Andres was the same technique he had used during his 74 previous laparoscopic surgeries. The only difference being the type of trocar he used.

When questioned by the Court, Dr. Elkassem confirmed that 70 percent of patients who have suspected appendicitis have CT scans or ultrasounds. He also stated that he had worked the 16.5 hours prior to beginning the surgery on Andres, but that he was accustomed to long hours, as it was typical for surgeons to do 24 hours of call. Dr. Elkassem said the majority of surgical cases do not need to be cross-matched and that it would have been unusual to cross-match blood in a situation such as this. Dr. Elkassem stated that although he preferred the reusable trocar, he had used the disposable trocar "many times" in laparoscopic appendectomies. In terms of the availability of his preferred trocar, Dr. Elkassem stated that it was his understanding that when that trocar was not available, it meant that it was not in the operating room or the nursing staff were not sure where it was located at that time, but that it was in the hospital and could eventually be located. The doctor stated that there could have been as much as a 20-minute delay in retrieving the instrument. Dr. Elkassem also explained the nature of his list of preferred medical instruments. He stated that a list of his preferred medical instruments is created, with his

input, by the nursing staff and is published at the hospital. He was unaware of how often it was updated or who updated it, but typically he would advise a nursing manager should he change his preferences. Dr. Elkassem was unable to provide a definitive opinion as to the benefit of introducing Factor VII at an earlier point in the surgery or using Floseal over CoSeal in addressing the clotting problem. Finally, **Dr. Elkassem was asked about Dr. Sutherland's reference to his "unconventional entry" and he stated that what was not typical was, "The use of the trocar that has a hidden blade in it as an initial entry trocar in the absence of establishing a pneumoperitoneum." (page 97, lines 2 and 3)**

Ms. Prowse, on behalf of Mr. Martinez, followed up with some additional questions. She asked Dr. Elkassem how often he used the disposable trocar with a blade for the initial port entry as opposed to a secondary port. Dr. Elkassem stated that, at most, he had only used the bladed trocar for an initial port entry on one or two occasions.

Mr. Eugenio Martinez – The Father Of Andres Martinez

Mr. Eugenio Martinez, the father of Andres Martinez, was the second witness at the Fatality Inquiry. In direct examination Mr. Martinez described his son as very healthy prior to his surgery. He recalled how his son first went to the South Calgary Hospital and from there was transferred by ambulance to the Rockyview Hospital. Mr. Martinez was with his son from the outset and followed him to the Rockyview by car. He stated that Andres arrived at the hospital at around 8:00 p.m. and saw the doctor between 10:00 and 10:10 p.m. Mr. Martinez was advised by Andres at 10:20 p.m. that he was going to have the surgery. Mr. Martinez understood that it was expected that Andres would go into surgery in the next five or six hours. At that point, Mr. Martinez left the hospital and went home to pick up some of Andres' personal belongings.

Mr. Martinez said that he went back to the hospital at 2:00 a.m. and he was unable to locate his son. He was eventually told that Andres had been taken to the operating room. Some time after that he was told to go to the eighth floor where he waited for two hours from 3:00 a.m. to 5:00 a.m. without being updated on his son's status. Eventually a nurse assisted him and after making a phone call, the nurse took him to see his son. He said he stood in the room with his son for 15 or 20 minutes and no one came in. Eventually a nurse came in and Mr. Martinez said that she told him that his son was going to die.

Mr. Martinez stated, contrary to the evidence of Dr. Elkassem, that Dr. Elkassem and Dr. Nutley came and spoke to him after Andres had passed away. He said that the three men moved to a family meeting room and Dr. Elkassem was crying and shaking as he delivered the news about Andres' death. Mr. Martinez stated he then sat down with Dr. Elkassem and hugged him and supported him. Eventually, Dr. Elkassem told Mr. Martinez that he had cut his son's "main vessel." (page 111, line 13)

Mr. Martinez confirmed that there was a review conducted following his son's death and that he met with a number of people from the hospital including Nancy Guebert, the vice president of the hospital, and Dr. John Kortbeek. **During the course of his meetings he was able to express his concerns and he was confident that the hospital was implementing a number of measures to make sure that a similar incident never happened again.**

Dr. Daran Lea Austen – On Call General Surgeon

Dr. Austen gave evidence that he was a general surgeon at the Rockyview Hospital. He stated he performed an average of 50 to 75 appendectomies a year. He was asked to explain how the Hasson method for appendectomies worked and he gave the following description at page 121, starting at line 26:

> So the Hasson technique is a technique to establish entry into the peritoneal cavity. It's considered in the classification as an open technique, that is entry into the peritoneal cavity is done under direct vision, that is directly seeing the layers as we enter through them. So it involves a skin incision around the umbilicus; dissection through the fatty tissue underneath the skin; visualization of the muscular fascia; somehow grasping or controlling that muscular fascia; creating an incision through that muscular fascia; visualizing the peritoneum or the inside lining of the peritoneal cavity; opening that, again, under direct vision, that establishes your entry into the peritoneal cavity; and then introduction of one of the trocars, which then we can work and pass the gas to do the procedure.

Dr. Austen stated that a variety of instruments were used to get down to the peritoneum, which he described as a thin band of tissue, including: retractors, grasping devices, sutures, scalpels and scissors.

Dr. Austen was asked to demonstrate how the trocar worked. He was given 12-millimeter disposable trocar and explained in detail how it was used. He also confirmed that it was not generally used for the initial port into the peritoneum cavity, rather a blunt tipped trocar was typically used. He did explain that the disposable trocar, with the sharp blade, was often used as a "secondary trocar" for cutting through tissues of the abdominal wall. He further explained that insertion of such a trocar should be done with direction vision, which meant that the insertion of the trocar could be observed by a TV camera that had already been inserted into the peritoneal cavity.

Dr. Austen was then asked to demonstrate how a reusable trocar was used. He demonstrated the use of the blunt tip on the trocar and explained that there is no sharp cutting surface on the trocar therein explaining the distinction between the two instruments. It was his understanding that the reusable trocar was available in all laparoscopic kits at the Rockyview Hospital.

Dr. Austen stated that in the early morning hours of March 29, 2010, he was home sleeping when he received a page to attend the hospital. He believed he made it to the hospital within 20 to 30 minutes, arriving between 2:00 a.m. and 2:30 a.m. Prior to arriving at the operating room the only information he had was that he was required on a difficult case where there was bleeding. When he arrived in the operating room there were a number of doctors present including Dr. Elkassem and Dr. Nutley. He received information that the patient was gravely unwell and had significant blood loss during the course of an emergency appendectomy.

Dr. Austen described his role as an additional pair of skilled hands and a fresh set of eyes. Dr. Nutley, the vascular surgeon, was directing the surgery and had Dr. Austen assist in exposing the injury, controlling the bleeding and repairing the injury over the course of a number of hours. He stated that there were times when the bleeding appeared to be under control, but that fluctuated through the case. He said it was difficult to tell if the bleeding was coming from just one source. Sutures were used to repair those areas where there was suspected bleeding.

Dr. Austen confirmed the use of Factor VII in the surgery and said that at one point he went to the Blood Bank to pick it up. He had never used Factor VII or CoSeal before in his surgeries and could not remember if CoSeal had been called for during the surgery.

Dr. Austen stated that the reason the team was not able to get control of the bleeding was because of the coagulopathy, or failure to clot, that developed. He described a number of factors that contributed to the coagulopathy including: the cold operating room, the fact that the patient is exposed, the length of the procedure, the type of trauma and the blood loss. He said that patients can be predisposed to clotting and this can be confirmed by physical exams and patient histories, which can give an indication of abnormal bleeding such as frequent nosebleeds, easy bruising,

blood loss during dental procedures and a family history of blood disorders. Dr. Austen confirmed that those are all typical questions that would be asked when screening a patient prior to surgery.

Finally, Dr. Austen confirmed that it would not be “standard of care” to cross-match a patient for an appendectomy as the risk of bleeding would be low. And the standard of care for an acute inflammation of the appendix was removal.

Dr. Austen told Mr. Waite that he was not aware of any concerns about the availability of blood or blood products. He confirmed that he had everything that he needed during the surgery.

Mr. Peacock, Q.C. reviewed Dr. Elkassem’s postoperative report with Dr. Austen and asked him if he would use the same technique other than using the 12-millimeter disposable trocar. Dr. Austen confirmed that his technique would be very similar and that the angle of entry would depend on the physical characteristics and anatomy of the patient.

When questioned by the Court, Dr. Austen was asked what he would do if he was in the operating room to perform a laparoscopic appendectomy and there was no blunt-tipped reusable trocar available. He stated that he would try to find the trocar that he was most comfortable with, knowing that it was likely to be available in the hospital. Dr. Austen was not concerned about the amount of time it would take to locate the preferred trocar. He also confirmed that the blood bank is on the same floor as the operating theatres in the Rockyview Hospital, only a couple of hundred metres down the hallway. He said that by the time he removed his surgical gloves and gown and signed the paperwork, it would take him approximately 10 to 15 minutes to get to the blood bank and back with the Factor VII. Finally, Dr. Austen confirmed that by mid-2006, 2007 the vast majority of appendectomies would have been done laparoscopically and by 2010 the procedure had been well established for about five years at the Rockyview Hospital.

Brittany Olver – Scrub Nurse For Laparoscopic Appendectomy

On March 29, 2010, Ms. Olver was the scrub nurse in the operating room. She had been a registered nurse for just over two years. She stated that the role of the scrub nurse was to assist the surgical team and be responsible for the sterile field and all of the instrumentation, the passing up of instruments, sponges, sharps and keeping track of those items and counting them. Ms. Olver confirmed that a “pick list” was a list of items that are picked for the surgery and that there is also a more specific list of the preferences of each surgeon. Ms. Olver recalled having such a list on the night of the surgery and having all of the instruments on the list in the operating room. **She had a specific recollection of having both the reusable and disposable trocars available, contrary to Dr. Elkassem’s evidence wherein he stated that only the disposable, bladed trocar was available**. She confirmed the reusable trocar with the blunt end was in the endoscopy kit. In addition, she stated that there were two other trocars available and she described them as a Versaport and a reposable trocar.

Ms. Olver described the scene when Dr. Elkassem entered the operating room at page 153, starting at line 16:

> So I remember -- like, the list is -- it’s a little unusual in that there is a lot of PRN, there’s not a lot of definites on there. So we opened the disposable anticipating he would use that because it was used on a laparoscopic case just prior to this appendectomy, and so Dr. Elkassem did come in probably knowing that his list doesn’t say for sure which instrument he’s going to use, so he came in before he had washed and scrubbed his hands and asked what was on the table and so showed him that -- that we had already opened that up anticipating he would use it and **he told us that he usually uses the reposable trocar, and the circulating nurse had told him, Well, we have that right here. Would you like us to open that? And he said, No. I usually use it because it’s the cheaper**

> **version, and that what we had open was fine.** And from there the team went out to scrub and we set -- set up the sterile field and began the case.

Ms. Olver's evidence as to the presence of the reposable trocar contradicted that of Dr. Elkassem. Ms. Olver believed that the reposable trocar was present in the operating room at the start of the surgery, while Dr. Elkassem stated that it was not in the operating room and not immediately available.

Ms. Olver stated that Dr. Elkassem never asked for a different trocar and if one was requested it could be brought from "the core," which was just outside the operating room and accessible within "30 seconds to two minutes." (page 154, line 13)

Ms. Olver stated that after the camera was inserted, the picture was not clear and there were a couple of attempts to wash it, which proved unsuccessful. Then a second larger camera was used with the same results. Shortly thereafter a decision was made to open. Ms. Olver was unaware of why the doctors chose to take that action. It was at that time that the anaesthesiologist asked about bleeding because of a drop in certain readings that were being monitored. Attempts were then made to isolate the bleeding and stop it. A vascular surgeon and a second general surgeon and a respiratory therapist were then paged. Ms. Olver estimated it took about an hour for Dr. Nutley to arrive. As the doctors awaited the arrival of the additional surgeons, she said the patient's condition stabilized.

Ms. Olver stated that it was the two circulating nurses that were in charge of getting the blood products. They would make the phone calls or pages to make those arrangements while she dealt with the instrumentation and the sterile field. Ms. Olver was not aware of any delay in obtaining blood products. She was unfamiliar with Factor VII, but she recalled CoSeal, gelfoam and SurgiSeal being used to control bleeding and help with clotting.

When examined by Mr. Peacock, Q.C., Ms. Olver confirmed that she had been present for part of a surgery earlier that day with Dr. Elkassem, but that it was not an appendectomy. She also confirmed that the Hasson trocar was present as part of the endoscopy set.

The Court also questioned Ms. Olver and she confirmed that the nurse clinician created each surgeon's "pick list." The pick list is then updated when the individual surgeon speaks to either a nurse in the operating room or the nurse clinician. Ms. Olver stated that there was only a 10-millimeter reusable trocar available that day and no 12-millimeter reusable trocar, as such an instrument does not exist so it could not have been on Dr. Elkassem's pick list. It was her belief that his trocar of preference was the reposable trocar.

Mr. Waite attempted to clarify the confusion over the different types of trocars and Ms. Olver stated that there was a 12-millimeter reposable trocar present in the endoscopy set that day that was on Dr. Elkassem's pick list. She went on to say that the only completely reusable trocar was the 10-millimeter Hasson.

Dr. Mark Nutley – On Call Vascular Surgeon

Dr. Nutley gave evidence that he was first involved in the Andres Martinez case when he received a phone call at approximately 2:00 a.m. from a nurse at the Rockyview Hospital. She relayed the circumstances of the surgery and then Dr. Elkassem got on the phone and confirmed the same information, which was that a trocar had entered a vessel (the IVC) during a laparoscopic procedure and steps were being taken to stop the bleeding and resuscitate the patient. Dr. Nutley confirmed that Dr. Elkassem was doing all the right things to control the bleeding and he would be on his way immediately.

Dr. Nutley arrived in about 20 minutes and took a further 10 minutes to get prepared to enter the operating room. He described the situation in the operating room when her arrived as follows, starting at page 182, line 24:

> The situation was described by both Dr. Elkassem and Dr. Larsen that the patient was being stabilized. The patient had lost a significant amount of blood and they were transfusing the patient at the time. The packing was put into the pelvis as -- as I had discussed with Dr. Elkassem. There was ongoing bleeding but it was relatively minimal by the sounds of the description. His blood pressure was appropriate and the other vital signs were reasonably appropriate and ongoing resuscitation measures were -- were happening.

At that point Dr. Nutley went through a checklist to make sure everything was being done. This included confirming that blood was on the way, the patient was being stabilized, suction devices, including a Cell Saver (a device which re-circulates the patient's own blood), were available and the vascular cart containing all the necessary instruments was available.

When he first viewed the patient it became clear that the area of concern was not the IVC as he had first been informed, rather it was the pelvic area. This caused him immediate concern as he was aware that, "traumatic injuries deep in the pelvis are often lethal." (page 183, lines 37 and 38) Dr. Nutley stated that Dr. Austen then arrived to assist. The team was able to slow the bleeding down, but there had been significant blood loss already. It then became evident that there were multiple areas of bleeding and the doctors proceeded to address the problems one at a time.

Dr. Nutley stated that it was necessary to stop and resuscitate the patient at times, as there was no clot formation. **This was the first sign of coagulopathy.** Dr. Nutley stated that the coagulopathy arose because of a combination of the dilution of the liquids going into the patient and the cold temperature of the products. This caused the team to stop at least twice for 10 to 15 minutes to catch up, the idea being that each time they would get more and more blood control and less bleeding. However, the team began to fall behind.

Dr. Nutley stated that this was the first trocar injury that he had been involved in and that they were quite rare.

Dr. Nutley said that both Factor VII and CoSeal were used to address the patient's coagulopathy. FloSeal was unavailable, but it was a product that was very similar to CoSeal. He was unable to say if FloSeal would have made any difference, but he felt it was a somewhat better product than CoSeal. Dr. Nutley also confirmed the use of gelfoam and SurgiSeal to address the coagulopathy.

An additional opinion was sought from the Chief of Vascular Surgery, Dr. Paul Petrasek, and his view was that everything that could have been done had been done.

Dr. Nutley felt that he had all of the assistance he needed in terms of medical personnel and equipment and blood products. He felt that cross matching the patient's blood prior to the surgery would not have made a difference in terms of the coagulopathy.

The only concern Dr. Nutley expressed was over access to blood. However, even though there was some initial frustration voiced by Dr. Larsen during the surgery, Dr. Nutley felt that ultimately they were able to get the blood they needed, but perhaps not in a timely manner. Dr. Nutley welcomed the fact that there had been a change in the protocol at the Rockyview Hospital regarding blood products. It was his understanding that there was new "massive transfusion protocol" that involved a box that included 20 units of blood product that would be immediately

available upon request. It was Dr. Nutley's opinion that the Massive Transfusion Protocol "would've assisted the outcome." (page 194, line 1)

When examined by Mr. Waite, Dr. Nutley stated that FloSeal was unavailable at that time at the Peter Lougheed Hospital (where he normally worked) and that he had never requested it in any of his surgeries. The only time he remembered using it was in a lab where it was being tested on animals. Dr. Nutley also stated that he went with Dr. Elkassem to speak to Mr. Martinez, who was already in the ICU, so as to explain the gravity of the situation and allow Mr. Martinez to see his son.

When examined by Mr. Martinez, Dr. Nutley confirmed that although he suggested at the end of the surgery the patient should be "packed" and moved to intensive care, it was a team decision to take that action. Mr. Martinez also asked the doctor if he had said to him that night that he tried his best, but was too late. Dr. Nutley could not remember the exact words he used, but said that sounded like what could have been said.

Mr. Peacock, Q.C. also examined Dr. Nutley and asked him if it was his opinion that when the patient was transferred to ICU that nothing more could have been done surgically. Dr. Nutley confirmed that was his opinion. In addition, he said the transfer to ICU was done in the hope that the patient's coagulopathy would improve, but that it was unlikely that would happen.

Finally, the Court examined Dr. Nutley and he stated that he did not feel that he arrived too late. What he meant by his comment to Mr. Martinez that night was that by the time he and his team were able to get surgical control of the vessels, too much blood loss had occurred and the cascade of coagulopathy had gotten out of control.

Dr. Udell Larsen – Anaesthesiologist For The Laparoscopic Appendectomy

Dr. Larsen was the on call anaesthesiologist on the night of Andres' surgery. He met the patient in the holding area prior to the surgery and obtained his pre-op history and outlined the anaesthetic plan by describing what would happen in the operating room including any risks. He described the patient as a healthy young man and Dr. Larsen had no concerns based on the patient history.

Dr. Larsen stated that his role was to ensure the patient was asleep and had no awareness and was comfortable and safe. He also monitored his vital signs and would be the doctor to transfuse blood should that be necessary.

Dr. Larsen said that he had been the anaesthesiologist for thousands of surgeries and had worked with Dr. Elkassem at least a dozen times.

The first sign of a problem for Dr. Larsen was when the patient's pulse oximeter was acting up. He asked Dr. Elkassem what was going on and it was at that point that Dr. Elkassem agreed there was a problem and he proceeded to open up the patient. Dr. Larsen then made sure that Carl Thiessen, a Respiratory Technologist, and Dr. David Ablett, another staff anaesthesiologist who was working in the hospital that night, were contacted immediately so as to provide additional help. Dr. Larsen stated that the first thing to do when there was a "big problem" (page 240, line 37) was to "call for help." (page 240, line 37) The Respiratory Technologist would be the person who would set up and run the Cell Saver, the blood warmer and the Level 1, which supplemented the blood warmer by pressurizing the blood products or fluids to be put into the patient. Dr. Larsen also called for four units of O-negative blood from the Rockyview blood bank as that was the type of blood he could get the fastest and it was also the most common blood type that would be safe for transfusion into almost every patient. A nursing assistant delivered the blood within five minutes. Dr. Larsen stated that in the next five to ten minutes he inserted a

temperature probe, another large IV for transfusing blood and he requested a Level 1 blood warmer and a Bair hugger (a warming blanket placed across the patient's chest) to warm the patient up. Dr. Larsen stated that all of these measures were used to avoid coagulation.

Dr. Ablett arrived within minutes. Dr. Larsen instructed him to start another IV and add a central line in the patient's neck. At that point, Dr. Ablett advised Dr. Elkassem to pack the patient's abdomen. The packing was intended to put pressure on the area of the bleed to slow it down and allow the team to catch up while the vascular surgeon made his way to the operating room.

Eventually, Dr. Larsen requested an additional eight units of blood from transfusion medicine at the Rockyview Hospital. However, after receiving the initial four units, Dr. Larsen felt that he was keeping up and was not especially anxious for more blood products.

The Respiratory Technologist, Carl Thiessen, showed up after the patient had been stabilized and Dr. Larsen asked him to get the equipment ready to start an arterial line and bring in the Level 1 and the Cell Saver.

Dr. Larsen stated that it was his impression that a big vessel had been perforated during the surgery and that Dr. Elkassem believed it to be the inferior vena cava, but Dr. Nutley advised that he thought it was the common iliac vein.

Dr. Larsen stated that Dr. Ablett had advised him that he had to wait a bit for some of the blood, but Dr. Larsen said that he never really felt as though any wait was causing him undue stress. Back in March of 2010, Dr. Larsen was unaware of the process for obtaining blood from other hospitals and he did not think the Massive Transfusion Protocol was in place at that time. He described the protocol as an "algorithm" that directed doctors as to the proper procedure in similar situations involving large blood loss. He stated that the details of the protocol were on a chart that was posted in each operating room. He described the massive transfusion package as something completely different. It was a box of 20 units of blood that could be transferred between hospitals. He felt that it would not have made a difference had it been available back on March 29, 2010.

Dr. Larsen recalled discussing Factor VII with Dr. Nutley and said it was used to try to gain control of the bleeding. Shortly after that, Dr. Larsen stated that Dr. Nutley said that the injury could not be fixed and the patient should be taken to ICU so his family could say goodbye to him. Dr. Larsen had already called ICU to advise them that the patient would be coming. As the surgeons began to pack the patient, they removed the cross clamp on the big vessel and the bleeding was unimpeded. Dr. Larsen attempted to use synthetic drugs to try to raise the patient's blood pressure just to keep him alive long enough for his family to see him. Dr. Larsen then took the patient to the ICU and asked the doctors to meet with the family and have them come in right away.

Dr. Larsen did not believe that administering Factor VII at an earlier point in the surgery would have made a difference. He confirmed a total of around 24 or 25 units of blood were transfused into the patient and all but the first four had been warmed.

After transporting the patient to the ICU, Dr. Larsen spoke to Dr. Nutley one last time to ask him what he wanted to do with the blood products and Dr. Nutley confirmed that the patient should not be given any further blood and Dr. Larsen communicated that instruction to the ICU. At that point, Dr. Larsen said that he encountered Mr. Martinez in the ICU and was under the impression that Mr. Martinez had spoken to the doctors already, but that was not in fact the case. Dr. Larsen said that although he was not prepared either emotionally or physically for his discussion with Mr. Martinez, he did speak to him and told him to go and hold his son's hand before he died.

Dr. Larsen expressed concern about the lab results. He said he was frustrated with the time it took for the lab to return with results. In addition, he said he felt very uncomfortable with having to be in a position to tell Mr. Martinez about his son's condition before the doctors had a chance to speak to Mr. Martinez.

When examined by Mr. Waite, Dr. Larsen confirmed that he did not have any concerns regarding the availability of the blood products or the equipment that he required. He also stated that the concern regarding the labs was specifically with the coagulation profile (also referred to as the INR and PTT). During the course of the surgery he only saw one set of blood work and any others arrived after the surgery. Still, Dr. Larsen felt that even if he had the lab results, it would not have affected the treatment that he gave the patient.

When examined by Mr. Martinez, Dr. Larsen said that in addition to the transfusion of blood there were also six units of fresh frozen plasma transfused into the patient. Dr. Larsen said this would only be done in circumstances of massive bleeding and there was no specific formula as to how much of the plasma to use. He said it was important to use the plasma as it included cofactors, which aided in clotting. In addition, Dr. Larsen confirmed that even though the plasma was cold, it was necessary to transfuse it into the already cold and coagulopathic patient so as to replace the cofactors that were being lost with the blood loss. Dr. Larsen also clarified that, generally, arteries go away from the heart transporting blood under pressure, while veins are not as thick and deliver blood to the heart. He described the aorta as a big artery. It was his understanding that it was the common iliac vein that had been perforated during the surgery, rather than the common iliac artery.

Mr. Peacock, Q.C. examined Dr. Larsen and went through the perioperative record. Dr. Larsen confirmed that anaethesia usually begins about ten minutes before an operative procedure and that the procedure in this case started at 1:13 a.m. It was at about 1:25 a.m., approximately 12 minutes into the procedure, that problems arose and Dr. Elkassem discovered a large amount of blood in the abdominal cavity and made the decision to open up the patient. Dr. Larsen also confirmed that the various blood products the patient received during the surgery included almost 14 litres of blood, two units of Cryoprecipitate, which is a blood product that aids in coagulation, and six units of fresh frozen plasma. Finally, Dr. Larsen confirmed that he only received one lab report during the surgery and that was after waiting "a couple of hours." (page 274, line 7). Dr. Larsen further acknowledged that the patient's INR and coagulation factors were outside the normal range.

The Court questioned Dr. Larsen as well and he clarified that 30 percent of people who go into general surgery would have their blooded typed and screened and less than five percent were cross-matched. He said the tests are done by the blood bank when there is concern over patient bleeding. Cross matching is the more rigorous approach that requires that every unit of blood be tested so as to confirm there will not be a problem with administering it to the patient. Dr. Larsen stated that cross matching was only done in situations where there was a 100 percent certainty that the patient was going to require blood. Dr. Larsen also stated that he was not satisfied with the timeliness of the return of the lab tests during the surgery. He was aware that a protocol was in place for performing the lab tests, but felt it was not being met on this occasion. In fact, he stated that he was concerned enough about the delay that he phoned the lab to talk to them about it a number of times and did not get any answers. Dr. Larsen described the various levels of requests for labs from standard (when time permits) to stat (need it now) to time critical (needed it five minutes ago). He felt it would be of assistance to have had the additional labs, but confirmed that even if he had received the labs, it would not have affected the outcome. The Court also inquired as to whether there was a protocol in place to instruct the doctors in how to deal with the families of patients in times of such tragedy. Dr. Larsen said that he never received any such training during the course of his education. He felt a protocol of that nature would be of assistance.

Mr. Carl Thiessen – On Call Anaesthesia Respiratory Therapist

Mr. Thiessen stated he first became involved in the incident when a nursing supervisor contacted him at about 1:00 a.m. at the request of Dr. Larsen. He believed he arrived at the operating room at about 1:30 a.m. It was established later on by Mr. Waite that Mr. Thiessen in fact arrived later than that, but he had no notes to confirm his actual arrival time. He said that when he did arrive, Dr. Larsen was trying to establish a central line and he was asked to establish a second line to monitor blood pressure.

He described his role as one of clinical and technical support, wherein he would speed up the delivery of blood and make the necessary equipment available. Specifically, he set up the Level 1 Rapid Infuser (which allows blood to be warmed and given under pressure), the Cell Saver and infusion pumps. He took direction primarily from Dr. Larsen, but also Dr. Ablett who was coming and going from the operating room as he was attending to another case. Mr. Thiessen stated he was also responsible for drawing blood for blood gas analysis. The analysis was done inside the operating room on an immediate basis rather than being sent out to the lab for testing. He was not responsible for the labs that were sent out for processing or for obtaining blood products from the blood bank and he did not recall any delay in the delivery of the blood products that night.

He felt that he and Dr. Larsen were keeping on top of the coagulopathy problem and together they were able to keep the patient in a normal physiological state. He stated that there was a constant ebb and flow of periods of large blood loss followed by periods of catch up where the patient was stabilized. He said that both he and Dr. Larsen were surprised when the decision was made to pack the abdomen and close because they knew that the repair work was not finished. Although he and Dr. Larsen had been able to keep up with the blood loss, the surgeons were unable to stop the bleeding. Mr. Thiessen said that he concluded his involvement when he accompanied the level one rapid infuser to the ICU with the patient.

Dr. Thiessen was unaware of any additional equipment, medication or personnel that would have assisted in the operating room. He felt the anaesthesia team did everything it could do and he would not have done anything differently.

Dr. Samer Elkassem – General Surgeon For The Laparoscopic Appendectomy

All parties agreed that a certain level of confusion arose out of the evidence of Ms. Olver, the scrub nurse, related to the availability of the various trocars and which trocar was actually used during the procedure. As a result, Dr. Elkassem was recalled as a witness to try and clear up the confusion.

Ms. McCurdy showed Dr. Elkassem three different types of trocars. They were in order: a 12-millimetre disposable trocar, a 12-millimetre reposable trocar and a ten-millimetre Hasson trocar with a blunt introducer.

Dr. Elkassem was then asked how he typically made his initial port entry in a laparoscopic appendectomy. The exchange that followed between Ms. McCurdy and Dr. Elkassem is found at page 314, starting at line 19:

> Q Now, either using these instruments, and actually it might be best if you do, but – can you tell us how you would typically do the initial port in a laparoscopic appendectomy, using a -- using those instruments?
> A Okay. So when I typically do my laparoscopic appendectomies, my initial cuts is through the -- or, around the bellybutton --

Q Okay.
A -- and then cutting down through all the tissues and getting access into the peritoneal cavity with an incision, and so I have a hole, an access into the peritoneal cavity. And this is called the Hasson technique that I've described before. And for my laparoscopic appendectomies in particular, I would use a 12 millimetre reposable, and use a blunt type of trocar in it. And I would insert it into the peritoneal cavity, take the blunt trocar off, connect the gas to this unit, this reposable unit, and then proceed with the operation.

Q So what I have just seen you do is essentially use pieces of one trocar with another trocar, is -- with the trocars that I placed in front of you, you used two of them, is that --
A Correct.

Q -- and can you tell us why you would do that?
A So all I could tell you is, when I wanted to use this unit, the purpose was to use it with a blunt trocar, and so I would just -- I asked for a blunt trocar. From which kit it comes from, I wasn't familiar. But all I wanted was a blunt trocar that could actually fit in this unit, so then I could do my technique as I usually do.

Q So your concern as -- and what -- what you'd be looking for as a surgeon is a 12 millimetre trocar, correct?
A Yes.

Q Okay. And -- and the second most important thing, if I understand you, was a blunt –

MS. NUGENT: Introducer.

Q MS. McCURDY: -- blunt introducer, thank you.
A Correct.

Q Okay. Now, of the trocars in front of you, the disposable trocar that is Exhibit 3, that, and correct me if I'm wrong, doesn't have a blunt end, correct?
A Correct.

Q Okay. And then the -- what I identified as the reposable trocar in the bag, can you tell us what sort of end that trocar has?
A Well, in the bag, it does come with a -- a -- a sharp tip.

Q Okay.
A But I don't use that for my initial entry.

Q Okay. And then what -- the third type of trocar that you identified as the Hasson trocar, what type of tip does that have?
A It comes with a blunt tip.

Q So on March 29th, 2010, for Mr. Martinez's surgery, which trocars were in the operating room?
A Well, I know for sure the disposable one was present, because that's the one that I used. I had specifically asked for this unit, and what –

Q And when you say "this unit," what are you referring to?
A The 12 millimetre reposable trocar. And it wasn't available.

Q And when you say "the 12 millimetre reposable trocar," are you referring to the sleeve of it, or are you referring to the introducer?

A No, just the sleeve.

Q Okay.
A It's the same --

Q What --
A It's the same unit that I've been using for months and months.

Q Okay.
A It's the exact same system.

Q Okay. And was the 12 millimetre sleeve, reposable sleeve, in the operating room on March 29th, 2010?
A To my understanding, it was not. Because I asked for it. Because it's the instrument that I'd always used for my laparoscopic appendectomies.

Q And you're referring to the -- the sleeve. The trocar that you have in front of you that's reposable has a pointed tip. Your evidence is that you've used, and you're holding up the -- the sleeve portion of the reposable trocar in the 12 millimetre size as something that you use, but as I understand it, that package only has a sharp tip introducer?
A Correct.

Q Okay. So what is -- what blunt introducer do you use?
A My approach is to use this cannula, or this trocar with a blunt introducer provided from the endoscopy set. And that's what I've requested, and that's what I was doing for the last three or four months --

Q Okay.
A -- at least.

Q And do I understand your evidence to be that the 12 millimetre reposable -- I'm sorry, the word has escaped me, the -- the part, not the introducer, but the part that you're holding --

THECOURT: The sleeve.

MS.McCURDY: The sleeve, thank you.

A Okay.

Q -- was not available on March 29th, 2010?
A Correct.

Q And not only that was the sleeve not available, what about the introducer, was there a blunt-ended introducer available to you on March 29th, 2010?
A All I did was, I asked for this unit, and all I knew, it wasn't there.

Q And typically, in a -- a -- previous appendectomies, is the unit put together for you so that you're not asking for two separate pieces of sleeve and an introducer?
A Correct, because I've been doing this technique for many months, and that's how I typically do my cases, and I had discussed with the nursing staff how I do my cases. And so it was understood.

The essence of this extended exchange, which was reproduced in full to give it context, is that

Dr. Elkassem typically used parts from two different trocars that he assembled together. He called the newly conceived trocar a reusable trocar. He used the 12-millimetre reposable sleeve and he would then put the blunt Hasson trocar from the endoscopy kit into it. He stated that it was understood that the nursing staff would assemble the trocar in this manner in advance. It was his evidence that all of the parts necessary to assemble this type of trocar were not available to him on the day of the surgery, contrary to the evidence of the scrub nurse, Ms. Olver. Specifically, Dr. Elkassem stated it was his recollection that the 12-millimetre reposable trocar sleeve was not available.

When questioned further by Mr. Waite and the Court, Dr. Elkassem stated that he recalled asking about the 12-millimetre reposable trocar and being told it was not there. He also recalled looking at the tray and seeing that it was not there.

Dr. David Ablett – On Call Anaesthesiologist

Dr. Ablett was the on call anaesthesiologist that night, but was already present in the hospital when he was called to assist when problems arose with respect to the laparoscopic appendectomy. He was contacted by an urgent page and attended the operating room immediately and spoke with Dr. Larsen. His assessment of the situation when he arrived was that the Dr. Larsen was upset and the patient was very pale with very little blood pressure. He described the situation as critical.

Dr. Ablett said his role was one of providing technical, practical and psychological help. The first step was to get extra large bore IV lines into the patient to address the bleeding issue. Dr. Ablett stated that they did not have sufficient blood on hand to deal with the problem so he contacted the blood bank and told them to “press the panic button” (page 328, line 11). He then spent the next hour and a half coordinating with the blood bank. This included advising the blood bank as to the exact amount of blood, plasma and platelets that were required. He noted that at one point the blood bank at the Rockyview Hospital had run out of platelets and an order was placed to have the platelets delivered from the Foothills Hospital. Dr. Ablett said that any delay in obtaining blood products was minor and that it did not affect their ability to treat the patient.

After determining that the situation appeared to be under control, Dr. Ablett asked Dr. Larsen if it would be okay to leave and go to the case room. Dr. Larsen indicated that he felt the situation was under control and Dr. Ablett could leave. Dr. Ablett left and assisted on another matter and when he returned all attempts to resuscitate the patient had ended.

Dr. Ablett went on to explain that the current protocol regarding transfusions is to have transfusion packs available, so when a massive transfusion is called a box of blood, plasma and platelets arrives without delay. It was his understanding that each hospital now had the massive transfusion packs. He described this as an improvement on the previous Massive Transfusion Protocol that simply consisted of putting the blood bank on high alert that there was an urgent situation that required large amounts of blood products.

Dr. Ablett was unable to point to any additional equipment, staff, blood products or medication that he would have wanted in the operating room that night.

Mr. Waite examined Dr. Ablett and raised the issue of the Massive Transfusion Protocol. Dr. Ablett confirmed that the blood box portion of the protocol was not in place in March of 2010 at the Rockyview Hospital. He further stated that when blood was ordered from the Foothills Hospital, he understood that it was delivered by taxi.

Mr. Martinez asked Dr. Ablett a number of questions regarding the times when he was in the operating room. Mr. Peacock, Q.C. was able to clarify the times with the use of the perioperative

report. It was determined that Dr. Ablett arrived shortly after problems arose at 1:25 a.m. and was present when Dr. Nutley arrived at 2:35 a.m. and also when Dr. Austen arrived at 2:52 a.m. The only time Dr. Ablett was not involved in the procedure was for a period of time of 20 to 25 minutes around the time of the final closure that occurred at 5:40 a.m.

Dr. Francis Sutherland – Section Head For General Surgery In The Calgary Zone

As Section Head, Dr. Sutherland acted in an administrative capacity overseeing the three adult hospital sites for general surgeons. He dealt with manpower issues, medical education and oversaw and promoted medical research within his division.

He was not present during the incident on March 29, 2010. However, he became involved shortly after the incident from an administrative perspective. He was tasked with determining how the process was to be handled in the days following the incident including what was to happen to Dr. Elkassem's practice. Later on, Dr. Sutherland performed an Administrative Review at the direction of Dr. John Kortbeek, the Department Head for Surgical Services. The review was conducted because of the concern arising out of the unexpected death of a young person during a relatively minor surgical procedure.

Dr. Sutherland gave evidence as to his general understanding of what happened on March 29, 2010. He stated that Dr. Elkassem's approach was unconventional in that "he did not have the trocar that he normally would use, and then ended up using a disposable trocar to use as a Hasson, which is the normal type of trocar that we would use." (page 368, lines 13 to 15). He went on to say that the trocar placement was not on line and Dr. Elkassem also had some difficulty penetrating the patient's thick abdominal wall, so he placed some pressure on it to advance it into the abdomen. It was at this point that Dr. Elkassem observed blood in the abdomen through two different scopes and was notified by Dr. Larsen that the patient was not doing well. At that point, there was a decision to open the patient up and it was determined that a major vascular injury had occurred and a call was put in to Dr. Nutley, a vascular surgeon, and Dr. Austen, a general surgeon.

Dr. Sutherland stated that when the Administrative Review was done he took his findings to three other doctors, Dr. Nixon, Dr. Dushinski and Dr. Kortbeek.

Dr. Sutherland was shown a series of trocars that were in evidence as exhibits. He identified each one, but in the course of doing so said that the one that was previously identified by Ms. Olver, the Scrub Nurse, as a reposable trocar was one he would describe as a disposable trocar. He stated that there was a wide array of instruments available in the Calgary hospitals and that each hospital did things a little differently. Dr. Sutherland was unaware that Dr. Elkassem had used parts from two different trocars together. Dr. Sutherland confirmed that a disposable 12-millimetre trocar was not generally used to create the initial port in a laparoscopic surgery. The 12-millimetre trocar was generally used in a location other than the umbilicus, after the abdomen had been insufflated with CO2.

Dr. Sutherland confirmed that Dr. Elkassem had stated that the Hasson trocar that he normally used was unavailable so he proceeded with what was available. **Dr. Sutherland stated, "the general practice would be to wait until you have the instruments that you – you need." (page 377, lines 21 and 22). Dr. Sutherland said Dr. Elkassem gave no indication that the surgery was of such an emergent nature that he could not wait for the appropriate trocar.**

Dr. Sutherland also spoke to Nurse Lead, Ms. Linda Mecar, as part of his investigation. She advised that the nurses had concerns about how deep into the opening Dr. Elkassem was using his scissors to cut. Ms. Mecar also gave Dr. Sutherland the exact trocar that had been used

during the surgery. Finally, she advised Dr. Sutherland that a Hasson trocar was in fact available during the surgery.

Once the Administrative Review was complete Dr. Elkassem was asked to take a leave. Following this time away from work, Dr. Elkassem was to return to surgery and complete his locum under the supervision of other general surgeons and his colleagues. Dr. Elkassem's subsequent supervision included a discussion about his unconventional use of the trocar. Dr. Sutherland described his discussion with Dr. Elkassem and his subsequent follow-up on the issue of trocar use at starting at page 379, line 17:

> Well, we had several discussions about the use of the trocar and the fact that it was -- it was not the correct trocar and not the correct way to -- to use it. So he was – he was aware of that. **I basically then took the trocar around to each of the different divisions at -- at their meetings and discussed the use of the trocar in this manner and the fact that it was inappropriate, I -- so the -- so the -- all the other surgeons get some knowledge out of, you know, what -- what happened here and that -- that this not -- not be repeated**.
>
> **We -- you know, we had discussed -- myself and Dr. Kortbeek had discussed whether this specific trocar should be removed from the shelves. And it was felt that it – it wasn't the trocar specifically that was the -- the -- the danger, it was the fact that it was being used inappropriately. So it wasn't -- it wasn't -- it wasn't banned or taken -- taken away. A lot of surgeons do use this trocar. It's a very good trocar if used properly.**

Dr. Sutherland also addressed additional actions or changes that had taken place since the incident, which included:

1. A Safety Review, which produced recommendations in terms of communication and support for failings in surgeons after a critical incident.
2. Adding locums to the annual review of new faculty and faculty 65 or older.
3. A formal Safety Checklist Meeting or "timeout" would take place before a surgery where the instruments necessary to do the operation were discussed and surgical nursing or anaesthesia could raise any concerns.
4. A more formalized Debriefing Session followed the surgery to discuss where the patient was going and to follow up on any lab work that may have been done.

Dr. Sutherland clarified that although the changes had all occurred since the incident, they were not necessarily directly related to the incident itself. He felt that the Safety Checklist Meeting was an important measure that would have picked up on the fact the instruments that Dr. Elkassem had been intending to use were either present or could be obtained before the surgery commenced.

Dr. Sutherland also stated that it was important to focus on the mentoring of all young surgeons in the early parts of their practice.

Mr. Peacock, Q.C. examined Dr. Sutherland and confirmed that in terms of the unconventional technique used by Dr. Elkassem, the real issue in the case was the use of a 12-millimetre disposable trocar as opposed to a trocar with a blunt end.

Mr. Waite asked Dr. Sutherland if he was comfortable with the fact that the information arising out of this incident had been disseminated throughout the general surgery department in the Calgary zone and Dr. Sutherland's response was that he was indeed satisfied. Dr. Sutherland went on to clarify and explain in detail the nature of the Safety Checklist and its three components, which

included:

1. The Briefing: where the patient, the anaesthetist, the surgeon and the scrub nurse meet before the patient goes to sleep to discuss what's going to be done, what the risks are and what equipment is in the room.
2. The Timeout: after the patient was asleep, but before any incision was made, there was another discussion about a variety of concerns including what the patient consented to and what equipment, blood products and medications were needed.
3. The Debriefing: after the surgery was complete, everyone stopped and there was a discussion about where the patient was to go after surgery, what was to be done with any specimens taken, if there were any specific postoperative orders and if there were any specific patient needs in recovery or in the first several days following surgery.

Dr. Sutherland added that he felt that the mentoring of young surgeons was already taking place in the department of surgery.

When questioned by the court, Dr. Sutherland stated that he saw no value to locking down the operating room in situations where there was an unexpected death so as to preserve the room and the instruments for an investigation. Dr. Sutherland focused on the fact that it was simply a matter of not starting a surgery if the equipment required was not available. He added that the Timeout aspect of the Safety Checklist was now sufficiently rigorous that a missing trocar would be picked up and the problem corrected. More importantly, it was appropriate to wait for the correct equipment in any surgery unless it was a life-threatening situation, which a laparoscopic appendectomy was not.

Dr. John Kortbeek – Department Head Of Surgery Or Zone Clinical Department Head

In his role as Department Head of Surgery, Dr. Kortbeek oversaw all surgery in the Calgary Zone. Dr. Sutherland, as Section Head, reported directly to Dr. Kortbeek.

Dr. Kortbeek stated that he first heard about the incident when he received a phone call from Dr. Elkassem on the morning of March 29, 2010 at which time Dr. Elkassem related the details of the surgery. Steps were then taken to address immediate issues such as advising Dr. Elkassem not to speak to the Martinez family alone and engaging site leadership at the Rockyview Hospital. Following that, the long-term plan was to take the necessary precautions to make sure that care would continue to be provided safely. This included reviewing the actions of the surgeon, the surgical team and the staff and looking at clinical service coverage in the future. Dr. Sutherland was tasked with conducting the review. Dr. Kortbeek's role was to review the circumstances with Dr. Elkassem, advise him that there would be an Administrative Review and delegate various duties to allow for the creation of the report and ultimately receive the report and recommendations from Dr. Sutherland. He did not discuss the technical details of the surgery with Dr. Elkassem or the surgical team.

Dr. Kortbeek received a verbal report from Dr. Sutherland within a few days and a full report shortly thereafter. Dr. Kortbeek, Dr. Nixon and Dr. Dushinski reviewed the report with Dr. Sutherland in attendance. The report stated that "there had been an injury to the large blood vessels in the lower abdomen, called the "iliac vessels," and that the injury had occurred as a result of damage by the trocar. He also advised me that a sharp trocar had been inserted blindly." (page 409, starting at line 9) Dr. Kortbeek said that the recommendation at that point was for Dr. Elkassem to "re-enter practice in a supervised capacity for the duration of his locum so that we would have an opportunity to work with him and observe his proficiency and safety going forward." (page 409, starting at line 17). Dr. Kortbeek then met with Dr. Elkassem and discussed the contents of the report. In addition to that, he received a follow up report from Dr. Sutherland as to Dr. Elkassem's progress and Dr. Kortbeek also operated directly with Dr. Elkassem.

Dr. Kortbeek stated that his view of the procedure conducted by Dr. Elkassem in March 2010 was that "the use of a sharp trocar inserted blindly is incorrect." (page 410, line 36)

Dr. Kortbeek confirmed that a number of actions had been taken since that time including a Safety Review that was conducted in tandem with the Administrative Review and shared learning, where the case was discussed amongst the entire section of general surgery. He went on to say that, **"There was discussion about the use, or non-use, of sharp trocars going forward and whether we should maintain them in our armamentarium. There was wide support to maintain and retain them because they're useful when used appropriately." (page 411, starting at line 5) Dr. Kortbeek stated that a sharp trocar could be used safely under "direct visualization," which meant that a camera already inserted into the abdomen could watch the bladed trocar enter.**

Dr. Kortbeek stated that there were a number of recommendations that were being worked on as a result of the general goal to make surgery as safe as possible and specifically as a result of the Andres Martinez case. The improvements related directly to this case included:

1. The continued improvement and standardization of the Massive Transfusion Protocol at all hospital sites.
2. The Safe Surgery Checklist (referred to by Dr. Sutherland as the Safety Checklist), which included the briefing, the timeout and the debriefing.
3. The construction of a surgical simulation training centre for undergraduates and residents that would include standardized training for surgeries such as laparoscopic appendectomies.

Dr. Kortbeek felt that the briefing aspect of the Safe Surgery Checklist would have allowed for a review of the equipment in this case, ensuring that the appropriate trocar was present before the patient was even put to sleep.

Mr. Peacock, Q.C. examined Dr. Kortbeek and asked him about the extended hours that on call surgeons worked noting that one of the Rockyview Hospital staff surgeons had stated that their shifts had been reduced from 24 hours to 16 hours. Dr. Kortbeek acknowledged that there was a controversial proposal to reduce resident on call shifts to 16 hours. However, this created certain problems, as it would reduce the support provided to the more senior attending surgeons who would still be working 24-hour shifts. Dr. Kortbeek stated that the 24 hours worked are not typically continuous, but are dependent upon what cases come up during that time frame. He said the work was divided equally across the week for general surgeons, but the weekends were busier for trauma surgeons.

Mr. Martinez asked Dr. Kortbeek to recount a meeting they had on October 29th. The discussion focused on how Dr. Elkassem performed the surgery and what had caused the death of Andres. Dr. Kortbeek said, "I remember telling you that the surgeon had committed an error that caused an injury to the vessels that caused him to bleed to death." (page 422, starting at line 38) Dr. Kortbeek elaborated on that when he said the following at page 423, starting at line 25:

> **Yeah, I -- I don't remember the specifics word by word of what we discussed. It's clear that a sharp trocar was used incorrectly. It doesn't really matter whether you use a 10 or a 12-millimetre trocar. It doesn't matter whether you use a disposable or a reusable trocar. It doesn't matter what the brand name of the trocar is. All that matters when you insert a trocar -- initially when you're dissecting -- when you're doing surgery through the layers of the abdominal wall, is that you try to do it as safely as possible by exposing the different layers, and then when you think you've entered the abdominal cavity you insert a blunt trocar.**

When examined by Mr. Waite, Dr. Kortbeek confirmed that a number of additional steps had been taken to improve patient care that had not already been mentioned. These included the following:

1. Interdisciplinary rounds had been implemented with respect to unexpected deaths since the incident. He stated these rounds were open to all disciplines within the medical profession including all doctors and nurses. In addition, he stated a protocol had been developed to deal with notification for operating room deaths as it related to both the doctors and the families involved. He described it as follows starting at page 427, line 38:

   > Well, the protocol ensures that there is broader -- we cast a wider net in terms of notification, so that the patient care manager, the site director of surgery, section head, the department head of surgery, are all aware of the incident. There's a standard series of steps that have to be taken for further notification, for example, the medical examiner. We've ensured that we have social work on call for all sites and available 24 hours a day to help support both staff and family.
   >
   > There's a notification to zone, you know, senior management, i.e., my boss -- so that would be the zone medical director. So that's all part of the standard operating procedure now. …
   >
   > So the -- the -- the -- I think the -- there is no perfect way to deal with families, because families are all different and the circumstances are different every time something happens. But I think the key things are to make sure that there's support both for the family and the providers, that there's somebody that participates in the initial communication that isn't distraught, because both the family and the people who performed the scheduled procedure where something terrible happens are going to be distraught. So that's, you know, the initial critical step in having a communication that's meaningful.

2. Disclosure Training was widely available and was promoted through the Alberta Medical Association. It was also a topic that was addressed in what were referred to as Mortality and Morbidity rounds or seminars where surgeons and other medical professionals could hear a case presented and find out what has been learned from it.

3. Changes had been made to standardize the communication between critical care (ICU) and anaesthesia for unplanned transfers by introducing a checklist approach.

4. Turnaround time for coagulation tests in the operating room had been reduced from 30 to 60 minutes to ten minutes.

5. The Massive Transfusion Protocol involved a much-improved level of communication between the blood banks and those requiring the blood products. A single box of blood products could be provided on an immediate basis. Dr. Kortbeek felt that the delivery of blood products by taxi was effective, but that in certain circumstances an ambulance, if it were available, may be faster than a taxi.

6. Steps had also been taken to address the issue of lengthy on call surgery schedules, by moving to a dedicated emergency surgery service where a surgeon would be on call for a given week. This has resulted in surgeons not experiencing the complication of having office hours in addition to their surgical responsibilities for that time period. To make sure that the on call surgeons had enough sleep, other members of the team supplemented them. Dr. Kortbeek noted that this policy was in place prior to March 29, 2010. He went on

to say that it was important to maintain the long work hours for those in training so as to assist the residents and because cutting the hours would dramatically affect the amount of experience the doctors in training would have upon graduating. He also felt that it was not practical from a manpower and cost perspective to go to 12-hour shifts. In the end, Dr. Kortbeek stated, “Personally, I think 24-hour shifts for most surgical specialties are safe” (page 433, line 20) and the length of Dr. Elkassem’s shift on the night of March 29, 2010 was irrelevant to the outcome.

Ms. Nancy Guebert – Vice President Of The Rockyview Hospital

The last witness called at the Fatality Inquiry was Ms. Nancy Guebert who was the Vice President of the Rockyview Hospital at the time of the incident. She was responsible for the non-physician activity at the hospital at the time. She stated she first became aware of the incident on the morning of March 29, 2010. After completing some paper work related to the protocol in such unexpected events, she went to see that the on site social worker had made contact with the family and had provided any necessary assistance. She also spoke to the operating room manager to confirm the staff was okay and then she spoke briefly with the surgeon involved to see if he needed any resources or support. In addition, there was a debriefing with the staff. Ms. Guebert confirmed that she was the one that requested the quality assurance review for the purpose of increasing the communication between physicians and making sure the intent of the goal of treatment was made clear from one physician to another. In this case, the concern was the communication of information from the operating room to the ICU.

Her first attempted contact with Mr. Martinez was when she left a voice mail for him in May 2010. He responded in September of 2010. They eventually met on several occasions in October 2010 to share some of the recommendations the hospital was pursuing and to hear concerns the family had about the issue of communication. Mr. Martinez expressed concern to Ms. Guebert about conducting the surgery within a six-hour window from the time the patient arrived. She stated that it was Mr. Martinez’s belief that the surgery would not start for six hours so he had sufficient time to go home and come back when, in fact, the intention was to get the patient into surgery within six hours of his arrival. Mr. Martinez also expressed a concern that there was not a dedicated space for the family to go to wait and be contacted.

Ms. Guebert stated that since the incident Alberta Health Services generally, and the Rockyview Hospital specifically, have implemented a number of changes including the following:

1. The Family Support Protocol was implemented and it includes:
    a. 24 hour access to social worker assistance for families of patients in need.
    b. Dedicated waiting areas have been located across from the operating room and in day surgery and staff members have been advised that families can be contacted in those areas.
    c. Pagers have been tested as a means to contact families when they leave the waiting area.
2. Attending-to-attending communication has replaced resident-to-resident communication in situations involving an unexpected event. This would require the most responsible physician in the operating room speak to the most responsible physician in the ICU.
3. Improvements were made to the Massive Transfusion Protocol, allowing a selection of pre-determined blood products to be provided upon a single request.
4. The policy regarding communication after an unexpected event in the operating room was revised so to clarify who should take charge of matters such as coordinating the medical examiner and communicating with the family.
5. The three-part surgery safety checklist was implemented.
6. Surgical lab result turnaround times were improved.
7. Interdisciplinary rounds were conducted.

Ms. Guebert confirmed that couriers, dedicated taxi companies and ambulances facilitated the transfer of blood over and above the Massive Transfusion Protocol. In this case, it was an ambulance that transported the blood. The method of transport was determined by the sender of the blood products, based on certain factors such as the time of day and the expectation of heavy traffic on the road.

Mr. Martinez was kind enough to praise Ms. Guebert for the introduction of the Family Support Protocol and asked Ms. Guebert if it could be named after his son Andres Martinez. Ms. Guebert indicated that was in fact possible.

Finally, Ms. Guebert was asked by Mr. Waite and the Court about the possibility of locking down the operating room after an unexpected event so as to preserve the setting including the instruments used. She stated that this was possible. In addition, she stated that it would be possible to videotape surgical procedures, but she was unaware of any hospital that did so. There was no discussion about the resources required for either of these two issues.

Analysis Of The Evidence

It is clear to me that the tragic death of Andres Martinez was as a result of the improper use of a surgical instrument called a disposable trocar. The initial entry into the patient's abdominal cavity should have been undertaken with a blunt reusable trocar. If this instrument was, in fact, not present, Dr. Elkassem should have waited until it was made available. It is only after using a blunt trocar to enter the abdomen and introducing gas to establish a pneumoperitoneum that a sharp bladed disposable trocar can be introduced under direct visualization. It was wrong to use the bladed disposable trocar for an initial entry as it released the already engaged blade when it encountered resistance, resulting in the injury to the left common iliac artery. My comments should not be seen as assessing blame or suggesting that the surgeon involved was not competent to conduct the surgery. Dr. Elkassem was a highly skilled surgeon at the time of this incident and he experienced a momentary lapse in judgment that caused him to believe that he could use the bladed trocar safely.

After the injury to the major vessel, there were a series of attempts by numerous highly skilled doctors to repair the injured vessel and resuscitate the patient. Blood and blood products were readily available along with a variety of machines to aid in the process. When the bleeding could not be controlled, the patient became coagulopathic and succumbed to his injuries and bled to death.

Sadly, concerns arose out of this incident as to how the situation developed prior to the surgery and how the family was notified about the situation after the surgery.

Actions, Changes And Improvements

Although sad and tragic, the death of Andres Martinez has clearly led to a number of changes and improvements in a variety of areas. It is important to review those changes that arose from the evidence, prior to making any recommendations. If there has been a failure to act on a specific issue or concern, then it is incumbent upon me to consider making a recommendation to address that issue. However, if appropriate steps have been taken to remedy those concerns, then there is no value in making a recommendation.

Based on the evidence I have heard, it is my understanding that the following actions, changes or improvements have taken place since March 2010:

1. Administrative Reviews were already conducted into situations involving unexpected

deaths in the operating room prior to March 2010. Dr. Sutherland undertook such a review in this case. His report was presented to Dr. Kortbeek, Dr. Nixon and Dr. Dushinski and action was taken on the findings of the report.

2. Once the Administrative Report was completed Dr. Elkassem was asked to take a leave of absence and he did so.
3. A Safety Review was also conducted and it produced recommendations with respect to communication and support failings for surgeons after critical incidents.
4. Locums were added to the annual review process of new faculty and faculty older than 65 years of age.
5. A formal Surgery Safety Checklist was instituted to deal with matters related to surgery. It has three components: The Briefing, The Timeout, and The De-Briefing. The Briefing specifically allowed the surgical team to meet before the patient went to sleep to discuss what was going to be done, what the risks were and what equipment was in the room. The Time Out portion was now sufficiently rigorous that any missing instruments would be addressed at that time.
6. Shared learning had taken place to disseminate information about the dangers of using a sharp trocar for an initial entry port. This shared learning included the implementation of interdisciplinary rounds.
7. The Massive Transfusion Protocol algorithm was standardized and implemented at all hospitals in the Zone.
8. The Massive Transfusion Protocol was supplemented by the addition of the massive transfusion pack or package (often referred to as “the blood box” during the course of the Inquiry), which contained a specified mix and quantity of blood products (blood, plasma and platelets) that could all be made available on an immediate basis with a single request.
9. The turnaround time for coagulation testing during surgical procedures was reduced from 30 to 60 minutes to ten minutes.
10. Attending-to-attending communication was now required when critical cases were transferred from the operating room to the ICU.
11. A notification protocol was developed to assist both doctors and families in the disclosure of unexpected deaths in the operating room.
12. The Family Support Protocol was created. It provided families with 24-hour access to social worker assistance. Dedicated waiting areas were also established near the operating rooms and pagers were being tested to assist with communication between the hospital staff and family members.
13. Disclosure training was available and continued to be promoted through the Alberta Medical Association, but it remained an elective course for residents.
14. Disclosure training was also discussed during the course of Mortality and Morbidity rounds.
15. The construction of a surgical simulation centre to standardize and supplement training for surgeons was underway.
16. Rockyview Hospital had reduced on call surgeons shift from 24 hours to 16 hours. Discussion about the appropriate duration of surgical on call shifts was ongoing.
17. On call surgeons were now part of a dedicated emergency service so as to eliminate the fatigue and distractions, which may have arisen from dealing with other responsibilities that were previously present.

Approaching The Recommendations

Mr. Martinez, as next of kin for his son Andres Martinez, made a number of recommendations.

The Court was also invited to raise any concerns it had as a result of hearing the evidence at the Inquiry.

I intend to outline the recommendations of Mr. Martinez and the concerns raised by the Court. I will then consider what, if any, suggestions I may have for changes to be made. Finally, I will then consider what, if any, recommendations I may have for changes to be made.

It is my view that the areas of concern fell into the following categories:

1. Pre-Operative
2. Surgical
3. Post-Operative or Long Term

I will review Mr. Martinez's recommendations and the Court's concern bearing this structure in mind.

The Recommendations Of Mr. Eugenio Martinez

On behalf of his family and as next of kin of Andres Martinez, Mr. Martinez presented the court with numerous recommendations for consideration. They were later put in writing and attached to a letter, dated June 18, 2012, that was sent by Ms. McCurdy to my office.

I will paraphrase the recommendations based on my review of the transcript and the letter from Mr. Martinez.

The recommendations to be considered are as follows:

1. Proposed Pre-Operative Recommendations From Mr. Martinez:

1. If a family member over the age of 16 accompanies a patient, that family member must be present at the first meeting between the doctor and the patient. This would allow the patient to discuss the matter with family and make a decision with greater confidence.
2. During the first meeting between doctor and patient, the doctor should not ask the patient to sign anything. The doctor should not pressure the patient to sign the consent or go ahead with the procedure.
3. The first meeting between doctor and patient should be audiotaped to preserve the contents of the conversation. Or, in the alternative, the first meeting could be audiotaped at the request of the patient.
4. After the first meeting between the doctor and the patient, the patient should be given 20 minutes to confer in private with those family members that are present and make a final decision about proceeding with any surgery. Or, in the alternative, this process should apply for situations involving non-emergency surgeries only.
5. If the patient decides to proceed with the surgery, then the patient's family should be contacted to advise them of the new Family Support Protocol.
6. During the course of the physical examination, in cases involving suspected appendicitis, the patient should be advised additional forms of investigative imaging including Ultrasounds and CT Scans are available to further confirm the diagnosis.
7. Where imaging results are equivocal, less invasive alternative measures, such as anti-biotics, must be explained to the patient.
8. Appendectomy patients must have their blood cross-matched or typed and screened.
9. Appendectomy patients must have their blood tested to determine the level of infection present.
10. Once a patient agrees to proceed with a laparoscopic appendectomy a protocol should be implemented requiring a single hospital official to do the following at least one hour prior to surgery:
    a. check the availability of all required surgical instruments; and
    b. speak to the blood bank to confirm sufficient supplies are on hand; and

c. engage the Family Support Protocol which would include:
    (i) providing a social worker who would be present to support the family; and
    (ii) providing the name of a hospital staff member through which the family could communicate; and
    (iii) advising the family as to the status of the patient on an ongoing basis
d. provide the family with the name, education and experience of the surgeon who will carry out the operation
e. that a list of the location and contact information for additional surgeons and other medical specialists be readily available to the medical team conducting the surgery and those doctors be put on alert prior to the surgery.

2. Proposed Surgical Recommendations From Mr. Martinez:

11. Once inside the operating room, the surgical team would check each of their areas of specialty for all required instruments and equipment.
12. Provide a detailed accounting of all instruments present in the operating room at the start of the surgery.

3. Proposed Post-Operative Or Long Term Recommendations From Mr. Martinez:

13. Assistance and support should be provided to the family of the deceased with respect to issues such as required administrative paperwork, legal issues and financial compensation.
14. The Family Support Protocol should be re-named the Andres Martinez Protocol.

The Concerns Of The Court

Counsel kindly invited the Court to play an active role in the conversation over what, if any, recommendations should be made at the conclusion of the Inquiry. Some of the Court's concerns overlapped with those of Mr. Martinez.

The concerns raised by the Court included, but were not limited to, the following:

1. Pre-Operative Concerns Of The Court:

1. Should doctors be required to advise patients, with suspected appendicitis, of the availability of CT Scans before proceeding to surgery for patients?
2. Should doctors be required to advise appendectomy patients of the risk of death?
3. Should the patient have the option to have his initial meeting with his surgeon recorded on audiotape?
4. Should additional measures be taken to type and screen or cross-match patients undergoing appendectomies?

2. Surgical Concerns Of The Court:

5. What action should be taken when a doctor's preferred surgical instrument(s) is/are not present at the start of a surgery?
6. What should be made of the fact that Dr. Elkassem and Ms. Olver, the scrub nurse, had differing views on the presence of the reusable trocar?
7. Does the Safe Surgery Checklist adequately address any issues pertaining to the absence of a doctor's preferred surgical instruments in the operating room?
8. Should sharp edged trocars be banned from use?

9. Should sharp edged trocars be banned from use during initial entry into a patient during a laparoscopic appendectomy?
10. Were there sufficient clotting products available such as: CoSeal, Factor VII, Gelfoam and Surgicel?
11. Does the Massive Transfusion Protocol algorithm and blood pack alleviate any concerns regarding the current provision of blood products?
12. Is the transportation of blood products from one hospital to another by taxi a safe, secure and reliable method?
13. Can any steps be taken to further improve upon the time it takes to return lab results during a life-threatening situation in a surgical procedure?
14. Should the operating room be locked down after an unexpected death so as to preserve any information that may be available such as the presence of certain surgical instruments?
15. Is the new protocol for attending-to-attending communication from the operating room to the ICU after critical incidents sufficient to address the concerns arising out of this incident?
16. Should surgical procedures be recorded on audio or video to create a record of how the surgery proceeded and what instruments were used?
17. Should there be an accounting of what specific instruments were present in the operating room at the time of the surgery?

3. Post-Operative Or Long Term Concerns Of The Court:

18. What methods are available to update families as to a patient's surgical status?
19. Does the Family Support Protocol sufficiently address the concerns raised by Mr. Martinez regarding contact with the family following an unexpected death?
20. Should surgeons be automatically suspended or required to take an automatic leave of absence after an unexpected death of one of their patients?
21. Should any additional steps be taken to maintain and update a surgeon's pick list?
22. Does the length of the 24-hour on call period for doctors affect the performance of surgeons and should it be reduced or changed?
23. Should Disclosure Training be required as part of the training of doctors and nurses?
24. Are locums properly supervised?
25. Are young surgeons properly mentored?
26. Should simulation training for surgeons be required?

It should be noted that the above-mentioned concerns raised by the Court cover a wide variety of issues and, strictly speaking, only those concerns related to the surgery fall within the scope of this Inquiry.

Responding To The Recommendations Of Mr. Martinez And The Concerns Of The Court

Bearing in mind the actions that have been taken and the changes that have occurred since March 2010, I make the following comments about the proposed recommendations of Mr. Martinez and the concerns raised by the Court.

1. Comments On Proposed Pre-Operative Recommendations And Concerns

A number of Mr. Martinez's recommendations and the Court's concerns focused on the period of time prior to the surgery. The recommendations put forth by Mr. Martinez are clearly a product of his own personal experiences in relation to this incident and are valuable from that perspective. However, strictly speaking, the proposed recommendations do not fall within the scope of this Fatality Inquiry, as they do not address the issue of preventing future similar deaths. Still they are worthy of comment.

The following should be noted in that regard:

- It is my understanding that patients are currently entitled, within reason, to consult with family members prior to surgery as long as the consultation does not affect the course of treatment. There are many situations where such contact would not be possible or would simply be inappropriate. The choice to include family members in the decision-making process lies with the patient. To make that contact mandatory and subject to specific time guidelines would affect patient rights and could interfere with the course of treatment and negatively impact patient care.

- Although there is a risk of death in any surgery, Mr. Peacock, Q.C has advised that the law in this country is clear in that there is no requirement for a surgeon to advise a patient that there is a risk of death when it is not one of the anticipated outcomes of a particular surgical procedure. The law requires that a physician advise a “reasonable patient” what that patient would need to know in order to make an informed decision. In a laparoscopic appendectomy, death is not a reasonable risk. Therefore doctors should not be required to advise the patient of that risk.

- It is a common held view and my understanding that doctors cannot pressure patients into signing consent forms. Therefore to make such a recommendation would be inappropriate.

- It would appear to be impractical to have initial pre-surgery meetings between doctors and patients audiotaped. In many ways this is a resourcing issue and there was insufficient evidence heard at the Inquiry to make any determination on this issue.

- It is my understanding from the evidence heard at the Inquiry that doctors do advise patients of all options available to them in terms of alternative means of diagnosis. In the case of laparoscopic appendectomies, 70% of patients go for some form of additional imaging prior to surgery. In this case, the patient did go for a CT Scan prior to the surgery. The standard of care for acute appendicitis remains surgical intervention. On that basis, it would be inappropriate to require doctors to undertake alternative forms of diagnosis or treatment, as it would interfere with their clinical judgment.

- The standard of care in surgeries such as appendectomies, where the likelihood of bleeding is extremely low, is not to cross-match or type and screen blood prior to the surgery. To require that to be the case would be unrealistic and a significant drain on resources. Judgment on matters such as this must be left in the hands of the doctor based on the results of the physical exam and patient history.

- Protocols are now in place to check the availability of surgical instruments, communicate with the blood bank, to invoke the Massive Transfusion Protocol, contact on call doctors and invoke the Family Support Protocol when necessary, so no further steps need to be taken in relation to those concerns. It is important to note that the protocols that were in place at the time of this incident were implemented and did work. They were not to blame for the death in this case.

- The patient and their family are free to ask the surgeon and the anaesthetist about their education and experience. However, that is not to say that the patient has an absolute right to choose who provides the service. To require that this detailed information be provided to all patients prior to surgery would appear to be a drain on administrative resources and therein inappropriate. Ultimately, there was insufficient evidence on this

issue to make any determination.

- Lists of on call surgeons and other medical specialists are already available to the surgical team so there is no need for a recommendation that puts the on call doctors on alert. Again, the on call doctors in this case were contacted and attended promptly. The system performed as expected.

2. Comments On Proposed Surgical Recommendations And Concerns

Since the scope of this inquiry relates specifically to any recommendations that could be made to prevent similar deaths occurring in the future, it is logical to focus on the events that transpired in the operating room, as it was the improper use of the bladed trocar that lead to the death of Andres Martinez. However, it is impossible to create requirements or protocols that would eliminate the human error that led to the patient's death in this case. Still, it is important to look at how the operating room functions and determine if any recommendations can be made to improve upon the existing protocols.

The following should be noted in that regard:

- The implementation of the Surgery Safety Checklist addresses many of the concerns regarding the availability of instruments, equipment and blood products prior to a surgery. In addition, this approach reinforces the fact that if a surgeon's preferred instrument is unavailable in a non-emergency situation, the surgeon should stop and wait for that instrument to be made available.

- The surgeon's pick list sets out their preferred instruments for any given surgery. Those instruments are picked out and made available for a given surgery and double-checked when the instruments are opened for the surgery by the circulating and scrub nurses. The surgical count addresses any items that go into a patient during a surgery. These lists appear to address any issues regarding the availability and use of instruments and surgical items. It is not necessary to make either of these lists any more detailed than they already are based on the facts of this case, as it has been established which trocar was used and that it was used improperly.

- It is of no consequence to this Inquiry that there was a difference of opinion between Dr. Elkassem and Ms. Olver as to the presence of the reusable trocar in the operating room. This is because it had been acknowledged by Dr. Elkassem that he used the disposable trocar improperly. Still it is concerning that a difference of opinion even existed. Perhaps of greater relevance is that throughout the inquiry various highly qualified medical professionals used different names for the same trocars leading to a certain level of confusion. This led the Court to believe that there may well be a lack of standardization in the naming of the various trocars, which could lead to confusion in the operating room.

- The sharp edged trocar is a valuable instrument when used correctly by a surgeon. There is no need to ban its use in the operating room. It should be noted that the trocar injury sustained in this case was extremely rare. However, it remains critical that training continue to impress upon surgeons the dangers that exist with the use of the sharp edged trocar when making an initial entry in a laparoscopic appendectomy. The shared learning process that has taken place since the incident appears to have addressed the danger of using the sharp edged trocar for the initial entry. Therefore it would be inappropriate to ban the use of the sharp edged trocar for that specific purpose.

- All the necessary blood and blood products were available to the surgical team. Although

CoSeal was not available, it would not have affected the outcome of the surgery.

- The improvements to the Massive Transfusion Protocol algorithm, including the addition of the blood pack, have improved timely access to an adequate supply and variety of blood and blood products. It is important to note that even if the blood package had been available in this case, it would not have changed the outcome, as there was never any indication that there was a shortage of blood products at any time.

- Every effort was made to control the onset of coagulopathy or DIC in the patient.

- Although the transportation of blood products from site to site appears to be problematic at times, it is apparent that a variety of options are in place to address the transfer of blood in critical situations.

- Steps have been taken to improve the turnaround time of lab results during a surgical procedure from as much as 60 minutes to as little as 10 minutes. Therefore no recommendation is required on this issue.

- It would appear to be impractical to lock down the operating room after an unexpected death. It would take a valuable operating room out of circulation. The answer is to take proactive measures prior to surgery to prevent the occurrence of any issues that would be addressed by locking down the operating room after a critical incident. The Surgery Safety Checklist addresses any concerns over missing instruments. The protocols such as pick lists and surgical counts are in place to determine much of what happens in the operating room. Any additional information gained from locking down the operating room after this particular incident would not have rendered any further information as to the cause of death in this case, as it was understood by all to be the improper use of the bladed trocar.

- Attending-to-attending communication appears to have addressed the issues related to communication between the operating room and ICU that arose in this incident.

- Insufficient evidence was heard at the Inquiry to make a determination on the issue of audio or videotaping of surgeries. Practically speaking, it is a resource issue that is beyond the scope of this inquiry.

3. Comments On Proposed Post-Operative And Long Term Recommendations And Concerns

The post operative and long-term recommendations of Mr. Martinez and the concerns of the Court are, strictly speaking, beyond the scope of this Fatality Inquiry. Still they are worthy of comment.

The following should be noted in that regard:

- Assistance and support should be provided to the family of the deceased following an unexpected death. The scope of that assistance is not for this Court to determine as it is beyond the scope of the Inquiry.

- The Family Support Protocol appears to address the concerns of updating the family in situations involving an unexpected event in the operating room and providing the family with a dedicated area to wait near the operating room.

- The Family Support Protocol also appears to address those concerns that arose after the surgery including having a social worker present on a 24-hour basis to liaise with the family.

- It would be most appropriate to recognize the Martinez family in some fashion by re-naming the Family Support Protocol.

- It would not be appropriate for this Court, in this situation, to make any recommendation as to whether surgeons should be required to take a mandatory leave of absence following an unexpected death in the operating room. The Administrative Review process allows doctors with the appropriate skill and training to assess each situation on its own merits and take appropriate actions including the consideration of a leave of absence and ongoing support and training for a given surgeon.

- It would appear satisfactory protocols are in place to maintain and update a surgeon's pick list.

- The length of on call surgical shifts is a complicated and sensitive issue that involves a myriad of concerns. Insufficient evidence was heard on the issue to allow the Court to make a recommendation.

- Death notification is an extremely important issue that has the potential to affect all surgeons and all members of the surgical team, as it did in this case. It was handled extremely poorly in this incident and that should be cause for concern.

- Locum review is of great importance and that issue has been addressed by adding it to the ongoing annual review of new surgeons and surgeons over the age of 65.

- Mentoring of young surgeons following the completion of their five-year surgical residency is also of great importance and appears to be taking place.

- Simulation training appears to be a valuable tool that will one day become an integral part of a young surgeon's training.

Suggestions For Consideration

Bearing in mind the evidence heard at the Fatality Inquiry and the scope of the Fatality Inquiry, I understand that many of the areas that have been addressed fall outside the scope of the Inquiry in that they do not address the issue of preventing a future similar death. In addition, I must be cognizant of the fact that it is not my role to intrude upon matters of clinical judgment or the allocation of resources. This is especially true when I have heard insufficient evidence to make any determination on matters of that nature, as was often the case in this Inquiry.

However, bearing all of that in mind, I am not precluded from making non-binding suggestions for all parties to the Inquiry to consider.

With that in mind, I make the following suggestions for consideration:

1. That steps be taken to standardize the names of the various trocars so as to eliminate any confusion in the operating room amongst doctors, surgical staff and nurses.

2. That steps be taken to continue to share information and educate all surgeons in Alberta about the dangers of using a bladed trocar for the initial entry into the abdomen in

laparoscopic appendectomies.

3. That Alberta Health Services and Calgary Laboratory Services continue to work towards reducing the turnaround times on surgical lab results.

4. That the safe and timely transfer of blood products and equipment between various hospital sites be reviewed.

5. That steps be taken to make sure that family members are reasonably informed about a patient's progress during surgery.

6. That doctors continue to be mindful of the lengthy on call hours worked by surgeons.

7. That mandatory disclosure training for residency training programs and all surgical team members in Alberta should be considered.

8. That plans to implement simulation training to standardize techniques for surgeries such as laparoscopic appendectomies should be supported and encouraged.

9. That the Family Support Protocol be named in such a manner as to recognize Andres Martinez or both Andres and Eugenio Martinez together. This would be in remembrance of Andres and in recognition of Mr. Martinez for his contribution to the development of the protocol.

10. That the Martinez family be encouraged to be involved in disclosure training or any similar seminars, as their input would no doubt be invaluable.

Recommendations For The Prevention Of Similar Deaths:

In considering what if any recommendations to make, I must bear in mind the following:

1. The limited scope of this Fatality Inquiry that states that I may only make recommendations that will prevent similar deaths from occurring in the future.
2. All of the evidence heard in relation to the incident on March 29, 2010.
3. The actions that have been taken in response to that incident.
4. The submissions made by Mr. Martinez, Mr. Peacock, Q.C. and Mr. Waite.

Bearing all of that in mind, I decline to make any recommendations in relation to the Fatality Inquiry of Andres Martinez.

In conclusion, I thank all counsel for their assistance during this most difficult Fatality Inquiry. I would also like to thank Mr. Martinez for the exemplary manner in which he conducted himself during the Inquiry. Finally, I extend my deepest sympathies to Mr. Martinez and his family on the loss of their son Andres Martinez.

DATED December 7, 2012,

at Calgary, Alberta.

Original signed by

Michael Dinkel
A Judge of the Provincial Court of Alberta