CORONERS ACT, 2003

SOUTH *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 4th, 7th, 8th, 12th and 28th days of April and the 5th day of August 2011, by the Coroner's Court of the said State, constituted of Anthony Ernest Schapel, Deputy State Coroner, into the deaths of Emily Ruth Leonard and Glenys Anne Hillman.

The said Court finds that Emily Ruth Leonard aged 77 years, late of 5/50 Findon Road, Woodville West, South Australia died at St Andrews Hospital, South Terrace, Adelaide, South Australia on the 25th day of November 2008 as a result of multi-organ failure due to overwhelming sepsis from a perforation of the colon done during a laparoscopic gynaecological procedure.

The said Court finds that Glenys Anne Hillman aged 67 years, late of 6/11 Martin Court, West Lakes, South Australia died at St Andrews Hospital, South Terrace, Adelaide, South Australia on the 18th day of July 2009 as a result of hypoxic ischaemic brain injury due to an intracerebral and subdural haemorrhage as a consequence of anticoagulation given to treat a left subclavian vein thrombosis and pulmonary thromboemboli, and peritonitis following perforation of the small bowel during surgery for vaginal prolapse. The said Court finds that the circumstances of their deaths were as follows:

1. Introduction

1.1. These are the findings of the Court in respect of Inquests conducted concurrently into the deaths of Emily Ruth Leonard and Glenys Anne Hillman. It was appropriate that

these Inquests be conducted together having regard to a number of common features in respect of the causes and circumstances of their deaths.

1.2. Mrs Leonard was 77 years of age at the time of her death. Mrs Hillman was 67 years of age at the time of her death. Both women died following, and consequent upon, abdominal surgery that each woman had undergone in relation to vaginal prolapses. Both women experienced faecal peritonitis due, in each instance, to a perforation of the bowel that was caused during their respective surgical procedures. In each case the surgical procedure had been performed by the same gynaecological surgeon, Dr Oseloka Charles Onuma. Dr Onuma was in each instance assisted by a gynaecologist, Dr James Harvey.

1.3. Although the ultimate mechanism involved in the cause of death in each instance was somewhat different, and that the clinical courses of each woman leading to her death were also not entirely the same, it is clear that what precipitated the death in each case was the complications and consequences of an unintended perforation of the bowel caused during surgery. The principal point of distinction between the cases of the two women is that in Mrs Hillman's case the perforation of her small bowel was identified and repaired during the course of her surgical procedure and she remained in hospital thereafter, whereas Mrs Leonard's injury was not recognised during her procedure and was only identified several days later when she was taken back to theatre after readmission to hospital in a very unwell state. Although Mrs Hillman's bowel perforation was repaired during the course of her original surgical procedure, it is clear that the repair broke down resulting in faecal peritonitis and further complications that eventually caused her death. Nevertheless, the commonality in the circumstances of the deaths of both women is the fact that in each case there had been a surgical bowel perforation that ultimately proved fatal. It is clear that, but for the bowel perforation in each case, neither woman would have experienced any serious or fatal complication and neither would have died.

1.4. Mrs Emily Leonard was a widow who lived independently. She had a number of children and grandchildren. Mrs Leonard underwent her prolapse surgery at the hands of Dr Onuma on 30 October 2008 at the St Andrews Hospital (St Andrews). Mrs Leonard remained at St Andrews post surgery until her discharge on the morning of 3 November 2008. It is noted that she was discharged into the care of her granddaughter that day. Mrs Leonard was readmitted to St Andrews on 6 November

2008. Her condition had seriously deteriorated in the intervening period. She died on 25 November 2008 at St Andrews where she had remained since her readmission. In Mrs Leonard's case it was not considered necessary to subject her remains to a post-mortem examination. Her casenotes from St Andrews were reviewed by a medical practitioner, Dr Iain McIntrye, who is employed by Forensic Science South Australia (FSSA) to review cases that have been referred to that institution by the State Coroner in order to determine whether a post-mortem examination of a deceased is necessary, or whether a definitive cause of the person's death can be identified from the deceased person's clinical course and from the circumstances of his or her death. In a pathology review verified by affidavit[1] dated 27 November 2008, Dr McIntyre expresses the opinion that Mrs Leonard's cause of death was multi-organ failure due to overwhelming sepsis from a perforation of the colon done during a laparoscopic gynaecological procedure. I find that to have been the cause of Mrs Leonard's death.

1.5. Mrs Hillman was a married woman whose surgical procedure at the hands of Dr Onuma took place on 28 May 2009 at St Andrews. She would there remain until the day of her death on 18 July 2009. Mrs Hillman was the subject of a post-mortem examination that included a full autopsy as well as a special examination of the brain. The cause of her death is the subject of a number of reports. One of those reports is that of Dr Neil Langlois[2] who is a forensic pathologist at FSSA. The other reports consist of a macroscopic brain report[3] and a microscopic brain report[4] both prepared by Dr Grace Scott who is a pathologist at the Institute of Medical and Veterinary Science in South Australia. Dr Scott's findings are referred to in Dr Langlois' report. In his post-mortem report Dr Langlois has expressed the cause of Mrs Hillman's death as follows:

> 'Ia Hypoxic/ischaemic brain injury
> Ib Intracerebral and subdural haemorrhage
>
> II Left subclavian vein thrombosis and pulmonary thromboemboli - requiring anticoagulation, Peritonitis following perforation of small bowel, Surgery for vaginal prolapse.' [5]

In his general comments, Dr Langlois explains that the final cause of Mrs Hillman's death was an hypoxic/ischaemic brain injury caused by irreversible and irredeemable damage to the nerve cells as a result of being starved of blood. The nerve cells had

[1] Exhibits C3 and C3a
[2] Exhibit C4a
[3] Exhibit C5a
[4] Exhibit C5b
[5] Exhibit C4a, page 2

been starved of blood due to the effect of bleeding within and over the brain. This is the bleeding referred to as intracerebral and subdural haemorrhage in the recitation of the cause of death set out above. The consequence of this haemorrhage was an increase of pressure inside the skull that prevented blood being able to enter the brain. At that point the hypoxic/ischaemic brain injury, which in Mrs Hillman's case was fatal, developed. Dr Langlois expresses the view that the intracerebral and subdural bleeding may have developed as a consequence of the use of anticoagulation which is the medical thinning of the blood undertaken to prevent clotting. This had been administered in order to treat thrombus (clotting) within the subclavian vein that had embolised to the lung. This had resulted in a pulmonary thromboembolus which had impaired the circulation. This is usually treated by anticoagulants in order to assist the body to break down the clot. However, bleeding of the brain is one possible complication of the use of anticoagulants.

1.6. Mrs Hillman's clinical course following her prolapse surgery is described in considerable detail in the statement of Associate Professor Robert Young who is Associate Professor of Intensive Care at the Adelaide University, Director of the Intensive Care Unit of the Royal Adelaide Hospital and a consultant in the Critical Care Unit (CCU) of St Andrews. Dr Young was involved in Mrs Hillman's care during her admission within the CCU at St Andrews. It is not necessary for the Court to describe Mrs Hillman's clinical course and decline in great detail. To summarise, when it became apparent that following the prolapse surgery she had become critically unwell, she was taken back to theatre where the breakdown of the bowel repair was identified and rectified by way of a resection. The surgical incision was at first left open. A further surgical procedure to close Mrs Hillman's abdominal incision was then to take place, but during the induction of her anaesthetic she regurgitated and aspirated stomach contents. As Dr Young explains, aspiration of gut contents at induction of anaesthesia is quite dangerous. It sets up an aspiration pneumonia which then establishes infection. In the event, Mrs Hillman's lungs developed ARDS[6] which presented as another very serious complication of her overall condition. Mrs Hillman also required significant debridement of her surgical incision which had become infected by necrotising fasciitis. She also developed blood clots despite the fact that she had been already given blood thinners in an attempt to stop blood clots from forming. Blood clots were identified in the left

[6] Acute Respiratory Distress Syndrome

internal jugular vein in her neck and a blood clot had then broken off and gone into her lungs. This then necessitated a more significant regime of clot prevention that was provided by a heparin infusion.

1.7. Dr Young explains in his statement[7] that Mrs Hillman suffered a series of complications that started with the small bowel injury and that from that point onwards further complications occurred despite appropriate medical care. He explains the effect of her acute lung injury as a complication of her disease that was unavoidable in her circumstances. The final complication was the bleeding to Mrs Hillman's brain which in Dr Young's view was:

> '… most certainly associated with the fact that she was on blood thinners (heparin) for this blood clot, and this probably contributed to the bleeding on her brain.' [8]

Dr Young explains that Mrs Hillman needed blood thinners or she would have died of blood clot. The fact that she had developed a blood clot in her lung already meant that more clots were going to occur and this would almost certainly have killed her. Thus, there was no alternative but to give her the blood thinners.

1.8. Mr Stratford, counsel for Dr Onuma, argued that the aspiration during the anaesthetic that was administered in preparation for the surgery to close Mrs Hillman's surgical incision broke the chain of causation between the original surgical infliction of the bowel injury, the subsequent breakdown of its repair and Mrs Hillman's death. I reject that submission. The incision had been part and parcel of the bowel resection that was undertaken in order to rectify the breakdown of Dr Onuma's surgical repair, which had resulted in infectious bowel contents leaking into the abdomen. It was plainly necessary that the incision be closed. The aspiration of her contents was a complication of anaesthetic preparation for that procedure. In my view there is a clear connection between the ultimate cause of Mrs Hillman's death, that is to say the hypoxic ischaemic brain injury due to the intracerebral and subdural haemorrhage, and her original bowel injury, its complications and the necessary regime of treatment over the period of time during her admission in St Andrews. There is in my view a clear causal connection between the original surgical bowel perforation and the breakdown of its repair and Mrs Hillman's death. Mrs Hillman's death would not have occurred but for the original bowel injury. There was no new intervening act or occurrence that broke that chain of causation. I find Mrs Hillman's cause of death to

[7] Exhibit C10a, page 17
[8] Exhibit C10a, pages 18-19

have been hypoxic ischaemic brain injury due to an intracerebral and subdural haemorrhage as a consequence of anticoagulation given to treat a left subclavian vein thrombosis and pulmonary thromboemboli, and peritonitis following perforation of the small bowel during surgery for a vaginal prolapse.

2. Prolapse surgery

2.1. Before discussing the individual cases of Mrs Leonard and Mrs Hillman, it is necessary to say something briefly about the nature of the condition that gave rise to the surgeries conducted with respect to both women and about the various surgical options that had been available.

2.2. There was much evidence led in the Inquest concerning the condition for which both women were surgically treated and the types of surgery that were actually utilised or might have been utilised in the alternative. I take the following descriptions for the most part from the material provided to the Inquest by Dr Marcus Carey[9]. Dr Carey graduated from Melbourne University with an MBBS in 1992 and became a Fellow of RANZCOG in 1994. He has a Certificate of Urogynaecology conferred by this organisation in 1999 and is currently one of their urogynaecology subspecialty examiners. Dr Carey is Head of Unit, Urogynaecology and Gynaecology 3 Units at the Royal Women's Hospital in Melbourne and undertakes private practice at Frances Perry House in Melbourne.

2.3. A vaginal prolapse can involve a protrusion of abdominal anatomy into and through the vaginal vault. It can significantly affect a woman's quality of life. It can limit coital activity and can have certain consequences in terms of proper voiding. It can involve significant discomfort. However, a vaginal prolapse is not a life-threatening condition and surgery for its rectification is elective.

2.4. For women who experience vaginal vault prolapse, a variety of vaginal, abdominal and laparoscopic procedures are available. There are a number of procedures that may be administered vaginally. Abdominal and laparoscopic procedures for vault prolapse include utero-sacral ligament suspension and sacral colpopexy. A high rate of failure of vaginal surgery as a treatment for treat vaginal vault prolapse led to the development of the abdominal sacral colpopexy procedure. Abdominal surgical procedures might involve either laparoscopy or laparotomy. Laparoscopy, sometimes

[9] Exhibit C18

referred to as keyhole surgery, involves the introduction of surgical instruments through small incisions made in the abdominal wall. Sight of the abdominal contents is gained by way of a laparoscope, camera and monitor. The alternative method of abdominal surgery known as laparotomy involves a large surgical incision in the abdomen. Both methods of abdominal surgery are performed under a general anaesthetic. Laparoscopic sacral colpopexy is indicated for patients with symptomatic and significant prolapses of the vaginal vault. Dr Carey states that the approach is suitable for younger patients (aged 65 years and less) wishing to preserve coital function and in whom there are no contraindications to general anaesthesia and abdominal surgery. Dr Carey suggests that the most appropriate operation for treating vaginal vault prolapse remains the subject of ongoing debate. The choice of operation to treat vaginal vault prolapse depends on many factors. The surgeon's training and experience is one matter that will influence the choice of surgery. He suggested that recommending a specific operation can only be made after careful clinical assessment and after taking into consideration the patient's age, medical condition, coital activity, level of physical activity and the history of prior failed surgery.

2.5. Laparoscopy can also be utilised in respect of the removal of ovaries and ovarian cysts, a procedure known as oophorectomy.

2.6. The existence of intra-abdominal adhesions caused by previous abdominal surgery, such as hysterectomy, adds to the difficulty in performing both laparoscopy and laparotomy. It can also render more difficult vaginal surgery. Dr Carey explains that when a surgeon is faced with significant intra-pelvic and intra-abdominal adhesions during laparoscopic surgery, a decision to continue with laparoscopic surgery or convert to an open procedure, or indeed to abandon the laparoscopic procedure in favour of a vaginal approach, depends on a number of factors. One major factor is the experience of the laparoscopic surgeon in dealing with intra-pelvic and intra-abdominal adhesions. Dissection via the laparoscope of marked intra-pelvic and intra-abdominal adhesions requires considerable surgical experience, expertise and skill.

2.7. The main potential complication associated with laparoscopic surgery in the presence of marked intra-abdominal and intra-pelvic adhesions is bowel injury. I was told in evidence from a number of sources that the risk of bowel injury is present even in an open laparotomy, but the risk is lesser than that associated with laparoscopy. As was

explained in evidence, bowel injuries may occur during division of bowel adhesions. Bowel perforation is a recognised major complication of gynaecological surgery. In particular, surgery on residual ovaries is often associated with bowel adhesions. When surgery is performed to remove residual ovaries there is significant risk of bowel injury. Typically residual ovaries are encased in adhesions between bowel and the residual ovary. Residual ovaries also tend to be abnormally adherent and fixed to the pelvic side wall and may be in close proximity to the ipsilateral ureter and external iliac artery and vein[10]. Frequently the large bowel, and especially the sigmoid colon, are abnormally and densely adherent to the residual ovary. Dense adhesions between the large bowel and residual ovaries increase the risk of bowel complications during and after surgery to remove the residual ovary. Dr Carey suggests that usually the presence, extent and nature of the adhesions are not recognised prior to surgery, although other evidence in the Inquest suggested that where there has been extensive abdominal surgery as part of a patient's medical history, adhesions might be expected. In both the cases of Mrs Leonard and Mrs Hillman there were extensive adhesions due to previous abdominal surgery. The adhesions and their division constituted significant features of the surgeries of both women.

2.8. Adhesions may be separated by sharp dissection or blunt dissection or by diathermy that involves the application of heat by either a mono-polar or bi-polar diathermic instrument. I was told in evidence that a bowel injury caused by diathermy may not immediately become apparent and indeed may not become apparent during the procedure itself. This was the case with Mrs Leonard and, indeed, her bowel injury was not identified at any time prior to her discharge from hospital following surgery.

2.9. Another independent expert, Professor Peter Dwyer, who is the Director of Urogynaecology Department at the Mercy Hospital for Women and Clinical Professor at the University of Melbourne, as well as the Chairman of the Subspecialty of the Committee of Urogynaecology of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists explained in his evidence to the Court that the risk of bowel injuries increases when there are a lot of adhesions present, although sometimes the bowel is injured even in the absence of adhesions. Bowel injury can be caused when a gynaecological procedure is conducted vaginally, but the risk of it happening in these circumstances is usually not as great. The risk of the injuries are less when the operator is more experienced, but even the most experienced of

[10] Exhibit C18, page 8

surgeons can, from time to time, have these complications whether operating abdominally or vaginally[11]. Professor Dwyer did go on to say that the open approach, laparotomy, involves less likelihood of causing an injury to the bowel or urinary tract when compared to the laparoscopical approach[12]. The risk of bowel injury when these procedures are undertaken vaginally is even less.

2.10. It is said that a surgical perforation of the bowel occurs rarely, but the surgeon has to be very careful when dissecting bowel tissue to avoid such a complication. Professor Dwyer also suggested that the use of diathermy around the bowel also involves the surgeon needing to be very careful. He describes bowel perforation as a '*fairly rare complication*'[13]. He said it is uncommon but it does happen '*even in the best of hands*'[14] and happens more frequently when the laparoscopic approach is utilised.

2.11. Professor Dwyer gave other evidence concerning the expertise that might be required for a practitioner to perform surgery of this kind. I will return to that in another section.

2.12. As far as diathermy as a means of dividing adhesions is concerned, Dr Carey reports that the majority of bowel injuries so caused in laparoscopic surgery are diagnosed post-operatively. He suggests that statistically only 43% of bowel injuries in laparoscopic procedures are located during that surgery[15]. The remainder are found post-surgery. Mortality from bowel injury in association with gynaecological laparoscopy surgery increases to 21% when there is a delayed diagnosis of bowel injury[16]. Professor Dwyer, in his evidence, suggested that those statistics were probably correct. He said:

> 'There is no doubt where the diagnosis of bowel injury is missed during the operation the risks of the patient are considerably increased due to leakage of faecal material and peritonitis and in many of these cases with that presentation, the signs and the symptoms can be relatively mild. So, it is very important if there is injury there that it is picked up at the time of surgery. The fact that over half of them aren't in one of these is very interesting and somewhat concerning, particularly when one has a one in five chance of dying where there is a delayed diagnosis of bowel injury.' [17]

[11] Transcript, page 238
[12] Transcript, page 239
[13] Transcript, page 243
[14] Transcript, page 243
[15] Exhibit C18, page 6
[16] Exhibit C18, page 6
[17] Transcript, page 256

2.13. Professor Dwyer suggested that the complication of a bowel injury in the course of gynaecological procedures occurred at an incidence of about 2%[18].

3. Dr James Harvey

3.1. Dr Harvey was the obstetrician/gynaecologist who assisted Dr Onuma during the surgeries of both Mrs Leonard and Mrs Hillman. Dr Onuma came to perform both surgeries as a result of Dr Harvey's referrals. Dr Harvey gave oral evidence in the Inquest. He also provided a statement dated 11 January 2010[19].

3.2. Dr Harvey graduated from the Melbourne University with an MBBS in 1976 and started specialist training in obstetrics and gynaecology in 1980. He has been practising in that speciality for the last 29 years. He passed his membership examination for the Royal Australian College of Obstetricians and Gynaecologists (RACOG) in 1983. He has worked overseas in the United Kingdom. He became a Fellow of RACOG in 1988. Dr Harvey has been practising as an obstetrician and gynaecologist in Adelaide since 1981. From 1992 to 2003 he was Head of the Obstetric Unit at the Queen Elizabeth Hospital and since 2006 has continued to be the Head of an Obstetric Unit at the Women's and Children's Hospital. He has been a consultant at Repromed (now the Adelaide Fertility Centre) since 2002. Since 1999 he has been an examiner for RACOG. His professional interests are obstetrics and infertility and his practice also involves general gynaecology. In his evidence Dr Harvey told me that he performs a large array of gynaecological procedures that he has been trained for and has experience in. He added that there are some areas of gynaecological surgery in respect of which he does not have the necessary training or experience. In those cases he might refer the patient to another person who has a special interest in that area. Although he has substantial and extensive experience in general gynaecological practice, in a subspecialty practice, for instance new surgical procedures that are undertaken for complex prolapses, he would regard himself as not very experienced[20]. For that reason he would refer some cases to another practitioner. It was in those circumstances that he referred both Mrs Leonard and Mrs Hillman to Dr Onuma.

[18] Transcript, page 243
[19] Exhibit C16
[20] Transcript, page 29

3.3. Dr Harvey's decision to refer both Mrs Leonard and Mrs Hillman to Dr Onuma was essentially based on his perception that the type of surgery or procedure required in each instance was a matter that a person of Dr Onuma's experience and skill should decide. In other words, if Dr Onuma's advice was that the patient might benefit from a procedure that Dr Onuma could perform and that Dr Harvey could not perform, then Dr Onuma would be the more appropriate proceduralist to carry out the surgery. To Dr Harvey the cases of Mrs Leonard and Mrs Hillman both involved complexity that might require surgical expertise that Dr Harvey himself did not possess but which Dr Onuma in his view did possess..

3.4. In my view it was also clear that Dr Harvey believed that if Dr Onuma were ultimately to perform the procedures on both women, the surgeries would provide valuable educational opportunities for himself. In this regard Dr Harvey told me that although he did not have a complete and detailed awareness of Dr Onuma's experience, he knew that Dr Onuma had a special interest in the kind of surgery that might be provided to either woman. Dr Harvey had referred a number of cases to Dr Onuma for surgery. He had observed his surgical skills and technique and he greatly respected it. He also described Dr Onuma as a very good teacher of surgical technique and that in his experience very good teachers usually made very good surgeons.

3.5. It is clear on the evidence that Dr Harvey was in no way responsible for the infliction of the bowel injury in either case at hand.

3.6. Dr Harvey told me that since the events with which these Inquests are concerned he has not utilised the services of Dr Onuma.

4. Dr Oseloka Charles Onuma

4.1. Dr Onuma was the principal gynaecological surgeon in both procedures. He was assisted by Dr Harvey in each instance. Dr Onuma gave evidence in the Inquest. He had also provided a lengthy statement in relation to Mrs Hillman[21] dated 31 May 2010. He later provided a statement concerning Mrs Leonard dated 4 April 2011[22].

[21] Exhibit C12e
[22] Exhibit C12

Dr Onuma also provided to the Court a detailed curriculum vitae (CV)[23] which he expanded upon in his oral evidence.

4.2. Dr Onuma accepts that it was his actions that inflicted the bowel injuries in both cases. He also acknowledges that he undertook the repair of Mrs Hillman's bowel after the injury was identified during the course of her surgery. Dr Onuma was also involved in the post-operative care of both women.

4.3. Dr Onuma has practised as a gynaecological surgeon since 2000. He occupies rooms in Medindie. His CV reveals that he has a Bachelor of Science (Hons) in Pharmacology obtained from the University of Leeds UK in 1985, basic medical degrees of MBBS from the University of London UK in 1991 and a Master of Jurisprudence awarded by the Faculty of Law at the University of Birmingham UK in 2000. Other relevant academic qualifications include membership of the Royal College of Obstetricians and Gynaecologists conferred in London in 1996, a Certificate of Completion of Specialist Training, Europe obtained in London in 2000, a Fellowship of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) obtained in 2001 and Fellowship of the Royal College of Obstetricians and Gynaecologists conferred in London in 2008.

4.4. Dr Onuma has visiting rights at a number of private hospitals in Adelaide including Ashford Hospital, Calvary Hospital and St Andrews where these two procedures were carried out. He has a current appointment as the senior visiting medical specialist in gynaecology and principal surgeon in urogynaecology and pelvic reconstructive surgery at the Modbury Hospital. In his CV he describes his special professional interests as including the management of female pelvic organ prolapse, the management of female urinary incontinence, the management of female sexual dysfunction, advanced laparoscopic gynaecological surgery and the teaching of minimal access urogynaecological and pelvic reconstructive surgery. His CV asserts that he is an accredited level 5 gynaecological surgeon. In his oral evidence before the Court he amended that to level 6 accreditation[24]. This refers to skill level 6 as described in the Guidelines for Performing Advanced Operative Laparoscopy promulgated by the RANZCOG dated November 2007. According to that document, skill level 6 involves procedures that include laparoscopic pelvic floor repair, laparoscopic removal of residual ovaries with significant distortion of the anatomy as

[23] Part of Exhibit C12
[24] Transcript, page 94

well as laparoscopic oncological procedures. This is apparently the highest skill level contemplated and the document stipulates that to perform this level of surgery including laparoscopic suturing, surgeons should have completed formal preceptorship or Fellowship training under the supervision of appropriately skilled laparoscopic surgeons. Dr Onuma's CV asserts that he has undertaken a Fellowship in advanced laparoscopic and pelvic reconstructive surgery and has undertaken further training in laparoscopic surgery and pelvic floor reconstruction in a number of specialist centres in the United Kingdom, the United States, France and Australia. He claims that he has been a preceptor and consultant for Johnson and Johnson and American Medical Systems involved in the training of other specialists in the fields of incontinence, prolapse and endometrial ablation techniques and has lectured extensively on the role of urodynamics in the management of female urinary incontinence and prolapse[25].

4.5. In his evidence Dr Onuma asserted that, as part of an ongoing accreditation process, he was accredited within the Department of Health at level 6.

4.6. In a document attached to his witness statement of 4 April 2011[26] Dr Onuma has set out a synopsis of his urogynaecological and pelvic reconstructive surgery training. This includes training within a junior registrarship at the Department of Urogynaecology at the Birmingham Women's Hospital in 1997-1998, as a Fellow in Minimal Access Urogynaecology and Pelvic Reconstructive Surgery at the Modbury Hospital in 1998-1999 and as a Senior Registrar at the Department of Urogynaecology at the Birmingham Women's Hospital in 1999-2000. He describes 'Further training and observation' at various institutions and with various other practitioners in Sydney, Melbourne, Townsville, Brisbane, Los Angeles, Atlanta, Pennsylvania, Stockholm and Lille in France. These training exercises took place between 2001 and 2008. In cross-examination by Ms Taylor, counsel assisting, Dr Onuma was asked to elaborate upon the 'Further training and observation' set out in his document. The training and observation exercises, for the most part, involved visiting various urogynaecology or pelvic reconstruction surgery units at the locations identified above. This involved observing the surgical practices of other specialists and attending operating theatres where these practices were carried out[27].

[25] Exhibit C12, CV, page 5 and Transcript, page 141
[26] Exhibit C8, OCO1
[27] Transcript, page 163

4.7. I have not identified anything in Dr Onuma's background, CV or the various descriptions of his training that would suggest that any qualification or accreditation to perform complex surgery, be it laparoscopic or otherwise, in respect of serious gynaecological procedures has been the subject of any formal assessment or examination, be it viva voce, written or practical. In the course of his evidence Professor Dwyer, to whom I have already referred, was asked to comment upon Dr Onuma's apparent qualifications and experience. Professor Dwyer suggested that Dr Onuma's asserted training as set out in his document certainly demonstrated an ongoing interest in the area of pelvic floor dysfunction and pelvic floor surgery. While watching other surgeons operate was a valuable experience, of even more value would be having hands on training in the subspecialty training of urogynaecology[28].

4.8. There is such a thing as the Certificate of Urogynaecology conferred by RANZCOG. It is a certificate of subspecialty gained through that college. Professor Dwyer himself possesses such a certificate. Although his certificate was automatically conferred by virtue of his wide experience, those practitioners who thereafter obtained such a certificate did so through a process of documented training over a 3 year period in which their surgery, training and research was documented. At the end of that 3 year program they were required to sit both a written and oral examination. However, RANZCOG does not deem it essential that everyone who performs this type of surgery have this certificate. I did not understand Dr Onuma to possess such a certificate.

4.9. Professor Dwyer was asked about the manner in which a gynaecologist could demonstrate his or her competence to perform procedures at the level of complication that applied to Mrs Leonard's and Mrs Hillman's surgery. Professor Dwyer suggested that this was even now still achieved '*mainly by word of mouth and experience*'[29]. He suggested that much of the work of a gynaecologist performing these complex procedures would be obtained by virtue of the practitioner's reputation, particularly among referring general practitioners whom he regarded as '*quite effective gatekeepers*'[30]. He also suggested that possession of the Certificate of Urogynaecology, and being known as a urogynaecologist, carries weight as it demonstrates that the practitioner is known to have undergone the appropriate training. Professor Dwyer expressed the view that this was not an area of surgery '*for*

[28] Transcript, page 268
[29] Transcript, page 274
[30] Transcript, page 274

people to dabble in'[31]. He agreed that there was a case for saying that anyone who wishes to practice as a urogynaecologist performing surgery such as that performed in respect of Mrs Leonard and Mrs Hillman ought to undergo the necessary procedures required to receive the Certificate of Urogynaecology from RANZCOG. Professor Dwyer said:

> 'At the present time anyone who is a qualified obstetrician gynaecologist can practice in any of the subspecialty areas, be it gynaecological cancer or urogynaecology, if they feel they've been adequately trained and they've got the expertise. So at the present time often it's the confidence of that person that decides whether they're going to do these procedures rather than anything else. Sometimes that confidence is misplaced. In most cases it seems to work pretty well and most gynaecologists know what they're capable of and certainly don't like having bad outcomes or complications and therefore are very keen to avoid doing something that is beyond them that leads to these sort of outcomes.' [32]

4.10. Dr Onuma told the Court that since 2000 he had performed approximately 200 laparoscopic level 6 procedures, approximately 600 incontinence procedures and approximately 300 complex mesh procedures at a level 4 skill level[33]. He had also performed several hundred surgical procedures that had involved the division of adhesions.

4.11. Professor Dwyer stated that Dr Onuma's apparent credentials and experience suggested that he was a very experienced gynaecologist in the area of laparoscopic surgery. He suggested that his training as a gynaecologist in this area would be more than adequate[34]. It is clear that these comments were made on the basis that Dr Onuma's assertions as to his credentials, experience and training were to be taken at face value.

4.12. I heard evidence that suggested that abdominal procedures such as those under discussion are less frequently performed in Australia than in the United Kingdom. As will be seen, there were opinions expressed by some of the experts in this case that in each of these two instances surgeons could well have preferred a vaginal approach to surgery as opposed to an abdominal approach by way of laparoscopy or laparotomy. Dr Onuma suggested that a practitioner's preference as to method would very much depend upon that practitioner's training and experience and that the difference in approach between Australia and the United Kingdom was explicable on the basis of

[31] Transcript, page 266
[32] Transcript, pages 274-275
[33] Transcript, page 224
[34] Transcript, page 277

the differences in the level of expertise and training within the respective professions of those countries.

5. The expert witnesses

5.1. I have already referred to Dr Carey and Professor Dwyer. As well as providing general information about the type of surgery with which this Inquest is concerned, Dr Carey provided an expert overview in relation to Mrs Leonard's surgery.

5.2. Professor Dwyer originally provided a similar report in relation to Mrs Hillman. Professor Dwyer also gave oral evidence in which he was additionally asked to comment upon certain aspects of Mrs Leonard's surgery.

5.3. Tendered into evidence was the report of a further expert, Professor Emeritus Roger Pepperell. Professor Pepperell was Professor and Chairman of the Department of Obstetrics and Gynaecology at the University of Melbourne (Royal Women's Hospital) from 1978 to 1998. Between 1999 and 2003 he was a Professorial Fellow in the same Department. In that period he was involved in the provision of clinical care to public patients attending the Royal Women's Hospital in Melbourne. Following his appointment as Professor Emeritus at the University of Melbourne, from 2004 to 2009 he continued to teach obstetrics, gynaecology and other related medical subjects. He is currently Professor of Obstetrics and Gynaecology at Penang Medical College in Malaysia. Professor Pepperell's report[35] was confined to a discussion of Mrs Leonard's surgery. Professor Pepperell suggested that a specialist urogynaecologist would more appropriately be in a position to offer opinions on some of the issues that he had been asked to address[36]. He did offer expert opinion on some aspects of Mrs Leonard's care. I return to that in due course.

6. Mrs Leonard's surgery, post-operative treatment and death

6.1. Mrs Leonard had originally been referred to Dr Harvey by her general practitioner. She consulted Dr Harvey for the first time on 22 August 2008. She presented with a relatively large vaginal prolapse that she said had been there for some time but which had recently worsened when she had a cold and had been coughing. She felt that the prolapse restricted her daily activities and was interfering with her continence. The prolapse caused her some discomfort, particularly when she walked.

[35] Exhibit C13
[36] Exhibit C13b, pages 4-5

6.2. Mrs Leonard told Dr Harvey that she was a widow. She also stated that she attended a gym for older people. She was thus reasonably active but there is no suggestion that she had a level of sexual activity that needed to be taken into account in assessing the type of surgery required.

6.3. Mrs Leonard had five children. She had a medical history that included a hysterectomy, a cholecystectomy, gall bladder surgery as well as other conditions.

6.4. In a letter to Mrs Leonard's general practitioner dated 22 August 2008, Dr Harvey offered the view that Mrs Leonard clearly needed the prolapse to be repaired and also indicated that she might, in his opinion, benefit from vaginal vault suspension plus vaginal repair incorporating mesh. He recommended Dr Onuma. That same day Dr Harvey referred Mrs Leonard to Dr Onuma. In his referring letter to Dr Onuma[37] Dr Harvey discussed whether Mrs Leonard would benefit from a laparoscopic vault suspension and posterior repair with insertion of mesh plus perhaps a small anterior repair but indicated that he would value Dr Onuma's opinion *'as to the way in which to head'*. In that same letter of referral Dr Harvey indicated that he would be keen to be involved in her surgery, particularly if it included inserting mesh in the posterior vaginal wall. He indicated that he would be keen to do that if possible. In the event Dr Harvey would participate in the surgery to a limited extent, but it is clear that his part in it did not cause the bowel injury.

6.5. Dr Onuma saw Mrs Leonard on 27 August 2008 and reported back to Dr Harvey by way of letter[38]. Dr Onuma ordered certain tests including an ultrasound of the lower abdomen and pelvis. He recorded in the letter to Dr Harvey that day that the surgical and conservative measures had been discussed with the patient. He had supplied literature regarding prolapses and laparoscopy. He recorded that Mrs Leonard had asked about the risks of surgery and that he had referred her to the literature provided but had explicitly discussed the risks from death to a urinary tract infection. The letter says nothing about whether at that time there had been any verbal discussion with Mrs Leonard about the possibility of bowel perforation as such. However, in his cross-examination in the Inquest Dr Onuma asserted that he specifically explained to Mrs Leonard the risk of a bowel injury. He suggested that he would have told her very simply that it is possible to injure the bowel during surgery or to injure a blood vessel

[37] Exhibit C16a, page 18
[38] Exhibit C16a, page 24

and that these things could lead to complications '*which might put her in a position where she did not leave hospital alive*'[39].

6.6. Mrs Leonard was accordingly scheduled for a laparoscopic sacral colpopexy with associated procedures for 30 October 2008. In his statement[40] Dr Onuma said that due to the extent of Mrs Leonard's prolapse, using a vaginal support device would not have been a suitable option. He said that Mrs Leonard decided to proceed with pelvic reconstructive surgery.

6.7. A CT examination conducted on 21 October 2008 revealed bilateral ovarian cysts. There does not appear to be any dispute on the evidence that the ovarian cysts needed to be removed having regard to the possibility that they were malignant or to the possibility that they might become malignant in due course. It was therefore planned that the ovarian cysts would be removed as part of the procedure. In a urodynamics report dated 22 October 2008 compiled by Dr Onuma[41] and which was provided to Dr Harvey, Dr Onuma reported the necessity for the bilateral oophorectomy. As well, he recorded the fact that he had had a *'fairly detailed discussion'* in the presence of the patient about the total procedure that included reference to the risks of surgery including bladder/ureteric/bowel injury and other possible complications. In the discussion of this date Dr Onuma recorded that Mrs Leonard consented to the surgery.

6.8. The surgery took place on 30 October 2008 at the St Andrew's Hospital. Dr Onuma was the principal surgeon and he was assisted by Dr Harvey. The surgery took place under general anaesthetic. In his evidence Dr Onuma described the operation. He did not detect any injury to the bowel during the course of the surgery. The operation record was tendered to the Inquest[42]. It makes no mention of any bowel complication. It describes the surgery in detail. It is described as a '5 portal laparoscopy'.

6.9. The surgery was conducted over a total period of about 5 hours. Dr Onuma spent the first 3 hours of the surgery freeing adhesions that he described in the operation record as 'extensive intra-abdominal and pelvic adhesions with complete obliteration of Pouch of Douglas and all of pelvis'[43]. During the course of the 3 hour adhesiolysis, bilateral removal of the ovaries was also achieved. The necessary pelvic surgery that was originally designed to correct the prolapse was then carried out. The operation

[39] Transcript, page 174
[40] Exhibit C12
[41] Exhibit C16a, page 21
[42] Exhibit C16a, page 16
[43] Exhibit C12, OCO7

record states that Dr Onuma, as well as performing the adhesiolysis, carried out the anterior vaginal compartment repair and a cystourethroscopy and that Dr Harvey performed the mesh sacrospinous colpopexy and the posterior vaginal compartment repair.

6.10. Dr Onuma asserts that while conducting the surgery he undertook an ongoing inspection of the patient for complications including unexpected bleeding and damage to the organs including the bowel. He did not identify any such complications. Nor did Dr Harvey. I accept that evidence.

6.11. The consensus of opinion expressed at the Inquest, which included that of Dr Onuma himself, was that the injury to the bowel was caused either during division of the adhesions or when dealing with the ovary on the left side of the abdomen, and in any case during the first 3 hours of the procedure and not during the period of time when the corrective surgery was conducted. The conclusion was also reached that the injury to the bowel was probably inflicted by way of diathermy. This would mean that the injury to the bowel would not readily be identifiable at the time of infliction and that any significant bowel injury resulting in a perforation would not become manifest until sometime after the surgery had taken place. I find this to have in fact been the case on the balance of probabilities.

6.12. At the completion of her surgery at about 4pm Mrs Leonard was returned to the ward where her condition was unremarkable and satisfactory. She appears to have then slept well overnight. Some analgesia was given with good effect. 31 October 2008 was also uneventful. On the late afternoon of 1 November 2008 Mrs Leonard recorded a temperature of 39°C. At 8:30pm Mrs Leonard recorded a temperature of 39.9°C which is a very high temperature[44]. A nursing note recorded that Mrs Leonard was feeling generally flat and unwell but with minimal abdominal pain. She was quite sweaty. Her temperature went down to 39.6°C. Dr Onuma was contacted that evening and he advised that a CCU medical officer should review Mrs Leonard. Dr Onuma said that at that point he had no reason to believe that there was a complication from the surgery. The CCU assessment queried sepsis, most likely from her chest, but recorded in the progress notes that an abdominal source for Mrs Leonard's condition was 'unlikely'. In any case Mrs Leonard was commenced on a short course of intravenous antibiotics followed by oral antibiotics.

[44] Exhibit C14, page 415

6.13. By the following morning 2 November 2008, Mrs Leonard's temperature had gone down to 37.4°C at 2am and 37°C at 5:15am - this is a normal temperature. The temperature charts[45] reveal no abnormal temperatures on 2 November 2008. However, her oxygen saturations were 88% on air which is below normal. Dr Onuma reviewed Mrs Leonard that day at 5:15pm. Dr Onuma stated that Mrs Leonard appeared to be back to normal late afternoon. She looked well, but tired. The abdomen was soft and not tender. Dr Onuma left instructions that if she remained as well as she was, she could go home the following morning.

6.14. At about 11:30am the following morning Mrs Leonard was discharged into her granddaughter's care. The written discharge information for the patient, that was signed by Mrs Leonard at discharge, contains written instructions that she should contact Dr Onuma with any concerns or problems.

6.15. At 12:45 on the afternoon of 6 November 2008 one of Dr Onuma's staff members received a telephone call from Mrs Leonard's daughter. Dr Onuma was made aware of the contents of that conversation and he described what he understood to be the position regarding Mrs Leonard. Mrs Leonard's explained that Mrs Leonard was in a lot of pain. The previous day she had had a pain in her left side and that on that current day the pain was at the top of her stomach. She was described as very weak and unable to move. Dr Onuma told me in evidence that he personally spoke to Mrs Leonard's daughter some time between 12:45pm 2pm and advised her to take Mrs Leonard to St Andrews[46]. Mrs Leonard was taken into St Andrews some time after 5pm that afternoon. Mrs Leonard would remain in hospital from 6 November 2008 to the date of her death, 25 November 2008.

6.16. Upon Mrs Leonard's arrival at St Andrews on 6 November 2008 she was presumed to have a perforated viscus and was rushed to theatre for an emergency laparotomy. She was found to have a perforated sigmoid colon with gross intra-abdominal faecal soiling. She underwent a Hartmann's procedure and was thereafter returned to the CCU where she was intubated and ventilated. She was diagnosed with overwhelming intra abdominal sepsis. She was commenced on intravenous antibiotics on 6 November 2008. Ultimately she developed multi-organ failure, including acute renal failure for which she had dialysis. She was returned to theatre on 8 November 2008 for an exploratory laparotomy and washout as she was failing on maximum medical

[45] Exhibit C14, page 441
[46] Transcript, page 199

therapy. Mrs Leonard developed atrial fibrillation and her condition continued to deteriorate progressively in the 20 days she spent in the CCU. She remained ventilator dependent. Her incision wound broke down. She had a CT scan on 17 November 2008 which showed abdominal collections which were not amenable to drainage. It became apparent that the integrity of her bowel wall had broken down. A decision was made in consultation with Mrs Leonard's family to cease active treatment and to institute comfort care measures. She passed away peacefully at about 11:55am on 25 November 2008 in the presence of her family.

7. Discussion concerning the death of Mrs Leonard

7.1. Professor Pepperell, in his report[47], expresses the view that in all of the circumstances an operative procedure was the only effective treatment for Mrs Leonard. He points to the fact that the ovarian cysts which were identified by way of CT prior to her surgery had to be considered to be malignant until proven otherwise, with absolute proof of this not being possible until histological examination of the cysts had been performed post-removal. He suggested that the presence of the ovarian cysts would certainly have justified the performance of the surgery by way of laparoscopy. It will be remembered that it is common ground that the infliction of Mrs Leonard's bowel injury was probably caused during the 3 hour period in which adhesions were divided and the ovaries were removed. Professor Pepperell points out that prior to surgery there was no reason to suspect that massive adhesions would be present, although such adhesions can follow a previous abdominal hysterectomy. However, the observation needs to be made that once Dr Onuma commenced Mrs Leonard's laparoscopy, it would have been readily obvious to Dr Onuma that there were significant adhesions within Mrs Leonard's lower abdomen. Indeed, it took him 3 hours to perform the adhesiolysis.

7.2. Professor Pepperell suggests that the difficulties occasioned by Mrs Leonard's prolapse could have been dealt with by an operative repair procedure performed vaginally without any of the risks of a laparoscopy. However, there was other evidence to suggest that even vaginal surgery can subject the patient to the risk of bowel injury, particularly if the bowel is adherent to the top of the vagina. Nevertheless, the evidence seemed to be entirely one way that the risk of bowel injury is less if the procedure is performed vaginally. I would also add here that if, as is

[47] Exhibit C13a

agreed, Mrs Leonard's injury was probably inflicted in the 3 hour adhesiolysis, it would follow that a vaginal procedure probably would have avoided the unfortunate outcome. That said, Professor Pepperell suggested that a laparoscopic procedure would have had the advantage of allowing mesh to be placed in the lower abdomen to reduce the risk of recurrent prolapse and to allow the ovarian cyst to be assessed and probably removed. In this context Professor Pepperell suggested that as this is a very specialised area of surgery, the issue as to the most appropriate procedure for Mrs Leonard would require an opinion from a specialist urogynaecologist.

7.3. The other significant matter upon which Professor Pepperell comments concerns Mrs Leonard's discharge from hospital on 3 November 2008. Professor Pepperell was aware of the earlier very high temperatures experienced by Mrs Leonard. However, while Professor Pepperell was of the view that Mrs Leonard's temperature should certainly have been taken on the day of her discharge, and it would have been wise for Dr Onuma to have reviewed her on that day, there was no apparent reason for discharge not to have occurred. Professor Pepperell agreed with the views offered by other witnesses that in the light of Mrs Leonard's straightforward initial post-operative course, and because signs of peritonitis were not evident on the day prior to discharge from hospital, it is likely that inadvertent damage caused by diathermy did not immediately cause a bowel perforation. Professor Pepperell thought it likely that the perforation actually occurred on 3 November 2008 or later when Mrs Leonard was at home.

7.4. Dr Carey in his report[48] indicates that even though a laparoscopic sacrocolpopexy is not surgery that he would have made available to Mrs Leonard, Dr Onuma's decision to recommend laparoscopic surgery to treat her prolapse and ovarian cysts did not represent a departure from standard clinical practice. As indicated earlier, Dr Carey does go on to say that laparoscopic sacrocolpopexy is indicated for patients with symptomatic and significant prolapse of the vaginal vault and is suitable for younger patients (aged 65 years or less)[49] who wish to preserve coital function and in whom there are no contraindications to general anaesthesia and abdominal surgery. Dr Carey himself makes laparoscopic sacrocolpopexy available to patients with a significant vaginal vault prolapse, but typically these women are less than 65 years of age. Dr Carey points out that Mrs Leonard was greater than 65 years of age and a

[48] Exhibit C18
[49] Exhibit C18, page 2

reasonable assumption could be made that maintenance of sexual function was not a priority for her. Additionally, she had some important medical comorbidities and he would have recommended a vaginal approach for her prolapse. He indicates also that he would have recommended that she undergo oophorectomy in relation to the ovarian cysts. This would have meant, of course, that there would have been two separate procedures, namely the oophorectomy that could have been performed laparoscopically or via an abdominal incision, as well as the prolapse procedure performed vaginally. Dr Carey does recognise that the coexistence of a significant vault prolapse and ovarian cysts may influence a doctor to recommend combined laparoscopic surgery. This appears to be the same position occupied by Professor Pepperell.

7.5. As far as the division of adhesions is concerned, Dr Carey opines that if there is poor anatomical definition when performing adhesiolysis involving the bowel, it is best to avoid diathermy which may subsequently lead to a bowel perforation in the post-operative period. Dr Carey suggests that when a general gynaecologist is faced with extensive pelvic adhesions during surgery for residual ovary syndrome, it is important that the surgeon feels confident and sufficiently experienced to deal with these adhesions. If this is not the case, it is standard clinical practice for the surgeon to enlist the assistance of a general surgeon, colorectal surgeon or a gynaecological oncologist with experience with dealing with extensive pelvic adhesions. That said, he points out that with Mrs Leonard's very dense adhesions, damage to her bowel may have occurred even if a highly experienced general or colorectal surgeon had performed the surgery. Dr Carey points out that even with an open procedure, laparotomy, division of the adhesions to remove both ovaries would still have been required and could still have resulted in significant complication caused by bowel perforation.

7.6. In the event, Dr Carey is not critical of Dr Onuma. However, he makes it clear that this view assumes that Dr Onuma was a gynaecological surgeon sufficiently experienced and skilled to perform complex laparoscopic surgery, including laparoscopic division of marked intra-pelvic and intra-abdominal adhesions. Dr Carey opined that if that is so, it was consistent with standard clinical practice for Dr Onuma to have performed this surgery laparoscopically rather than converting to a laparotomy.

7.7. As indicated earlier, Professor Dwyer did not provide a report in relation to Mrs Leonard's management, but was invited to comment upon her management when he gave oral evidence at the Inquest. He was placed in possession of Mrs Leonard's clinical records for this purpose. Professor Dwyer expressed the view that all of Mrs Leonard's prolapse surgery could have been dealt with through the vagina[50]. He also suggested that the ovarian cyst removal could possibly have been dealt with through the vagina as well[51]. In the circumstances, whether one might undertake the removal abdominally or vaginally would depend on one's experience and training. On balance, Professor Dwyer believed that the decision in this case to remove the cysts abdominally was appropriate, although it remained a possibility that they could have been removed vaginally.

7.8. Professor Dwyer expressed the opinion that the period of 3 hours in which adhesions were divided was a long time to be operating for any surgeon[52]. He said:

> 'Obviously the longer one is doing this then the greater the risk of causing injury, either to bowel or bladder or causing bleeding.' [53]

He acknowledged that given the possibility that the cysts may have been cancerous, there was a good indication to have them removed.

7.9. In the event I did not understand Professor Dwyer to be critical of the decision by Dr Onuma to perform laparoscopic surgery with respect to Mrs Leonard. He did not suggest that such a surgical approach was unreasonable or out of the question. Rather, if Dr Onuma was suitably trained and had the necessary skill and experience, the procedure could well have been successfully and safely completed in the manner in which it was conducted.

7.10. There is one other matter I should mention in relation to Mrs Leonard's management that concerns her post-operative care. I have already referred to the opinion of Professor Pepperell in relation to the timing of her discharge. There was, as already recorded, one concerning aspect in relation to Mrs Leonard's post-operative course and that was the very high temperatures that she recorded on the evening of 1 November 2008, namely 39.9°C and 39.6°C. Dr Onuma testified that this could be explained by a post-operative reaction. An increase in temperature is not unusual in

[50] Transcript, page 252
[51] Transcript, pages 253-254
[52] Transcript, page 254
[53] Transcript, page 254

these circumstances. In any event, he did instigate an investigation in relation to her condition that evening and the conclusion was reached by others that an abdominal source for her presentation, including her spike in temperature, was unlikely. Professor Dwyer expressed the view that those temperatures were '*very significant and concerning*'[54]. He suggested that these temperatures were out of the ordinary would suggest that there was an infection at work. He suggests that these events may well have been related to her abdominal injury, even though her abdominal pain was only described as mild[55]. He stated that a proper investigation may well have included an abdominal X-ray or CT scan of the abdomen. Professor Dwyer rejected Dr Onuma's notion that temperatures of this magnitude were consistent with post-operative fever. On the other hand, Professor Dwyer suggested that the lowering of temperatures to normality by the following morning were 'definitely reassuring'[56]. Ironically, he stated that this had perhaps been too reassuring and that, as a result, her abdominal bowel injury might therefore have been missed[57]. Professor Dwyer believed that in hindsight Mrs Leonard's clinical signs and abdominal signs were probably significant and that these were reflective of a bowel injury. However, having regard to the fact that her pain had settled with antibiotic treatment, that her temperature had settled and that her general clinical signs had also settled, he believed that it was not unreasonable to presume that there was no ongoing problem[58]. Nevertheless, Professor Dwyer agreed that there would still be a need to be vigilant to the possibility of an infection, particularly in view of the type of surgery that Mrs Leonard had undergone as well as to its long duration.

7.11. Dr Onuma told me in evidence that his reasons for allowing Mrs Leonard to be discharged without further review included the fact that when he examined her on the afternoon of 2 November, she was clinically well, she was mobilising and she was keen to go home. There was no clinical reason to keep her in hospital against her wishes[59].

7.12. In the event, I did not understand Professor Dwyer to be critical of Dr Onuma's not having reviewed Mrs Leonard again prior to discharge. On 2 November 2008 everything looked normal. He suggested that retrospectively he could not see

[54] Transcript, page 260
[55] Transcript, page 261
[56] Transcript, page 262
[57] Transcript, page 262
[58] Transcript, page 263
[59] Transcript, page 195

anything in respect of Dr Onuma's management of Mrs Leonard's post-operative care that warranted criticism[60]. All of that said, Professor Dwyer expressed the view that '*these patients do tend to go home earlier than they need to*'[61].

7.13. Dr Harvey, the gynaecologist who assisted Dr Onuma in Mrs Leonard's procedure, but who was not involved in her post-operative care, suggested that he would have had concerns about Mrs Leonard in the light of her spike in temperature on the evening of 1 November 2008. He suggested that he would have considered that she had a source of infection and that the two commonest issues would be a problem with the chest or problems in any of her wounds or abdominally. Dr Harvey also expressed concern in respect of Dr Onuma's plan to discharge Mrs Leonard after his final review of her on the late afternoon of 2 November 2008. He said:

> 'To be honest, I'm concerned. I think someone who's spiking a temperature as high as that, 39.9 ... without a tachycardia and who people had commented on looked one well, is in itself a major concern. It would appear that she has responded to the therapy that she's had, the antibiotic that she was given but we're till only within a fairly close timeframe and she hadn't yet opened her bowels. I personally would have preferred - I wasn't there so it's a bit hard, but just on the basis of what I read, I would have preferred to have kept her in.' [62]

In cross-examination Dr Harvey did concede that when Dr Onuma last reviewed Mrs Leonard on 2 November 2008, Dr Onuma was in a much better position to determine her management plan than Dr Harvey was in hindsight.

8. Mrs Hillman's surgery, post-operative treatment and death

8.1. Mrs Hillman was referred to Dr Harvey by her general practitioner, Dr Julian Monfries. Dr Harvey first saw her on 17 November 2008. Mrs Hillman had noticed a lump appearing at her vaginal opening and this was causing discomfort and some problems with incomplete evacuation of the bowel. Mrs Hillman was a school teacher who lived with her husband. The prolapse was adversely affecting her work as a teacher.

8.2. Mrs Hillman had a significant previous history of abdominal and pelvic surgery including hysterectomy and ovarian cystectomy. In addition, she would advise Dr Onuma after her referral to him that she had also had her gall bladder and appendix removed. She had a medical history that included other conditions such as Crohn's

[60] Transcript, page 265
[61] Transcript, page 266
[62] Transcript, page 250

disease, reflux and diverticulitis. Nevertheless, as of November 2008 she appeared to be generally well.

8.3. When Dr Harvey examined Mrs Hillman she had a large rectocele, which is a prolapse of the posterior vaginal wall, which bulged well beyond the vaginal introitus. As with Mrs Leonard, the question arose as to the best way to support her upper vagina. The surgical options considered were laparoscopic sacrocolpopexy, apogee mesh or mesh sacrocolpopexy or a combination of those procedures. Dr Harvey advised Mrs Hillman that in his view the most effective and enduring repair would involve a sacrocolpopexy or mesh colpopexy as the supports on the posterior wall and vaginal vault were clearly substantially deficient. She wished to maintain a coital capacity. Dr Harvey formed the view that her best option was to be seen by a gynaecologist who specialised in more complex vaginal repairs. He felt that if he himself performed the surgery with a traditional vaginal repair there would be a significant risk of relapse. He therefore referred Mrs Hillman to Dr Onuma.

8.4. Dr Onuma examined Mrs Hillman on 5 December 2008. He reported back to Dr Harvey that same day. Dr Onuma identified a vaginal vault prolapse. There followed a detailed discussion with Mrs Hillman about the different surgical approaches available including conservative management, meaning doing nothing, to the use of vaginal support devices and the different types of surgery. Dr Onuma told me that he also discussed the risks associated with the various options. In his report to Dr Harvey that day he advised that he had provided her with literature on prolapses and laparoscopy.

8.5. In his witness statement Dr Onuma states that Mrs Hillman was very keen to proceed with a surgical solution[63]. Both Dr Onuma and his patient understood that the surgical procedure would be complex.

8.6. Dr Onuma sent Mrs Hillman away for a number of tests and investigations. According to Dr Onuma's statement nothing remarkable was revealed by these investigations.

8.7. Dr Onuma again saw Mrs Hillman and her husband on 23 December 2008. On this occasion Mrs Hillman gave her formal consent for surgery which in the first instance would be exploratory in nature. The risks involved with surgery were discussed,

[63] Exhibit C12e, page 4

including the risk of bowel injury. It is worthy of note that when Dr Onuma first saw Mrs Hillman on 5 December 2008 she filled in a questionnaire in which she indicated that she wanted to discuss with Dr Onuma her 'concerns about impact of surgery on bowel'. Mrs Hillman would ultimately reveal to Dr Onuma the specific basis of her concerns that included the fact that her father had died after a bowel injury that was inflicted during surgery conducted in connection with prostate cancer.

8.8. Dr Onuma decided to perform a laparoscopic investigation of Mrs Hillman's pelvis prior to conducting any corrective measures in respect of her vaginal prolapse. This took place on 15 January 2009. The reason for this strategy was that Mrs Hillman had given a history of multiple and complex procedures in the abdomen. On 15 January 2009 Dr Onuma conducted the investigative laparoscopy. He spent 100 minutes conducting extensive adhesiolysis with partial restoration of the abdomino pelvic anatomy. He identified extensive intra-abdominal adhesions obliterating most of the abdomen and pelvis. All of the large bowel adhered to either the pelvic side walls, the bladder, the vault and/or the lateral or anterior abdominal walls. All of this was identified by way of laparoscopy. Dr Onuma's operation record[64] indicates that as a result of this surgery a laparoscopic approach to the vault suspension was identified as not being possible. He recorded this:

> 'Option would be either open surgery or all of surgery per vagina using mesh. This will be discussed with Glenys at her review.'

Dr Onuma explains in his statement that he believed that a laparoscopic approach to Mrs Hillman's corrective surgery would not be possible. He thought that it would take too long and be too hazardous[65]. He believed that he would still need to perform further division of adhesions as part of any further surgical procedure but that he would prefer to conduct blunt dissection with his fingers and that would be better achieved through open surgery.

8.9. Mrs Hillman's further review took place on 11 February 2009. Dr Onuma commented during this that the option of laparoscopic sacrocolpopexy was now excluded due to the high risk of bowel injury which he recognised was of significance to Mrs Hillman because of the manner in which her father had died. The option of open sacrocolpopexy was discussed in detail with her. He discussed the risk of bowel injury in such a procedure and indicated that while the risk of bowel injury is reduced

[64] Exhibit C12d, page 23
[65] Exhibit C12e, page 11

in an open procedure, it could not be excluded. This conversation was recorded in Dr Onuma's urodynamics report dated 11 February 2009[66]. There is therefore no doubt that Dr Onuma considered the risks of bowel injury as might be presented by the two forms of abdominal surgery and that he openly discussed that issue with Mrs Hillman who was, quite independently of anything Dr Onuma, said concerned about that very issue. Having regard to his experience with Mrs Leonard in the previous November, it is not surprising that Dr Onuma would by this time have a heightened sense of the risks involved in Mrs Hillman's surgery.

8.10. Mrs Hillman agreed to the open laparotomy method in respect of her surgery. There was a further consultation on 30 April 2009 during which Mrs Hillman signed the necessary consent forms. The definitive surgery took place at St Andrews on 28 May 2009.

8.11. The surgery at St Andrews on 28 May 2009 was conducted by Dr Onuma. He was assisted by Dr Harvey. The surgery was conducted by way of open laparotomy as planned. Notwithstanding the adhesiolysis that had taken place in January, extensive adhesions were still identified that involved the large bowel, the small bowel, the bladder, pelvis and abdomen. During this procedure, as recorded in the operation record[67], Dr Onuma performed sharp and blunt dissection for about 50 minutes. In his statement Dr Onuma explains what then happened:

> 'My view after dividing the adhesions was essentially that I thought there was a very small window over the sacral promontory where I could palpate it but I didn't have a good view of it. I concentrated on dissecting out the pelvis really doing a lot of blunt dissection and a bit of sharp dissection using scissors. Everything was really stuck and during that dissection I made a small four millimetre hole in the small bowel under direct view.
>
> No faecal matter came out of the bowel, but there might have been some particles which could not been seen in the sense that the bowel would have had contents moving through it and although there wasn't any sitting there, once it had been exposed there would have been some faecal material not visible to the naked eye exposed to the abdominal contents.' [68]

Having seen the injury to the bowel, Dr Onuma washed it out with saline and repaired the bowel in two layers with a delayed absorbable stitch. The test of the repair seemed perfectly fine. Having repaired the injury he washed it out. There was no obvious leak. The repair looked and felt intact. Dr Onuma also placed that section of

[66] Exhibit C12d, page 19
[67] Exhibit C12d, page 15
[68] Exhibit C12e, page 17

the bowel in water in order to determine whether any air would leak from the site of the repair.

8.12. Once Dr Onuma had repaired the bowel injury he performed some further dissection but concluded that he was unable to define the anatomy well enough to conduct the sacrocolpopexy. He performed a further washout and closed the abdominal incision. The remainder of the prolapse surgery was conducted vaginally using mesh which very much suggests that this had been a viable surgical option all along.

8.13. Dr Onuma placed a Blake drain within Mrs Hillman's abdomen with instructions to have it taken out the following day.

8.14. Following the surgery Mrs Hillman was returned to the ward.

8.15. In the early hours of the morning of Saturday 30 May 2009 Dr Onuma received a telephone call regarding Mrs Hillman's condition that included a high temperature and vomiting. He went into St Andrews. It became apparent during the course of the morning that Mrs Hillman was leaking bowel contents into her abdomen as it appeared to be seeping through the closed surgical incision. Dr Onuma called the on-call colorectal surgeon, Dr Matthew Lawrence. Dr Lawrence attended at St Andrews and the two doctors took Mrs Hillman back to theatre where Dr Lawrence performed a laparotomy assisted by Dr Onuma.

8.16. In Dr Onuma's witness statement of 31 May 2010 (taken by police on 16 February 2010) he asserts that when Dr Lawrence first inspected the enterostomy site, that is to say the site involving the surgical repair that Dr Onuma himself had performed, Dr Lawrence inspected it and moved on because it appeared to be intact. He asserts that Dr Lawrence spent quite a lot of time looking around the pelvis for any other sites of injury that might explain the leakage and could not find anything. In fact, Dr Onuma asserts in his statement that when they looked at the original site of the injury they were both surprised to think that it was actually intact. Because of the large amount of faecal material in the abdomen, the two practitioners looked for another area from which the faecal material may have been leaking and did not find one. Dr Onuma asserts in the statement:

> 'Dr LAWRENCE did spend quite a lot of time looking around whilst I assisted him, and there was no faecal material coming from the site of the injury.'[69]

[69] Exhibit C12e, page 27

He states that Dr Lawrence removed the section of bowel that had been the site of the enterostomy and resected the bowel. Dr Onuma's statement is less than clear as to whether he was prepared to accept that his surgical repair had failed and that this was the reason for the presence of a large amount of faecal material in Mrs Hillman's abdomen.

8.17. Dr Lawrence provided a statement verified by affidavit dated 16 April 2010[70]. He would later provide a further statement verified by affidavit dated 7 April 2011[71]. In his first statement Dr Lawrence states that when he performed the surgery there was generalised small bowel contents throughout the abdomen and pelvis from a mid small bowel enterostomy closure. He spent 60 minutes dividing adhesions in order to confirm that there was no distal obstruction. He then resected the damaged section of the small bowel. He elected to leave the laparotomy incision open for the time being.

8.18. In his subsequent statement Dr Lawrence states that he does not agree with the assertion made by Dr Onuma that Mrs Hillman's bowel was intact when the operation was performed. He points out that when the damaged area was resected and sent for histopathological assessment, the report indicated that it was in keeping with a leaking enterostomy, small bowel resection. He states that a meticulous laparotomy was performed to exclude any other site of injury and also to exclude an obstruction. There was no other injury site apart from the failed enterostomy. He believes that the leak was coming from the previous enterostomy repair. Once the segment of bowel was resected there was no further evidence of leakage. In Dr Lawrence's opinion the failure of the bowel appeared to involve the sutured repair at the site of the stitches and that the previous enterostomy had broken down. There was no evidence of any new hole. Dr Lawrence states that during the surgery he was able to demonstrate to Dr Onuma the leakage from the site of the previously repaired enterostomy. On that description of events, if Dr Onuma was paying full attention during this procedure he could not have failed to notice this himself.

8.19. In his evidence in chief at the Inquest, Dr Onuma asserted that during this procedure he had not seen anything wrong with the enterostomy site involved in his repair. He said it looked intact and that was what he thought at the time. In the light of Dr Lawrence's opinion, however, he said that he had no reason to disagree with him and

[70] Exhibit C7a
[71] Exhibit C7b

he thinks that the likelihood is that his repair had failed, although it was not obvious to him during the course of the procedure. He said:

> 'I have no reason to argue with him about that point all.' [72]

Dr Onuma now acknowledges that following Dr Lawrence's resection of the very section of bowel that Dr Onuma had earlier repaired, the evidence had been overwhelming that what had taken place was that his own repair had broken down. To my mind Dr Onuma is compelled to acknowledge that he appreciated that fact at the time. One is therefore left to wonder why Dr Onuma did not readily and candidly make that same acknowledgement when he gave his original statement to police on 31 May 2010.

8.20. Following this surgery Dr Lawrence left the surgical incision open. As indicated earlier in these findings, Mrs Hillman aspirated stomach contents during the anaesthetic preparation for the subsequent closure of the incision. It is not necessary to recite the entire clinical course prior to Mrs Hillman's death on 18 July 2009.

9. Discussion concerning the death of Mrs Hillman

9.1. It will be recalled that Mrs Hillman underwent two surgical procedures at the hands of Dr Onuma. The first procedure involved laparoscopy. Dr Onuma spent 100 minutes dividing adhesions without incident. It was during the subsequent open abdominal prolapse surgery that Mrs Hillman's suffered the bowel perforation. There are two issues involved in respect of Mrs Hillman's bowel injury. They are firstly, the infliction of the injury in the first instance and, secondly, the fact that the repair of the perforation failed.

9.2. Professor Dwyer provided a written report in relation to the circumstances of Mrs Hillman's death[73]. He also gave oral evidence to the Court. In his report, Professor Dwyer discusses the different incidences and frequency of abdominal surgery compared with vaginal surgery as a means of rectifying vaginal prolapse. He suggests that there is a wide variation in the management of pelvic organ prolapse. He points out that trans-abdominal colposacropexy has been shown to have a higher rate of success than the vaginal approach, but that it has a higher morbidity associated with it. The complication of bowel injury is significantly more likely to occur with the trans-abdominal approach than the vaginal approach, although it is still relatively

[72] Transcript, page 148
[73] Exhibit C17a

uncommon. He speaks of the significance of severe pelvic adhesions secondary to previous surgery or infection as was the case with Mrs Hillman. Professor Dwyer does say in his report that pelvic adhesions are not necessarily a contraindication to proceeding with abdominal surgery. Bowel injury can occur even when there are no, or few, adhesions. It can also occur when vaginal prolapse surgery is performed. He believes, however, that the presence of dense adhesions significantly increases the risk of bowel injury during an abdominal surgical procedure. He states the following:

> 'Given Mrs Hillman's medical history, previous surgeries, and laparoscopic findings of dense adhesions, I think most gynaecologists faced with this type of prolapse, her medical history and presence of pelvic adhesions would have performed the prolapse repair through the vagina. However the finding of adhesions would not mean an attempt to remove these to gain access to the vagina to perform the abdominal colposacropexy was inappropriate.' [74]

He then goes on to express the view in his report that with the aid of hindsight, a vaginal procedure would have been more appropriate.

9.3. The other matter to which he draws attention in his report is the fact that while injury to the bowel in surgery can occur in 1 in 50 cases, the vast majority of bowel injuries are successfully repaired at the time of injury with no serious consequences.

9.4. In his oral evidence Professor Dwyer stated that he would have brought a surgical vaginal approach to Mrs Hillman's case. He said the following:

> 'Well I must say in this case the vaginal approach would have been my approach. Certainly the presence of those adhesions would determine from wanting to do this abdominally because I know it would increase the risk and increase the technical difficulty of doing it from above as opposed through the vagina. I would also say that I do procedures both abdominally and vaginally and often one has got to make a decision on what is the best approach in any one patient, and I think that decisions are often coloured by a lot of things, as we have heard; medical things such as adhesions but also it is covered to a large extent by your own experience and your own training and I think this is a major factor in many surgeons, a decision as to which way they would perform these operations.' [75]

As seen earlier, it is evident that Professor Dwyer regards the proceduralist's training and experience as very important factors involved in the selection of the appropriate method of surgery. Professor Dwyer in his oral evidence reiterated the view set out in his report that a vaginal approach would have been more appropriate. He suggested that most gynaecologists in Mrs Hillman's situation would have thought that the

[74] Exhibit C17a, page 3
[75] Transcript, page 237

vaginal approach was far more appropriate than going in abdominally with the presence of adhesions. Professor Dwyer also stated that there were no contraindications to performing the surgery vaginally and that would have definitely been his preferred choice of treating the prolapse. He did point out, however, that his decision would have been influenced by his experience and training and that he has a preference to perform these operations vaginally in the majority of cases. When asked as to whether Mrs Hillman's personal concerns about a bowel injury were relevant, Professor Dwyer suggested that this would constitute an even greater reason for performing the procedure vaginally as opposed to doing it abdominally. He suggested it would have been an important matter for the surgeon to have taken into account in deciding the method of surgery[76].

9.5. Dr Harvey suggested in his evidence that he would have preferred it if a drain had been placed in the abdomen when Mrs Hillman's laparotomy incision had been closed. He said that it crossed his mind at the time that they should have left a drain tube in. Dr Onuma did in fact record that he left a Blake drain in place. However, Dr Onuma suggested that this was only designed to allow the escape of gas and to detect any ongoing internal bleeding. He suggested in his evidence that it would not have demonstrated any bowel leakage. He also suggested at one point in his evidence that drains would not necessarily provide evidence of leakage from the bowel because of the consistency of faecal material emanating from the bowel. Dr Onuma suggested that a drain would not have provided any indication of faecal leakage[77]. He did not believe that it was necessary in Mrs Hillman's case for a drain to be situated notwithstanding the surgical bowel injury. Dr Onuma suggested that in any event faecal leakage would make itself evident through the incision as it ultimately did in Mrs Hillman's case.

9.6. In his oral evidence, Dr Onuma told me that he had personally caused about 4 or 5 bowel injuries since 1995. These present two cases were the only cases involving fatalities. He told me that the cause of these injuries was invariably related to the division of adhesions within the abdomen and pelvis. He also told me that he had performed about 20 or 30 bowel repair procedures that had all involved small injuries. He had never undertaken a bowel resection of the kind ultimately administered by Dr Lawrence. When asked as to how proceduralists would acquire the skill to perform

[76] Transcript, page 247
[77] Transcript, page 211

bowel repair when they are not trained colorectal surgeons, Dr Onuma suggested that there are certain principles of basic surgery that one would apply in all situations. He suggested that pelvic reconstructive surgeons like himself need to be able to repair small defects. In effect he suggested that bowel repair was a necessary and intrinsic required skill in the surgical repertoire of a surgical gynaecologist. There is no independent evidence that demonstrates the skill level that Dr Onuma possesses in this regard. In reality, Dr Onuma did not offer any explanation as to why the bowel repair in this particular case failed and there is no other source of evidence that would elucidate that subject.

10. General commentary

10.1. It surprised the Court that elective surgery of the complexity involved in the cases of Mrs Leonard and Mrs Hillman, carrying as it does a risk of harmful injury however small, can be carried out by medical practitioners whose qualifications and expertise to perform this surgery are in large part based upon self teaching, word of mouth and reputation but not upon objective assessment of the practitioner's skill as might be evidenced by formal training, examination and certification by a professional institution.

10.2. The Court has found an analysis of the circumstances of Mrs Leonard's and Mrs Hillman's deaths to be unusually difficult. This is due to the fact that there is very little objective material to establish Dr Onuma's competence and skill to safely perform surgery of this complexity other than, for the most part, through somewhat self serving statements of his own. I recognise that Dr Harvey attested to Dr Onuma's skill and expertise, but he did so in circumstances in which two of the operations in which Dr Harvey was involved culminated in calamity.

10.3. The Court recognises and takes into consideration the fact that bowel perforations may occur during complex abdominal procedures competently performed and that bowel repairs that are also competently performed do break down, but in the light of these events, occurring as they did only months apart and in circumstances where other practitioners may well have avoided or at least minimised the risks that these surgeries presented, the Court experiences a measure of disquiet about the manner in which these surgeries were carried out. This sense of unease is compounded by the fact that not only was Mrs Hillman dealt a significant injury during her surgery, the surgical attempt to rectify that injury failed. Both of these events are said to be

uncommon. That her surgery should be characterised by both of these unfortunate circumstances leads one to legitimately question the competence of the medical practitioner concerned.

10.4. I observe that Mrs Hillman's is the second Inquest that this Court has conducted within the last 18 months that has involved the infliction of a bowel injury during an abdominal gynaecological procedure and where the bowel repair performed by the gynaecologist failed resulting in the death of the patient[78].

10.5. I intend referring the matters that are the subject of this Inquest to the Australian Health Practitioner Regulation Agency for their further investigation or other action as they consider necessary or desirable.

11. Recommendations

11.1. Pursuant to Section 25(2) of the Coroners Act 2003 I am empowered to make recommendations that in the opinion of the Court might prevent, or reduce the likelihood of, a recurrence of an event similar to the event that was the subject of the Inquest.

11.2. I make the following recommendations:

1) That the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) consider promulgating a requirement that members and Fellows of the College who profess to have the competence to perform, and who do perform, abdominal vaginal prolapse surgery of the kind with which this Inquest is concerned, demonstrate to the College that they have the necessary training, experience and competence to perform such surgery safely and that they demonstrate this by way of examination. Such a demonstration should include convincing evidence that the practitioner is able competently to perform a proper risk assessment in respect of the nature of the surgery to be performed that should include consideration of risk posed by the presence, or potential presence, of adhesions within the abdomen and consideration of whether a drain should be placed following abdominal surgery, particularly where diathermy has been used to divide adhesions. The practitioner should also be required to demonstrate that he or she has the necessary skill to competently perform the repair of an injured bowel if necessary;

[78] Inquest into the death of Antonia D'Agostino - Inquest 13/2010 – finding delivered 30 December 2010

2) That RANZCOG consider promulgating a requirement that members and Fellows of the College who profess to have the competence to perform, and who do perform, abdominal vaginal prolapse surgery of the kind with which this Inquest is concerned, obtain a Certificate of Urogynaecology from RANZCOG;

3) That the Australian Health Practitioner Regulation Agency and the Australian Medical Association (SA) draw these findings and recommendations to the attention of the wider medical profession.

Key Words: Medical Treatment - Medical Practitioner; Peritonitis; Vaginal Prolapse

In witness whereof the said Coroner has hereunto set and subscribed his hand and Seal the 5th day of August, 2011.

Deputy State Coroner