

# Future leaders Communiqué

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Next Edition: April 2019

## GUEST EDITORIAL

**Dr Emma Bellenger**

Welcome to the January 2019 edition of the Future Leaders Communiqué. In this edition, we discuss the concept of 'medical risk.' An example of the many situations that arise in the healthcare system that create risk, and the challenges in managing that risk, is illustrated by the case summary presented here where a patient suffered an adverse reaction to intravenous contrast that sadly resulted in death.

Croskerry and colleagues (2009), defined medical risk as *"the probability of danger, loss or injury within the health system."* As junior doctors, we order hundreds of tests each week to investigate and monitor our patients' clinical conditions. Even the most routine of tests, such as a full blood count or a head scan, pose a degree of risk to the patient. Thus, as junior doctors, it is important that we understand these risks so that we can inform our patients and learn how to weigh up the risks versus the benefits of our decisions.

Regrettably, in this day and age, it is not just the probability of risk to the patient that influences our medical decisions, but also the risk of litigation. This has led to the practise of defensive medicine becoming embedded into the hospital culture, whereby investigations are ordered primarily with a view to safeguarding oneself from litigation. In Australia, 55% of doctors admit to practising defensive medicine, which is less than the United Kingdom (78%) and the United States (96%) (Bird, 2017). According to the Australian Medical Association, ordering unnecessary tests and using speculative treatments is estimated to cost the health care system in Australia more than \$15 billion dollars a year.

Reflecting on my own experiences as a junior doctor, I am definitely guilty of ordering tests 'just to be safe'. Particularly on night shifts when there is less access to support from senior doctors and in situations where I am lacking confidence in my own clinical judgement. I find myself more inclined to order a blood test or radiological scan so that I have an objective measure that may reassure me that I'm not missing something important.

In the case presented, the patient did not die from the condition that brought her to hospital, but rather from the management prescribed to investigate her symptoms. It highlights that even when there is a reasonable indication for a test, the critical question should be whether it is appropriate and necessary. Every test carries an associated risk and the potential to be 'unsafe' for the patient, but we are so used to thinking about the risk-benefits of treatment that we may overlook the fact that the investigations may also cause harm.

Our expert commentaries highlight the potential harm and costs associated with ordering unnecessary tests. They also provide tips for junior doctors about good medicolegal practice. Whether we like it or not, dealing with risk is part of our day-to-day job as doctors. It is important that we learn to approach risk systematically with a focus that is patient-centred. We need to think about the clinical indications for investigations to ensure we are ordering them with the best interests of the patient in mind, and not just as a mechanism to protect ourselves from a risk of legal consequences.

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## EDITORIAL

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Welcome to the first issue of 2019 and the fourth year of publishing the Future Leaders Communiqué. We are fortunate to have Emma Bellenger as our guest editor presenting on the topic of defensive medical practice and decision-making around clinical investigations.

We first met Emma as a medical student when completing her Honours project where she looked at the harm caused by physical restraints in residential aged care. She is now in her third year of medical training and also works in sports medicine with the Collingwood VFLW team. She is planning to undertake speciality training in Emergency Medicine.

The expert commentaries in this edition have been written by Dr Paul Buntine, an emergency physician at Eastern Health, and Senior Associate Beth Altson, who practices law at Kennedys Law in Melbourne. Their insightful commentaries offer both a clinical and a legal perspective of the case. Dr Buntine discusses the important considerations in ordering clinical investigations, and Ms Altson describes how to navigate the coronial system as a junior doctor.

The case presented in this edition highlights the complexity of clinical care as well as what we need to do as editors and writers to convey lessons to be learned in a format that engages readers. The case had a number of other important issues investigated during the inquest. Emma chose to focus on only one aspect to highlight a particular theme for this edition. This approach, while appearing to simplify the situation, is more conducive to learning as it allows our readers to have an in-depth analysis and focussed reflection.

The edition also highlights that there are always differences of opinion in clinical practice especially around the need, use and interpretation of diagnostic tests. The information Emma has drawn here is instructive around the principles of weighing up the 'pros and cons' of any test and how these should be done as safely as possible. As senior experienced staff, the most confronting issue is remembering that the odds of adverse reactions are calculated on the whole population but harm is experienced by the individual—your patient. Adjusting and coping with the dissonance of the reasonable decision in ordering a test with a remote risk of harm, and the psychological impact of a patient death, is an ongoing challenge for us all.

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## FURTHER READING

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### ACKNOWLEDGEMENTS

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All cases that are discussed in the Future Leaders Communiqué are public documents. A document becomes public once the coronial investigation process has been completed and the case is closed. We have made every attempt to ensure that individuals and organizations are de-identified. The views and conclusions are those of the authors and do not necessarily represent those of, the individual Coroner, the Coroners Court, Department of Health, Department of Forensic Medicine, Victorian Institute of Forensic Medicine or Monash University. If you would like to examine the case in greater detail, please contact us and we will provide the relevant website for the Coroners Court jurisdiction.

### FEEDBACK

The editorial team is keen to receive feedback about this communication especially in relation to changes in clinical practice. Please email your comments, questions and suggestions to: [flc@vifmcommuniques.org](mailto:flc@vifmcommuniques.org)

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## CLINICAL SUMMARY

**M**rs W was a 68 year old widow who lived alone in a small country town. Mrs W was a relatively well woman with a medical history of hypertension and asthma.

Mrs W first presented to a regional emergency department at 11pm on a Friday evening with right upper quadrant pain and vomiting. Mrs W informed the triage nurse that she had also required nebulised ventolin three times earlier that day.

On examination at triage, Mrs W was slightly tachypnoeic (respiratory rate of 24 breaths per minute) and her oxygen saturation levels were slightly low (93% on room air) improving to 99% when the nurse administered oxygen via a facemask.

At 11.30pm, Mrs W was examined by a Senior Medical Officer. Although auscultation of her chest revealed harsh vesicular breathing and coarse crackles, asthma-relieving medication was not administered.

By 1.00am, following administration of analgesic medications, Mrs W's pain had settled and despite her oxygen saturation levels dropping to 91% when the facemask was removed, she was discharged home. She was given a plan to follow-up with her general practitioner to further investigate possible diagnoses of gastritis or biliary colic.

*The examining doctor's provisional differential diagnoses were cholelithiasis (gall stones) or cholecystitis (inflammation of the gall bladder)*

Mrs W returned to the same emergency department several hours later, arriving at 5.00am on the Saturday morning with worsening right sided pain.

A different emergency doctor examined her and observed her vital signs to be: blood pressure 133/97mmHg, heart rate of 112 beats per minute, respiration rate of 26 breaths per minute, and oxygen saturations of 93% on room air. Auscultation of her chest was clear and abdominal palpation revealed it to be soft with tenderness in the right upper quadrant.

The examining doctor's provisional differential diagnoses were cholelithiasis (gall stones) or cholecystitis (inflammation of the gall bladder).

The plan was for review by the surgical team; admission to the surgical ward; and imaging of the abdomen. Mrs W was prescribed pain relief and anti-emetic medication, as well as her usual asthma medications, all on a PRN (as needed) basis.

*Prior to the CT scan, Dr G discussed with Mrs W the risk of adverse reactions to contrast and asked whether she had any previous allergies to iodine, to which she indicated she had not.*

Later that morning, Mrs W was reviewed by Dr G, the Orthopaedic Principal House Officer, who covered the general surgical ward on weekends. His examination findings were consistent with that of the emergency doctors earlier that morning, but he also reported palpating a 'vague mass' in her right upper quadrant.

He reviewed the blood tests noting that there were no abnormalities. Dr G's differential diagnoses were an obstruction in the bile duct or a pancreatic tumour. He requested an abdominal ultrasound and x-ray. Mrs W was then admitted and transferred to the surgical ward.

Mrs W's ultrasound was reviewed by Dr G at approximately 2pm, showing a dilated common bile duct and cholelithiasis (gall stones), but there was inadequate visualisation to rule out a stone blocking the common bile duct or a pancreatic tumour. A CT scan of the abdomen with iodine-based contrast was ordered. This was to gain a higher level of certainty of the diagnosis in the event Mrs W needed to be transferred to a tertiary centre for surgical intervention.

Prior to the CT scan, Dr G discussed with Mrs W the risk of adverse reactions to contrast and asked whether she had any previous allergies to iodine, to which she indicated she had not. He also auscultated her chest which was clear.

Mrs W was later transported to the radiology department to undergo the CT scan. Before administering the oral contrast, a nurse completed a CT scan preparation checklist that alerted her to Mrs W's acute asthma being a red flag to proceeding with iodine-based contrast. The nurse called the radiographer to inform him that Mrs W had asthma for which she had received treatment that day. According to the medication chart, she had been administered 5mg of nebulised Ventolin and 250mcg of nebulised Atrovent at 10am that morning. She had also received more of the same at 2.30pm.

At approximately 4pm Dr T, a Senior House Officer in the emergency department was called to supervise the administration of intravenous contrast to Mrs W.



As this was the first time Dr T had met Mrs W, the radiographer informed him that she had been checked for allergies, her vital signs were 'ok' and she was ready for the contrast injection. Dr T examined Mrs W by auscultating her chest and concluded that the contrast could be given.

Within one minute of injecting the intravenous contrast and commencing the CT scan, Mrs W started moaning, became short of breath and then collapsed back onto the bed, unconscious. The emergency button was activated at 4.04pm and numerous staff responded to the MET (Medical Emergency Team) call within minutes.

Dr T attempted to intubate Mrs W and staff that subsequently attended the scene commenced CPR (cardiopulmonary resuscitation). Another emergency doctor arrived at approximately 4.10pm, who noted that Mrs W was not breathing, had no pulse and was in asystole. Adrenaline 1mg was ordered by someone in the team and administered intravenously at 4.10pm.

When the anaesthetist arrived shortly after the first dose of adrenaline, Mrs W was cyanosed with negligible oxygen saturation levels and the ECG monitor showed 'almost asystole'. The anaesthetist suspected the endotracheal tube might have been misplaced and proceeded to replace it. Following the replacement tube Mrs W's blood pressure was recorded as 109/64, but her heart rate fluctuated widely from 188 to 27 beats per minute and her oxygen saturation levels remained undetectable. One litre of normal saline was given at 4.20pm. The tube became dislodged and was replaced a third time by the anaesthetist.

When Mrs W's pulse dropped consistently to 27 beats per minute, 20 minutes after the commencement of resuscitation, a second 1mg dose of adrenaline was administered. Two more doses of adrenaline followed without effect and Mrs W was declared deceased at 4.39pm, 35 minutes after her initial collapse in the CT scanner.

## **PATHOLOGY**

An autopsy was completed by a forensic pathologist. The cause of death was an anaphylactoid bronchospasm reaction to intravenous radiographic contrast medium leading to cardio-respiratory arrest.

## **INVESTIGATION**

Mrs W's death was reported to the coroner because her death was unexpected in the clinical context.

The coronial investigation focussed on the appropriateness of decisions leading up to the injection of iodine-based contrast, as well as the timing and adequacy of actions during the resuscitation.

Lawyers representing one of Mrs W's daughters applied for an inquest two years after her death. Following an investigation by local police and receipt of statements from various practitioners, the inquest was held three years later. In all, 17 witnesses and four medical experts in their fields were called upon. Medical records were also reviewed.

All of the experts agreed that a CT scan of the abdomen with intravenous contrast was the optimal way to investigate the possibility of gallstones obstructing the bile duct in a patient without a contraindication to contrast.

Acute asthma is a relative contraindication to iodine-based contrast, however the extent of the risk remains contentious. One expert was critical of the decision to administer contrast on the basis that the medical records suggested Mrs W's asthma was not stable, requiring nebulisers on three occasions the day prior to admission, plus further nebulisers and oxygen in hospital; and she had low oxygen saturations. Mrs W was however, stable enough to be transferred from the emergency department to the ward. The radiographer informed both Dr G (the treating doctor) and Dr T (the doctor supervising the CT scan) that Mrs W had a history of asthma, however it is unclear whether he told them that Mrs W had been symptomatic and requiring treatment earlier that day. Both doctors had themselves examined Mrs W, but had not found any signs of symptomatic asthma, and thus proceeded with the use of contrast for the CT scan.

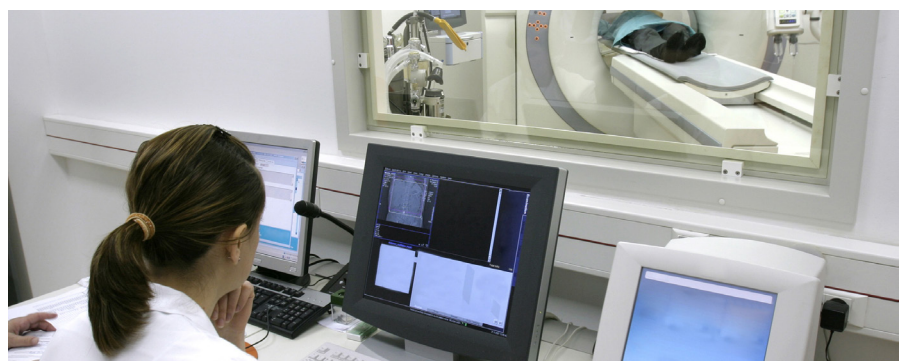
The other two experts reviewing this case considered the risk of an adverse reaction to contrast to be low, and indicated they would not hesitate to give contrast to a patient with a similar history of asthma unless the history included admission to an intensive care unit or the use of intravenous steroids to control asthma symptoms.

These experts stated that it is not uncommon for patients with similar, or even more severe symptoms of asthma than Mrs W to undergo scans with intravenous contrast without issue.

Regarding the resuscitation attempts, the experts identified three potential deficiencies in care: (1) the need to intubate Mrs W on three separate occasions; (2) the delays in the administration of adrenaline; and (3) the relatively small volume of intravenous fluids administered.

Dr T believed he had correctly intubated Mrs W based on his visualisation of her epiglottis and the resistance encountered with ventilation. The anaesthetist believed the tube was misplaced based on his clinical assessment. The uncertainty could have been avoided had there been expired CO2 detectors, but given their absence, no criticism was made of the decision to re-intubate Mrs W based on the clinical assessment that the tube was not in the correct position.

The experts believed that the doctors involved in the MET response did not appreciate the significance of prompt administration of adrenaline in a setting of a severe anaphylactoid reaction. The experts agreed that if anything was going to save Mrs W's life it was the administration of adrenaline as a matter of priority, ideally prior to or simultaneously with the first intubation attempt, and again shortly afterwards, in the absence of improvement in the blood pressure. Furthermore, Mrs W received only one litre of intravenous fluids during the resuscitation attempt. The experts agreed that more fluids should have been given to increase her blood pressure. They concluded however, that while optimal treatment may have improved her chances, the prospects of Mrs W surviving a severe cardiorespiratory arrest were not favourable.



## CORONER'S FINDINGS

The coroner found that it was not unreasonable to administer intravenous contrast to Mrs W because the risk of acute asthma causing a reaction is in the order of 1 in 170,000, with the risk of death even lower. Although Mrs W received medication for acute asthma symptoms on two occasions on the day of her death, and this was clearly documented in the medication chart, it seems Dr G was unaware of this. This information should have come to Dr G's attention one way or another, but the coroner conceded that this was unlikely to have changed the way Mrs W was treated.

The coroner acknowledged that the doctors and nurses involved in the MET call were relatively inexperienced and placed in a very challenging situation. The coroner stated that the resuscitation attempts were hampered by a lack of coordination and poor decision-making, most notably the delay in the administration of adrenaline and the lack of a clearly defined leader overseeing and directing the resuscitation efforts.

Despite these deficiencies in care, the coroner concluded that, even with better treatment, the chance of Mrs W recovering from the severe cardio-respiratory collapse secondary to the administration of intravenous contrast was slight.

*Patients with acute asthma have a six to ten fold greater risk of developing severe contrast reactions.*

The coroner made two recommendations to the health service in response to this case. Firstly, that the stocking of emergency trolleys be standardised and include CO2 monitors in order to avoid the uncertainty in tube placement in an endotracheal intubation. Secondly, that changes should be made to the staffing protocol when intravenous contrast is given to ensure a senior doctor is present at the time of administration.

## AUTHOR'S COMMENTS

It is interesting that the coroner and the experts agreed that it was reasonable (and common practice) for a CT scan with contrast to go ahead in an acutely symptomatic asthmatic, despite this being a known yellow flag to doing so.

Patients with acute asthma have a six to ten fold greater risk of developing severe contrast reactions. This risk equates to approximately 1 in 170,000 – a seemingly low probability. But at what point would we deem the risk too high? How should we, as junior doctors manage such rare but serious risks?

The Australian case of Rogers v. Whitaker gives us some insight into these questions surrounding risk. In this case an ophthalmologist failed to mention the possibility of sympathetic ophthalmia, with a risk of 1 in 14,000, as a complication of eye surgery despite the patient asking about possible harm to the non-operated 'good' eye. The complication occurred and the patient became blind. The patient was awarded damages in excess of \$800,000 dollars.

The Rogers v. Whitaker case highlights that it is not necessarily the numerical value of risk that is important, but rather the patient's perspective of that risk. Thus, it is the duty of the treating doctor to warn patients about risks, particularly those that are of significant importance to the patient, so that the patient can make an informed decision about proceeding. This is a more patient-centred approach to deciding what level of risk will be tolerated.

Even with awareness of the potential risks of a CT scan, we cannot predict all contrast reactions; especially the first time it occurs. A patient who is seen to rapidly deteriorate in the scanner post administration of contrast has an anaphylactic reaction until proven otherwise. This reiterates the importance of junior doctors familiarising themselves with the anaphylaxis management algorithm to ensure swift resuscitation efforts.

As a junior doctor, I find decisions relating to risk quite unnerving, due to the fear of bad patient outcomes and litigation. However, sometimes, despite our best efforts and intentions, adverse events will occur. These situations reinforce that as junior doctors we need to manage risk proactively. We can do this by seeking advice from our senior colleagues and focusing on patient wishes by informing them of the relevant risks and benefits, and supporting them to make a judgement on what degree of risk is acceptable for them.

## KEYWORDS

Risk, anaphylactoid reaction, MET call, intravenous contrast, asthma

## COMMENTS FROM OUR PEERS

*"Asking 'how will this change my management' is a powerful tool for us to use."*

*"As a junior doctor it is important to not have a heavy reliance on investigations. Rather a sound history and clinical examination and adherence to evidence-based guidelines may mitigate the need for unnecessary, sometimes harmful investigations."*

*"Engaging patients in a discussion about the investigations being considered in their work-up should be a priority at every interaction and can be done by all members of the treating team."*

*"Documentation! Rationalising the need for tests with clear and detailed documentation is vital. Not only is it a good habit, it may mitigate a claim or coronial investigation."*

*"Resuscitation situations are stressful but having good teamwork and a systematic approach gives the patient the best chance of a successful outcome. This case makes me reflect on the importance of yearly ALS refreshers to make sure we are able to respond to these situations."*

# SOMETIMES LESS IS BETTER

Dr Paul Buntine

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Modern clinicians in Australia are highly privileged to have excellent access to diagnostic testing. An emphasis on rapid decision-making and patient flow has resulted in systems where relatively junior doctors can readily order pathology and radiological investigations, often with minimal supervision. Alongside this, patient expectations have risen: rapid diagnosis and exclusion of all possible differentials is taken for granted, with any delays to this process often interpreted as a breach in care. Yet this obsession with diagnostic testing comes at a cost. The financial burden, time taken, anxiety from difficult to interpret or incidental findings and the risk of harm from the actual test all need careful consideration.

In 1980, Pauker and Kassirer published a paper entitled “*The threshold approach to clinical decision making*” (Pauker & Kassirer, 1980). In this paper, they describe the concept of using pre-calculated thresholds to decide whether medical testing should be used. They argue that if the probability of a condition is really low, the risk of testing will eventually outweigh the risk of doing nothing, and if the probability of a condition is really high, the risk of testing will outweigh the risk of just treating. Whilst this concept may take a second to grasp, it acknowledges the fact that medical testing comes with its own set of risks. Diagnostic testing is often far less black and white than we acknowledge, and false positive and negative results occur with surprising frequency. This can result in enormous health costs, patient anxiety and harm (Park, 2016). ‘Cascade syndrome’ can also result, in which the discovery of one incidental finding leads to the discovery of more, sometimes resulting in investigations and procedures completely unrelated to the problem that the patient presented with in the first place, and rarely resulting in a useful clinical outcome.

The tragic case presented in this edition of the Future Leaders Communiqué highlights a number of issues, but in this commentary, I would like to focus on the initial decision to perform a CT scan.

The case notes suggest that a CT scan was performed to exclude the possibility of a gallstone blocking the common bile duct or there being a lesion or tumour in the pancreas. A plain x-ray and ultrasound had already been performed (I’ll ignore the fact that plain abdominal x-rays are of very low utility in the investigation of abdominal pain), and the ultrasound showed the presence of both gallstones and common bile duct dilatation. There is no mention of any related blood test results. Expert opinion at the time of the inquest concluded that this was a reasonable course of action; however, using the concept proposed in the preceding paragraph I would question this.

Pancreatic cancer seems an exceedingly unlikely cause of the patient’s symptoms, the patient presented with acute pain and vomiting, there was no comment regarding relevant constitutional symptoms and the patient wasn’t jaundiced. The vague suggestion of a palpable mass seems unlikely: it wasn’t seen on ultrasound and repeat examination by a more senior doctor could have helped to clarify this if there was particular concern. Likewise, a stone blocking the bile duct seems unlikely in the absence of deranged liver function tests, although the case doesn’t explicitly state what these results showed. Whilst neither pancreatic cancer or a pancreatic stone is impossible, their unlikelihood suggests no need for urgent investigation with a CT scan.

*One of the easiest ways to mitigate the risks inherent in ordering medical investigations is to decrease our reliance on them.*

Indeed, one could argue that the patient’s need for surgical admission was already determined by her ongoing pain, repeat presentation to ED and duct dilatation, and even if deemed necessary, further investigation could be deferred to a less urgent inpatient setting at a time when her respiratory symptoms were more settled. When all of these factors are taken into account the potential positive benefit for obtaining a CT scan in this particular setting becomes particularly questionable.

One of the easiest ways to mitigate the risks inherent in ordering medical investigations is to decrease our reliance on them. Taking a high-quality history from our patients and examining them properly have consistently been shown to be far more useful in obtaining an accurate diagnosis than relying on medical tests. A number of studies over the past 40 years have stressed the importance of this (Hampton et al., 1975; Peterson et al., 1992; Roshan & Rao, 2000). Obtaining a good history is by far the best tool that we have, and is what differentiates a good clinician from a digital algorithm. But this alone is not enough. We must be willing to accept that we will sometimes get it wrong, and to engage with our patients such that they are aware of this, and to have adequate mechanisms in place for their management to be altered as their clinical picture evolves. Ultimately though, we must believe in our ability to formulate an accurate diagnostic picture from the information we obtain and to have conviction in our subsequent management decisions. This is the art of medicine.

## FURTHER READING

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# NAVIGATING THE CORONIAL JURISDICTION

Ms Beth Alston

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**W**hile most doctors would like to focus on caring for patients and avoid the legal system entirely, it is a reality that many become involved in litigation or coronial inquests in one way or another. This may be due to a patient suing, a subpoena to give evidence in another legal proceeding (such as WorkCover, TAC or family court proceedings), or giving a statement and/or appearing to give evidence at the request of a coroner in relation to a patient who has died.

In 2010, a coronial inquest was held into the death of Mrs W. Mrs W died after the commencement of a computed tomography scan with oral and intravenous contrast. She was 68 years old. An autopsy concluded that the cause of death was *“anaphylactoid bronchospasm in a bronchial asthma diathesis subject attributed to an adverse reaction to radiographic contrast medium investigation procedure”*.

## **What deaths are reportable to the coroner?**

Mrs W's death would have been reported to the coroner for being a 'health care related death' pursuant to the Coroners Act 2003 (Qld), likely by the medical practitioners involved in her care. In Victoria, this death would have also been reported to the coroner as it was *“unexpected”* and/or *“occurred during or following a medical procedure, where the death is or may be causally related to the medical procedure and a medical practitioner would not, immediately before the procedure was undertaken have reasonably expected the death.”*

What constitutes a 'reportable' or 'reviewable' death varies slightly in each State and Territory. It is important for medical practitioners to be aware of deaths that need to be reported to the coroner in the jurisdiction in which they work. In Victoria, if a medical practitioner fails to report a reportable death to the coroner, a fine can be imposed up to \$6,447.60 and a notification may be made to AHPRA for unprofessional conduct.

## **What is a doctor's role in coronial investigations?**

An autopsy was performed in relation to Mrs W's death and the results were provided to her family. After conducting their own investigations, Mrs W's family requested that the coroner hold an inquest into the death.

In Victoria, the coroner regularly requests that medical practitioners provide statements in relation to reportable or reviewable deaths. This can occur even when the medical treatment is not a subject of the investigation. While the family's wishes are taken into account, the coroner will look at all the information in the investigation and the circumstances of the death to decide whether an inquest will be held. Most investigations do not lead to an inquest.

## **What would a doctor have to do at an inquest?**

At the inquest into Mrs W's death, the family was represented by their own lawyers. It is not uncommon in coronial inquests for the deceased's family to obtain legal representation. This may be so the family can ensure the correct questions are asked to seek the truth about the circumstances surrounding the death, or the family may be interested in pursuing civil proceedings for compensation. The hospital, two of the medical practitioners, Queensland Health, and a nurse also obtained legal representation. Counsel was appointed to assist the coroner.

Since the coronial jurisdiction is inquisitorial rather than adversarial, the court is not bound by the usual rules of evidence. This means that the coroner can direct that witnesses be called to give evidence, direct that information or documents be obtained and can ask questions of witnesses.

## **What is the end result?**

The findings into Mrs W's death outline the identity of the deceased, the place, date, and cause of death and how the death occurred.

The findings consider the evidence given, both from the witnesses and the experts, and assess areas where conflicting evidence was given. In this matter, the coroner was not critical of the decision to perform the contrast scan, but she was critical of the treatment provided when the scan was performed and during the MET call.

The coronial jurisdiction does not seek to lay blame, but coroners will consider whether any failings or errors led to the death that could be prevented in the future. In rare cases where significant shortfalls in treatment are found, coroners can notify the Medical Board or the Director of Public Prosecutions. It is possible for a family member or close friend to issue civil proceedings for medical negligence at any time, although many wait until the findings of the coroner are known.

## **What are some tips and traps for navigating the coronial jurisdiction?**

Medical practitioners should always focus on providing excellent care to patients and not change the way they practise medicine for fear of civil or coronial proceedings. Nevertheless, there can be significant delays between providing treatment and being asked to give statements or evidence, thus it is crucial to always keep contemporaneous and detailed clinical records. This should not be limited to positive symptoms, as sometimes an inquest can be avoided if the absence of symptoms were also recorded. If concerned about a possible claim or a likely coronial investigation, or if asked by the coroner or police to provide a statement, medical practitioners should always seek advice from their medical indemnity insurer.

