

State Coroner's Guidelines 2013

Chapter 5

Preliminary investigations, autopsies and retained tissue

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5.1 Introduction

Autopsies are a vitally important aspect of coronial investigations. They can assist to identify the deceased, contribute information about the circumstances of the death and establish the cause of death. They are however, invasive, costly and potentially harmful. Accordingly, autopsies should be limited to the extent necessary to enable the coroner to make the findings required by s. 45 of the Coroners Act. In the case of deaths that are only reportable because a death certificate has not been issued the coroner should only order an autopsy if the coroner reasonably believes that no death certificate will be issued. The views of a family member should always be sought and considered before ordering an internal autopsy.

This Chapter also looks at steps that should be taken to ascertain whether a death is in fact reportable before ordering an autopsy including, if necessary, having a pathologist review the case with a view to issuing a cause of death certificate.

5.2 Preliminary investigations, issue of cause of death certificates

Legislation

Coroners Act

Sections 11, 11AA, 12, 13, 26, Schedule 2 Dictionary - investigation

Births, Deaths and Marriages Registration Act

Section 30

In principle

Preliminary examinations for deaths reported by initial police report

The Coroners Act authorises a range of largely non-invasive preliminary procedures to be undertaken promptly after police report the death to the coroner in writing under s 7(4) of the Act in order to enhance the efficiency and quality of the coronial process.

The preliminary examination process may include visual examination and post-mortem imaging of the body, taking and testing blood and other samples and collating information about the person's medical history. These procedures will generally be performed by forensic pathologists or other clinical coronial personnel under the supervision of a forensic pathologist. Information obtained from the preliminary examination may inform timely decision making by coroners about the extent to which further coronial investigation including autopsy is necessary, and/or improve the quality of testing through prompt sampling or testing.

In principle

Issue of cause of death certificates for natural causes deaths

Medical practitioners have a legal obligation to issue a cause of death certificate if they can 'form an opinion as to the probable cause of death'. When considering that issue the doctor may have regard to information gleaned as a result of examining the deceased person's body and/or information about the deceased person's medical history and the circumstances of their death.

Forensic pathologists, as a result of their having undertaken numerous autopsies may be better placed than other medical practitioners to form an opinion as to a probable cause of death after examining the deceased person's body and/or reviewing their medical records and considering the circumstances of the death as set out in the Form 1.

By having regard to this information, pathologists may be in a position to issue a cause of death certificate in relation to deaths that appear to be the result of natural causes and have only been reported because no other doctor can identify probable cause of death.

Experience shows in some months as many as 40% of reported deaths may ultimately receive a cause of death certificate and therefore not require any coronial investigation.

It is important that natural causes deaths are not unnecessarily made the subject of a coronial investigation merely because the deceased person's usual treating doctor is not available or does not fully understand their obligations in relation to the issuing of a cause of death certificate. The procedures described below are designed to avoid this happening by authorising pathologists to conduct a preliminary examination to determine whether they are able to issue a death certificate. The procedures also contemplate that in some instances it may be appropriate for the coroner to accept a death certificate even after an autopsy order has been issued.

In practice

Guidelines for examiners - preliminary examinations

For coronial purposes, preliminary examination procedures can commence as soon as police have submitted a written report of the death to the coroner. Section 11AA of the Coroners Act does not authorise the preliminary examination of bodies before police have reported the death in writing to a coroner, which will generally be by way of a Form 1 registered with the Coroners Court.

Specifically, preliminary examinations may not be performed while police are endeavouring to obtain cause of death certificates for apparent natural causes deaths under the pre-registration triaging processes set out in the QPS Operational Procedures Manual. This is to ensure coronial resources, particularly pathologists, coronial nurses, mortuary assistants are applied only to deaths that have been formally reported to the coroner.

The preliminary examination process is designed to optimise post-mortem testing through timely taking of samples as post-mortem changes during the interval between death and sample collection can significantly affect the interpretation of test results. For this reason, coroners and coronial registrars need to be aware that sampling and/or testing can be particularly time-sensitive and may need to be undertaken in advance of both the Form 1 and the autopsy, ideally within 6-12 hours of death. Examples include:

- blood for tryptase in anaphylaxis
- blood for drugs affected by post-mortem redistribution
- samples for sensitive bacteria such as Meningococcus
- vitreous for glucose; and
- CT scans for arterial gas in maternal and diving deaths before obscured by decomposition.

Accordingly, in an urgent and exceptional case, a coroner may inform the pathologist that these procedures can be carried out after the death is reported to the coroner in writing (e.g. by email) but before the Form 1 is lodged; for example, a suspected homicide occurring over a weekend. In most cases of this nature the procedures would form part of an order for an internal autopsy examination.

The following doctors are approved as “examiners” under section 11AA(4) of the Coroners Act to perform preliminary examinations:

- Forensic pathologists employed by Health Support Queensland and credentialed to perform coronial autopsies
- Medical registrars working under the supervision of forensic pathologists
- Pathologists contracted by the Department of Justice & Attorney-General and credentialed to perform coronial autopsies

The following clinical personnel are considered to be “suitably qualified” under section 11AA(4) to perform preliminary examinations under the general supervision of an examiner:

- Registered Nurses employed by Health Support Queensland as a coronial nurse
- Mortuary assistants who are trained and qualified to a sufficient standard, as advised by the Managing Scientist in charge of Coronial Services
- Doctors employed and credentialed by Health Support Queensland as a forensic physician, forensic medical officer, or government medical officer
- Radiographers and Licensed Operators in the field of medical imaging
- Forensic odontologists credentialed by Health Support Queensland
- Police officers trained and qualified in the taking of fingerprints

Invasive preliminary examinations for deaths in custody, suspicious deaths and child deaths may only be undertaken by a suitably qualified person with the express approval and supervision of an examiner.

While section 11AA(3) of the Coroners Act sets out the range of procedures authorised for a preliminary examination, not all procedures will be necessary in every case. For example, whereas the taking of blood samples will form a routine part of a preliminary examination, vitreous humour will generally only be taken when an adequate femoral blood sample cannot be obtained for toxicology testing or when it is needed for specific biochemical testing. In short, the scope of the preliminary examination will be considered by the examiner on a case by case basis. Bodies will only be fingerprinted when required for formal identification purposes. In a few instances, sampling, imaging or other procedures may be undertaken as part of preliminary examinations solely to reduce the post-mortem deterioration that would occur if delayed until an autopsy; the results of these may only become available some days later.

Section 11AA(5) requires examiners to consider whether the family may be distressed by the preliminary examination, especially invasive sampling. Examiners must also take into account known cultural traditions and spiritual beliefs. The Form 1 may assist because, if the family has not raised any concerns about an internal autopsy, it may be reasonable to assume that preliminary examinations would likewise not raise concerns. On the other hand, if the family has raised concerns about an autopsy, examiners should consider carefully whether to proceed with invasive sampling and seek assistance from coronial counsellors or coronial nurses, who should support families to understand the preliminary examinations proposed. The examiner must consider the feedback provided and whenever practicable take this into account before preliminary examinations are undertaken.

Section 11AA(6) requires examiners to prepare a written preliminary examination report as soon as practicable and give this to a coroner. Such reports are confidential and must only be provided to coroners or the Coroners Court. In the report an examiner may adopt written material provided by suitably qualified persons or by those performing tests or examinations, e.g. nurses, toxicologists, radiologists or odontologists.

In cases where it is initially uncertain whether a cause of death certificate can be issued or what type of autopsy should be performed, it is intended that coroners will have regard to the preliminary examination report before issuing an autopsy order. A preliminary examination report must be contained in an email or other writing with a heading to that effect and contain a summary of the following:

- (i) any additional information obtained or considered (including the medical and circumstantial history);
- (ii) any imaging, sampling, testing or other procedures undertaken;
- (iii) the results or findings of imaging, sampling, testing or other procedures unless these are not available and will be included in the autopsy report; and
- (iv) the likely medical cause of death (if available) (or a recommendation as to the type of autopsy to perform).

In some cases it will be clear from the outset that a preliminary examination will not assist the coroner in deciding whether the death is reportable or

deciding the type of autopsy order, e.g. homicides requiring CT scans and access to medical records. In those cases, a separate preliminary examination report is not needed and the results of such examinations should be included in the autopsy report.

Guidelines for examiners – preliminary examination of apparent natural causes deaths reported to coroner or coronial registrar

The preliminary examination process is a crucial part of the initial stages of the investigation of an apparent natural causes death reported to the coroner only because a cause of death certificate has not been issued – section 8(3)(e). In many cases, the preliminary examination will yield sufficient information to support the issue of a cause of death certificate, whether by the person's treating doctor or by the pathologist.

Because the family will be aware the death is being treated as a coroner's case, it is important to involve them before any final decisions are made to exclude the death from the coronial processes. Therefore, if a probable cause of death can be established, the pathologist should request a coronial nurse or a coronial counsellor to contact the family to ascertain if they have concerns about the circumstances of the death or for some other reason want an internal autopsy to be undertaken.

The results of this consideration and consultation should be conveyed to the coroner or coronial registrar to whom the death has been reported. If the coroner or coronial registrar considers no further investigation is needed they should accept a cause of death certificate and the family be advised to arrange for their funeral director to collect the body.

If the pathologist considers further scene, eyewitness accounts or medical records might assist in reaching a conclusion as to the probable cause of death, the pathologist should email or telephone the Coroners Court registry with a request that this information be sought. Consultation with the family and liaison with the coroner or coronial registrar will be put on hold until this extra material is received and considered.

If the family raises concerns or if the pathologist is unable to determine a probable cause of death within two business days the pathologist should seek further direction from the coroner or coronial registrar.

Guidelines for coroners and coronial registrars – preliminary examination of apparent natural causes deaths

In all cases of deaths that appear to be of natural causes and only reported to a coroner or coronial registrar because the deceased person's usual treating doctor has not issued a cause of death certificate, before proceeding to issue any autopsy order, the coroner or coronial registrar should ensure all options for identifying the probable cause of death and issuing a death certificate are explored.

Where the body has not yet been transported to the mortuary where the autopsy would be performed, the coroner or coronial registrar should consult with an appropriate pathologist (either the local pathologist or if unavailable,

the duty pathologist at Forensic and Scientific Services or the Chief Forensic Pathologist) to ascertain whether they can issue or facilitate the issue of a cause of death certificate. The body should not be transported until these enquiries have been made.

Where the body has been transported to the mortuary where the autopsy would be performed, a preliminary examination will be performed under section 11AA.

If the pathologist advises that:

- the probable cause of death can be identified
- a counsellor or coronial nurse has confirmed the family of the deceased person has not raised any concerns warranting investigation by the coroner,

the coroner or coronial registrar should accept a cause of death certificate unless there is some other aspect of the matter that warrants further investigation by the coroner and enlivens the coroner's jurisdiction.

If a cause of death certificate is issued, a copy must be provided to the Coroners Court registry and the coronial file should be closed noting the death was determined to be not reportable. A copy of the cause of death certificate should be placed on the file.

Guidelines for coroners and coronial registrars – where a doctor issues a cause of death certificate after an autopsy order is made

Occasionally a coroner or coronial registrar may issue an autopsy order for a deceased person but in the meantime the person's treating doctor has issued a death certificate or the pathologist indicates they are prepared to issue a death certificate.

In these cases, it is permissible for the coroner or coronial registrar to accept the death certificate. However, the family must be involved before any final decision is made. The coroner or coronial registrar should request a coronial counsellor or coronial nurse to contact the family to ascertain if they have concerns about the circumstances of the death. The results of this consideration and consultation should be conveyed to the coroner or coronial registrar to make a decision about whether the autopsy should proceed or whether a death certificate should be accepted.

When the coroner or coronial registrar accepts the certificate, it must be endorsed appropriately. On the bottom left hand side of the certificate there is a question 'Is this death reportable under the Coroners Act?' Tick the middle box, 'No. Coroner has advised death not reportable.' Once the death certificate is accepted the coroner or coronial registrar ceases to have control of the body under s. 26(2)(b) and the body can be released to the family.

5.3 When should an autopsy be ordered?

Legislation

Coroners Act
Section 19

In principle

An autopsy should only be ordered if the coroner considers the death is probably reportable, except when the death of a neonate is involved, in which case an autopsy may be ordered to determine if the baby was stillborn.

Whenever a coroner proposes to investigate a reportable death, some level of autopsy must be ordered if the death is reported before the body is buried or cremated.

In practice

Autopsies may be divided into two classes based on their purpose - a hospital autopsy or a coronial autopsy.

A hospital or clinical autopsy is undertaken for educational or research purposes; to allow clinicians to better understand the issues relating to the pathology or epidemiology of diseases and their diagnosis. It is not connected and has no relevance to the coronial system. These examinations can only take place with the consent of the family of the deceased. Refusal to grant such consent should not result in a coroner being asked to authorise an autopsy if the death would not otherwise be investigated by the coroner.

A coronial autopsy can:

- confirm or determine the identity of the deceased
- identify injuries and diseases that may have contributed to the death
- determine the effect of medical treatment on the deceased
- assist in the evaluation of the manner of the death
- re-assure carers that their action or inaction did not contribute to the death
- maintain public confidence in relation to deaths that occur in custody
- establish the cause of death.¹

Therefore, whenever any of these questions are in issue, will need to be proven in future court proceedings or are relevant to recommendations aimed at reducing the likelihood of future similar deaths, a forensic autopsy should be ordered pursuant to s. 19 if that is what is required to provide sufficient information to address these matters and there are no countervailing considerations such as concerns by relatives or risks of infection to mortuary workers.

In some cases, only when a coroner has been informed of the pathologist's conclusions as to the cause of death can they decide the course an investigation should take. However, in other cases the results of the scene examination and witness accounts will be relevant to the decision about the extent of the autopsy to be ordered. If that information enables all suspicions or concerns as to cause of death to be resolved there may not be sufficient reason to order an internal autopsy.

¹ Ranson D, *The autopsy* in *The inquest handbook*, Selby H. (ed), Federation Press, 1998, p107 and the Royal College of Pathologists of Australia, *Position Statement – Autopsy and the use of tissue removed at autopsy*, in *The medical journal of Australia*, Vol 160 4 April 1994

In other categories of cases, information gathered by investigators can assist the pathologist determine what tests should be made to clarify uncertain results.

It is essential therefore that all available information be shared with the coroner, the pathologist and the investigators as soon as possible so that the three strands of the inquiry – the pathological, the scene examination and witness interrogation - can be integrated.

Unless a coroner decides the death is not reportable or considers no further investigation of a death is necessary and authorises the issuing of a death certificate pursuant under s. 12(2)(b) the coroner must order a doctor to perform some form of autopsy.

The decision not to order any autopsy has the effect of ending the coronial process. That must happen if the initial investigation shows that the body is Indigenous burial remains or the State Coroner directs that the investigation cease. It may happen if the coroner decides that despite the death being reportable, an autopsy is not needed to establish the deceased person's identity and is otherwise unnecessary and the coroner is prepared to authorise a doctor to issue a cause of death certificate - see s. 12(2) and the section in Chapter 3 dealing with deaths reported by Form 1A.

However only in rare cases of sudden, violent or unexpected death should a coroner decide at the outset that no further investigation is warranted.² If there is any reasonable doubt about the medical cause of death or the circumstances which led to the death, some form of autopsy should be ordered.

If the probable cause of death can be established and there is no likelihood of evidence relevant to the manner of death being obtained by an internal autopsy but there are other reasons for investigating the death, for example, public safety concerns, public health issues or matters relevant to the functioning of the criminal justice system are in issue, the investigation can continue by the coroner ordering an external examination of the body.

If the scene examination and witness accounts provide sufficient evidence to establish the cause and circumstances of death to the required standard, an external examination, perhaps augmented with the results of toxicology tests and/or x-rays may be all that is required to confirm no inquest is necessary and the findings required by s. 45(2) can then be made and the file closed.³

The types of autopsy that might be ordered are discussed in more detail below.

² For example, if an elderly person falls in their home and dies subsequently in hospital, after a conversation with the treating doctor a coroner might authorise the issuing of a death certificate.

³ For example, on arrival at the scene, police find the deceased clasp a hand gun and bleeding profusely from a wound to the head. Witnesses at the scene say that the deceased was depressed, threatened suicide and produced a gun and shot himself before anyone could intervene. Close relatives not present give evidence consistent with these claims. A doctor who examines the body confirms an entry and exit wound consistent with a gunshot injury. A suicide note is shown to be in the deceased's handwriting.

5.4 What type of autopsy should be ordered?

Legislation

Coroners Act
Sections 19, 22, 23, 23A

In principle

The least intrusive examination that will resolve the issues in doubt should be ordered. In particular, internal examinations of the body should be limited to those cases in which the findings required by s. 45(2) can not safely be made without access to information that can only be obtained in this manner.

In practice

The Act gives formal recognition to the power of coroners to order different types of post mortem examinations and tests and requires the order to stipulate what type of autopsy is to be undertaken. As discussed above, in many cases a full three cavity internal examination will not be necessary to enable the findings required by s. 45 to be made. When all of the information readily available from the scene examination and the accounts of witnesses are considered it may be that sufficient evidence will be available to make the necessary findings with only an external examination or an external examination and a partial internal examination.⁴ However, when the death may result in a criminal charge in which the cause of death is needed to be proven, a full autopsy will usually be necessary.

Additionally, or in the alternative, various tests may assist in addressing the questions the coronial process must seek to resolve. For example, a CT scan or x-ray might confirm the deceased did not suffer any internal trauma injuries.

Understandably, some coroners feel ill-equipped to decide in some cases what type of autopsy should be ordered. It is advisable to discuss these issues with the pathologists from Forensic and Scientific Services or another pathologist with experience in forensic matters who can give advice to coroners about tests that can be undertaken and the information those tests will provide.

Obtaining extra medical evidence for autopsy

When the deceased has had medical treatment prior to dying, it is important that information gathered during that treatment be made available to the doctor who will undertake any autopsy. Where the deceased person dies in a medical facility, police will usually obtain copies of the medical records when they attend the scene of death and the medical records will accompany the body to the mortuary. Even though medical records are protected by the confidentiality provisions of the *Health Services Act 1991* there is an exception in s. 62P which allows records to be provided to police acting on behalf of the coroner.

⁴ While massive loss of blood at the scene may suggest violence, when coupled with a history of severe peptic ulcers and an absence of any other evidence of violence, a pathologist may be willing with the coroner's authorisation to issue a cause of death citing a ruptured ulcer as the cause of death without needing to perform an internal autopsy.

In areas where the sealed body bag process is operating, police no longer accompany the body and any medical records to the mortuary with the government undertaker. In these cases, it is acceptable for the medical records to be provided to the government undertaker for transportation with the body.

Where the records haven't been obtained by police or where additional information is required, the coroner can make an order under s. 22 using a Form 5 to require the medical records of the patient be provided to the pathologist undertaking the autopsy, together, if necessary, with a report from the treating clinicians summarising the history of the initial diagnosis and its basis and detailing the treatment given to the patient, including all drugs administered and the results of any test ordered while the patient was alive. The order can also require doctors to express an opinion as to the cause of death and their reasoning.

Note also that s. 22 empowers a coroner to order a doctor who treated the deceased person to attend the autopsy. This could help inform the pathologist undertaking the autopsy of the information gathered before death and make it easier to explain things discovered during autopsy. Obviously this has the potential to be fairly disruptive for the hospital concerned and should therefore be reserved for those cases in which it is really necessary, for example, peri-operative deaths, other adverse medical events and/or homicides in which attempts to save the life of the deceased person precipitated complex interventions.

Autopsy testing - toxicology

Section 23 authorises the coroner to order that particular tests be conducted by the pathologist performing the autopsy. The tests include any which may reasonably assist the coroner to make the necessary findings.

In addition, under s. 23(3), the pathologist is authorised to perform any test consistent with the type of autopsy ordered if the pathologist considers it necessary for the investigation. Section 23(5) confirms the pathologist may collect blood or urine no matter what type of autopsy is ordered.

Accordingly, where an internal autopsy is ordered, there is no restriction on the tests the pathologist may perform as long as the test is considered by the pathologist to be necessary for the investigation **and** is consistent with the type of autopsy ordered by the coroner.

Determining which samples should be taken for toxicology testing is complicated. Decisions about the number of samples, the source of them and whether they should be taken and analysed, or taken and stored pending the completion of the autopsy will often depend on information not known when the autopsy is ordered and an understanding of esoteric issues such as post mortem re-distribution and the effects of decomposition on drug concentrations.

Therefore, where an internal autopsy is ordered, unless a coroner has information that is not on the Form 1 and which could indicate a particular

drug or poison should be tested for, it is probably better to allow the pathologist to determine what sampling and testing should be undertaken. Where an internal autopsy order is made, the coroner need not give any further instruction about what testing should be performed. However there are exceptions to this. The coroner may, based on previous experience, consider that a particular sample (e.g. vitreous) is crucial to an investigation, and may want to order at least the retention of this sample. Secondly, as noted above, an order for a limited autopsy (e.g. chest) may not authorise sampling of another part of the body. Again, this can be addressed by appropriate completion of the Form 2.

However, the coroner will need to give specific instructions to sample vitreous humour if an 'external only' order for autopsy is made. An external order does not necessarily authorise the collection of vitreous humour from the eyeball because the eyeball may be damaged and therefore could be considered inconsistent with an external examination.

If an 'external only' order is proposed it can be useful to sample vitreous in some cases as it is less prone to decomposition than blood. The Form 2 allows the coroner to specify the testing of blood or urine or other samples. If in doubt the coroner should consult with the pathologist by telephone.

In making decisions about toxicological testing, pathologists should have regard to guidelines the chief forensic pathologist and the State Coroner have settled. These guidelines appear in Attachment 5A at the end of this chapter.

When an internal autopsy is ordered the pathologist will have regard to those guidelines and sample accordingly. If a partial internal autopsy is ordered and the pathologist considers samples should be taken from other parts of the body, the pathologist will contact the coroner, who if persuaded such sampling is necessary should extend the order. Similarly, if an external autopsy is ordered and the pathologist is of the view the sampling of vitreous is necessary but hasn't been specifically ordered by the coroner, the pathologist will contact the coroner to discuss the possible extension of the order.

Because the opportunity to take samples is for all practical purposes lost once the body is released, pathologists will often take samples that upon completion of the autopsy and/or further inquiries, may not need analysing to establish the cause of death.

For this reason, in many cases pathologists will take samples but store them unless the coroner, for good reason, specifically stipulates particular samples should be analysed. The autopsy order should be marked accordingly. However, in many cases, it may not be clear until several weeks or even months after an autopsy (e.g. after certain other test results have become available) that toxicology samples do, in fact, need to be tested.

Of course, as always, if any uncertainty exists the coroner should discuss the issues of concern with the pathologist.

Testing for infectious diseases

Section 23A authorises a coroner to order the doctor conducting the autopsy to also test for various infectious diseases that are notifiable under the *Public Health Act 2005*. The order can be made in response to an application, most likely from a public health official or a person in contact with the deceased who fears infection, or on the coroner's own initiative. Such an order should be made whenever there is a basis to suspect the deceased might have had one of the diseases in question or where a person has been exposed to bodily fluids.

DNA testing for identification purposes

DNA testing is a complex process that can take weeks or even months to complete. The testing may have to be repeated because profiles developed from post mortem samples and reference material, vary in quality.

In most cases circumstantial evidence will enable bodies to be released avoiding the delay that relying on DNA involves. In these cases scientists at Forensic and Scientific Services will not continue with development of DNA profiles but the coroner should consider whether a bone sample should be kept as a safeguard to enable a DNA profile to be developed in the future should the need arise.

Where adequate profiles cannot be developed for comparison purposes, it is not necessary for the scientist to prepare a full statement setting out their reasons. It is sufficient for the scientist to send the coroner an email to that effect.

Genetic testing

Sometimes the autopsy will not show a clear explanation for death and the pathologist may suggest genetic testing be ordered by the coroner to confirm or eliminate a potential diagnosis. For example, a person may have died of an abnormal heart rhythm possibly caused by long QT syndrome. Genetic testing of the deceased person may show positive genetic test results for long QT syndrome in which case the cause of death can be established with certainty. However, a negative genetic test result does not necessarily exclude the possibility of the deceased having the syndrome. Genetic testing is expensive and is not necessarily conclusive. Therefore any requests by pathologists for orders to undertake genetic testing should be discussed with the State Coroner before the order is made.

In all cases where there may be an underlying genetic cause it is important the deceased person's living relatives are advised as quickly as possible and referred for appropriate diagnosis and treatment. The coronial counsellors and coronial nurses at Forensic and Scientific Services facilitate this contact and referral.

5.5 Limiting internal autopsies

In principle

Internal autopsies are invasive. They inevitably result in major alteration of the deceased person's body which the family may regard as mutilation or

desecration. They are expensive and expose those undertaking them to numerous occupational health and safety risks. It is unethical in my view to authorise an internal autopsy unless it is necessary to enable the investigating coroner to make the findings required by s. 45(2). Accordingly, coroners should avoid ordering internal autopsies where this would not compromise the investigation. A three cavity autopsy order should not be a default response to a reportable death; rather, it should only be done for a good cause or clear benefit.

If an invasive autopsy is unavoidable, every effort should be made to minimise any adverse impact on families.

In practice

Guidelines for coroners - autopsy orders

When considering the type of autopsy to order, a coroner should have regard to all of the clinical history, scene evidence and eyewitness accounts. If these are inadequately recorded on the Form 1 the decision about the type of autopsy to be ordered should be postponed while this information is sought from the investigating police officer.

When considering the type of autopsy to order in relation to a death that appears to be the result of natural causes, a coroner should first satisfy themselves that all avenues for issuing a cause of death certificate are explored. In these cases, the Form 2 should include a request that the pathologist conduct a preliminary investigation to determine whether the pathologist can form an opinion as to the probable cause of death before proceeding to conduct any autopsy order made in the alternative – see section 5.2 ‘Preliminary investigations, issue of cause of death certificates’.

When considering the type of autopsy to order in relation to a violent or unnatural death, a coroner should consider whether the circumstances of the death including the evidence obtained from eye witnesses and/or the scene enable the making of findings required by s. 45(2). In these cases the coroner should order an external examination and the taking of blood and ideally urine samples for toxicology. Only if the pathologist, police or a person with an interest in the case raises the possibility of a contribution by a person or event not evident in the information already to hand, should an internal autopsy be ordered. Even then, the invasiveness should be minimised, where possible, by the ordering of a partial internal examination.

An exception to this approach may be those cases where a prosecution is likely, for example for dangerous driving causing death. In such cases it may be necessary to order an internal examination to exclude other contributions to the death to the higher standard of proof.

In summary, depending on circumstances, reported deaths should undergo step-by-step assessment, first considering a cause of death certificate, then external or partial examination, and a full autopsy only if needed. In some cases, an external examination may be a precursor to a full autopsy. A review of medical records, radiography and toxicology are frequently useful.

Examples

If a person who has made previous attempts to take their own life and/or who has suffered a suicide triggering event such as a relationship breakdown is found hanging in their locked residence and a suicide note proven to be in the deceased person's handwriting is also found, an external examination and toxicology will usually suffice to enable a coroner to make a finding of suicide as 'how the person died' and hanging for 'what caused the person to die'. The identity of the deceased and the time and place of the death will usually be able to be deduced from witness accounts.

If the passenger in a motor vehicle died of identifiable traumatic injuries after the motor vehicle collided with another vehicle, it is not necessary to order a full internal examination to determine the precise cause of death. An external examination and CT scan would ordinarily enable the cause of death to be determined with sufficient certainty to enable the coroner to make findings.

However, if the deceased person was driving the vehicle it may be necessary to order a full or partial internal autopsy to determine whether the driver was suffering from a medical condition which may have contributed to the accident.

If a person with no known medical history of heart disease was seen to collapse during or after exercise after clutching their chest it may be possible to identify the cause of death by first ordering an external examination and CT scan or a partial (chest only) examination.

5.6 Who should be consulted before an internal autopsy is ordered?

Legislation

Coroners Act
Section 19

Family concerns

In principle

Before ordering an internal examination, a coroner should always consider whether, having regard to any cultural traditions and/or spiritual beliefs of the family of the deceased, an internal examination is likely to cause distress and must also consider any concerns raised by a family member whose views have been sought.

If those concerns are over-ridden and an internal examination is ordered, the order and reasons for the decision must be provided to the person who raised the concerns.

In practice

The cultural and religious diversity of the Queensland population means that attitudes to death and dealing with the body of the deceased may vary widely. The Act requires these sensitivities be borne in mind when the principle

objectives of the Act - the ascertainment of the cause and circumstances of sudden, suspicious or unnatural deaths - are being pursued.

It might seem, in some cases, to not be possible to reconcile the requirement to consider the views of the family with the obligation to ascertain the cause of death. If an autopsy is essential for the latter how can the former be given any weight if the family are vehemently opposed to an autopsy being undertaken? However, once it is accepted the requirement in s. 19(5) is only that the concerns of the family be 'considered' the problem diminishes.

The requirement the family's views be considered does not mandate those views always determine the matter or indeed that any particular weight be given to them.⁵ Those views should be taken into account along with the other issues which bear upon the decision as to whether, and to what extent, an autopsy is required.

If an internal autopsy is required because there is a basis to suspect foul play, the relatives' spiritual beliefs that an autopsy desecrates the body can not be allowed to hinder the criminal investigation. However, the same views could justify a coroner deciding not to order an internal autopsy if the probable cause of death is known but an internal autopsy might give greater understanding of the pathology of the processes that led to death. Alternatively, the views of the family might lead a coroner to order a more limited internal examination than if there were no family objections, provided the coroner can still be satisfied about the issues that must be found to the required standard.

There have been no Supreme Court challenges to orders made by coroners for an internal autopsy under the Coroners Act. However, Freckelton and Ranson usefully digest a number of cases in which coroners' orders for internal autopsies in other states have been challenged and upheld despite family objections and other cases where the family's objection has been upheld.⁶ The thrust of those decisions appears to be if there is no basis to suspect foul play or anything untoward and the objection is based on religious or cultural beliefs, the objection will usually be upheld. When the objection is based on humanist sensibilities, it is given less weight.

If a family member has raised concerns about an internal examination, the coroner should usually seek the assistance of a counsellor from Forensic and Scientific Services to liaise with that person to explore whether the provision of more information about the proposed procedures can alleviate the concerns. Counsellors will also explain that in some cases it may not be possible to identify a cause of death unless an internal autopsy is conducted in which case the cause of death will be 'undetermined'.

⁵ Rathbone v Abel [1965] ALR 545 at 549 per Barwick CJ, "to have regard to " does not necessarily mean that the Board was bound to make a specific finding as to each of the matters, nor was it bound to give any particular weight to any of them

⁶ See Freckelton I. & Ranson D. , Death investigation and the coroner's inquest, Oxford University Press 2006, 376 - 382

If the coroner decides despite continuing objection, an internal examination is necessary, the coroner must give a copy of the order for autopsy and written reasons for it to the family member who raised the concern.

In order to give affect to the rights of family members to participate in the making of coronial decisions, it will usually be necessary for the autopsy to be postponed for 24 hrs to give the family member objector an opportunity to seek a review under the *Judicial Review Act 1990* if a coroner has overridden an objection to an internal autopsy. In these circumstances the autopsy order should direct the pathologist undertaking the order to contact the coroner issuing the order before commencing the autopsy to check whether a review application has been lodged. Of course, as this suggestion is only an administrative arrangement, it can be modified if the circumstances of a particular case require more immediate action.

Guidelines for police - obtaining the views of family members

The Form 1 requires police reporting the death to nominate a 'family member' who will be the point of contact for the coronial investigation. The Form also requires police to obtain the views of the family member concerning autopsy when gathering other information the form requires.

The term 'family member' is defined in the dictionary of the Act to mean the closest relative reasonably available. The definition creates a hierarchy of relationships – spouse, adult child, parent, etc. The relative highest on the list who is available must be nominated as the family member and consulted about autopsy. It is crucial police take this role seriously as the coroner relies on this information when ordering the autopsy and progressing the investigation.

The police officer should explain that in some cases the coroner may wish to order an internal examination of the deceased person's body. The examination will be carried out by a specialist medical practitioner and the body will be treated with respect and dignity throughout. It may help to describe an autopsy as akin to a surgical operation designed to ascertain the cause of death.

Family members should be assured the body will only be dissected to the extent necessary to enable the coroner to make the necessary findings and it will be reinstated so in most cases, it will not be apparent at the funeral an autopsy has been conducted.

The officer should explain to the family member the coroner is required to take their views into account but if the coroner believes an internal autopsy is necessary one may be ordered even though the family member has expressed concerns. In such a case the family member will be contacted by a coronial counsellor who will explain the coroner's decision to the family member and advise them of their entitlement to have the decision reviewed in court.

Officers should be aware they are not seeking to establish whether the family member consents, approves, opposes, or objects to an internal autopsy.

Rather, they are seeking to establish whether the family member has any concerns about such a procedure.

The 'Coronial Investigations and the Police Response' brochure should be provided to the family. This brochure contains more detailed information about what an autopsy involves and it may assist police in explaining the autopsy process to the family member.

What if family members are in disagreement?

Occasionally, family members of equal priority in the family member hierarchy will disagree on the level of autopsy that should be ordered. Please refer to Chapter 2 – 'The rights and interests of family members' for advice on how this should be handled.

What if the deceased has not been identified?

It is only necessary for a coroner to have regard to family concerns about an internal examination if it is 'practicable' to do so. In my view this means if the deceased has not been able to be identified reasonably promptly, it is appropriate to proceed to order an autopsy without waiting for the family of the deceased person to be identified and their views sought. Indeed, information gathered during an autopsy examination is often crucial in establishing identity especially in cases where the deceased cannot be visually identified.

What if family members are suspects?

Similarly, it may not be appropriate to seek the views of the family member if they or a close associate is suspected of being responsible for the death. In my view, it is not 'practicable' to seek the family member's views if this could undermine the investigation of 'how' the person died by alerting a potential witness that the investigators suspect they may have been responsible for the death.

Therefore, if the death appears suspicious, the coroner should consult with the investigators before asking the coronial counsellors to liaise with the family member to try to more precisely establish and/or assuage concerns about an internal autopsy that have been indicated on the Form 1. If the investigator indicates disclosure to the family member of the basis on which an internal autopsy is thought necessary could undermine the investigation of the death, I am of the view that brings the case within the exception obviating consideration of family concerns.

Others who may be exposed to risk

In principle

Section 19(5)(b) also requires coroners ordering an internal examination to consider concerns raised by a 'person with sufficient interest'. Those transporting the body and involved in the examination could clearly come within this category if those activities involved particular risk of harm. When a coroner is considering ordering an internal autopsy, the concerns of pathologists or others regarding the health risks posed by the procedure should be given due weight.

The forensic benefit of the information sought to be gained by internal examination should be balanced against the risk of obtaining it.

In practice

The performance of autopsies and mortuary work generally is potentially hazardous. The risks include cuts from knives, exposure to chemicals, back injuries, falls, electrocution, psychological trauma and, perhaps above all, the risk of infection. This places special obligations on all those connected with coroners' autopsies to ensure they are performed with appropriate precautions and for clearly defined and sound reasons. Mostly these issues must be addressed by those responsible for workplace health and safety in the facility in question. However, when an autopsy poses a particularly high risk because of some condition of the body, those in jeopardy are entitled to raise their concerns with the coroner considering ordering an internal autopsy to seek to negotiate a compromise that meets the coroner's needs while minimising the risk and to receive reasons if the coroner decides to order the autopsy despite those objections.

All autopsies should be regarded as potentially infectious and performed by trained personnel in appropriately equipped mortuaries observing standard infection control procedures. As an additional precaution, cases with known or high risk of particular infections should be autopsied in specialised facilities.

Examples of infections meriting additional precautions include HIV, hepatitis B and C, meningococcal meningitis or septicaemia, tuberculosis, Creutzfeldt - Jakob disease (CJD), and SARS. CJD presents a special problem because the organism is not killed by normal disinfectants. Examples of high-risk cases include drug addicts, those with multiple tattoos, prostitutes, atypical lung infections and certain types of dementia (where CJD is possible). Certain severe infections (e.g. anthrax, plague), if known or suspected, should not undergo autopsy outside 'containment' facilities which are not available in Queensland.

In potentially infectious cases, every effort should be made to avoid, or to limit the extent of, an internal examination of the body, especially where the only reason for it is the initial lack of certainty about cause of death as soon as it has occurred. Often, delaying a decision about an autopsy until additional medical information can be obtained, or until laboratory results from tests taken before the patient died are available (e.g. to confirm meningococcal meningitis) can obviate the need for one. If an examination is needed to confirm the diagnosis, its extent can be minimised – for example, the removal of the brain for neuropathology in suspected CJD, the taking of lung samples for appropriate testing in suspected SARS or the taking of blood for toxicology screening in suspected drug addiction deaths. Of course, even these limited procedures can be hazardous and should only be performed for good reason.

In complex situations involving potentially hazardous autopsies, coroners should consult with the Chief Health Officer or Chief Forensic Pathologist at Forensic and Scientific Services. If concerns can not be resolved the State Coroner should be involved in the discussion.

5.7 Who should conduct an autopsy?

Legislation

Coroners Act
Sections 14 and 19

In principle

Decisions concerning who undertakes an autopsy should be informed by the following considerations:

- The expertise of the person authorised to undertake an autopsy should be commensurate with the complexity of the questions in issue.
- The higher the standard of proof the information sought to be gathered via autopsy will need to satisfy, the greater the need for expert qualifications in the person performing the autopsy.
- It is desirable an autopsy be undertaken in the locality where the death occurs to obviate the need for the body to be removed from the vicinity of the family, but this needs to be balanced with the need for specialist staff and mortuary facilities available only in large centres.

In practice

It has long been the practice in Queensland for autopsies to be undertaken by doctors ranging in expertise in this field from general practitioners to forensic pathologists.

This work can involve the making of complex judgements based on subtle qualitative assessments that may be interrelated to other observations and test results. Accordingly it is not knowledge that can be quickly or simply acquired in total, although aspects of it may be readily gained while under the supervision of a specialist in the field.

The Royal Commission into Aboriginal Deaths in Custody examined over one hundred internal autopsy reports and had them critiqued by eminent forensic pathologists. It concluded:

‘While the services of a non-specialist pathologist may yield adequate results, the expectation that a general practitioner is qualified to undertake such exacting work and provide satisfactory and reliable results is both unfair and unfounded.’⁷

In descending order of expertise the hierarchy of practitioners who might undertake autopsies can be divided into the following four categories:

- Forensic pathologists hold specialist qualifications in forensic pathology and/or have undergone additional supervised practice in this discipline.
- Anatomical and general pathologists hold specialist qualifications in these disciplines.
- Pathology registrars are doctors undertaking training as pathologists at an accredited laboratory who work under supervision of specialist pathologists.

⁷ E. Johnson, *National Report of the RCADIC*, AGPS, Canberra, 1991, vol. 1, p.127
State Coroner’s Guidelines 2013 Chapter 5 (version 2, May 2020)

- Doctors with expertise in injury examination are practitioners who through practice as government medical officers (GMOs) or medical superintendents with experience in emergency medicine, are expert in examining the victims of accidents and reporting on the likely cause and effect of injuries.

Specialist pathologists are medical practitioners who have undergone five years supervised training in an accredited laboratory and passed a number of examinations to attain Fellowship of the Royal College of Pathologists of Australasia (FRCPA) or an overseas qualification such as FRCPath recognised as equivalent.

Around Australia reliance on expert witnesses is increasing, as are challenges to the credentials and credibility of such witnesses. A court or tribunal will always want put before it the best opinion evidence available, although the extent to which this might be pursued will vary having regard to the significance of the evidence and challenges to it by other evidence.

In an inquest, if the cause of death is in doubt or there are competing views on the issue, or it is likely the issue may need to be proven in future criminal proceedings, it is essential the best evidence reasonably available is presented. This is most likely to come from a forensic pathologist or other specialist pathologist experienced in coronial work whose qualifications and credentials are more likely to result in the court being accurately informed and the opinion evidence withstanding challenges from other experts.

However, it is not necessary, practical or reasonable to have all autopsies undertaken by such specialists, particularly if that would require the body to be transported long distances. The distress caused to the family and the cost to the state occasioned by removing the body should only occur if the services of a forensic pathologist or a specialist pathologist are needed to resolve the issues in question. In many cases an external examination by a practitioner with expertise in examining injuries when coupled with toxicology test results and the information gathered by police from the scene will suffice and can be undertaken locally.

In general, forensic pathologists may perform both standard and complex categories of autopsy, while other specialist pathologists are restricted to standard cases. However, only a small number of forensic pathologists have the specialist expertise required for complex paediatric cases.

Increases in specialist pathologists available to undertake autopsies and rejection of the notion that invasive autopsies should be undertaken in all coronial cases, mean that doctors who are not pathologists should be restricted to undertaking external examinations of deceased in straightforward accidents, suicides and natural deaths. These criteria should be read in conjunction with Section 5.4 'What type of autopsy should be ordered?' As noted above, doctors performing such examinations may be Government Medical Officers, emergency physicians or others with suitable skills. A list of such doctors willing to perform external examinations is maintained by the Coroners Court of Queensland. It is recommended the performance of

external examinations by non-pathologists be supervised by the Chief Forensic Pathologist or delegate.

Advice on distinguishing and managing particular types of autopsies should be sought from the State Coroner, Chief Forensic Pathologist or a forensic pathologist on call.

5.8 Who may be present at an autopsy?

Legislation

Coroners Act
Section 21

In principle

The coroner and the police officer investigating the death are entitled to attend the autopsy. Anyone with sufficient interest should also be permitted to attend and observe the autopsy.

The Act envisages the attendance of people for training purposes but this should not happen on an ad hoc basis. Rather, a person wishing to attend an autopsy for this purpose should be referred to the State Coroner who will liaise with the Chief Forensic Pathologist to ensure such requests are handled in a consistent and defensible manner.

In practice

The principal investigator should usually attend the autopsy if the death is suspicious. They will often be able to provide the pathologist with valuable information that has been gathered from the crime scene that can easily be mis-communicated if passed to the pathologist through other officers. It is essential the pathologist note any additional information received from the investigator if it is at all relevant to the pathologist's findings.

Occasionally, family members or suspects in homicide matters contest the validity of the processes used during an internal autopsy. This can be avoided if a medical practitioner, who is a representative of those parties, is permitted to attend and observe the autopsy. It is preferable such parties observe the first autopsy and thus avoid the need for a second autopsy if they dispute the findings of the first. The consent of the pathologist undertaking the autopsy should be sought and the views of the family member should also be considered before a coroner authorises a third party to attend an autopsy – see s. 21(4).

5.9 Notifying families of autopsy results

The Form 2, autopsy order, allows the coroner to tick a box at paragraph 6 authorising counsellors, the doctor who conducted the autopsy or police officers to inform the family of the autopsy results. It is highly desirable this authority be given in almost all cases as the autopsy report may take months to be finalised and the family needs to know the result as soon as possible.

The only exception is where the Form 1 indicates the death is suspicious. Unfortunately, family members are in many cases the perpetrators of murders and police may want to interview them before they have the benefit of knowing what was discovered at autopsy. It is important coroners do not unwittingly negatively impact on a criminal investigation by releasing information without considering its impact. In these cases the paragraph 6 of the Form 2 should be amended to provide that no information should be released without consulting the investigator.

5.10 Autopsy notices, autopsy certificates, doctor's notice to coroner after autopsy and autopsy reports

Autopsy notices and autopsy certificates

Legislation

Coroners Act
Sections 21 and 24A

In principle

Section 24A(3) of the Coroners Act requires a doctor who has undertaken an autopsy and who has determined the cause of death to complete an autopsy certificate – Form 30. This enables the cause of death to be entered onto the Register of Births Deaths and Marriages which is usually a prerequisite for life insurance payouts, etc. If the pathologist is unable to determine the cause of death pending the receipt of test results an autopsy notice - Form 29 - is issued. This enables the death to be registered only.

The level of certainty autopsying doctors need when considering whether to issue a Form 30 is no higher than that applied by a doctor issuing a cause of death certificate for a non reportable death, i.e. they need to be able to form an opinion as to the probable cause of death.

In practice

Guidelines for pathologists regarding autopsy certificates

Following consultation with the Chief Forensic Pathologist, I have issued the following guidelines to pathologists undertaking coronial autopsies.

Whenever doctors who have conducted an autopsy can identify the probable cause of death, they should complete a Form 30 and send it to the Registrar, Births, Deaths and Marriages and copy it to the coroner who ordered the autopsy.

If subsequent investigations or test results cause the issuing doctor to conclude another cause of death is more likely, the doctor should issue an amended Form 30.

Doctor's notice to coroner after autopsy – Form 3

Immediately following the autopsy, the doctor performing the autopsy must complete a Form 3 and provide it to the coroner. The Form 3 records the fact

the autopsy has taken place and gives advice about tissue and prescribed tissue kept after the autopsy (refer to Section 12 'Retention of tissue, whole organs, foetuses and body parts and prescribed tissue' below). The form also advises whether the body is required for further examination or testing; whether identification is settled and whether there is a cremation or infection risk.

The Form 3 also contains a section where the pathologist is able to provide a summary of their main macroscopic findings. These initial conclusions may well be of assistance to coroners considering what further investigation is necessary and would be highly relevant to inquiries being conducted by other bodies such as hospital mortality and morbidity committees or a hospital root cause analysis team. In most cases it would seem appropriate for a coroner to conclude such bodies have 'sufficient interest' to receive the Form 3 upon application. In the past, those reviews have often not been informed by formally reported autopsy findings as the report is usually not received until three to six months after the death.

The form also enables the pathologist to recommend to the coroner further investigative steps at paragraph 11. In the past, pathologists have been alive to issues warranting investigation but these have not usually been communicated until the autopsy report is received. By that time, circumstances may have changed that make it difficult to obtain information, for example, hospital staff may have often moved on. I therefore recommend, in future, you carefully scrutinise paragraph 11 to ascertain whether the pathologist recommends statements be obtained from treating doctors or reports obtained from independent experts. You will note there's also provision for the pathologist to identify the issues which should be explored via those mechanisms.

Autopsy reports

Legislation

Coroners Act
Section 25

Guidelines to pathologists regarding autopsy reports

Autopsy reports must be in the prescribed Form 8 that is current at the time the report is prepared. The reports should always make clear any extraneous factual underpinning and the source of that information, for example, conversations with police or treating doctors.

Consent of the coroner who ordered the autopsy should always be obtained before seeking input from anybody other than a pathologist colleague or other forensic scientist.

The Form 8 includes a 'Summary and Interpretation' section that should alert the coroner to any unusual findings or the need for further investigation. It should be completed in all cases to assist the coroner's understanding of the autopsy findings.

In straightforward cases, the pathologist may provide the coroner with an autopsy report containing only demographic details, the type of autopsy and tests performed, the Summary and Interpretation and pathologist's opinion as to the cause of death. However, pathologists should retain in the case file details of the examination and testing performed in case these are required at a later stage. The Chief Forensic Pathologist is encouraged to develop guidelines to facilitate this practice.

Autopsy findings should never be disseminated orally or in writing without the coroner's consent. The autopsy order will usually authorise counsellors or others to advise family members of the autopsy findings.

If requested, the pathologist must provide a copy of an autopsy or test report to the investigating police officer – s. 25(2). If requested by the chief executive of Queensland Health or the chief executive of the Department of Justice and Attorney-General, the pathologist must provide a copy of an autopsy or test report to a public or health service employee or executive nominated by the relevant chief executive – s. 25(4).

5.11 Performing a further autopsy

Legislation

Coroners Act
Section 19

In principle

The Act authorises the undertaking of second or successive autopsies but repeated examination of the body should only be ordered for good reason.

In practice

Occasionally, after the initial autopsy has been undertaken, either the coroner - as a result of receiving further information, or the family of the deceased - as a result of the natural suspicions that arise in some coroners' cases, will query the accuracy of the findings of the first autopsy.

In these circumstances, the coroner can ask the original pathologist to undertake a further autopsy or authorise another pathologist to do so.

When the family requests a second autopsy, they usually also request a pathologist they have retained to undertake the procedure. Provided the coroner is satisfied the nominated pathologist is appropriately qualified an autopsy order can be directed to that pathologist. It is advisable to make the consent to ordering a second autopsy conditional on the pathologist providing the coroner with a copy of the autopsy report as soon as reasonably practicable.

It is also highly desirable to liaise with the pathologist who undertook the first autopsy so that if another pathologist is to undertake the second autopsy the two doctors can discuss the case. Usually the first pathologist will attend the second autopsy and make tissue samples available to the second pathologist.

5.12 Retention of tissue, whole organs, fetuses and body parts

Legislation

Coroners Act
Section 24

In principle

This section seeks to ensure 'prescribed tissue' - whole organs, fetuses or 'identifiable body parts' - is not retained unless the coroner is persuaded it is necessary for the purposes of the investigation and the family has been informed before the body is released.

To ensure that even if these requirements are satisfied a collection of retained organs does not accumulate through oversight, the need for continuing retention must be reviewed every six months.

When such retained tissue is no longer needed for forensic purposes, it must be disposed of in accordance with the family's wishes.

The provisions do not define 'whole organ' or 'identifiable body parts' or indicate what regard, if any, should be had to any concerns the family might express. These guidelines seek to address those issues.

In practice

The Act as passed put safeguards around the unnecessary retention of whole organs and fetuses but those safeguards were in some respects unclear. For example, s. 24(4) prohibited a coroner from ordering the release of the body unless satisfied retention was necessary and the family had been advised, but it gave the coroner no explicit power to order the organ be returned to the body. That anomaly has been addressed – see s. 24(5) – but the extension of the protection to 'identifiable body parts' has focussed attention on definitional issues.

Around the world there has been reaction against the unnecessary retention of organs and other tissues after autopsy. The Australian Health Ministers Advisory Council and Conference in 2002 adopted a National Code of Ethical Autopsy Practice which sought to respond to these concerns and retention rates have reduced significantly. Queensland Health is working with the Coroners Court of Queensland to maintain this trend. Local coroners can play their part in this reform by insisting prescribed tissue is not retained unnecessarily.

Definitional difficulties –what tissue is caught?

What is an organ?

It is surprisingly difficult to precisely and exhaustively define what is meant by 'organ'. The discipline of human anatomy has developed since ancient times, resulting in a largely arbitrary intellectual construct delineating numerous individual organs and recognisable body parts - approximately 6000 named

structures are listed in the index of Gray's Anatomy. The large, discrete, well-recognised organs such as the heart, brain and eyes are clearly included. However, more problematic are the dispersed organs, e.g. the skin, digestive organ, lymphatic system, including numerous lymph nodes – and named structures within whole organs, e.g. the aortic valve - and small organs or structures only a few millimetres across, e.g. the four parathyroid glands.

Small anatomical structures, such as lymph nodes, that are technically part of a large dispersed organ, such as the lymphatic system, should therefore not be regarded individually as a whole organ and need not be treated as prescribed tissue.

In some situations, it may be impossible to treat small structures as prescribed tissue simply because they are so inconspicuous the pathologist might unknowingly include them in a sample of another tissue, e.g. parathyroid gland, lymph node. Accordingly, it would be impractical for these small structures to be treated as prescribed tissue.

Having regard to the purpose of the provision, I have concluded it is only necessary to treat as prescribed tissue those organs readily identifiable as discrete entities and not just a part of a system. The attached schedule identifies those which in my view enliven the provision and those which don't.

What is a whole organ?

A literal application of the provision could mean if a pathologist took all but a small sliver of an organ, the safeguards would not be activated because the whole of the organ had not been retained. I am of the view the intent of the regime should not be circumvented in this manner. Conversely, it was not the intention of the legislature that the provision be activated if samples of, say, heart tissue are taken for testing and the balance returned to the body at the completion of the autopsy.

It is therefore necessary to settle upon some proportion of an organ as satisfying the criterion. I am of the view that greater than 50% by weight is a practical and defensible delineating measure.

What is an identifiable body part?

Anatomists and forensic pathologists can identify and name almost every aspect of every organ, all vessels of the vascular system, the ligaments, fascia and other connective tissue, etc.

Large complex organs, especially the brain, spinal cord and heart, incorporate numerous recognisable structures, either as a part or extension of their substance e.g. brain stem, pituitary gland, cervical cord, papillary muscle. In my view, components of whole organs, if retained on their own, should not be regarded as 'identifiable body parts', as this appears not to have been the purpose of amending the section 24 regime in November 2009. Not only do the Explanatory Notes to Clause 23 of the *Coroners and Other Acts Amendment Bill 2009* make no reference to seeking to cover the retention of organ components, but also indicate the intention was to ensure the regime covered additional tissues that are 'commonly removed' and, by implication,

are likely to raise families' concerns, citing 'hands and jaws' as examples. Section 24 of the Act gives similar examples – 'limb, digit or jaw'.

Having regard to the need to interpret the Act in the manner most likely to give effect to its intent, and the impracticality of applying s. 24 to every piece of retained tissue a pathologist can name, I have concluded its application be limited to those parts identifiable by a reasonably educated layperson, untrained in anatomy, that are not parts of other organs.

Attachment 5C gives examples.

What is a foetus?

Foetus includes a stillborn baby examined for the purpose of determining whether it was born alive, a foetus found within its mother, and an embryo.

Informing the coroner

A pathologist who conducts an autopsy and removes prescribed tissue they consider should be retained for further testing will inform the coroner of the reasons for the proposal as soon as possible after the autopsy is completed by way of the Form 3. In some cases the pathologist will have identified prescribed tissue they consider should be retained before the autopsy is performed. In these cases the coroner's authorisation may be sought before the autopsy. The Form 3 will still need to record details about the prescribed tissue sought to be retained by the pathologist.

The coroner needs to be satisfied the retention of the tissue is necessary for the effective investigation of the death rather than just the professional interest or development of the doctor. If the cause and circumstances of the death are already established with sufficient clarity, retention will rarely be justified and the coroner should order the return of the prescribed tissue to the body prior to its release.

The coroner's decision about the retention of prescribed tissue must be recorded in Section B of the Form 3. Section B should be completed by the coroner in all cases where prescribed tissue is sought to be retained by the pathologist including those cases where retention of prescribed tissue is authorised prior to autopsy.

Body parts such as a limb, digit or jaw are not ordinarily removed during an autopsy. The coroner should be informed about proposed removal and proposed retention of body parts before they are removed so the coroner can decide whether this is necessary while the body is still intact.

In cases where the body is not identified it may sometimes be necessary to remove the jaw and/or teeth to aid dental comparison and identification. The coroner should still be informed of the removal even though it will be impractical to contact the family member as the identity of the deceased is unknown.

Informing the family member

If the coroner is persuaded retention is probably necessary, the coroner should request a coronial counsellor to seek the views of the family member, unless to do so might compromise the investigation by conveying information to a witness before investigators have interviewed that witness. The views of the investigating officer should be sought if this seems a likely possibility. I consider this proviso is permissible on the basis the obligation to notify the family is conditional upon it being 'practicable' to do so.

If the family objects to the prescribed tissue being retained and acknowledges the failure to retain the tissue for further testing might prevent the precise cause of death being established, the coroner should consider whether such precision is necessary. If there is sufficient evidence otherwise available to satisfy the coroner the death is from natural causes and there is no basis to conclude any third party or wrongful act was involved in the death, the coroner might conclude such extra information retention and testing might provide is unnecessary.

Disposal of prescribed tissue

The entity holding the tissue must dispose of it having regard to the wishes expressed to the coroner by the family member when the retention was authorised. Therefore, if a decision is made to retain prescribed tissue, the coroner must be informed of the family member's wishes as to what is done with it when it is no longer required for testing. The coronial counsellor who seeks the family member's views regarding the retention will also ascertain this information and should relay this to the coroner.

In some cases, the family may not be ready to decide about disposal at the time of autopsy. If so, the coronial counsellor will advise the coroner a decision on disposal has been deferred and will follow this up with the family later. This should be sufficient to allow release of the body.

All orders for release of bodies are entered into the Coroners Case Management System (CCMS). If prescribed tissue has been retained, this must be noted in the Autopsy Screen in CCMS. The Coroners Court of Queensland will run monthly reports showing those matters where such tissue has been retained for six months and inform the local coroners of such matters requesting confirmation that the tissue should be retained or released. This will ensure compliance with s. 24(6) which requires coroners to consider at six monthly intervals whether prescribed tissue is still required for the purposes of the investigation. When the continued retention of prescribed tissue is reviewed in accordance with s. 24(6), the reason for on-going retention should be recorded on the file.

However, in those case where the family has indicated they want the prescribed tissue returned to them for interment, coroners should closely monitor retention of prescribed tissue so it can be released as soon as possible. Usually organs will only need to be kept for a few weeks to enable them to be 'fixed' and samples taken. In some particularly contentious cases a suspect might want to have testing undertaken by an independent pathologist who might want to take their own tissue sample. This is a matter that must be

negotiated with the case pathologist on a case by case basis, balancing the need to preserve evidence and the interests of other parties to review the case pathologist's findings with the right of the family to have their loved one's organs returned as soon as possible.

Section 24(6) gives the coroner the power to order disposal of prescribed tissue at any stage in the investigation of the death having considered whether the tissue is still needed for the investigation itself or for future proceedings, e.g. murder trial, death in custody inquest. Indeed, the coroner has a responsibility to ensure prescribed tissue is kept for no longer than is strictly necessary. To achieve this, the coroner may wish to establish administrative arrangements, for example, by authorising disposal as soon as the autopsy report is received, or by asking pathologists to advise when examination of the prescribed tissue is complete. In deciding when to authorise disposal of prescribed tissue, coroners should consult with the pathologist, but bear in mind the pathologist's view may ultimately need to be over-ridden because other factors are also important, especially the family's views, and the likelihood and potential value of subsequent re-examination.

It should be borne in mind some types of tissue may, in the process of testing, be converted entirely to 'specimen tissue' as defined under the *Transplantation and Anatomy Act 1979* and must therefore be kept indefinitely in accordance with s. 24(7). Examples include the eye, the brain stem and parts of the spinal cord.

Summary

- Prescribed tissue should only be retained for testing, examination or evidentiary purposes if the coroner is persuaded the retention is necessary for the investigation of the death.
- When considering whether tissue is a whole organ or an identifiable body part, coroners should have regard to the attached schedule.
- Family members must be consulted in relation to these issues if possible and if to do so would not risk compromising the investigation.
- If not satisfied retention is necessary for the investigation of death, the coroner should order return of the prescribed tissue to the body prior to its release.
- If prescribed tissue is retained, the coroner should monitor its testing so what is not needed to be kept can be returned to the family as soon as possible.

Paternity testing

Tissue taken at autopsy can't be released or destroyed without the consent of a coroner. Usually this happens at the conclusion of the coronial investigation. Occasionally, family members seek access to such samples for DNA testing with a view to confirming paternity of a child presumed to be of the deceased person.

As cited above s. 24(9) provides the tissue must be released to 'a family member' if the family member 'wishes to test, or use the tissue for a lawful purpose'.

The term family member is defined by reference to a descending hierarchy of relationships – spouse, adult child, parent, etc. In my view that means a parent of a deceased man is not entitled to the tissue to test the paternity of a putative grandchild if the deceased was in a spousal relationship with the child's mother or any other person at the time of his death.

Attachment 5A

Guidelines for coroners and pathologists: toxicology samples at autopsy

Samples for toxicology should be kept in the following deaths:

- Homicides and suspicious deaths
- Deaths in custody and during, or as a result of, police operations
- Suicides and accidents (including passengers)
- All cases of suspected deliberate and accidental intoxication by medical and illicit drugs, carbon monoxide, cyanide, and other poisons
- Negative autopsies (including sudden deaths in infancy – “SUDI”)
- Deaths in a health care setting, including analyses for toxic, therapeutic and sub-therapeutic levels of drugs
- Natural deaths where reactions to drugs or herbal medicines are possible
- Cases undergoing external examination only – samples for toxicology should generally be taken and at least placed on hold

In many cases, however, samples should simply be placed on hold in Forensic Toxicology pending resolution of the autopsy investigation or further discussions with the coroner. The aim of these guidelines is to ensure that sufficient samples are retained and are available, not to promote excessive or unnecessary analysis.

The guidelines also include measures to address the issue of post-mortem drug redistribution which can cause spurious increases in drug levels in post-mortem blood samples. This affects drugs that are concentrated to high levels in particular tissues during life (e.g. liver) and then leak out into nearby blood after death.

Unless specifically ordered by the coroner, toxicology samples are not needed in straightforward natural deaths with a clear cause of death and no contribution from medication. Useful samples may be unobtainable in some cases (e.g. skeletal remains, advanced decomposition, disruptive injuries). In certain circumstances, the coroner may agree that samples need not be kept (e.g. selected disasters).

If in doubt, advice on how to proceed should be sought from a forensic toxicologist, forensic pathologist or forensic medical officer, depending on the expertise needed.

Dedicated forensic toxicology tubes (10ml) should be used for most liquid samples (see table) as the fluoride-oxalate reduces post-sampling fermentation, which can otherwise occur, even in relatively “clean” samples such as urine.

Type	Samples	Guidelines
Blood	3 x 10ml in fluoride oxalate tube (1 x 10ml in plain tube in cases of suspected fluoride poisoning)	All cases requiring toxicology, if available. To minimise post-mortem drug redistribution, blood should be taken promptly from the femoral vessels, ideally the femoral vein. Avoid “milking” the vessels if possible. Only if blood is not obtainable from femoral vessels (e.g. in infants, severe bleeding, decomposition) should other sites be used and in these cases the reason should be recorded. The actual sampling site utilised must always be noted. Without this information, the toxicology results may be uninterpretable.
Blood	1 x 5ml in EDTA tube – submit for biochemistry to Pathology Qld	Cases of suspected poisoning with anti-cholinesterase pesticides (seek advice on details)
Urine	1 x 10ml in fluoride oxalate tube	All cases requiring toxicology, if available
Admission samples	All blood (& urine) samples that the clinical laboratory can provide	In deaths that occur after admission to hospital, post-mortem samples will not reflect alcohol and drug levels at the time of an incident. Samples from the time of admission should therefore be sought.
Blood in health care deaths	All blood (& urine) samples that the clinical laboratory can provide	In deaths where the administration of drugs may be involved, it may be necessary to ask toxicologists to analyse samples from different times during admission.
Vitreous humour from eyeballs	Whatever is obtainable without damaging eyeballs, typically about 5ml in a fluoride oxalate tube (Disfigurement should be avoided by restoring the shape of the eyeball by injecting water.)	So far as practicable, vitreous should be sampled in all cases requiring toxicology and at least placed on hold. Vitreous is less prone than blood to decomposition, alcoholic fermentation and drug redistribution. In some cases, use of vitreous for glucose and other clinical biochemistry may take precedence.
Head hair	Pencil-thick tuft of plucked head hair about 3-5 cm long in click-seal plastic bag or other small plain container	Cases in which previous exposure/usage is a significant issue (e.g. therapeutic and illicit drugs, heavy metals) – seek advice from toxicologist as validated testing is not readily available in Australia (as at Feb 2012).
Kidney, head hair, nails	Head hair as above Others – seek advice	In suspected heavy metal poisoning, these samples should be considered – seek advice about details
Lung	One lobe of a lung “triple bagged” with minimal headspace (Note: one lobe does not amount to a “whole organ”)	All cases (except carbon monoxide poisoning) in which toxicity of volatiles or gases may be involved (e.g. solvents, butane, propane, spray paint, petrol, glue, helium, nitrous oxide)
Stomach contents	50-250 ml in plain container (Measure and record total stomach contents volume.)	Cases where the route of ingestion, or the amount remaining in the stomach may be significant issues. Also cases where an oral poison is suspected but may not be detectable in blood (e.g. corrosives, pesticides, heavy metals). Seek advice if in doubt.
Nasal swabs	Plain swabs from both nostrils	Cases where nasal inhalation or snorting of cocaine, heroin or other drugs is a possibility

Type	Samples	Guidelines
Liver	2 x 50 grams in a plain container	Cases where blood is unobtainable, or where an extra sample type may provide a cross-check if post-mortem redistribution is possible
Bile	1 x 10ml in fluoride oxalate tube	Sampling bile may be useful in possible opioid toxicity to distinguish acute and chronic use – see footnote ⁸
Skeletal muscle	2 x 50 grams in a plain container	Cases where blood and liver are unobtainable
Injection site	Skin & subcutaneous tissue (about 3 cm cube in plain container)	Cases where route of administration is an issue, or to check for drugs that break down in blood (e.g. heroin)
Bite site	Bite site, regional lymph node, blood, urine, etc	In suspected bites by snakes, spiders etc, seek advice about suitable samples and where to send them
Medical equipment	E.g. morphine infusion pump if this may be implicated in the death	Should be submitted intact for examination and analysis in the toxicology laboratory – seek advice
Syringes	Syringes in cases of suspected illicit drug use are not recommended	The toxicology laboratory does not analyse syringes in cases of illicit drug use unless there are exceptionally good reasons. Prior consultation is required.

⁸ “Biliary total morphine concentrations are significantly higher in delayed deaths, persons using very high doses and in persons using heroin regularly. There are, however, few data in the literature to support any strong conclusions made from biliary concentrations...” on page 252 in *The Forensic Pharmacology of Drugs of Abuse*, OH Drummer, Arnold publishing 2001.

Attachment 5B

Doctors approved as examiners under sections 11AA and 14 of the Coroners Act 2003

The following doctors are approved as “examiners” and may perform “preliminary examinations”:

- Forensic pathologists employed by Health Support Queensland and credentialed to perform coronial autopsies
- Medical registrars working under the supervision of forensic pathologists
- Specialist pathologists contracted by the Department of Justice and Attorney-General and credentialed to perform coronial autopsies

Doctors approved by the State Coroner to conduct particular types of autopsy under section 14 of the Coroners Act 2003

To perform coronial autopsies in Queensland, specialist pathologists must have appropriate qualifications and training. Based on these, the Health Support Queensland Credentialing Committee has determined scopes of clinical practice for different types of autopsies.

Specialist pathologists employed by Forensic and Scientific Services, within Health Support Queensland, hold full scope of clinical practice across all types of coronial autopsy.

Medical registrars and other trainees may perform all types of coronial autopsy but only under the supervision of a specialist pathologist, based on their stage of training.

Specialist pathologists contracted by the Department of Justice and Attorney-General do not hold full scope of practice. For Dr David Williams, this excludes complex autopsies on children. Dr Boris Terry and Dr Max Stewart hold scope limited to coronial autopsies that are not complex, i.e. straightforward natural deaths, accidents and suicides.

A specialist forensic pathologist from another Australian State or Territory may be approved by the State Coroner to perform any type of autopsy in a particular case, such as where the family has requested a further autopsy.

Types of coronial autopsy

Autopsies limited to external examinations are usually of low complexity.

Complex coronial autopsies in subjects over 14 years of age

- Homicides and suspicious deaths
- Other deaths where criminal charges possible, e.g. hit-and-run accidents
- Complex accidents, e.g. industrial and mining deaths, SCUBA diving deaths
- Deaths in custody, in police operations and in care
- Complex natural deaths, e.g. sudden unexpected deaths in young adults

- Healthcare related deaths, including all maternal deaths
- Deaths requiring specialised identification, including skeletal remains
- Deaths requiring Disaster Victim Identification (DVI) procedures
- Deaths involving complex poisoning (e.g. agricultural chemicals, snake bites)

Complex coronial autopsies in children aged 14 years or under

- All complex categories for adults as above
- Sudden unexpected deaths in infancy
- Accidental drowning
- Neonatal and perinatal deaths

Attachment 5C

Anatomical structures that are prescribed tissue and those that are not

Distinctions between prescribed and non-prescribed tissues may be difficult. The attachment is not intended to be exhaustive but provides examples of anatomical structures that pathologists commonly seek to retain.

Prescribed tissue		<u>NOT</u> prescribed tissue	
Definitions	Examples	Definitions	Examples
<p>What is an organ?</p> <p><i>“organs that are readily identifiable as discrete entities”</i></p> <p>What is a <u>whole</u> organ?</p> <p><i>“greater than 50% by weight is a practical and defensible delineating measure”</i></p>	<p>Brain</p> <p>Spinal cord</p> <p>Eye</p> <p>Heart</p> <p>Lung</p> <p>Liver</p> <p>Spleen</p> <p>Kidney</p> <p>Ovary or testis</p> <p>A group of organs removed and retained <i>en bloc</i> (e.g. neck or pelvic organs)</p>	<p>What is <u>not</u> an organ?</p> <p><i>“Small anatomical structures ... that are ... part of a large dispersed organ [or system] ... should ... not be regarded individually as a whole organ.”</i></p> <p>What is <u>not</u> a whole organ?</p> <p><i>“samples of ... tissue ... taken for testing, and the balance [of the organ] returned to the body”</i></p>	<p>Gastrointestinal tract (eg tongue, pharynx, stomach)</p> <p>Larynx, trachea or bronchi</p> <p>Blood vessels</p> <p>Lymph nodes</p> <p>Endocrine system (eg adrenals, parathyroids)</p> <p>Ureters, bladder, prostate or urethra</p> <p>Portions of an organ that weigh less than 50% of the whole organ</p>
<p>What is an “<u>identifiable body part</u>”?</p> <p><i>“those parts that are identifiable by a reasonably educated layperson, untrained in anatomy, that are not parts of other organs”</i></p>	<p>Arm or leg</p> <p>Finger or toe</p> <p>Upper or lower jaw</p> <p>Tooth or teeth</p> <p>Long bone</p> <p>Identifiable part of the skull, spine or chest wall</p>	<p>What is <u>not</u> an “<u>identifiable body part</u>”?</p> <p>Parts that are not “<u>identifiable</u> by a ... layperson” or “<u>parts of other organs</u>”</p> <p><i>“components of whole organs, if retained on their own, should not be regarded as “<u>identifiable body parts</u>””</i></p>	<p>Brain stem</p> <p>Cerebellum</p> <p>Individual brain nuclei</p> <p>Pituitary</p> <p>Cervical cord</p> <p>Papillary muscle</p> <p>Heart valve</p> <p>Coronary artery</p>
<p>What is a foetus?</p> <p><i>“Foetus ...or an embryo” [examined either in its own right or as part of a maternal autopsy]</i></p>	<p>Stillborn baby</p> <p><i>“examined [to determine] whether it was born alive”</i></p> <p>Foetus</p> <p>Embryo</p>	<p>What is <u>not</u> a “foetus”?</p>	<p>Small tissue samples taken for testing with the balance of the organ(s) returned to the body of the foetus or mother</p>