What is an Autopsy?

An autopsy is a medical procedure that is carried out on a deceased person in order to discover a range of information regarding the death. An autopsy seeks to discover the following information:

- The identity of the deceased person.
- When they died, the nature and extent of any disease they currently suffer from, or have suffered in the past.
- The nature and extent of any injury they are suffering from or have suffered in the past.
- The cause of their death.
- The circumstances that surround how they died.
- Information on natural disease or injury that has the capacity to prevent the death of another member of the community in related circumstances.

An autopsy can be considered a public health procedure. It can inform treating medical practitioners about the effects of medical treatment that have been provided in the recent past, and in forensic cases, can assist Police and justice agencies in assembling the evidence required for criminal proceedings.
Given the value of the autopsy for public health and the administration of justice, it is essential that the results of an autopsy are recorded in very considerable detail.

This is usually done by the pathologists preparing an autopsy report which is a written description of the autopsy findings and includes the pathologists' comments regarding the autopsy findings and the medical cause of death as determined by the pathologist.

In forensic cases this medical cause of death is usually adopted by the Coroner. However, a Coroner can amend a pathologist's cause of death on the basis of further evidence available to a Coroner which may not have been available to the pathologist at the time of conducting the autopsy.

Autopsy Processes

Prior to conducting a physical examination of the body, the initial stage of an autopsy involves the review of medical records, witness statements and/or circumstantial information and reports surrounding the death.

This information allows the pathologist to construct a differential diagnosis as to what underlying pathologies including disease and injuries may be present in the body.

This preliminary information allows a pathologist to focus on the important issues that may be in doubt about what happened.

Specimen Testing

The tissues and fluids collected during the autopsy may be used for specialist chemical or toxicological analysis, which is designed to indicate the presence or absence of particular drugs, poisons or chemicals.

This analysis may be very significant in reconstructing how the death occurred, and in many cases, may reveal the cause of death. Depending on the types of drugs or poisons involved, it may take many weeks for the analysis of these fluids and tissues to be completed.

Preliminary tests

On completion of the review of background information, a number of preliminary examinations may have to take place.

These may include: the collection of samples including trace evidence from the surface of the body, removal of clothing and personal possessions for
secure storage or examination, and non invasive procedures such as radiographs or x-rays.

In some cases it may be necessary to undertake specialized imaging procedures including CT scans or MRI scans of the body. Photography, including specialised invisible radiation photography such as infrared or ultraviolet imaging, may also be required in selected cases.

**Specimen Collection**

During the course of the autopsy, body fluids and tissues may be collected for specialist chemical or toxicological analysis.

This is designed to indicate the presence or absence of particular drugs, poisons or chemicals. This analysis may be very significant in reconstructing how the death occurred, and in many cases, may reveal the cause of death.

Depending on the types of drugs or poisons involved, it may take many weeks for the analysis of these fluids and tissues to be completed. In some cases, rapid toxicological analysis of blood samples can be performed and in certain cases is a critical component of the preliminary examination.

Tissue is also collected for histological analysis to help determine the nature and extent of disease or injury that may be relevant to the cause of death.

**External Examination**

The physical examination of the body starts with a detailed external examination of the body, which is very similar to the external examination of a living patient.

The eyes, ears, nose and mouth are checked together with the surface of the skin.

Scars and artificial marks such as tattoos are described, and these can assist with confirmation of identity.

Many internal diseases in the body are associated with changes that can appear in the skin, so that a detailed external examination of the body can be of considerable importance in focusing the subsequent internal examination.

Following completion of the preliminary examination, the duty pathologist attempts to formulate a reasonable medical cause of death and forms an opinion as to whether a full autopsy is required or not.
A meeting is held between the duty pathologist and a coroner during which all of the cases which have been reviewed are discussed.

The pathologist is able to provide the coroner with a wide range and depth of information at an early stage of the investigation process. Taking this information into account, along with legal aspects of the investigation process and often the expressed wishes of families, the coroner then makes a decision as to whether to direct an autopsy or not.

This decision is communicated by coroner’s clerks to families who may either accept this decision or ask for a reconsideration of the coronial decision.

Internal Examination

The internal examination of the body is carried out as an extended surgical technique.

The examination takes place in a mortuary environment using instruments that are the same as, or derived from, normal surgical instruments. Occupational health and safety procedures are carefully observed.

Some pathological examinations may require the involvement of other pathology specialists such as neuropathologists, cardiac pathologists, immuno-pathologists or paediatric pathologists.

The Autopsy Report

On completion of all of the scientific and medical tests an autopsy report is completed which contains the results of the autopsy findings together with the results of any specialist tests that may have been undertaken.

In forensic cases, this report is forwarded to the Coroner and together with witness statements, forms the majority of the information the Coroner relies upon in arriving at their legal finding with regards of the death.

The Coroner is a magistrate (lawyer), not a medical practitioner, who makes the final determination as to who the deceased person was, where and when they died, how they died, and the cause of their death.

The findings of the pathologists form a very important part of the Coroner’s investigation of the death and the pathologist is often involved in giving evidence at any subsequent inquest.
How Can Autopsies Save Lives?

Autopsies don’t just determine the cause of death. In many cases an autopsy can save a life.

Many genetic or hereditary disorders are identified through an autopsy. Once detected by the pathologist, this information can be made available to family members who may then be alerted to any potential risk.

The pathology investigation into a death often uncovers a range of disease processes that the deceased person and their family may not have realised they suffered from. These disease processes may or may not have contributed directly to their death, but they may indicate a family’s susceptibility to a particular disease. (Some infectious diseases may also impose an immediate hazard to family or community members.)

While the forensic autopsy is aimed at providing the Coroner with information regarding the cause of death, this additional health care information has important public health and family health considerations.

Appropriate referral to other medical specialists can enable families to formulate health care strategies to maximise their well-being and, in some cases, hopefully prevent premature death in those affected.

The family’s own general medical practitioner plays a very important part in this process, and the medical staff of the Victorian Institute of Forensic Medicine are very happy to work with the local medical practitioners to maximise the provision of health care to their patients. Additionally, the Institute has established relationships with paediatric and adult cardiologists, haematologists and genetic specialists.

Families are supported by the forensic nursing staff which provides information in a clear and sensitive manner customised to the needs of the family followed by referral to the appropriate specialists. At all times the family is able to choose the best road and timing for themselves.

To date more than 600 families have been referred to medical specialists or general practitioners to follow up such findings as undiagnosed cancer, aortic dissection, haemachromatosis and ischaemic heart disease in the young.

The VIFM considers this service an intrinsic facet of its practice and one which reflects a commitment to the emotional and physical wellbeing of the living through our work with the deceased.