

UNDER THE MICROSCOPE

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THE FORENSIC AUTOPSY

I'm sure for most of you following television, newspaper, or social media have seen the quote, "an autopsy to determine the cause and manner of death will be performed". What is exactly does this entail? The duties of a forensic pathologist are to investigate the death of an individual, assimilate all the medical, scientific and evidentiary information, and relate this to the lay public and, if necessary, to a court of law. How do we go about this very detailed and at times, complicated task?

Review of Paperwork:

Before the actual autopsy, the pathologist needs to review the hospital records, EMS reports, police reports, investigative reports, and photographs. All of this is imperative before the actual autopsy begins.

External Examination:

A very detailed and comprehensive review of the body is performed and all findings are documented. This includes overall examination of the entire surface area of the body, identification marks such as tattoos, dental repairs, scars, previous surgery, and in some cases, x-ray analysis. All injuries are documented with precise description and measurement.

Collection of Evidence:

Depending upon the case, this may include blood cards for future DNA analysis and toxicology collection including vitreous, blood, urine, and at times pieces of tissue. In addition, fingernail scrapings and clippings, rape kit analysis, obtaining bullet(s) for firearm analysis, trace evidence, and fingerprinting are obtained before cleaning the body and beginning your internal examination.

Internal Examination:

After items 1-3 are performed and well documented, the actual "autopsy" begins with the usual Y-incision. All internal organs within the chest and abdominal cavity are examined individually, weighed and measured, and if necessary, representative sections are taken for microscopic examination. Also, depending on the case and findings, cultures for microbiology are obtained. After the chest and abdomen are examined, we proceed to removing the skull cap, and a detailed examination of the brain and at times the spinal cord are performed. Lastly we do a full neck dissection observing any signs of injury, and examination of the larynx/trachea and the thyroid gland.

The Final Autopsy Report:

Typically in three to four weeks, we finalize all the findings in an autopsy report, a word description of the body and its normal and abnormal expressions. This should be done in a logical order and the report should be very comprehensive. The report also includes the toxicology results. Most importantly, we determine a cause and manner of death. The manner of death is one of the following: Natural, suicide, homicide, accident, or undetermined. The cause of death is determined from all the findings mentioned in 1-4 above. An example is ruptured aortic aneurysm which would be a natural death. Or a single contact gunshot wound to the head, which could be a suicide, homicide, or even accidental. This is why review of the scene and various investigative reports are vital in making this determination.