



VICTORIAN INSTITUTE
OF FORENSIC MEDICINE

Fifty Shades of Red:

**CROSS EXAMINATION OF
FORENSIC PATHOLOGY
EVIDENCE**

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WHAT IS FORENSIC PATHOLOGY?



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- Pathology is a medical specialty that deals with the study of disease, its causes and how to diagnose it
- Forensic pathologists have expertise in the diagnosis of injuries, how they were caused and how they may affect a victim
- Focus on medical investigation of sudden or unexpected death (natural, accident, suicide, homicide).
- Perform autopsy examinations and post-mortem CT scans.
- Attend the scene of death.
- Determine the cause of death, diagnose and interpret injury.
- Assist in reconstructing the circumstances of death.
- Interface with the Law – police, Courts.





LETS START AT THE VERY BEGINNING

- Suspicious or homicide cases
 - Notification to the Coronial Admissions and Enquiries Unit (CAE), who then call us – 24/7 on-call roster for the state, one week at a time
 - Contact with the Homicide Squad at an early stage, who brief us on what they know so far
 - Invited to attend the scene of death at the Police's discretion
- Police notification of death to the Coroner document (*Form 83*)
- Police request for immediate autopsy (*Section 27 application*)
- +/- Electronic medical deposition from hospital
- +/- Medical records from GP, nursing home, hospital, ambulance
- Scene photographs
- Sometimes there is little or no information
- Full body post-mortem CT scan
 - +/- antemortem XR, CT, MRI from hospital



THE PATHOLOGIST AT THE SCENE

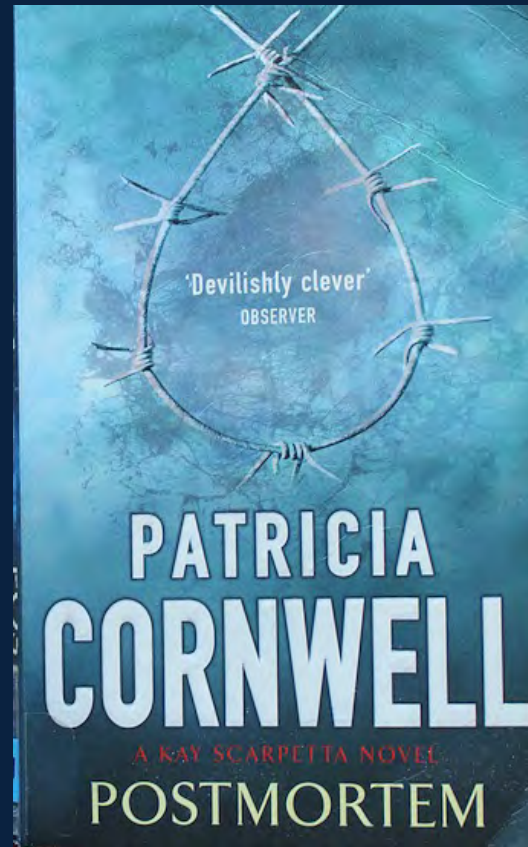
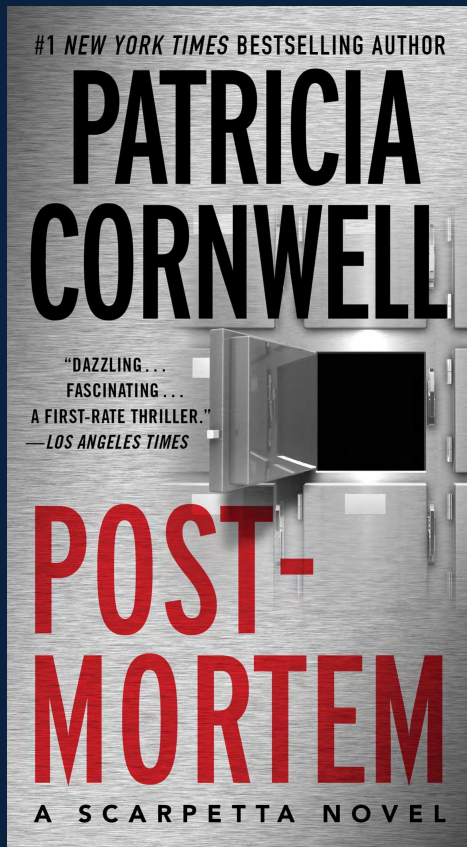
- Usually only very limited examination of the body possible at the scene, and only limited information can be determined with any certainty at the scene
 - "Rule of thumb" regarding injuries
- Assist in collection of evidence and safe recovery and transport of the body.
- Guide further police investigations e.g. possible weapons, has the body been moved, is this suspicious vs not suspicious
 - But does not determine their investigation
- Puts the death and death scene into context for the pathologist
- Determine what injuries are “real” and which might be post-mortem artefact
- Very few conclusions (if any) are made at the scene
 - My approach: *“eyes open, hands in pockets, mouth shut”*
 - Any opinion is provisional





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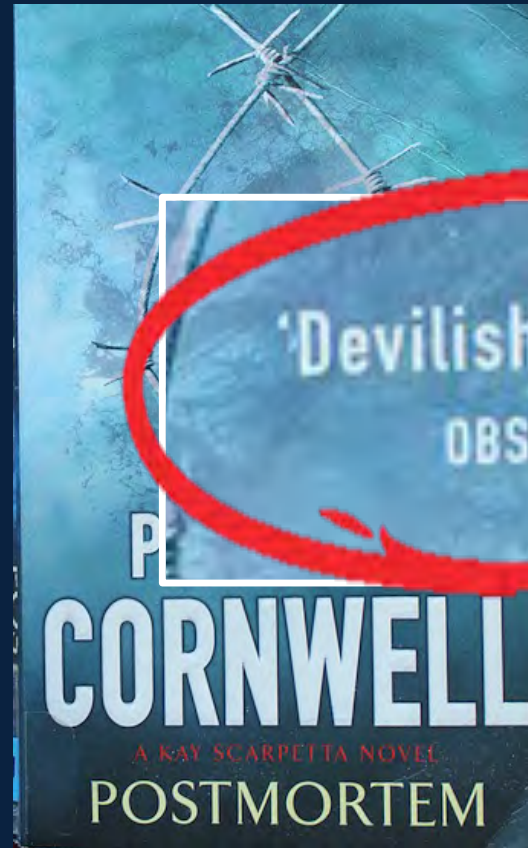
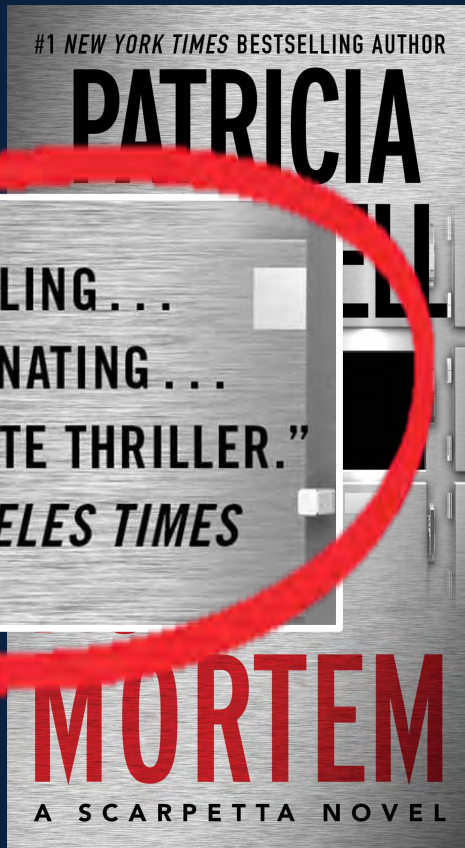
THE AUTOPSY REPORT





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THE AUTOPSY REPORT



THE AUTOPSY REPORT



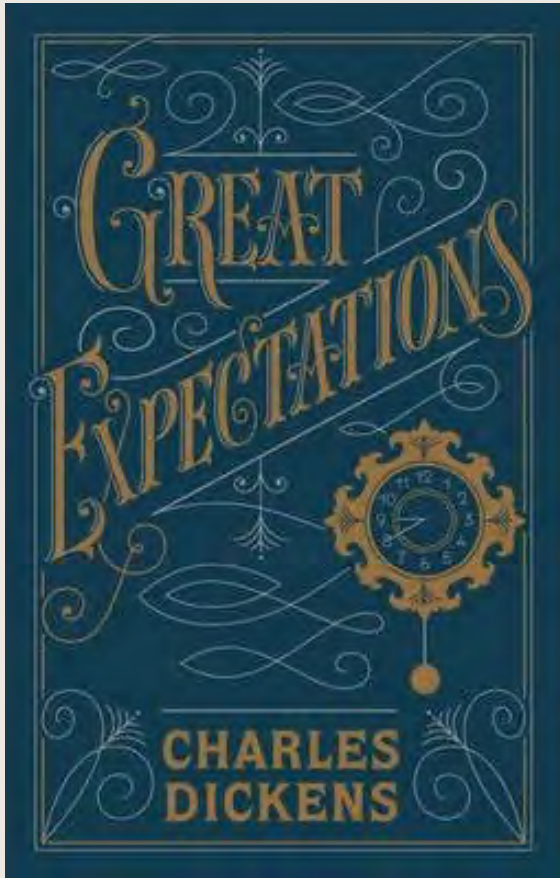
“DAZZLING . . .
FASCINATING . . .
A FIRST-RATE THRILLER.”
—LOS ANGELES TIMES



‘Devilishly clever’
OBSERVER

CONTENTS:

- Outlines the circumstances as we know them, the materials we were provided with and relied on
- Summary of findings
- Cause of death
- Comments
- Findings of the external and internal examination
- Results of ancillary testing
- *We make contemporaneous notes at the time of autopsy, and these are transcribed into the report*



Forensic autopsy reports are prepared for a broad audience including laypeople, Coroners, police, the Court, doctors etc

Each of these groups has their own **“GREAT EXPECTATIONS”** of what it can convey



“GREAT EXPECTATIONS”

The autopsy report has **MEDICAL** content:

- Cause of death
- Injury
 - External injuries (photos)
 - Internal injuries (also photos)
- Natural disease
 - Cause or contributor to death
- Results of ancillary tests including toxicology, histology, biochemistry, microbiology
- Heritable disease
- Diseases of public health significance





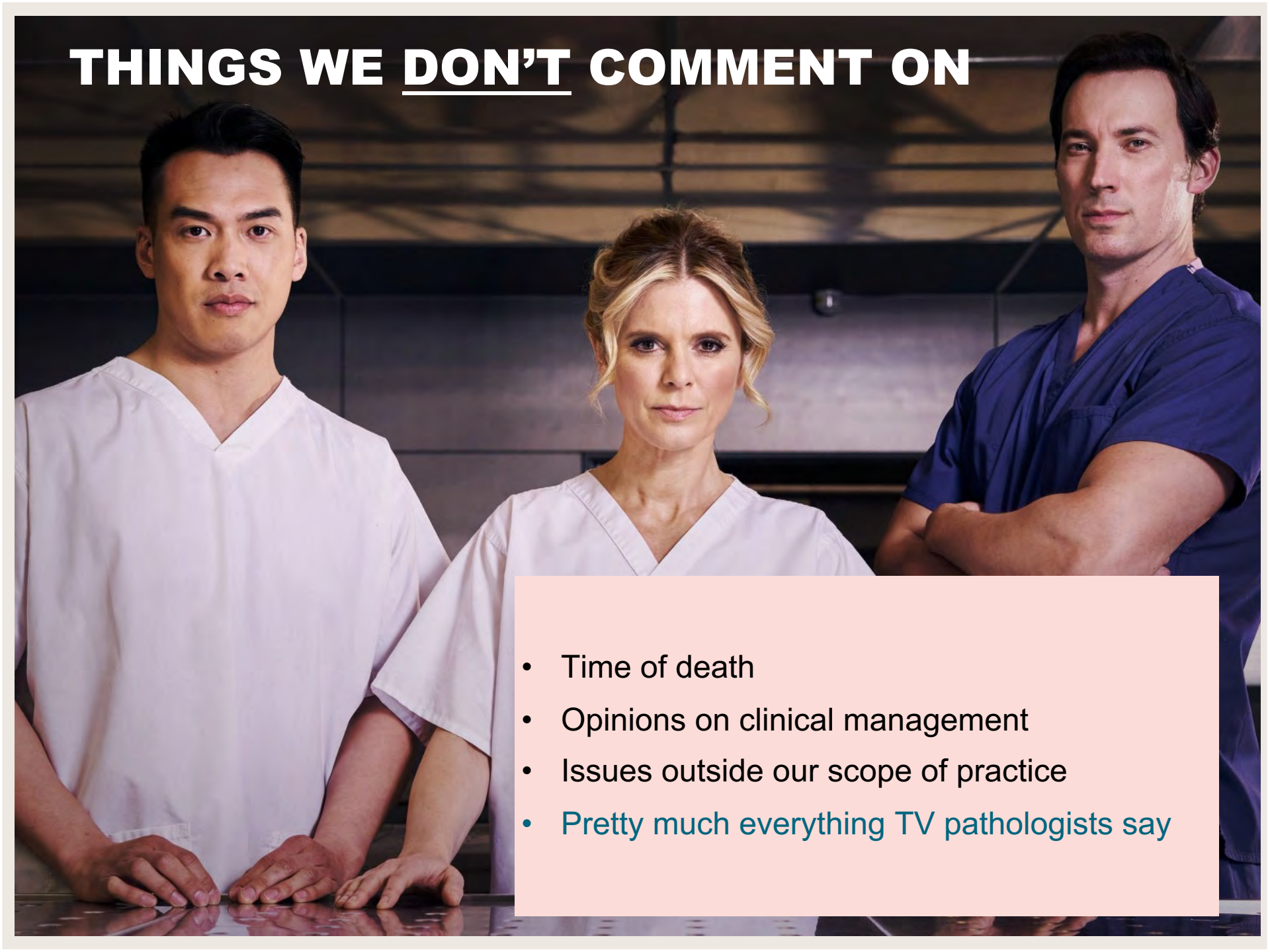
“GREAT EXPECTATIONS”



The autopsy report has **LEGAL** content:

- Helping to reconstruct the event(s)
- Victim’s capacity to act
- Force
- Rule in and rule out
- How did the injuries occur?
- Plausibility
- Manner of death?
- Medical complications
- Confirm expected findings, reveal unexpected findings
- Evidence to present to the Court

THINGS WE DON'T COMMENT ON

- 
- A photograph of three medical professionals standing in a hospital setting. On the left is a man with dark hair wearing white scrubs. In the center is a woman with blonde hair wearing white scrubs. On the right is a man with dark hair wearing blue scrubs. They are all looking directly at the camera with serious expressions. The background shows a hospital corridor with a grid ceiling.
- Time of death
 - Opinions on clinical management
 - Issues outside our scope of practice
 - Pretty much everything TV pathologists say

WHAT CAN'T THE AUTOPSY SHOW?

- Structural disease vs Functional disease
 - Some causes of death (COD) have no anatomical findings
- Some causes of death are by exclusion, rather than inclusion
 - e.g. drowning, SIDS (cot death)
- Sometimes it is the circumstances that determine the COD, not the autopsy
- Artefacts of death can make things tricky:
 - Toxicology (formation of drugs, elevation of drug levels, levels different than during life)
 - Injury or disease mimics
 - Positional issues
- Some tests not possible after death
- Some tests alter after death
- Time of death

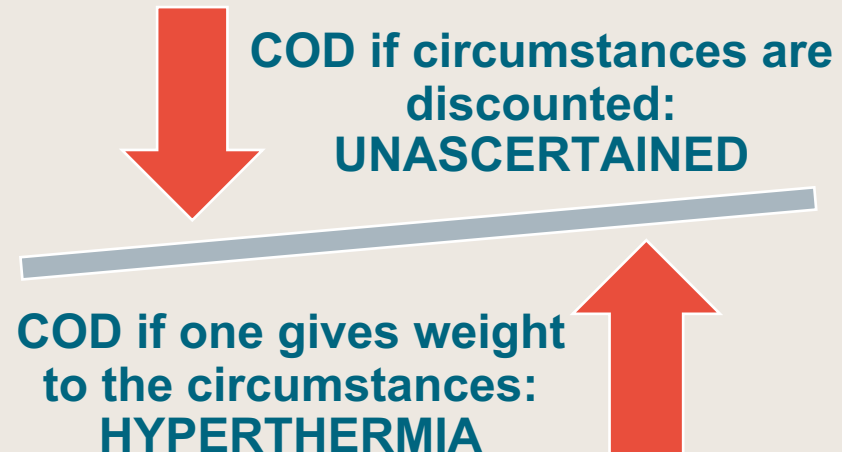
Cause of Death:

"Patient laid down the boogie and played that funky music til he died."



SOMETIME THE CAUSE OF DEATH DEPENDS ON THE CIRCUMSTANCES

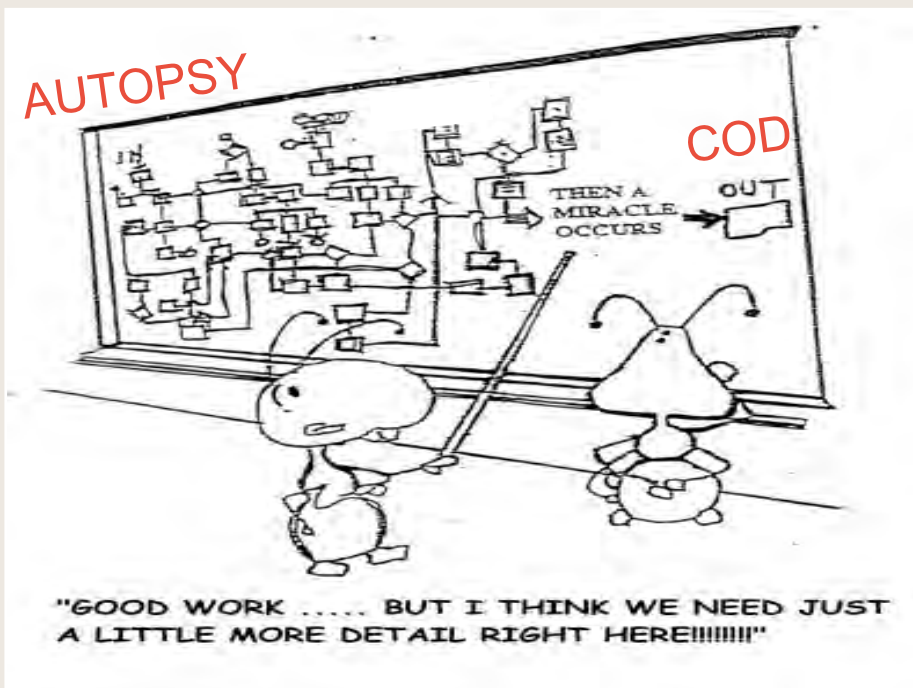
- There are some lethal processes or setting which may have little to see at autopsy or may only show non-specific findings:
 - The findings, in isolation, do not allow one to favour one COD over another.
 - Therefore weight must be given to the circumstances.
 - Plastic bag asphyxia
 - Suffocation/smothering
 - Hyperthermia/hypothermia
 - Drowning
- *Bias? A lecture all on its own...*



THE COMMENTS SECTION

- This should be where we outline the COD, or the lack of a COD, and explain not only medical and legal issues, but areas that may be contentious.
- We should be cognizant of contextual bias in the COD determination – but – should not shy away from making a circumstance-dependent COD.
- *But we must acknowledge what the pathology says and what the circumstances suggest.*
 - Should circumstances change, our opinion may need revision.
 - We do not assess the veracity of accounts; we take them at face value unless we are told otherwise.
 - We recognise they may be later proven erroneous.

THE COMMENTS SECTION



- We may discuss specific issues raised during the investigation.
- Discuss injury patterns, if present
- Clarify areas of debate, provide alternative propositions, give an opinion or favoured diagnosis and why.
- Comments on role of natural disease.
- Comments on role of toxicology.

ISSUES OF FORENSIC IMPORTANCE

- Some of the important forensic issues remain problematic to answer with a sound evidence basis:
 - Time of death
 - Force required: beating, stabbing, fractures, to cause injury
 - How long it takes to die
 - How long it takes to develop certain pathology findings
 - How injury is caused:
 - Accidental head injury vs non-accidental head injury in an infant
 - Is the injury from the punch or the fall
- Tension between medicine and the law: “consistent with”
 - There are terms that are widely used in medicine but cause issues for the Court.
 - Medicine is well acquainted with shades of grey (or red)
 - But this does not always translate into legal parameters “beyond reasonable doubt”



MANDATORY SECOND REVIEW

- Before they are signed out, certain types of case undergo an independent second review by another pathologist to ensure that the findings are reviewable, reasonable and the conclusions are accurate
- Case types:
 - Homicide
 - Infant and child deaths
 - Death due to fire
 - Death in custody
 - Where the COD is unascertained



Blinded review with sequential unmasking of information to the reviewing pathologist, to address the issue of cognitive bias



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SECOND OPINIONS



- We recognise that separate defence opinions are sought and welcome the review
- VIFM is an independent body with pathologists who clearly see themselves as an independent expert whose **primary role is to serve the Court**
- Most pathologists at VIFM regularly assist with the provision of defence opinions interstate or internationally
- Communication and frank dialogue is essential
- It is likely that the degree of any difference of opinion between experts is normal for certain issues (there are **MANY DIFFERENT** shades but they're all **RED**)
- Wildly divergent opinions should give pause for thought





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FORENSIC PATHOLOGISTS AND THE TRIAL



WHAT WE LOOK LIKE FROM THE OUTSIDE



WHAT WE ACTUALLY FEEL LIKE INSIDE

WE ARE INDEPENDENT WITNESSES FOR THE COURT

- We are always available for and open to communication from **all** parties:
 - Both defence and prosecution.
- It is, in fact, welcomed.
- The very rare cases where I have had pretrial meetings with the defence have been enriched by the experience.
- We can help you, and it also helps us be the best witness for the Court.
 - Clarify the findings of our examination
 - Explain what we are trying to convey
 - Explain how to pronounce the medical terms
 - Discuss the merits of your case and propositions
 - Discover what might be best NOT to ask us
 - Phrase questions in a way that makes medical sense and yields the best answer – words have specific meanings and connotations
- Issues with accessibility, quality and cost of obtaining formal second opinions.



HOW TO WIN OVER YOUR FORENSIC PATHOLOGIST IN COURT



- Introduce yourself
- If we say things that aren't clear or need translation from medical-speak back to normal-speak...
 - Please ask us what we mean
 - We genuinely enjoy “teaching” folks about our field
- Have a pretrial meeting
 - **We are independent witnesses for the Court**
 - Hopefully we will have assisted with clarification, exploration and discussion of your case
 - Meaning we can have a productive and courteous dialogue during cross examination.
- Remember those issues of forensic significance I discussed earlier?
 - Sometimes we can't give a definitive answer because the issue is not readily answerable or has a weak evidence base
 - We aren't being obstructive to your case, we're just limited by what we can say by the strength of the evidence
 - If there is merit to your theory, we will concede this either fully or in part (shades of red)

HOW **NOT** TO WIN OVER YOUR FORENSIC PATHOLOGIST IN COURT



- Refer to us as a “prosecution witness”
- Don’t have a pretrial meeting
 - It is tiger territory to ask questions that you don’t know how we will answer
 - We can be a resource for your case and will assist you where we can
 - Asking questions that make little medical sense
 - Remember: we act as defence pathologists as well, so we know how rewarding a good defence/pathologist relationship can be
- Personal attacks and attempts to belittle
 - Do not assume we are hostile to your case (we aren’t)





- Kumar V, Abbas A and Fausto N. Robbins and Cotran Pathological Basis of Disease. Elsevier Saunders
- Di Maio VJM, Di Maio D. Forensic Pathology CRC Press Inc.
- Saukko P, Knight B. Knight's Forensic Pathology , Arnold Publishing. Vanezis P. Pathology of Neck Injury. Butterworths.
- Dolinak D, Matsches E, Lew E. Forensic Pathology. Principles and Practice. Elsevier
- Tsokos M (ed). Forensic Pathology Reviews. Humana Press.
- Payne-James J, Byard R, Corey T, Henderson C. Encyclopaedia of Forensic and Legal Medicine. 4 Vols. London: Elsevier.
- Byard RW. Sudden Death in Infancy, Childhood and Adolescence (Cambridge Byers SN. Introduction to Forensic Anthropology. Boston: Allyn and Bacon, Boston.
- Di Maio VJM. Gunshot Wounds: Practical Aspects of Firearms, Ballistics, and Forensic Techniques. CRC Press Inc.
- Dodd M. Terminal Ballistics: a Text and Atlas of Gunshot Wounds. CRC Taylor and Francis
- Drummer OH, Odell M. The Forensic Pharmacology of Drugs of Abuse Arnold Publishing
- Karch SB. Karch's Pathology of Drug Abuse, CRC Press
- Baselt, RC. Disposition of Toxic Drugs and Chemicals in Man.
- Burke MO. Forensic Medical investigation of Motor Vehicle Incidents. Taylor and Francis
- Leetsma "Forensic Neuropathology"



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