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Quality Assurance in Forensic Pathology: The Approaches to Peer Review

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Disclosures of Conflict of Interest

- No financial disclosures.
- Firm believer in the Peer Review process.

Learning Objectives

At the end of the presentation, participants will be able to

1. Define peer-review in the practice of forensic pathology.
2. Explain the necessity, rationale and significance of peer review.
3. Describe, compare and contrast the approaches to the peer-review of postmortem examination reports in England and Wales (Home Office), the Province of Ontario (OFPS) and VIFM (Melbourne, Australia)

Peer-Review (PR) in Forensic Pathology

- One of the main QA measures
- Promotion and maintenance of overall quality through effective checking of reports to assess the reasonableness of the examinations performed and correct interpretation of the findings and conclusions/opinions.
- Utility of Peer Review (PR): Detections of:
  - Errors of misinterpretation
  - Errors of "lack of recognition/missed findings"
  - Errors of omission
  - Failure of pursuit of pertinent ancillary investigations (confirmation/exclusion)
- Concept of PR
  - not been accepted and adopted universally
  - Variable international utilisation (0% - 100% of reports).

Impact of Errors

Errors do not necessarily need to be large to have a large impact

Range of Materials for Review*

- Draft Final PME report
- Summary of Circumstances of Death
- Summary of Scene Examination/Photographs
- Postmortem Examination Photographs
- Routine histology slides*
- Relevant analytical results (biochemistry, toxicology, microbiology etc)
- Specialist Pathology Consultation reports
  - neuropath,
  - cardiac path

*It may not be necessary to review all materials**

Approaches to Peer Review 1

1. Prospective Peer Review

- Informal vs formal
- Preventive tool
- More likely to be performed in homicidal/criminally suspicious deaths, SUDI and high-profile cases.

2. Retrospective Peer Review

- Not a preventive tool
- Audit of the standard of practice
- Performed on a proportion of ***other*** signed-out routine medicolegal cases.

Approaches to Peer Review 2

1. **Individualistic**

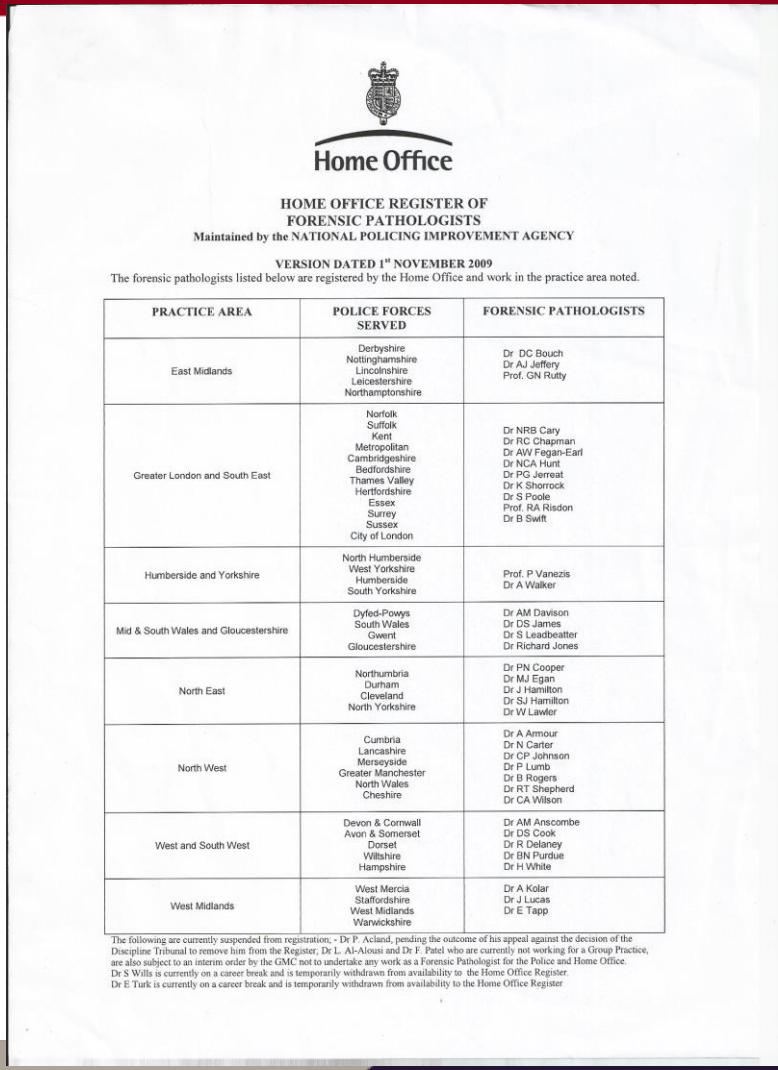
2. **Committee**

Approaches to Peer Review 3

1. **Unblinded Peer Review**
   - ➢ No redaction of contextual information
   - ➢ More frequent
2. **Blinded Peer Review**
   a. Redaction of contextual information
   b. Reviewer blinded as to context
   c. Linear Sequential Unmasking

England and Wales

- Register of forensic pathologists held by the Home Secretary
  - **Home Office Register of Forensic Pathologists**
  - aka Home Office List
- **Group Practice Structure**
  - Geographical region of coverage
  - 8 group practices
  - Minimum of 3 FPs in a Group Practice



Home Office

HOME OFFICE REGISTER OF FORENSIC PATHOLOGISTS
Maintained by the NATIONAL POLICING IMPROVEMENT AGENCY

VERSION DATED 1st NOVEMBER 2009
The forensic pathologists listed below are registered by the Home Office and work in the practice area noted.

PRACTICE AREA	POLICE FORCES SERVED	FORENSIC PATHOLOGISTS
East Midlands	Derbyshire Nottinghamshire Lincolnshire Leicestershire Northamptonshire	Dr DC Bouch Dr AJ Jeffery Prof. GN Rutty
Greater London and South East	Norfolk Suffolk Kent Metropolitan Cambridgeshire Bedfordshire Thames Valley Hertfordshire Essex Surrey Sussex City of London	Dr NRB Cary Dr RC Chapman Dr AW Fegan-Earl Dr NCA Hunt Dr PG Jerreat Dr K Shorrock Dr S Poole Prof. RA Risdon Dr B Swift
Humberside and Yorkshire	North Humberside West Yorkshire Humberside South Yorkshire	Prof. P Vanezis Dr A Walker
Mid & South Wales and Gloucestershire	Dyfed-Powys South Wales Gwent Gloucestershire	Dr AM Davison Dr DS James Dr S Leadbeatter Dr Richard Jones
North East	Northumbria Durham Cleveland North Yorkshire	Dr PN Cooper Dr MJ Egan Dr J Hamilton Dr SJ Hamilton Dr W Lawler
North West	Cumbria Lancashire Merseyside Greater Manchester North Wales Cheshire	Dr A Armour Dr N Carter Dr CP Johnson Dr P Lumb Dr B Rogers Dr RT Shepherd Dr CA Wilson
West and South West	Devon & Cornwall Avon & Somerset Dorset Wiltshire Hampshire	Dr AM Anscombe Dr DS Cook Dr R Delaney Dr BN Purdue Dr H White
West Midlands	West Mercia Staffordshire West Midlands Warwickshire	Dr A Kolar Dr J Lucas Dr E Tapp

The following are currently suspended from registration; - Dr P. Acland, pending the outcome of his appeal against the decision of the Discipline Tribunal to remove him from the Register; Dr L. Al-Alousi and Dr F. Patel who are currently not working for a Group Practice, are also subject to an interim order by the GMC not to undertake any work as a Forensic Pathologist for the Police and Home Office.
Dr S Wills is currently on a career break and is temporarily withdrawn from availability to the Home Office Register.
Dr E Turk is currently on a career break and is temporarily withdrawn from availability to the Home Office Register

Peer Review in England and Wales

- **Mandatory prospective review** of **every draft final PME report** by another HORFP, *irrespective of* the cause and manner of death.
- Nature of Peer Review
  - **Individualistic**
  - **Unblinded**
  - **"In-house" within Group Practice**
  - Reviewer Pathologist (RevPath) assigned by Group Practice Manager/Senior Forensic Pathologist
  - Conclusions must be **Reasonable** and **Reviewable**
  - If disagreement arises between RevPath and RepPath, then Review Trio is appointed by Home Office

England and Wales Model 2

- RevPath reviews the report in accordance with stated guidelines
- *Not possible/necessary to review all material**
- If RevPath agrees that (i) PME was adequate and (ii) the conclusions reached are reasonable, it must be confirmed in writing
- If RevPath is unable to confirm adequacy of the examination or reasonableness of the conclusions, issues must be discussed with RepPath to achieve resolution.
- If RevPath cannot confirm the report, then report will be considered by a trio of HORFP (RevTrio) appointed by the Chair of Home Office Pathology Delivery Board (PDB)

England and Wales: Differences of Opinions

Reviewer Trio

- Selected from different Group Practice(s)
- Review of identical materials
  - adequacy of the postmortem examination and
  - reasonableness of the conclusions reached.
- Issuance of signed written conclusion
  - Chair of the PDB for any necessary action.
- Refer any relevant comments to the Disciplinary Committee of the PDB if necessary.

Ontario Forensic Pathology Service

- Largest single medicolegal death investigation system in the world (geographically)
- Works collaboratively with the Office of the Chief Coroner for Ontario (OCCO)
- Chief Forensic Pathologist + 2 Deputy Chief FPs
- Forensic Pathology Advisory Committee (FPAC)
- Provincial Death Investigation Oversight Committee (DIOC)
- Register of Pathologists (3 categories)

OFPS Register of Pathologists

Category A – Can perform all types of cases

Category B – Can perform only criminally non-suspicious adults

Category C – Can perform only criminally non-suspicious children

OFPS Operational Structure

- Six (6) FP Units
  1. Provincial Forensic Pathology Unit (Toronto)
     a. Seat of OFPS
     b. Base of CFP
  2. Five (5) Regional Forensic Pathology Units
     a. Ottawa
     b. Kingston
     c. London
     d. Sudbury
     e. Sault Ste Marie
- Each Regional FPU headed by a Medical Director who reports to the Chief FP
- Robust Quality Assurance System

Approaches to Peer Review in the OFPS

1. **Individualistic Reviews**
   a. Homicides/Criminally Suspicious cases
   b. Non-criminally suspicious cases (routine cases)

2. **Committee Reviews**
   a. Child Injury Interpretation Committee (CIIC)
   b. Contentious Case Expert Panel (CCEP)
   c. Other OCCO Committees

OFPS Peer Review: Judicial Cases

- Mandatory review of **all** reports on examination performed by a category A pathologist (FP) on the OFPS Register **that will go before a court** (prelim inquiry, trial, inquest) by another Category A Pathologist (FP) on the OFPS Register
- Centralised submission of draft reports (Office of CFP/OFPS) + random allocation of a reviewer anywhere in Province.
- **Unblinded review; Individualistic**
- Completion and submission of a standardised peer-review form completed and submitted
- Disagreements of opinion referred to Chief FP for ratification

ONTARIO FORENSIC PATHOLOGY SERVICE

Peer Review Form

CASE DATA	
Name of Deceased	
Autopsy File Number	
Date of Autopsy	
Pathologist	
Coroner	
Regional Supervising Coroner	
Reviewing Pathologist	

ITEMS REVIEWED	Yes	No	N/A
Postmortem examination report			
Photographs			
Microscopic slides			
Toxicology report			
Other (specify):			

Part 1: ADMINISTRATIVE AUDIT	Yes	No
Name and autopsy number recorded on report		
Recommended template used		
History provided		
Opinion provided		
Cause of death provided		
Disclosure of retained samples and organs provided		

Part 2: TECHNICAL AUDIT	Yes	No
Descriptions are satisfactory		
Appropriate ancillary testing performed		
Report is free of major language errors		
Report is independently reviewable		
Cause of death is reasonable		
Other opinions are reasonable		

The Chief Forensic Pathologist must be notified by the Reviewing Pathologist, if "no" is recorded in part 1 or 2, or if the turnaround time exceeds 12 months.

The pathologist who performed the postmortem examination is responsible for providing testimony on the autopsy.

A copy of this evaluation is to be submitted to the OFPS (OFPS@ontario.ca)

Signature of Reviewing Pathologist _____ Date _____

Effective: January 1, 2013 Peer Review Form Page 1 of 1
Authorized By: Dr. M. Pollanen P-FORM-02

ONTARIO FORENSIC PATHOLOGY SERVICE

Peer Review Form Submit by Email

CASE DATA	
Name of Deceased	**Anthony DECEDENT**
Autopsy File Number	**FA-21-12345**
Date of Autopsy	**February 11, 2021**
Pathologist	**Dr. James Quincy**
Coroner	**Dr John H Watson**
Regional Supervising Coroner	**Dr Sherlock Holmes**
Reviewing Pathologist	**Dr Alfredo E Walker**

ITEMS REVIEWED	Yes	No	N/A
Postmortem examination report	✓		
Photographs	✓		
Microscopic slides		✓	
Toxicology report	✓		
Other (specify):Warrant, Vitreous biochemistry report	✓		

Part 1: ADMINISTRATIVE AUDIT	Yes	No
Name and autopsy number recorded on report	✓	
Recommended template used	✓	
History provided	✓	
Opinion provided	✓	
Cause of death provided	✓	
Disclosure of retained samples and organs provided	✓	

Part 2: TECHNICAL AUDIT	Yes	No
Descriptions are satisfactory	✓	
Appropriate ancillary testing performed	✓	
Report is free of major language errors	✓	
Report is independently reviewable	✓	
Cause of death is reasonable	✓	
Other opinions are reasonable	✓	

A conflict of interest (COI) is any situation - actual, potential or perceived - where a peer reviewer's interests may be incompatible or in conflict with his or her duties as a peer reviewer.

CONFLICT OF INTEREST	Yes	No
		×

The Chief Forensic Pathologist must be notified by the Reviewing Pathologist, if "no" is recorded in part 1 or 2, or if the turnaround time exceeds 12 months. The pathologist who performs the postmortem examination is responsible for providing testimony on the autopsy. A copy of this evaluation is to be submitted to the OFPS (OFPS@ontario.ca)

Signature of Reviewing Pathologist _____ **Date** May 6, 2021

Effective: November 8, 2020 Peer Review Form Page 1 of 1
Authorized by: Dr. M. Pollanen P-FORM-05.03

OFPS Peer Review of Non-Judicial Cases

- 100 % technical audit of pathologists who conduct less than 20 cases per year
- 100 % unascertained cases
- 100% natural deaths under 40 years of age
- 10% random audit of all pathologists and peer review of all criminally suspicious cases.

OFPS: Peer Review of Non-Judicial Cases

- No centralized submission of draft final reports
- Random allocation of report
- Individualistic review
- Similar OFPS Peer Review form

Committee Reviews

OFPS Child Injury Interpretation Committee

- Established August 2017 by the Chief FP via Memo
- Mandate: Prospective review of pediatric autopsies performed by OFPS prior to issuance of report
- Committee review
- Criteria for CIIC Review
  1. **Suspected Physical child abuse**
     a. fatal/non-fatal injuries attributed to NAI mechanism
  2. **Neglect** (inclusive of lack of food and/or water)
  3. **All "Triad cases"**
     a. whether or not CoD attributed to head injury

Membership of CIIC

- **Two (2) reporting OFPS-registered Pathologists** (forensic pathologist +/- neuropathologist)
- **Two (2) FPs from a Regional FPU** of the OFPS
- *FP from outside Ontario***
- **Child Abuse Pediatrician** (Toronto Sick Kids Hospital SCAN team)
- Quorum of Four (4)
- **Committee Chair**

CIIC Review Procedure

- PPT case presentation by reporting FP
  - Salient findings
  - Opinions and Reasoning
- CIIC
  - Aims to achieve consensus on relevant medicolegal issues eg CoD, mechanism of injuries, etc
  - Makes recommendations on additional ancillary investx.
  - If unable to achieve consensus, points of disagreement must be recorded by the Chair in meeting minutes, appended to the PME report and disclosed to Crown Attorney and Chief FP

Critical Analysis of the Case

1. What is the Cause of Death?
2. What are the key physical findings at autopsy?
3. How did the physical findings inform your conclusions about CoD?
4. How did you ascertain the presence of these features?
   a. postmortem imaging, direct visual examination, histopathology, other ancillary invx
5. Are the described findings verifiable?
   a. How are they documented?

Cordner S, Ehsani J, BugejaL, Ibrahim J. ***Forensic Pathology: Limits and Controversies. VIFM submission to the Goudge Inquiry, Nov 2007***

Critical Analysis of the Case

6. Are the findings beyond the scope of the individual pathologist?
7. Are the observed signs of injury of non-accidental origin?
8. Assessment of the degree of certainty that the identified injuries are NAI.
9. Have the identified features in this case ever been reported in the literature as accidental in nature?
10. Is the evidence base relied on this this case definitive and unequivocal?
11. Would your peers come to the same conclusion based on the observed findings in this case? If not, why not?
12. Determination of Aging/Timing of Injuries
    - degree of accuracy/reliability

OFPS: Contentious Case Review Committee

- Contentious Case Expert Panel (CCEP)
- **Established to deal with cases in which substantive disagreements arise between reviewer and reporting pathologist and both concede that consensus cannot be arrived at.**
- Composition of CCEP
  - ❖ Autopsy pathologist
  - ❖ Initial Reviewer
  - ❖ Chair of the CCEP (selected annually by FPAC)
  - ❖ >3 Senior FPs chosen from FPAC
  - ❖ +/- Senior FP from outside Ontario (International Experts)

CCEP

- Prepare a PR document (letter) for case reviewed
- PR document replaces the standard PR form
- Content of PR doc
  1. Nature of the contentious issues
  2. Discussion of Issues
  3. Opinions of Committee
     a. Range of opinions
     b. Principal determinations/Consensus
- PR doc must be appended to the final report

Chair of the CCEP

- Updates CFP on outcome of PR
- Provide a copy of the PR doc to the CFP if it is felt that the RepPath
  - Expressed unreasonable opinions
  - Made a significant error
  - Did not acknowledge that a significant error was made
  - Error could have resulted in an unintended outcome (miscarriage of justice)

Melbourne, Australia
Victoria Institute of Forensic Medicine

Linear Sequential Unmasking: VIFM

- Used for cases likely to go to criminal proceedings
- Individualistic review
- Review conducted in two parts by same FP
- Draft final report split into Part A and Part B

Objectives of Part A Review

- To establish a context-free assessment of
  1. Accuracy and reviewability of external observations
  2. Accuracy and reviewability of internal observations
  3. Accuracy of histology reporting
  4. Grammatical/typographical errors
  5. Compliance with PME format
  6. Accuracy of anatomical findings

Part A Review

Redacted Draft Report

- **Draft report without background information, conclusions and opinions**
- Aim is to determine if described observations/findings in report are correct
  - External examination
  - Internal examination
  - Histological assessment
  - Summary of anatomical findings
  - Toxicological results
  - Postmortem imaging results
  - Results of other ancillary tests

Reviewed Against

- **Anonymized case materials** (to prevent identification of specific case from Case Management System)
  - Disc of Photographs
  - Disc of PMCT images (unlinked to CMS)
  - Histology slides
  - Toxicology report

Objectives of Part B Review

- Recognition that contextual/background information is of variable importance in case synthesis
- To ensure that the background information has been properly used to inform the Cause of Death, Conclusions and Expert Opinions in a transparent, logical and clear manner

Part B Review: Unmasking of Background Information

Materials

- Circumstances of Death
- Scene Examination
- COD statement
- Conclusions
- Expert Opinions

Assessment

- Role of background information in context of the observations/findings in the determination of:
- Reasonability of COD
- Reasonability and adequacy of Conclusions and Expert Opinions
- Grammatical/typographical errors

Summary

- Peer Review is an integral component of Quality Assurance in Forensic Pathology
- Peer Review should be instituted in all departments
- There are many approaches to PR
  a. Prospective vs Retrospective
  b. Unblinded vs Blinded
  c. Individualistic vs Committee
- Each department needs to adopt the components of PR which are best suited for its local QA

References

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- Email communication: Dr Linda Iles, Head of Forensic Pathology, VIFM

Thank You.
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