

Daniel Zuriel

Pathologist

UON- 2021

MEDICOLEGAL AUTOPSY

What Is Forensic Pathology

- Application of medicine to matters of the law
- Providing an opinion as to the cause and manner of death
- Performing a detailed examination
- Testifying in court to that opinion

Medicolegal Death Investigation

- On scene evaluation of circumstances
 - Police input
 - Witnesses
 - Family
- Medical history
 - Natural disease
 - Prescription medication
 - Abuse of drugs, alcohol
- Autopsy examination
- Law Enforcement records/ investigations

Typical Scenes

- Homicide
- Suicide
- Child deaths
- Skeletal remains
- Anything suspicious-post med procedures

Autopsy Examination

- “To see for oneself”
- External examination
- Internal examination

External Examination

- Identification
 - Scientific
 - DNA
 - Dental records
 - Medical devices
 - Circumstantial
 - Physical features
- Disease
- Injury/trauma
- Identify, collect and preserve evidence

Preservation of Evidence

- Envelopes
- Documentation on paper
- Photographs

Tools

- Camera
- Body diagram
- Ruler/scale
- Unique identifying number

Autopsy Purposes

- Establish cause and manner of death
- Identify, recover, and preserve evidence
- Provide a factual & objective medical report
- Separate natural deaths from unnatural
- Provide interpretation and correlation of facts and circumstances

Autopsy Findings

Type of weapon used

- Consistency of wounds and evidence
- Determination of fatal wound
- Length of time of victim survival
- Whether body was dragged or dumped
- Vectors of applied force

Internal Examination

- Exposure of the chest, abdominal and cranial cavities
- Examination of the organs in relationship to each other and alone
- Documentation

What am I looking for?

- Evidence of trauma
- Evidence of natural disease
- Evidence of involvement of another individual

Cause and Manner of Death

- Cause
 - The disease or injury that initiated the chain of events which resulted in death
 - Cardiopulmonary arrest **IS death**, not the cause of death.
- Manner
 - Suicide
 - Homicide
 - Accident
 - Natural
 - Undetermined

Medico-Legal Autopsies

- **Must** be performed by certified forensic pathologists
- Identification of the body all identifying features must be entered into the autopsy protocol

Medico-Legal Autopsies:

➤ Estimation of Death:

Rigor Mortis -body stiffens 2-3 hrs,
complete at 6-8 hrs.,

remains until 12-36 hours

Livor Mortis-usually seen 6-8 hours after
death , complete 8-12 hours

Algor Mortis-initial plateau of slow cooling
lasting up to 5 hours

Medico-Legal Autopsies:

➤ Examination :

External :

clothing, firearm injuries etc. must be saved to be used as evidence

attention must be directed to weight, height
complexion, color of hair, eyes, hair, scars,
tattoo, puncture marks, bruises etc.

Medico-Legal Autopsies

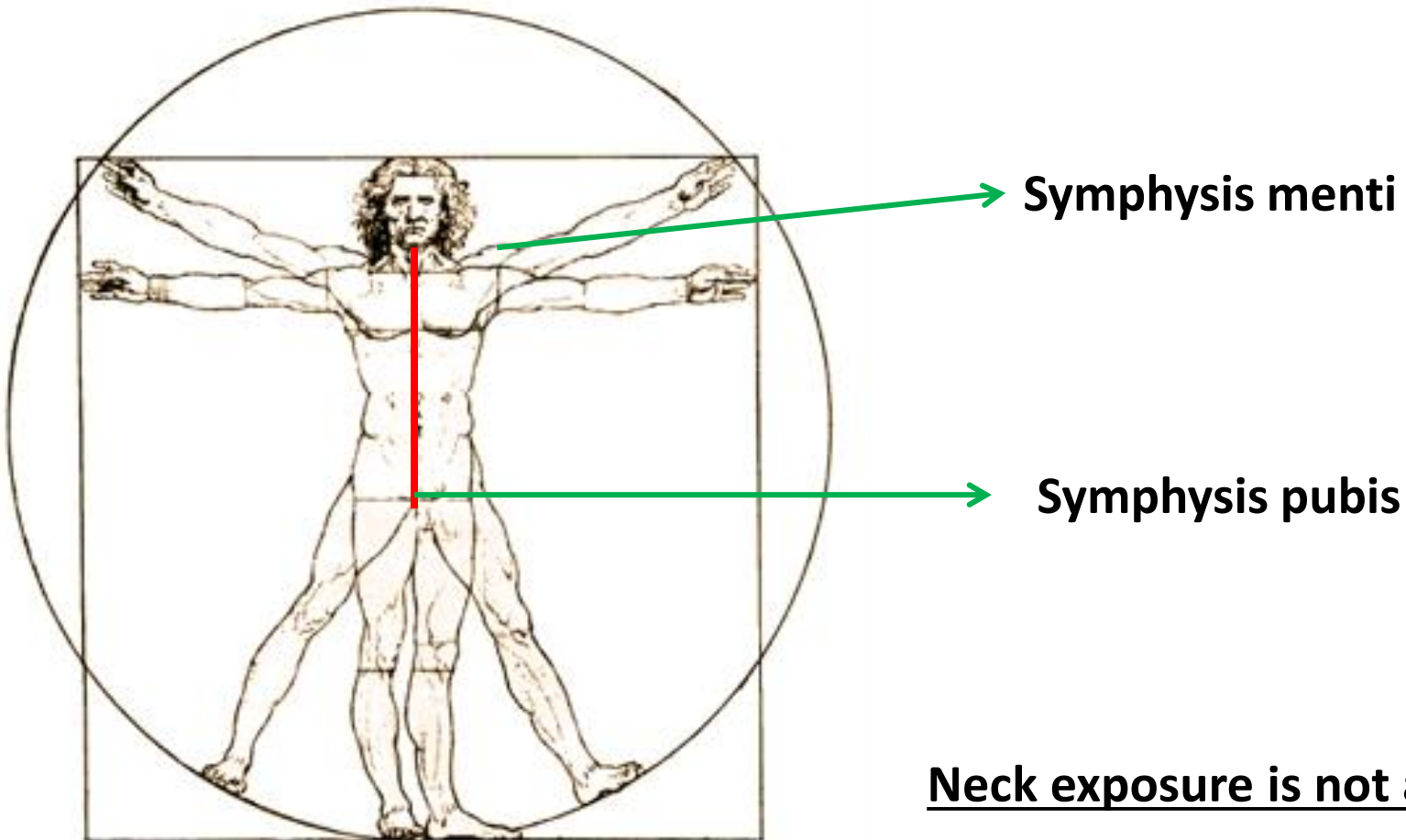
➤ Internal

Virchow's technique is used if cause of death is not apparent the following order of organ examination must be followed

1. Heart
2. Pulmonary arteries
3. Brain – externally and with one cut to the pons
4. Larynx and Trachea
5. Remainder of organs

Conventional Methods in Practice

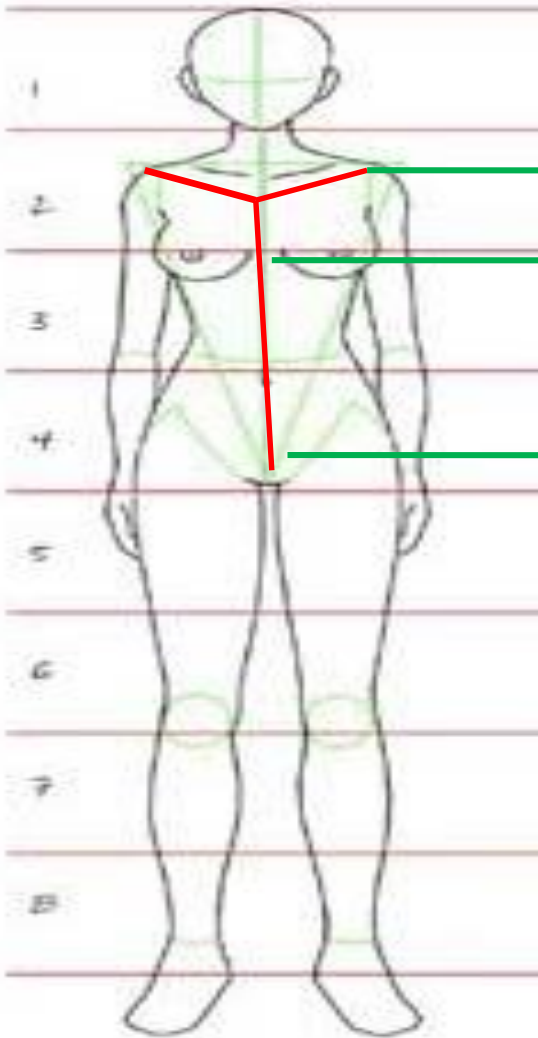
The I-shaped incision



Neck exposure is not adequate

Conventional Methods in Practice

The Y-shaped incision



→ Point close to the acromion process

→ Xiphoid process

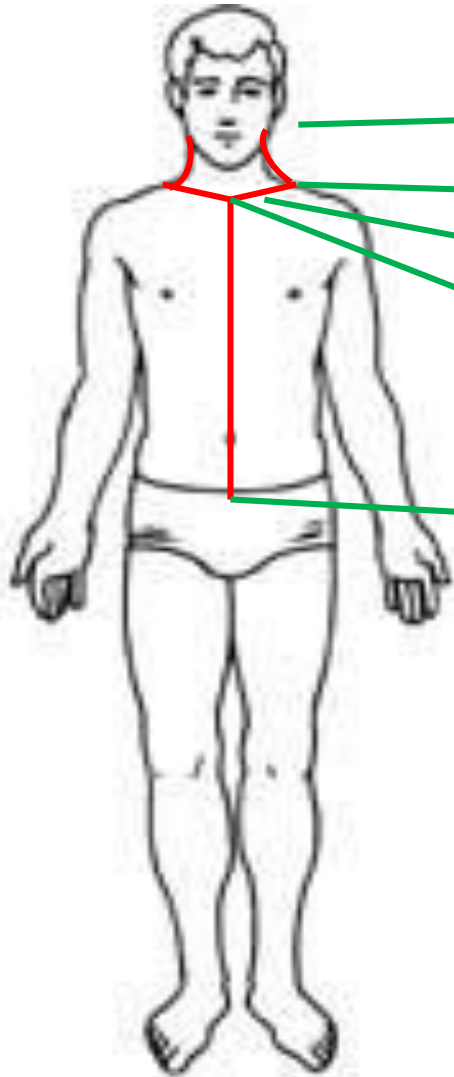
→ Symphysis pubis.

- Difficult visualization of the neck structures

- The stitches in the front of the neck are absent

Conventional Methods in Practice

The modified Y shaped incision



Behind the ears

Midclavicular point bilaterally

Over the clavicle

Suprasternal notch

Symphysis pubis

- Visualization the neck is achieved
- The stitch marks in the front of the neck remain exposed

Wt/ external examination



Modified Y incision



Internal examination



Classical Autopsy techniques

- written in German by Rossle
 1. Albrecht
 2. Fischer
 - * 3. Ghon
 4. Heller
 - * 5. Letulle - all en block.
 6. Nauwerck
 - * 7. Rokitansky
 - * 8. Virchow
 9. Zenker

* Principal techniques

Principal Autopsy Techniques

➤ Technique by R. Virchow

organs are removed one by one

most widely used method with some
modifications

Principal Autopsy Techniques

➤ Technique of C. Rokitansky

in situ dissection combined with en bloc removal

Principal Autopsy Techniques

➤ Technique of A. Ghon

- Thoracic and cervical organs,
- Abdominal and urogenital organs are removed as organ blocks

Death Certificate

- Legal documentation that named person is dead
- Cause and manner of death
- Other significant factors
- Vital statistics and records

Cause of death & Certification



REPUBLIC OF KENYA
THE BRITISH AND DEATHS REGISTRATION ACT
(Cap. 149)

PERMIT FOR BURIAL

Serial No. DA 672077
 1. NAME OF DECEASED: Peter ITHUSA MACHARI
 2. IDENTIFICATION PASSPORT NUMBER: _____
 3. SEX: Male Female 4. AGE: 36 yrs. 5. DATE OF BIRTH: 09-02-2014
 6. USUAL RESIDENCE: _____
 7. MARITAL STATUS: (a) Married (b) Divorced (c) Widowed
 8. PLACE OF DEATH: Kajiado
 9. USUAL RESIDENCE: _____
 10. LEVEL OF EDUCATION: _____ 11. OCCUPATION: SEVERE HEAD
 12. CAUSE OF DEATH (PRINT IN BLOCK LETTERS, DO NOT WRITE IN CURSIVE): BLUNT FORCE TRAUMA
 13. MANNER OF DEATH: ACCIDENT
 14. NAME: DANIEL SURIEL 15. TITLE: REGISTRAR
 16. DATE: 13.02.2014 17. SIGNATURE: _____
 18. DATE: _____ 19. REGISTRATION ASSISTANT FOR: _____ 20. SIGNATURE: _____
 21. DISTRICT: _____ 22. REGISTRATION NO.: _____
 23. DATE: _____ 24. NAME: _____ 25. SIGNATURE: _____

Autopsy Report

- Documentation of all the external and internal findings
- Pertinent positives and negatives
- Summary of all additional tests
 - Toxicology
 - Histopathology
 - Microbiology

Additional Functions

- Interacting with families
- Interacting with the media
- Interacting with law enforcement and the court system
- Public Health reporting

Interacting with Family

- By phone or in person
- Explain the autopsy findings
- Inform them of pending results
- Listen

Interacting with the Media

- Responsibility to the public
 - Education
 - Protection
- Responsibility to law enforcement
 - Protect the investigation
- Responsibility to the family
 - Privacy
 - Identification and notification

Testifying in Court

- Fact witness
 - Can only testify to what s/he saw or heard
 - “just the facts, ma’am”
- Expert witness
 - Presents an opinion given an evaluation of the facts
 - The autopsy results are the facts
 - The cause and manner of death are the opinion

Testifying in Court

- Preliminary Hearings
- Grand Jury testimony
- Full trial
- Criminal or civil courts

Education

- Undergraduate degree (MBChB) 5-6 yrs
 - Pathology Residency 3-5years
 - Forensic Pathology Fellowship 1-2 years
- Grand total = 09-12

Frustrations

- Court testimony
- Trial results
- Human stupidity

Comments, Reactions, Questions?

