

FMT

1

AUTOPSY/NECROPSY/ POSTMORTEM EXAMINATION/THANATOPSY



00:00:32

- Postmortem is also known as:
 - Autopsy
 - Necropsy
 - Thanatopsy
 - Postmortem examination (PME).

History

- The 1st autopsy was conducted in 1302, by Varignana in Italy.
- The 1st medico-legal autopsy in India was conducted by Buckley on the body of Mr. Wheeler in Chennai.

Autopsy Types

Important Information

- In Court of Law or Legal Procedures we have 2 types, Police & Magistrate inquest.

A. Medicolegal Autopsy <ul style="list-style-type: none"> • This autopsy is chosen for unnatural deaths at the request of the police or Magistrate. 	B. Pathological/Clinical Autopsy <ul style="list-style-type: none"> • Relative consent is mandatory. • It is mostly done in natural deaths.
C. Psychological Autopsy <ul style="list-style-type: none"> • In case of suicides • It is not a PME, it is an interview with family members of the dead person. 	D. Virtual Autopsy <ul style="list-style-type: none"> • It is a visual imaging technique performed in developed countries. • CT scan and MRI are performed to know the cause of death. • It is also known as virtopsy.
E. Negative Autopsy <ul style="list-style-type: none"> • It is called if there is no identification of the cause of death, after performing PME, lab investigations, and histopathological & toxicological studies. • The prevalence of negative autopsies is 2-5%. • In cases like vagal inhibition, laryngospasm, and epilepsy there is a chance of a negative autopsy. • A negative autopsy is a completely negative finding. 	F. Obscure Autopsy <ul style="list-style-type: none"> • In this autopsy, we can obtain minimal or inconclusive findings, which is insufficient to give a conclusion. • Additional investigations like lab investigations, and histopathological & toxicological studies are used to conclude the cause of death. • Obscure autopsy is a minimal gross finding.

Postmortem Techniques

PVQ: NEET PG 2023

PVQ: AIIMS 2019

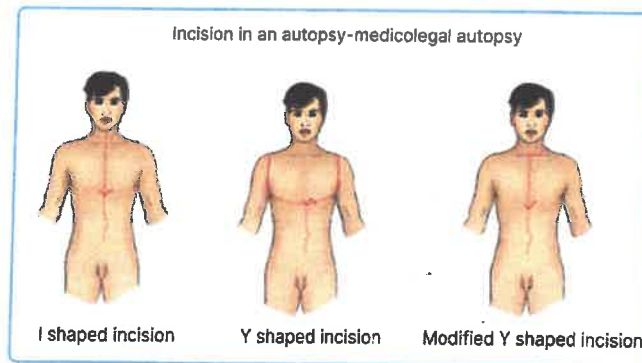
00:02:32

Virchow's Method (MC)	<ul style="list-style-type: none"> • Very common method. • One-by-one organ removal. • Fast and easy method.
Ghon's/ en-Bloc Method	<ul style="list-style-type: none"> • Targeted block (C/T/A/P) is taken out. • Cervical, thoracic, abdominal, pelvic blocks are taken out based on the requirement. • Thoracic block is taken out in thoracic problems. • Pelvic block is taken out in sexual assaults. • Inter-organ relations are intact.

Lettule's/ en-Masses/ Evisceration	<ul style="list-style-type: none"> • Large masses (C+T+A+P) are taken out. • Complete viscera is taken out (Evisceration). • Blood vessels and vascular supply are intact. • It is for minor bleeding.
Rokitansky/ In-situ Method	<ul style="list-style-type: none"> • It is an inside dissection. • It is done in infectious diseases (HIV, Hepatitis, COVID-19). • It is used in highly transmissible diseases. • It is used in infants <1 year.

Types of Incisions

00:04:11



A. I-shaped Incision <ul style="list-style-type: none"> • The most common type. • It starts from the chin to the pubic symphysis. 	B. Y-shaped Incision <ul style="list-style-type: none"> • The purpose is cosmetic, to preserve the mamillary line. • It starts from the acromion process preserving the mamillary line reaches the breast, then to the xiphi-sternum and pubic symphysis.
C. Modified Y-Shaped Incision <ul style="list-style-type: none"> • This is done in Asphyxial deaths (hanging, drowning). • It starts from MP (mastoid process) to SSN (suprasternal notch) then to pubic symphysis. 	D. X-incision <ul style="list-style-type: none"> • It is generally not done. • Two incisions are made from the shoulders to opposite iliac crests. • It makes an X-mark on the body. • It is for deep injuries/ custodial deaths.

Body Cavity to be Opened First

00:05:11

- Generally, in PME, the **thoracic cavity** is opened first.

In specific cases like.

A. Newborn <ul style="list-style-type: none"> • The abdomen is to be opened first. 	B. Poisoning <ul style="list-style-type: none"> • In suspected cases of poisoning, the skull is the first cavity to be opened.
C. Asphyxial Deaths <ul style="list-style-type: none"> • In this, Cranium-Thorax-Abdomen-Neck (C-T-A-N) are opened in order. 	D. Traumatic Head Injury <ul style="list-style-type: none"> • The head is the first cavity to be opened.

E. Air-Embolism/ Pneumothorax

- In **pneumothorax** cases, the chest cavity (**Thorax**) is opened first.
- Then puncture the pleura, if a bubble comes out, **the water test is positive** (the Pleura has air).
- In **air embolism** cases, open the pericardium, fill it with water, and puncture the ventricle.
- If a bubble comes out, the water test is **positive** (Pleura has air).
- Another technique used in air embolism cases, a syringe is taken (**pyrogallol**), and aspirate blood from the ventricle.
- If air is present in the ventricle, the color of the pyrogallol solution turns **brown**.

00:06:02

Organs to be Dissected

A. Brain <ul style="list-style-type: none"> • Fixation is done with 10% formalin 	B. Heart <ul style="list-style-type: none"> • We use the inflow-outflow technique. • Right atrium- Right ventricle, then to pulmonary artery we dissect up to the Lungs. • Left atrium-Left ventricle, then dissect up to the Aorta.
C. Spinal cord <ul style="list-style-type: none"> • The spinal cord can be opened anteriorly and posteriorly. • Posterior opening is considered a better technique. 	E. Stomach <ul style="list-style-type: none"> • It is done by the Double Ligature Method, in both cardiac and pyloric ends. • It is opened at the greater curvature. • In cases like acid or corrosive poisoning, the maximum damage is on the lesser curvature (Magenstrasse) • To examine the lesser curvature, it opened from greater curvature by the double ligature method.

PYQ: FMGE 2019

Exhumation

PYQ: AIIMS 2019 00:06:53

- It is done in the presence of a **magistrate, police, or doctor**.
- It comes under section **176(3) CrPC**.
- After digging out of the body, a secondary autopsy is done if needed.
- Identify the site with the help of relatives or the accused.
- It is done **early in the morning** because the whole daylight is required.
- There is **no limit for exhumation**, it might continue for a few days too.
- Soil sample (500gm) from the body and control sample is also taken, to make a comparison.
- Bones and tissues are taken for chemical or toxicological analysis.
- Arsenic present in the soil can go into the dead body, this process is known as **postmortem imbibition**.

Important Information

- **Exhumation is digging out of the dead body in the presence of a magistrate.**

Forensic Psychiatry

00:07:28

Insane

- A person who is **mentally ill**
- If a person commits a crime, due to two components.
 - Mens rea
 - Actus reus

Components of Insane	Explanation
Mens rea	<ul style="list-style-type: none"> • Mens: Mind • Rea: Criminal • Criminal mind and intent or guilt
Actus reus	<ul style="list-style-type: none"> • It is a forbidden act. • If an insane person commits the crime (Actus reus). • There will be no criminal mind involvement. • If the insane commit the crime then he is not responsible for the crime.

Criminal Responsibility of Insane

- For the criminal responsibility of the insane we use a law: **McNaughten Rule**.

McNaughten Rule

- It was implemented in **1843**.
- **Other Names:** The **right or wrong test** or the **legal test**.
- McNaughten was an Insane person.
- This law includes.
 - "An accused person is not legally responsible if it is clearly proved, that at the time of committing the crime, he was suffering from such a **defect of reason from an abnormality of mind**, that he did not know the nature and quality of the act he was doing, or that what he was doing was wrong."
- It is based on the **84 IPC**.

PYQ: NEETPG 2018 PYQ: INICET 2019, 2023



Important Information

84 IPC

- "Nothing is an offense which is done by a person, who at the time of doing it, by reason of **unsoundness of mind**, is incapable of knowing the nature of the act, or that he is doing what is either wrong or contrary to law".

PYQ: INICET 2020
PYQ: FMGE 2021

Insanity Laws or Rules

PYQ: INICET 2021 00:08:25

<p>American Law Institute (ALI) test</p> <ul style="list-style-type: none"> • Implementation 1972 • A person is not responsible for criminal conduct, if at the time of such conduct, as a result of mental disease or defect, he lacks adequate capacity either to appreciate the criminality of his conduct or to adjust his conduct to the requirements of the law. • It can be recognized as AAA. <ul style="list-style-type: none"> ○ A: American Law ○ A: Appreciate the criminality ○ A: Adjust his conduct 	<p>Currens Rule:</p> <ul style="list-style-type: none"> • An accused person is not criminally responsible if, at the time of committing the act, he did not have the capacity to regulate his conduct to the requirements of the law, as a result of mental disease or defect. • It can also be recognized. <ul style="list-style-type: none"> ○ C: Curren's rule ○ C: Capacity to regulate ○ C: Conduct • The rule is the same as the Brawners, they also use capacity • But it is a Substantial capacity.
<p>Durham Rule</p> <ul style="list-style-type: none"> • Other Name: Product test • An accused person is not criminally responsible if his unlawful act is the product of a mental disease or mental defect. 	<p>Irresistible Impulse Test/Hampshire doctrine</p> <ul style="list-style-type: none"> • It states that an accused person is not criminally responsible, even if he knows the nature and quality of his act and knows that it is wrong if he is incapable of restraining himself from committing the act because the free agency of his will has been destroyed by mental disease.

Civil Responsibility of Insane

00:10:26

It includes:

- Testamentary Capacity
- Holograph

Testamentary Capacity

- **Testament:** Will
- It is defined as the **mental capacity** to make a **valid will**.
- **Requirements**

PYQ: FMGE 2019

- **Sound mind: Compos mentis.**
→ It should be certified by a doctor.
- Age should be above or equal to **18 years.**

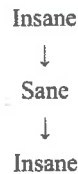
Holography

- Writing the will with one's **own handwriting.**

Lucid Interval

00:10:56

- The insane person became sane (**Normal**) and after some time the person again became **insane.**
- Hence, this period is considered the lucid interval.



- In this condition, if one has committed a crime then he/she is responsible for the crime
- One can also act as a witness by providing evidence to the court.

Perception Disorder

00:11:18

- False sense of perception
- It is of two types.
 - Hallucination
 - Illusion

Hallucination

- It is the **first** perception disorder.
- In this condition, a person will experience a **false perception.**
- In this condition, **the external stimulus is absent.**
- There are different types of hallucinations, they include.
 - Visual (sight) hallucination
 - Auditory (sound) hallucination
 - Olfactory (smell or odor) hallucination
 - Gustatory (taste) hallucination
 - Tactile (touch) hallucination
 → Example: Magnan Syndrome or cocaine bugs

Illusion

- It is a second type of perception disorder.
- External **stimulus is present**, but the person will **misinterpret** it.
- **Example:** A rope is in front of you, but you misinterpret it as a snake.

Thought Disorder

00:11:54

Delusion:

- It is a disorder, where the **content of thought** changes.
- False, firm, and fixed belief in something that is not a fact and that persists even after its falsity has been clearly demonstrated.
- This is known as **delusion.**

Types of Delusions

Types of Delusions	Description
Persecution	<ul style="list-style-type: none"> • Most common delusion disorder. • It is a delusion of harm or killing
Grandeur	<ul style="list-style-type: none"> • Other Name: Exaltation • Superiority image for yourself. • It is most common in mania.
Nihilistic	<ul style="list-style-type: none"> • Imagines he does not exist or there is no world. • It is most common in depression.
Infidelity	<ul style="list-style-type: none"> • The patient might think that his or her partner is not loyal or unfaithful to him. • Other Names: Othello syndrome, Morbid jealousy • It is most common in <ul style="list-style-type: none"> ○ Alcoholic patients ○ Cannabis abuse ○ Psychosis • It is more common in males than in female
Erotomania	<ul style="list-style-type: none"> • Other Name: De Clerambault's syndrome • It is a delusion of love. • More common in females than males

Delusion of Double

00:12:57

Delusion of double	Description
Capgras Syndrome	<ul style="list-style-type: none"> • For remembrance, it is written as Cafgras • F: Familiar person • S: Stranger • A familiar person is considered a stranger. • For example: <ul style="list-style-type: none"> ○ A person is standing in front of you and saying he is your brother, but you don't believe him. ○ You think of him as an imposter or double of your brother
Fregoli Syndrome	<ul style="list-style-type: none"> • Strangers are considered a familiar person. • For example: <ul style="list-style-type: none"> ○ A beggar is standing in front of you but you're thinking of him as your boss.

Phobia

00:13:24

Phobia - Fear

- **Types**
 - **Agoraphobia** - Public/ Crowd
 - **Claustrophobia** - Closed spaces
 - **Acrophobia** - Height
 - **Nyctophobia** - Darkness (night)
 - **Mysophobia** - Germs/ Dirt
 - **Hydrophobia** - Water
 - **Glossophobia** - Public speaking

- Trypanophobia - Injection/ Needles
- Arachnophobia - Spiders
- Nomophobia - Without mobiles
- Thanatophobia - Death
- Phobophobia - Fear from the phobia

Impulse

00:14:08

- Sudden and irresistible force compelling a person to do some action.
- Done without any motive or forethought.
- Types
 - Kleptomania - Desire to steal things of less value.
 - Oniomania - Impulse to buy things.
 - Dipsomania - Drinking alcohol at a periodic interval
 - Pyromania - Desire to set fire to things.
 - Mutilomania - Desire to mutilate animals.
 - Trichotillomania - Plucking out your hair.

Mental Health Care (MHC) Act 2017

00:14:40

Advance Directive

- Direction in advance for mental illness
- Any major can write an advance directive.
 - To specify an individual's health care decisions
 - Way to be treated.
 - Way not to be treated.
 - To identify persons who will make those decisions for the said individual if he is unable to communicate his wishes to the doctor in the future (nominated representative)

True Insanity vs Feigned

00:15:18

Trait	Insanity	Feigned Insanity
Onset and motive	Gradual with no motive	Sudden with some motive
Sign & Symptoms	Uniform and present whether he observed or not	Present only when consciousness being observed
Frequent examination	Does not mind	Resents for fear of detection
Facial Expression	Peculiar vacant look	No peculiarity
Mood, sleep pattern, habit	Abnormal	Normal
Predisposing factor	Present	Absent

Criminal Responsibility in Some Cases

00:16:22

Delirium Tremens (DT) <ul style="list-style-type: none"> ● Alcohol withdrawal symptom ● Seen in 2(D) to 3(T) days of withdrawal. ● If a crime is committed - not responsible 	Run amok <ul style="list-style-type: none"> ● Chronic cannabis abuse symptom ● Can develop a homicidal tendency. ● If a crime is committed - not responsible
Somnambulism <ul style="list-style-type: none"> ● Sleepwalking ● If a crime is committed - not responsible 	Sleep drunkenness <ul style="list-style-type: none"> ● Another name: Somnolentia ● Awake and drowsy or confused for long-time ● If a crime is committed - not responsible

Kleptomania

- Steal article of low value
- Insight is present.
- Liable if the crime is committed.

Hypnosis

- Hypnotized by someone.
- Both persons (hypnotizing and hypnotized) are liable

Torture

00:17:03

- Declaration of Tokyo - Guidelines for Medical Professionals
- Istanbul Protocol - For examination of a torture patient

Types of Torture

Dry Submarina



- Covering the face of the victim with a plastic bag causes suffocation.

EL Planton



- Forced standing/ prolonged standing - just as a plant stands for a long period.

Picana

- Picana - Electrical stimulation as torture.



Picana

Cattle Prod

- Electrical torture to the genital region.



Falanga/ Bestinado

- The beating of soles (The most common method of torture)
- Mnemonic: F for Foot, F for Falanga



Falanga/Bastinado

Telefona

- Repeated slapping of the sides of the head of the victim (usually ears).
- Mnemonic: T for Telephone (used at ears), T for Telefona (beating at ears).



Telefona

Black Slave

- Insertion of a **hot metal rod** in the anus.
- **Mnemonic: B for Burn, B for Black Slave.**



Bellary

- A stick smeared with **red or green chili paste** in anus.

Quirafino/ Operating table

- Hitting on **abdomen**



Parrot Perch/ Jack

- Suspending from a **pole placed under the knees**
+ wrist and ankle are bound together.



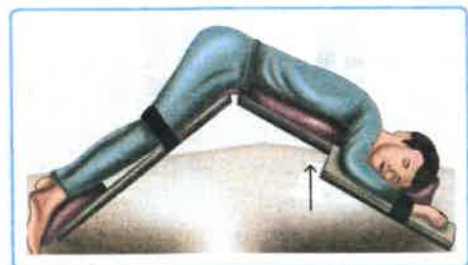
Crucifixion

- Crucifixion - Also called **Palestinian hanging**
- Neck comes forward causing **positional asphyxia**
- **Cause of Death** - Positional asphyxia



Jack Knife Position

- Chest and thigh come towards each other (**chest is compressed for a long time**).
- **Cause of Death** - Positional asphyxia



Belana

- **Crushing of the soft tissue.**
- **Damaging the muscles of the legs and body by beating.**
- The body is moved on a **ridged surface** - just like a **belan** (Hindi - cylinder).



Caning

- A can is used to hit on **buttocks**.

