Postmortem Techniques

MedNotes

- Every registered medical practitioner is eligible to conduct Autopsy.

Types of Autopsies:

(a) Medicolegal - On request of Magistrate / Police
- PM of whole body is conducted

(b) Pathological - For the pathology of Organ for Academic purpose.
- Consent is must

(c) Negative - Seen in 2.5% of all PM examination
- No cause of death found even after all examination

(d) Obscure - No definite cause of death found after PM examination
- Gross findings are minimal / inconclusive
- Additional tests required.

(e) Virtual - PM examination by Non-invasive method like CT / MRI

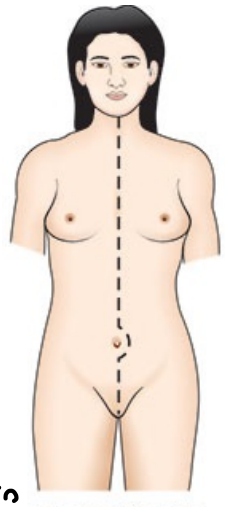
(f) Psychological - Asking questions to family / friend of a person who committed suicide.

(g) Verbal - Info about the patient's last symptoms / illness is taken from relatives.
- Cause of death can be determined.

Types of Incisions:

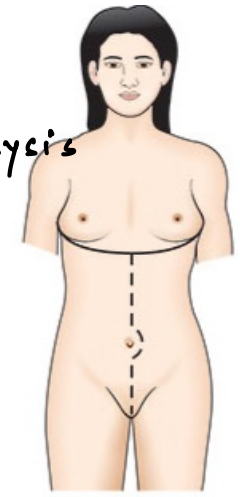
(i) **I-shaped** : Most common

- Incision starts from chin, in midline upto pubic symphysis


I-shaped incision

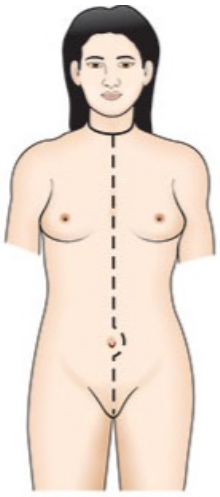
(ii) **Y incision** : Incision starts from the shoulders [acromion process], comes below the breast, meets at xiphisternum.

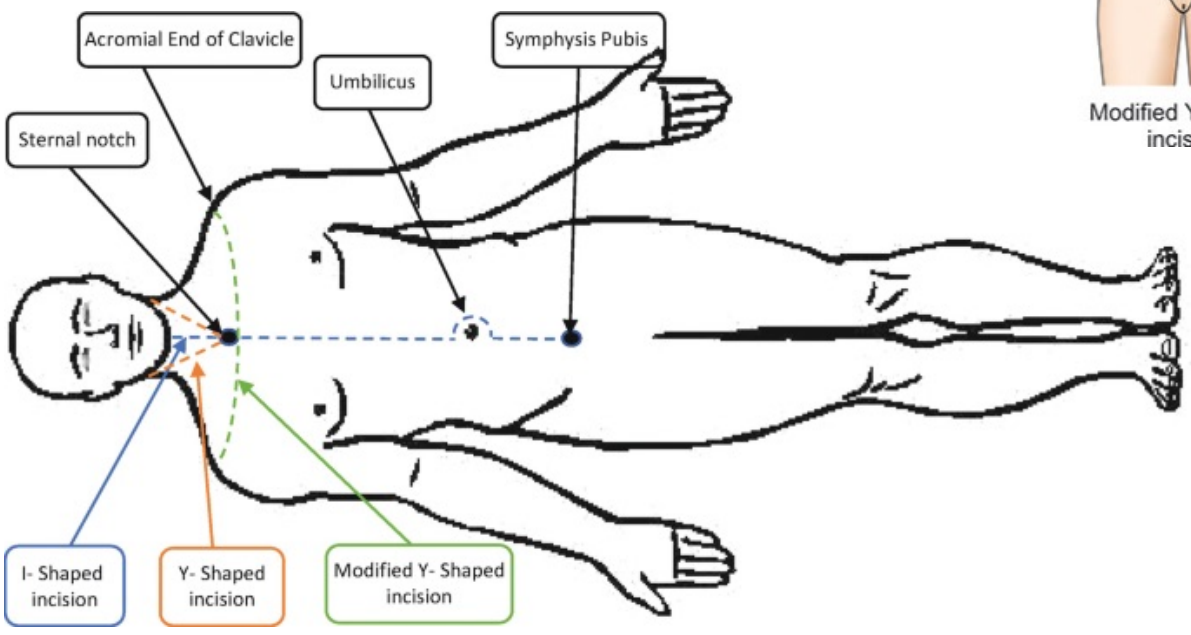
- From xiphisternum, it comes to Pubic symphysis in midline.
- Cosmetically better incision for females.


Y-shaped incision

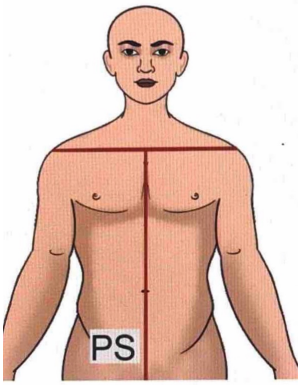
(iii) **Modified 'Y' Incision** : Incision starts from the mastoid process, meets in the suprasternal notch. From suprasternal notch, it comes down to pubic symphysis.

- Helps in examining neck in detail.
- Useful in Asphyxial Deaths.


Modified Y-shaped incision

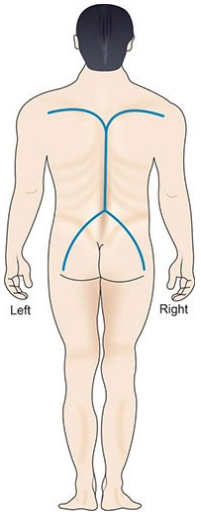


(iv) 'T' incision : One transverse incision from shoulder to shoulder & one vertical incision till pubic symphysis in midline.



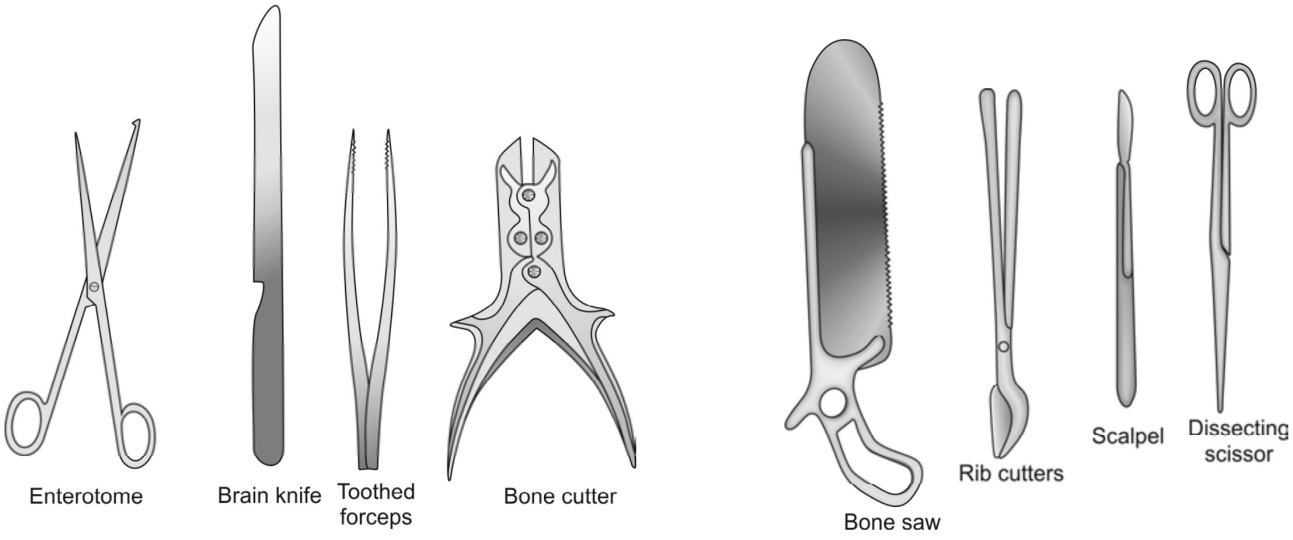
(v) 'X' incision : Incision is made in posterior aspect of body.

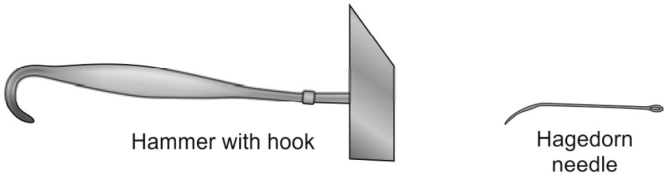
- Incision is made from shoulders to opposite sided iliac crests (both sides) giving the shape x.

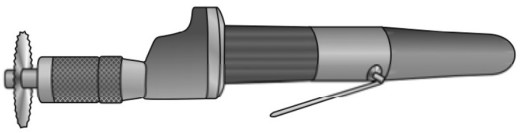


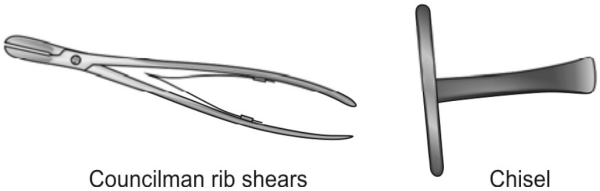
- Used to find deeper bruises / Injuries.

Autopsy Instruments :

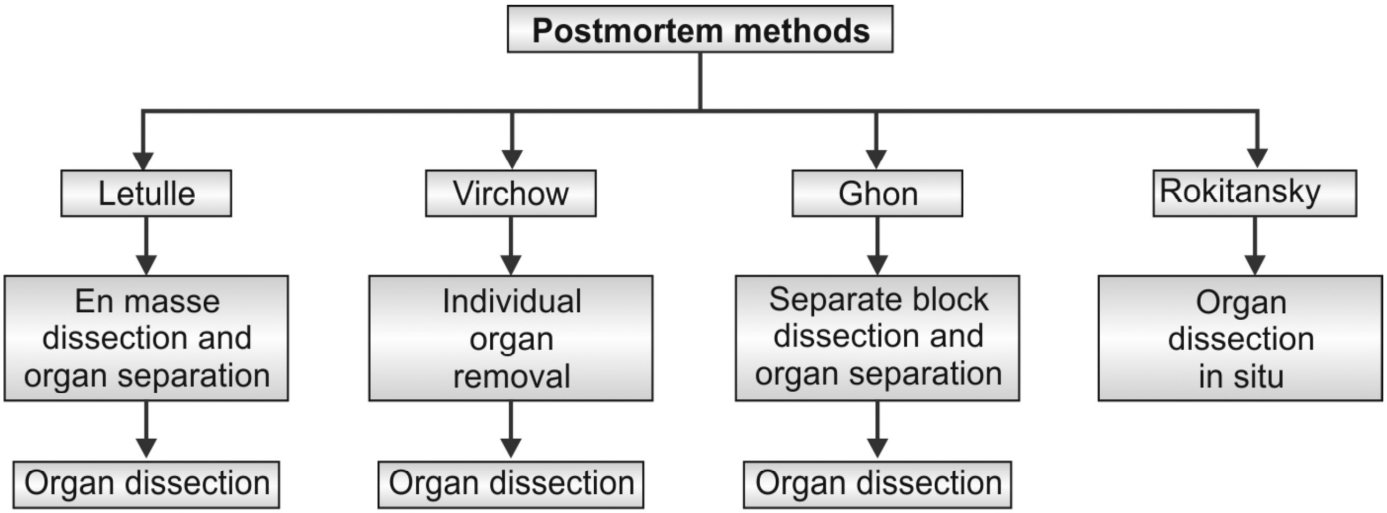








Post mortem Techniques:



Different Organ Dissection:

(i) Stomach - through Greater Curvature.

(ii) Spinal Cord - Posterior approach better

(iii) Brain - from frontal area 1 cm dissection in coronal plane, fix in 40% formalin.

(iv) Heart - Starts with Right Atrium then Righ Ventricle then Left Atrium & Ventricle.

(v) Liver - 2 cm slice taken along the long axis.

(vi) Coronary Artery - 2-3 mm section.

Samples preserved in living persons	
Material	Quantity
Vomit	300 ml (whole, if quantity is less)
Stomach washout	500 ml
Blood	10 ml
Urine	100 ml

Viscera preserved during autopsy (routine)		
S.No.	Material	Quantity
1.	Stomach and its contents	Whole
2.	Upper part of small intestine and its contents	About 15-30 cm length (some say 100 cm)
3.	Liver (along with gallbladder)	300-500 g
4.	Kidney	Longitudinal half of each kidney
5.	Spleen	Whole
6.	Blood	10 ml
7.	Urine	100 ml

Additional viscera and materials required in certain cases		
S.No.	Material	Poisoning/circumstances suspected
1.	Heart	Strychnine, digitalis
2.	Brain[7,8]	Alkaloids, organophosphorus, opiates, strychnine, carbon monoxide, cyanide, barbiturates and volatile organic poisons; hydrophobia/rabies (for negri bodies)
3.	Spinal cord[9]	Strychnine
4.	CSF[10]	Alcohol
5.	Vitreous humor[11]	Alcohol, chloroform
6.	Lung[12]	Gaseous poisons, hydrocyanic acid, alcohol, chloroform
7.	Skin	Injected poisons (insulin, morphine, heroin, cocaine and other illicit drugs), firearm injuries
8.	Bone, hair and nails	Heavy metals (arsenic, antimony, thallium)
9.	Fatty tissue	Pesticides and insecticides
10.	Uterus and its appendages	Criminal abortion
11.	Muscle	Decomposition