APPLIED PATHOLOGY & FORENSIC PATHOLOGY

TYBSc Paper II

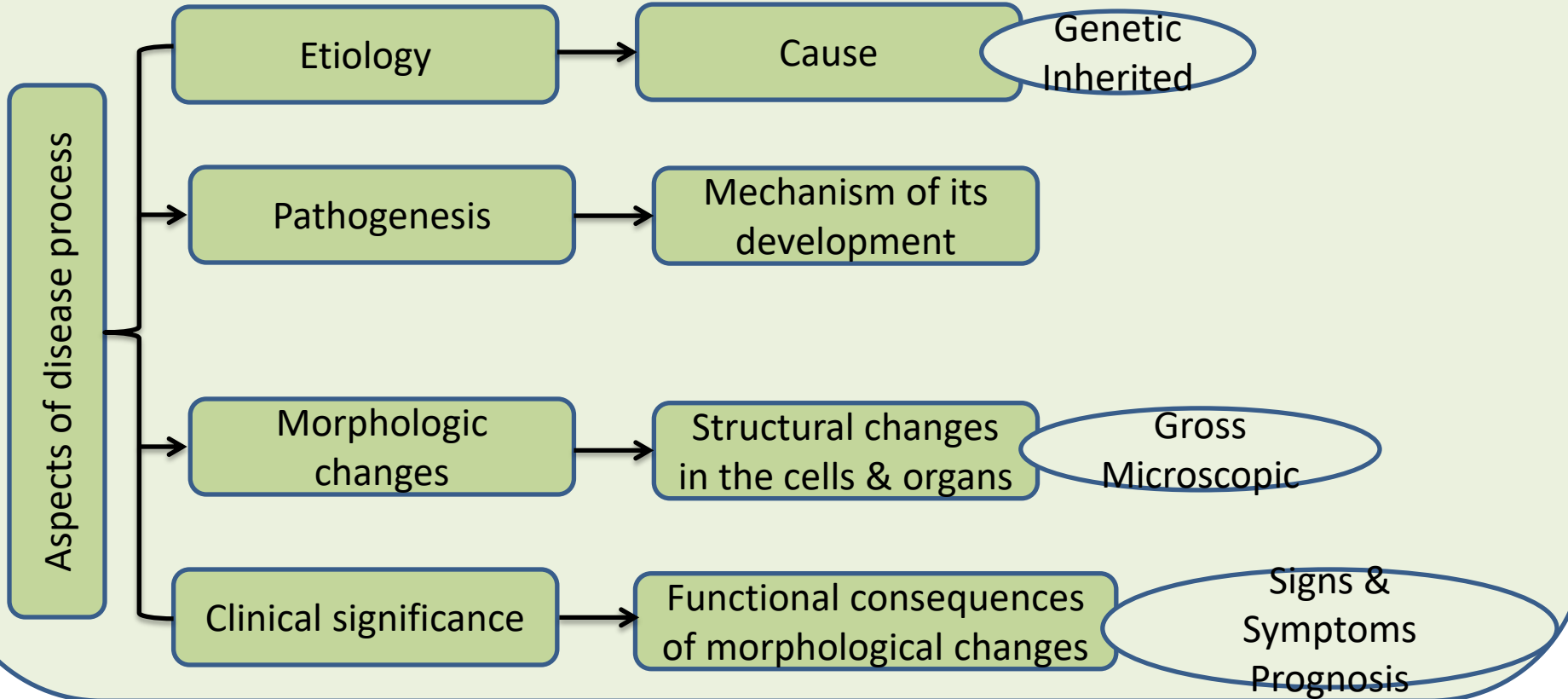
APPLIED PATHOLOGY

Pathology: Study of suffering
In Greek Pathos= suffering, Logos= study

Study of disease processes

Structural and functional changes in the cells, tissues, organs or the entire organism

APPLIED PATHOLOGY

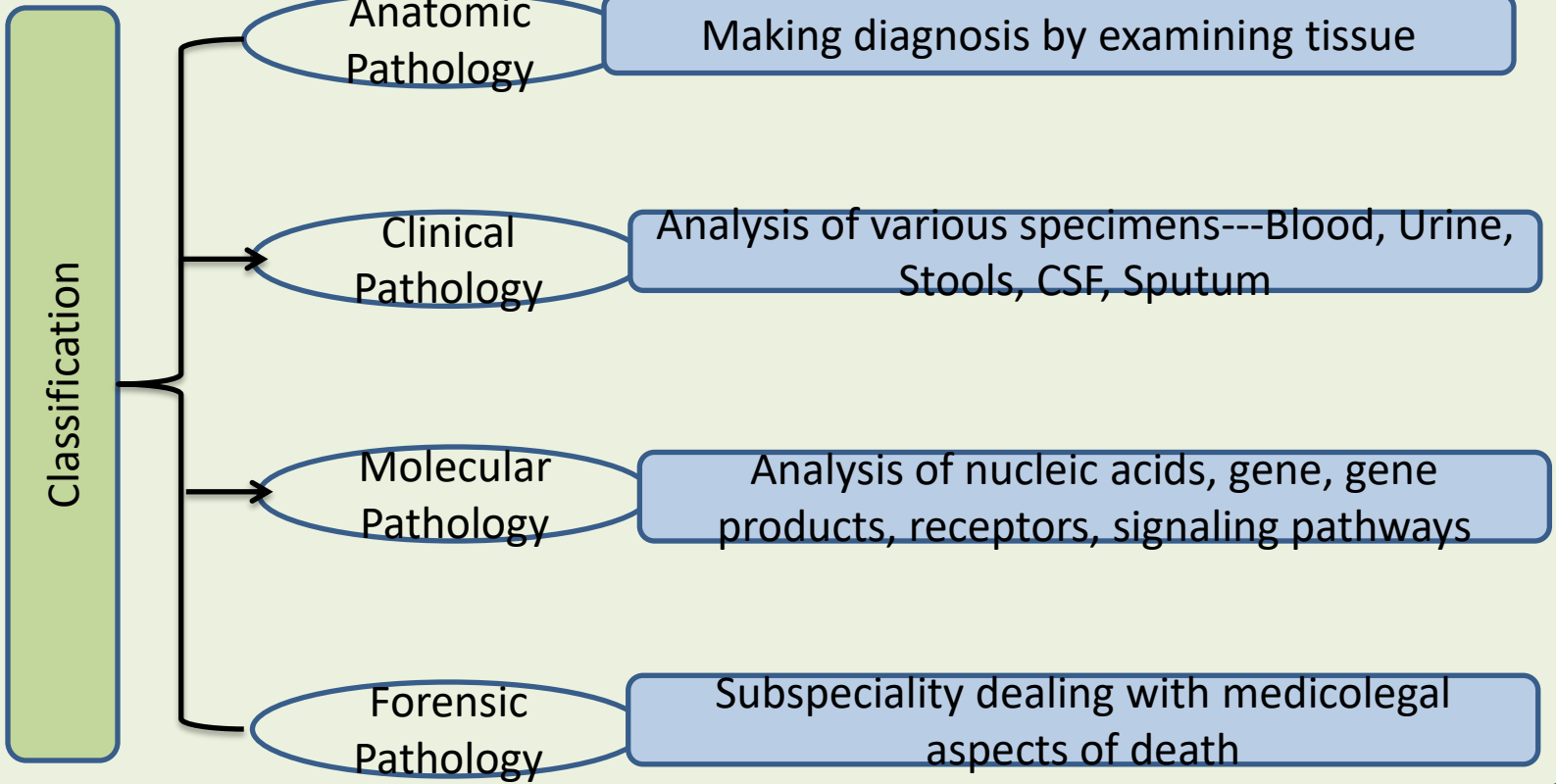


APPLIED PATHOLOGY

Classification

- General Pathology
  - General reaction of the cells and tissues to insults or injury that are basic to all disease processes
- Systemic Pathology
  - Study of specific disease processes

APPLIED PATHOLOGY



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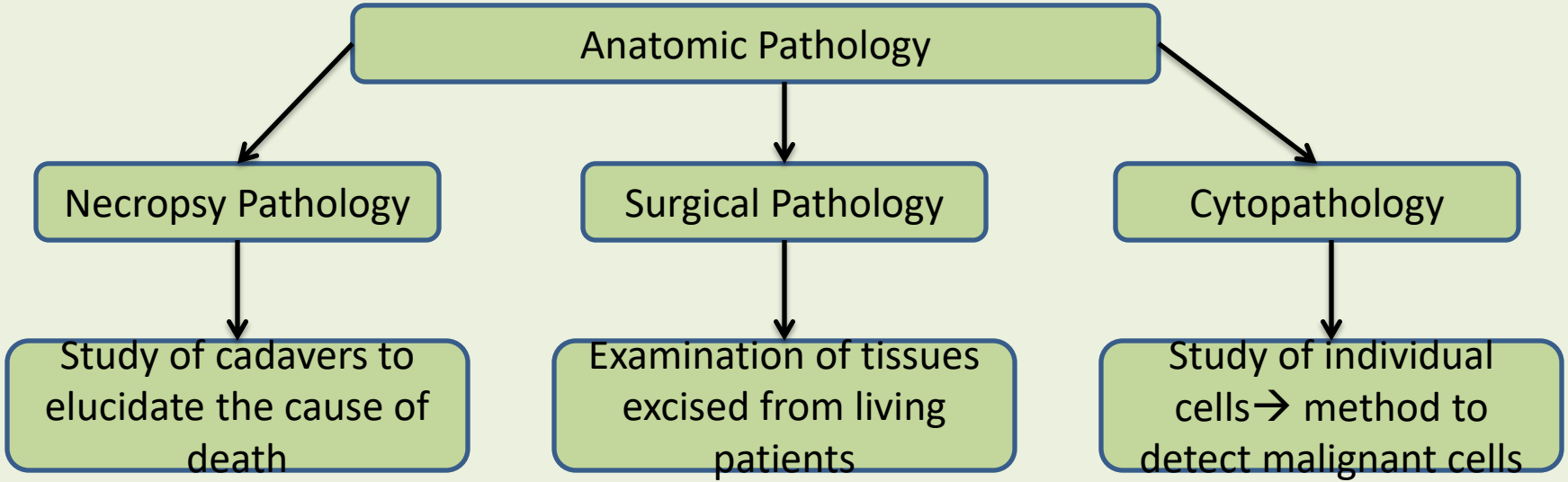

APPLIED PATHOLOGY

Different methods used in Pathology

Biopsy

Examination of the tissues from the living body to determine or existence or cause of disease

- Closed Biopsy
- Open Biopsy
- Excisional Biopsy

FNAC → Fine needle aspiration Cytology

FORENSIC PATHOLOGY

Identifying the cause of death by examining a corpse.

Criminal investigation

Examination of DNA, bones and blood samples, etc.

Autopsy

FORENSIC PATHOLOGY

Autopsy

Post-mortem examination or necropsy

Performed primarily to determine the cause of death

To identify or characterize the extent of disease states that the person may have had

To determine the cause or failure of a particular medical or surgical treatment

FORENSIC PATHOLOGY

Who can perform Autopsy?

Pathologists

In academic institutions, for teaching and research purposes

Forensic autopsies have legal implications and are performed to determine if death was an accident, homicide, suicide, or a natural event

FORENSIC PATHOLOGY

When is autopsy performed?

Suspicious deaths

Deaths of persons not being treated by a physician for a known medical condition

Deaths of those who have been under medical care for less than 24 hours

Deaths that occurred during operations or other medical procedures

FORENSIC PATHOLOGY

Autopsy

Consent must be obtained from the next-of-kin before an autopsy is performed

The next-of-kin also has the right to limit the scope of the autopsy (for example, excluding the brain from evaluation or limiting the procedure to examination of the abdomen).

FORENSIC PATHOLOGY

Steps involved in Autopsy

Begins with a complete external examination

Weight and height of the body is recorded

Identification marks such as scars and tattoos also are recorded

Internal examination

FORENSIC PATHOLOGY

Organs are first examined by the pathologist to note any changes visible with the naked eye

Histopathology

Incisions made in the body are sewn closed

FORENSIC PATHOLOGY

After death, a sequence of changes naturally occurs in the human body

Variety of external factors and intrinsic characteristics may accelerate or retard decomposition

Understanding common postmortem changes and the variables that affect them allows the forensic pathologist to more accurately estimate:

- **Postmortem interval (PMI)**
- **Time frame during which death occurred**

FORENSIC PATHOLOGY

Post-mortem changes in the body

Algor Mortis	Process by which body cools after death
Rigor mortis	Process by which body stiffens 1-2 hours after death and passes away in 24 hours
Livor mortis	purple-red coloration that appears on dependent portions of the body due to gravitation of blood after death

FORENSIC PATHOLOGY

Tardieu spots	When capillaries rupture due to increased gravitational pressure (e.g. in the legs of a hanged person).
Tache noire	Dark, red-brown stripe that develops horizontally across the eyes when the eyelids are not closed after death
Purge fluid	Decomposition fluid that may exude from the oral and nasal passages as well as other body cavities
Decomposition	Decay. Endogenous process (Autolysis)-→ Putrefaction