

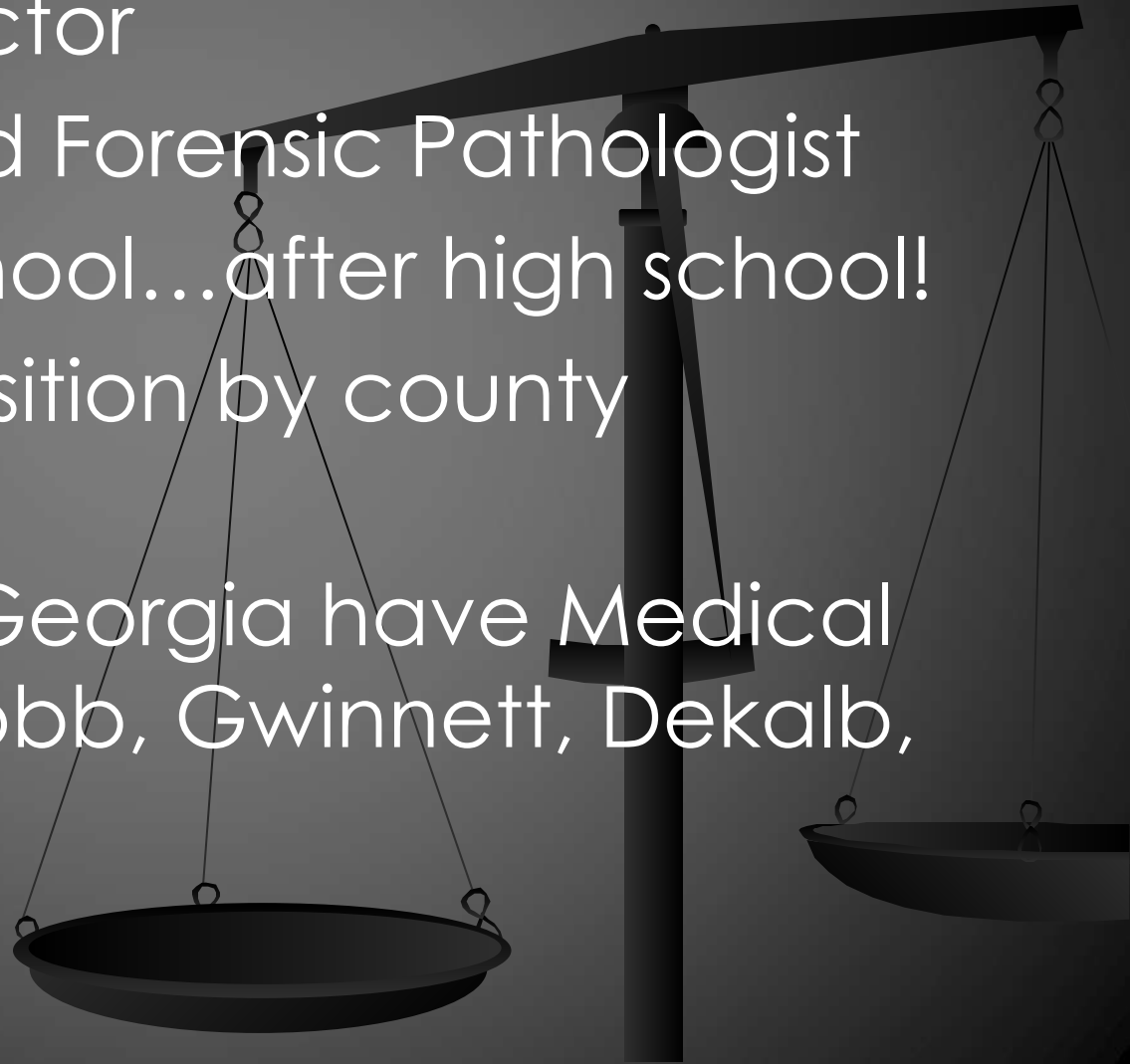


Cobb County Medical Examiner's Office

Presented by
Michael Gerhard
Operations Manager

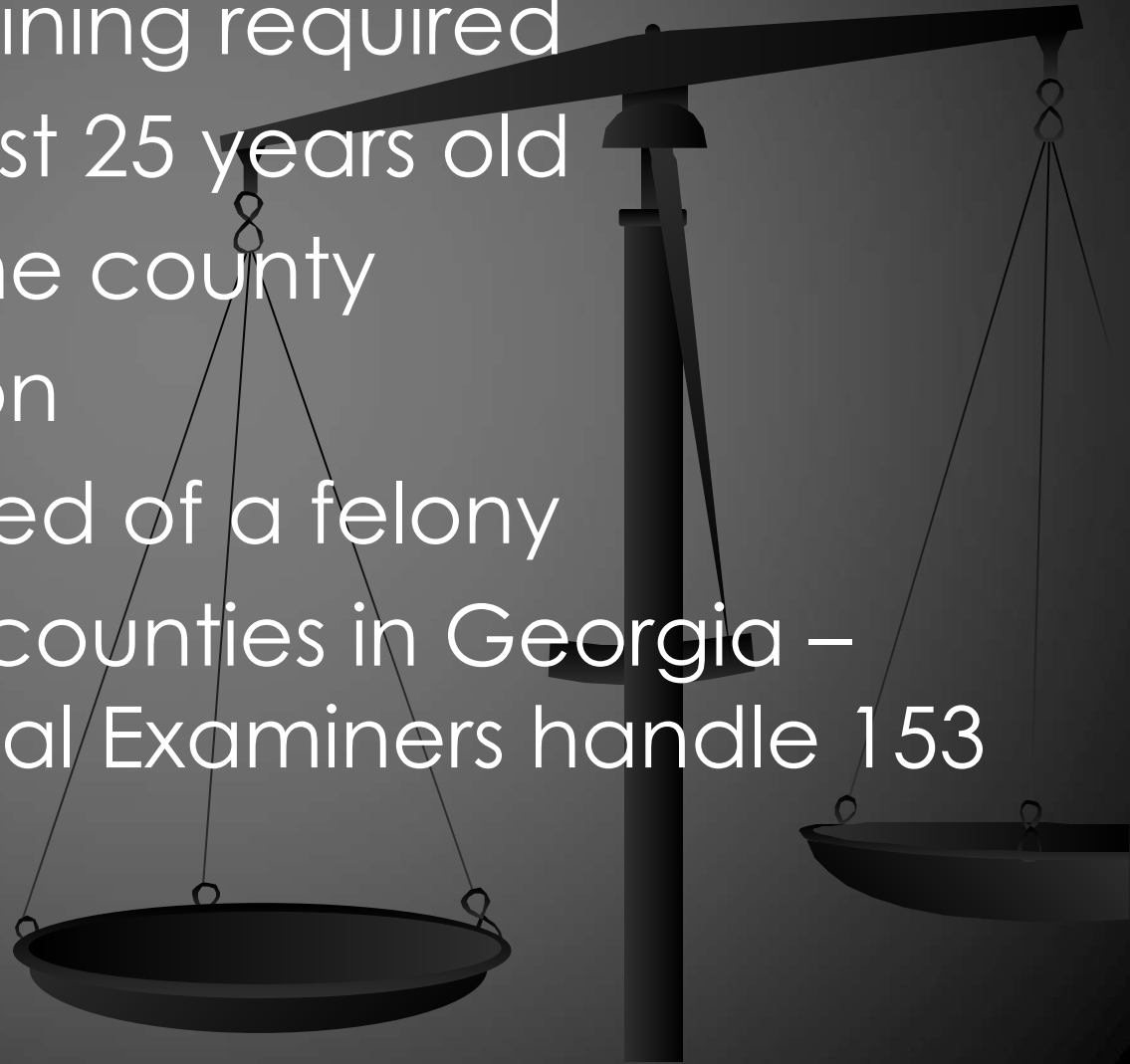
What is a Medical Examiner?

- A medical doctor
- Board Certified Forensic Pathologist
- 13 years of school...after high school!
- Appointed position by county Commission
- 4 Counties in Georgia have Medical Examiners - Cobb, Gwinnett, Dekalb, Fulton

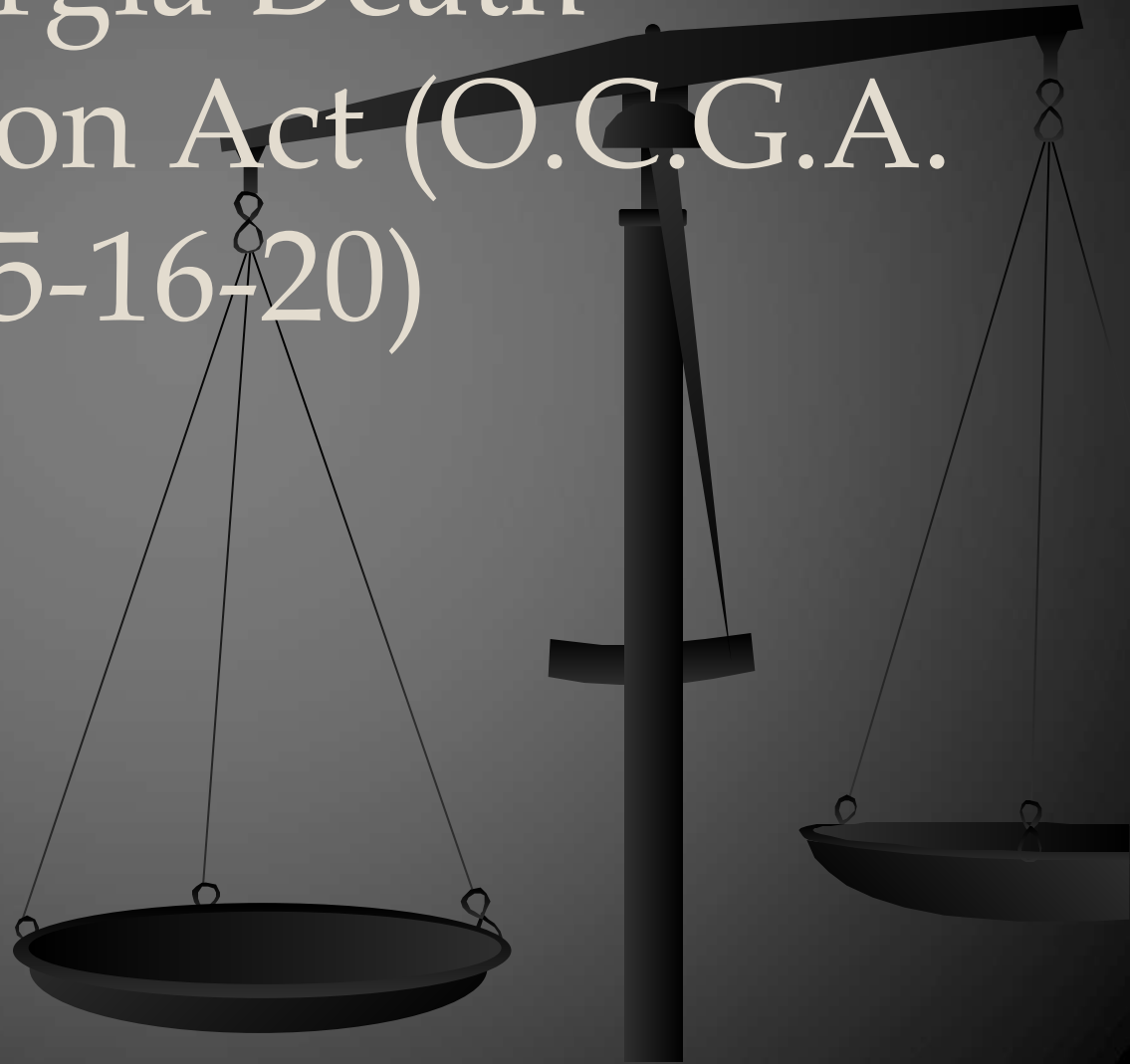


What is a Coroner?

- No specific training required
- Must be at least 25 years old
- Live in the same county
- Elected position
- Never convicted of a felony
- There are 159 counties in Georgia –
The GBI Medical Examiners handle 153
counties

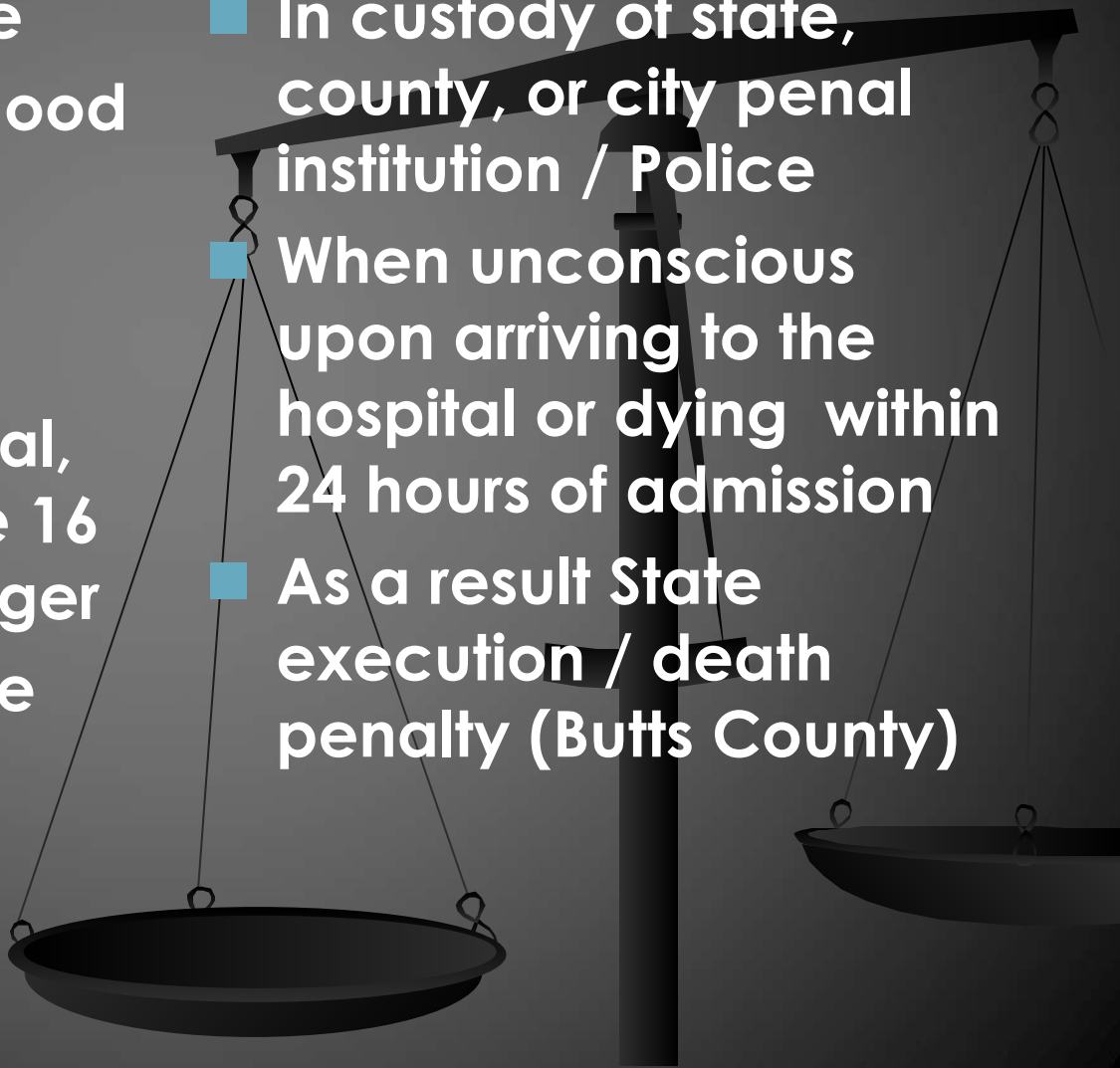


Georgia Death
Investigation Act (O.C.G.A.
45-16-20)

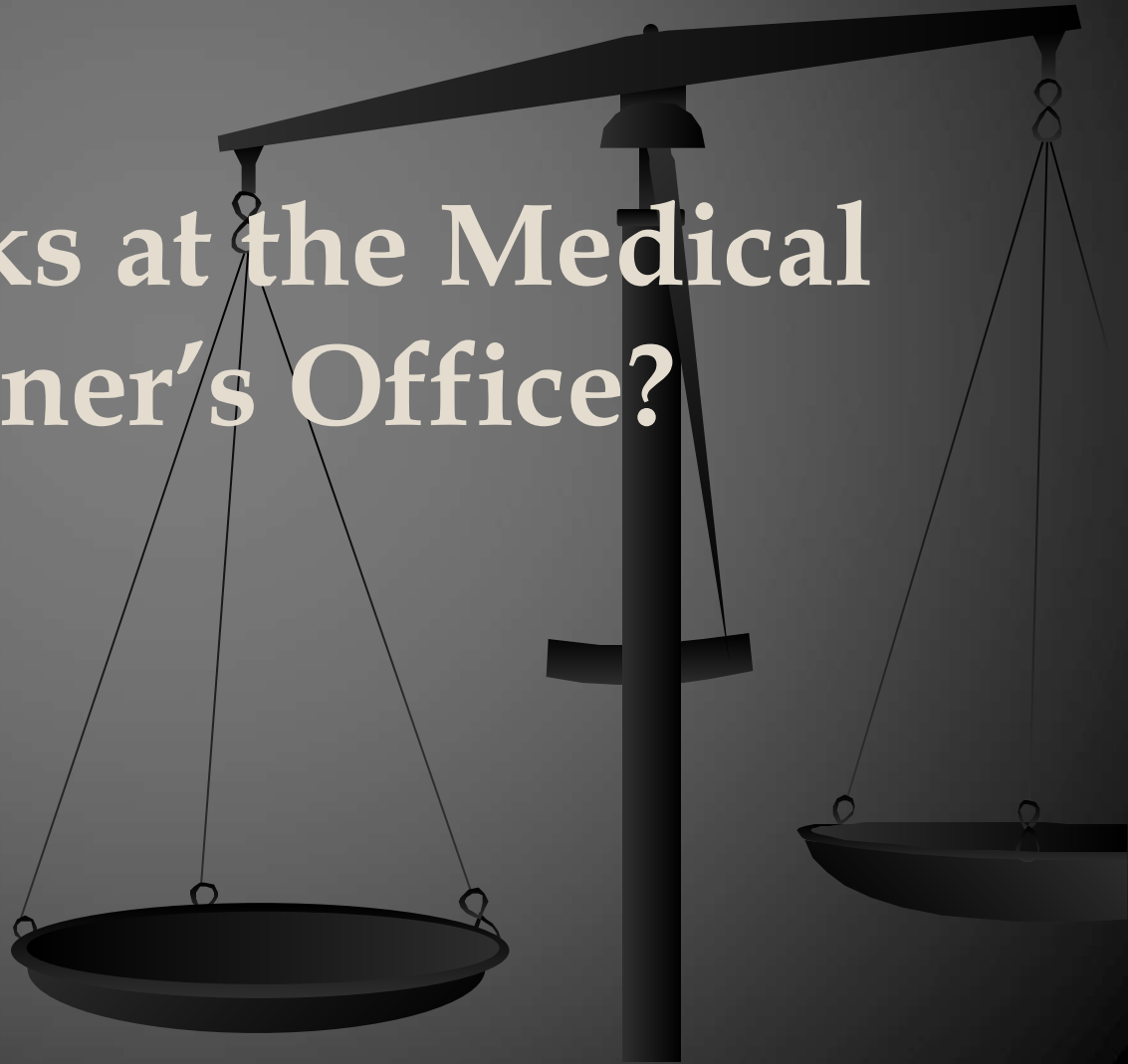


When are Deaths reported?

- Caused by violence
- Suddenly when in good health
- Unattended by a doctor
- Suspicious or unusual, particularly to those 16 years old and younger
- After birth but before age of 7
- In custody of state, county, or city penal institution / Police
- When unconscious upon arriving to the hospital or dying within 24 hours of admission
- As a result State execution / death penalty (Butts County)



**Who works at the Medical
Examiner's Office?**



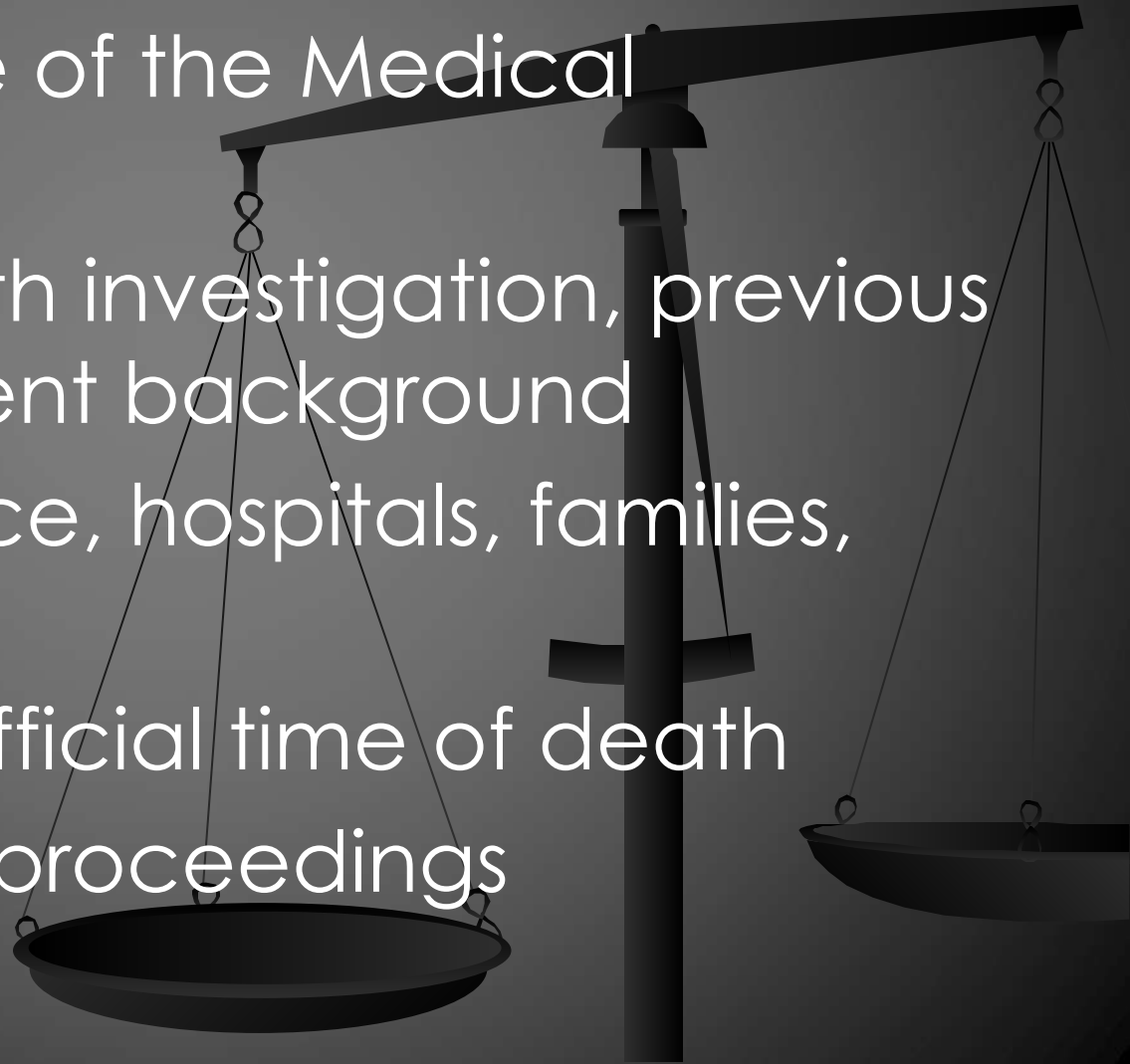
The current Chief Medical Examiner is
Dr. Brian Frist.

He was an associate M.E. with Dr.
Burton for Cobb, Dekalb, and Gwinnett
Co. from 1989 to 1999.



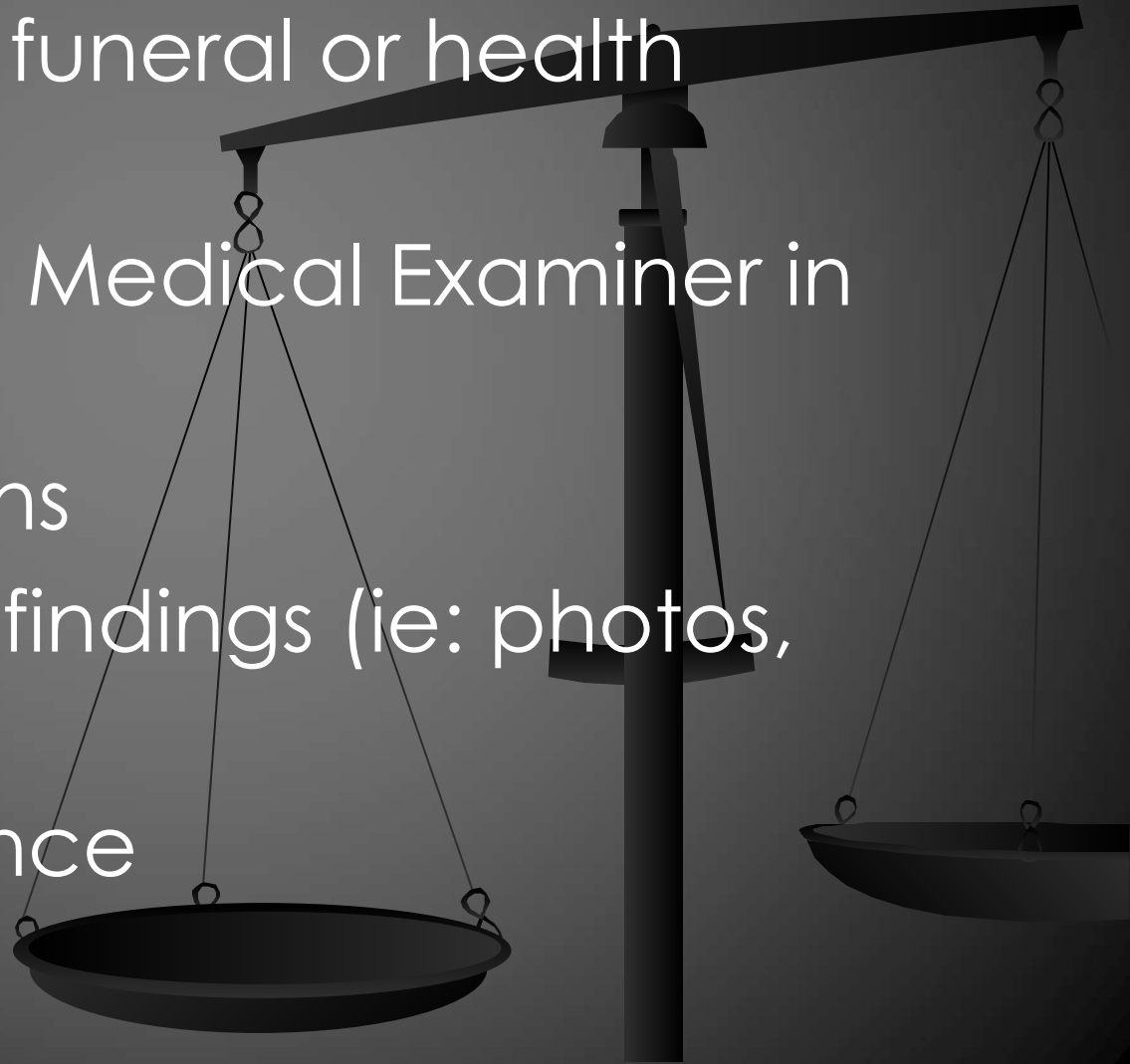
Forensic Investigators

- Currently 4 on staff
- Representative of the Medical Examiner
- Trained in death investigation, previous law enforcement background
- Liaise with police, hospitals, families, media, etc.
- Can provide official time of death
- Testify in court proceedings



Forensic Technicians

- Currently 2 on staff
- Background in funeral or health services
- Assistant to the Medical Examiner in the lab
- Removes organs
- Documents all findings (ie: photos, drawings)
- Collects evidence
- Takes x-rays



Manners of Death



- **Natural** – death by natural physiological changes (i.e. cancer, diabetes, hypertension)
- **Accident** – death due to negligence, disaster, or the elements (i.e.: traffic accidents, overdoses, falls, exposure, storms,)
- **Suicide** – death caused by self
- **Homicide** – death caused by another
- **Undetermined** – death when a manner is not readily apparent even after a thorough examination and investigation

Manner, Cause, Mechanism

Person accidentally shoots a man during hunting.

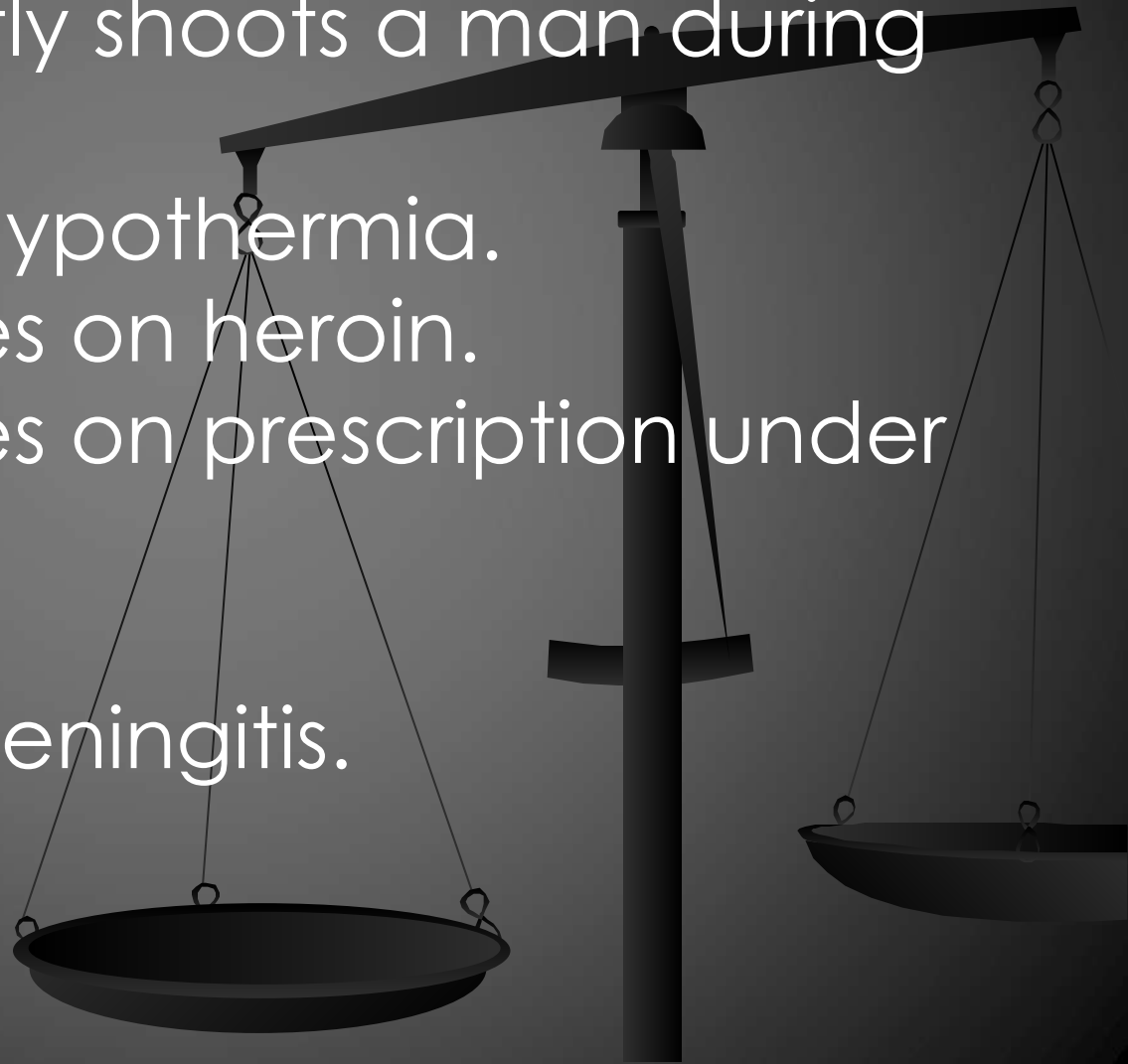
Hiker dies from hypothermia.

Person overdoses on heroin.

Person overdoses on prescription under doctor care.

Person drowns.

Person dies of meningitis.



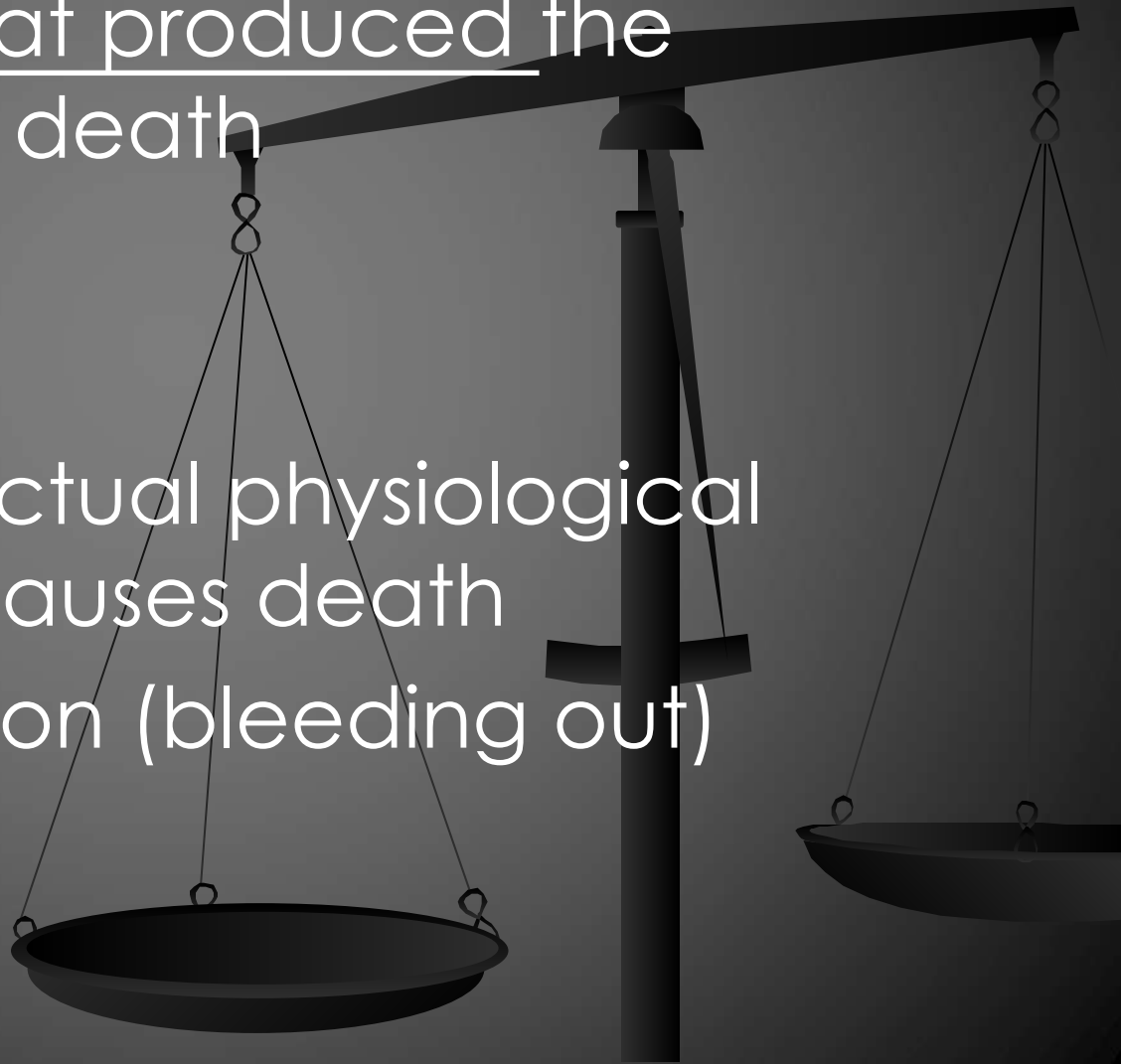
Cause of Death

- The process that produced the mechanism of death

Ex: Stabbing

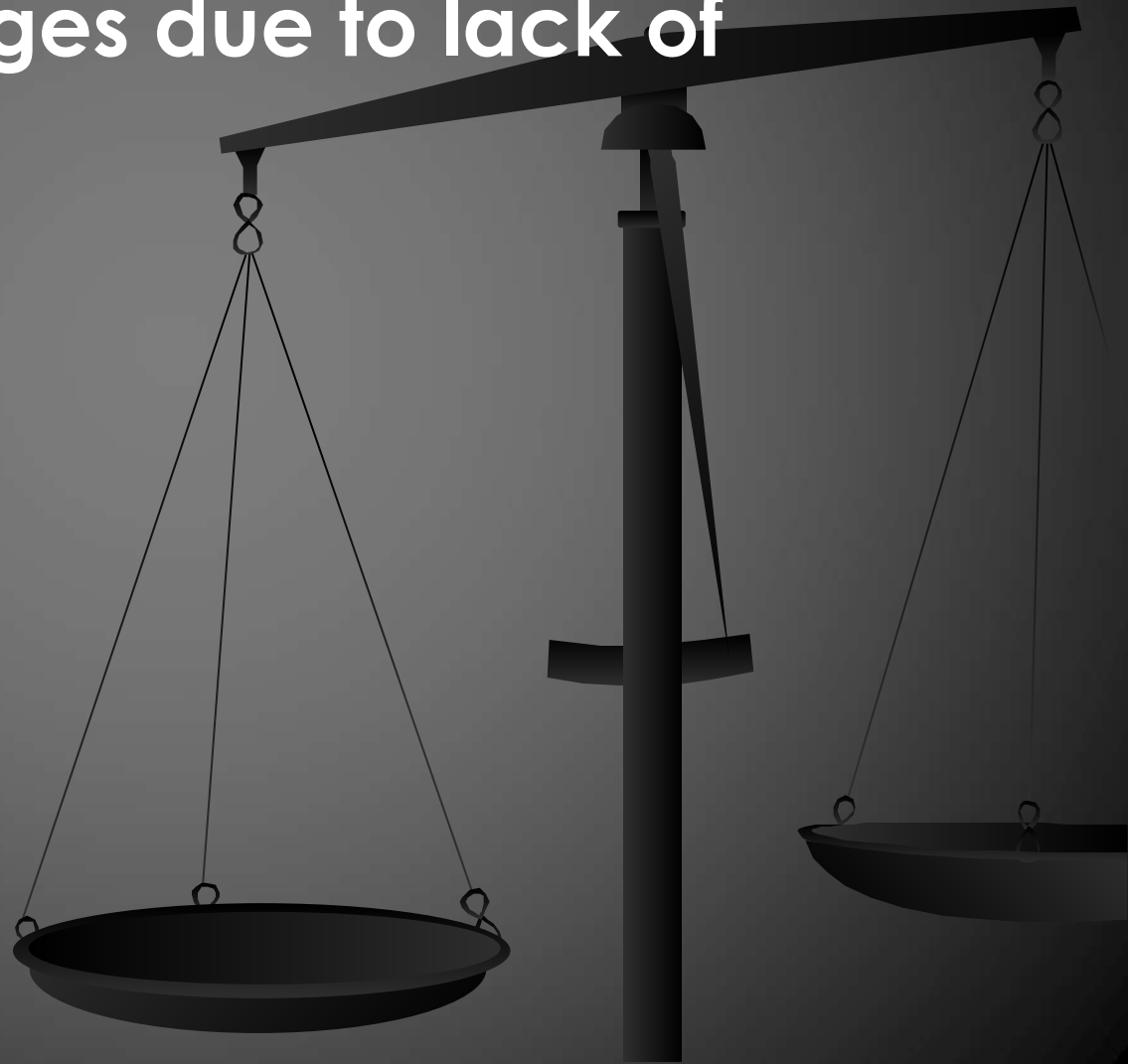
- Mechanism- actual physiological change that causes death

Ex: Exsanguination (bleeding out)



Common Mechanisms

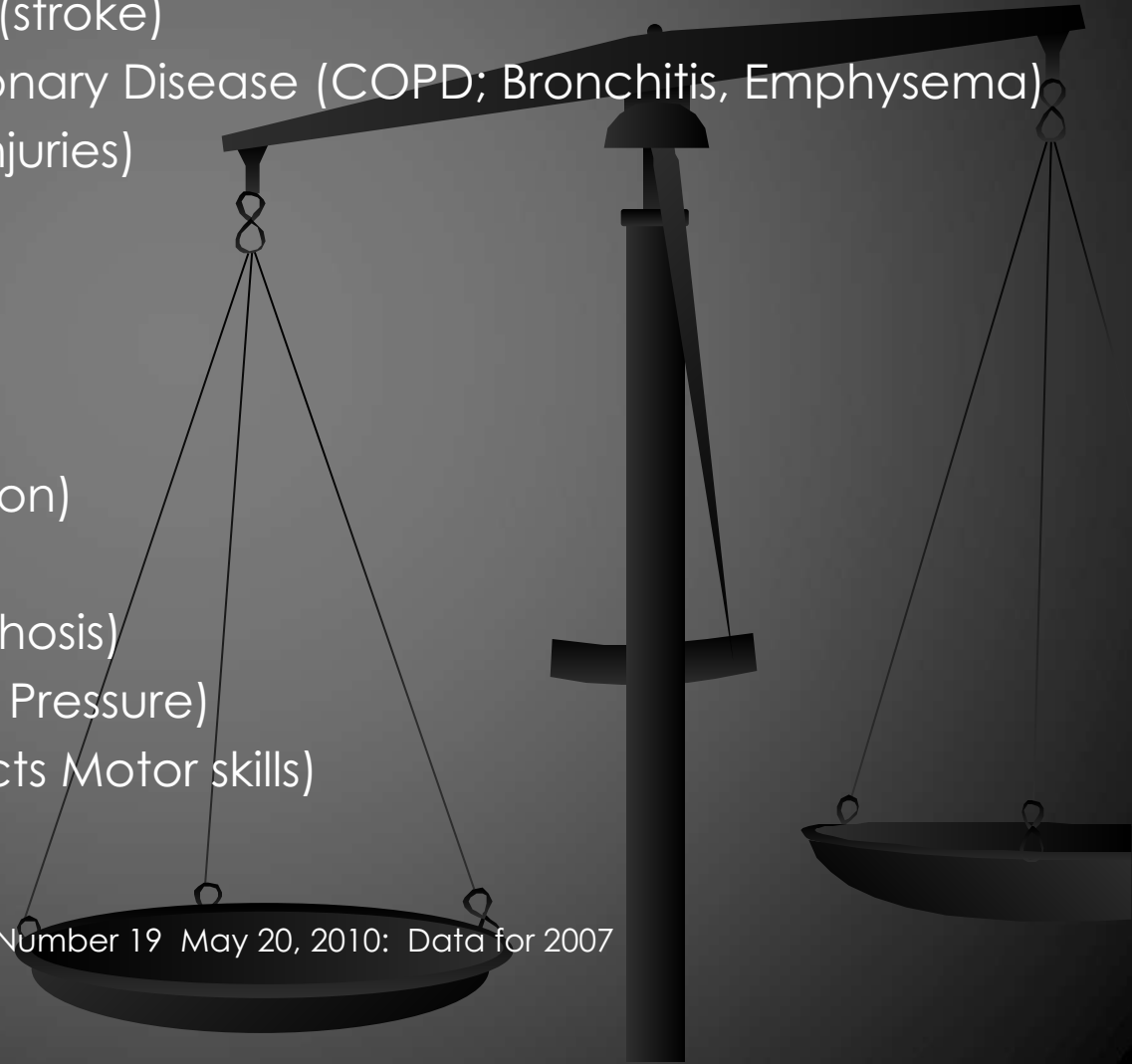
Asphyxia (changes due to lack of oxygen)



Leading Causes of death U.S.

1. Heart disease
2. Cancer
3. Cerebrovascular diseases (stroke)
4. Chronic Obstructive Pulmonary Disease (COPD; Bronchitis, Emphysema)
5. Accidents (unintentional injuries)
6. Diabetes mellitus
7. Alzheimer's disease
8. Influenza and pneumonia
9. Kidney disease
10. Septicemia (Blood Infection)
11. Suicide
12. Chronic liver disease (Cirrhosis)
13. Hypertension (High Blood Pressure)
14. Parkinson's disease (Affects Motor skills)
15. Homicide

National Vital Statistics Reports Volume 58, Number 19 May 20, 2010: Data for 2007



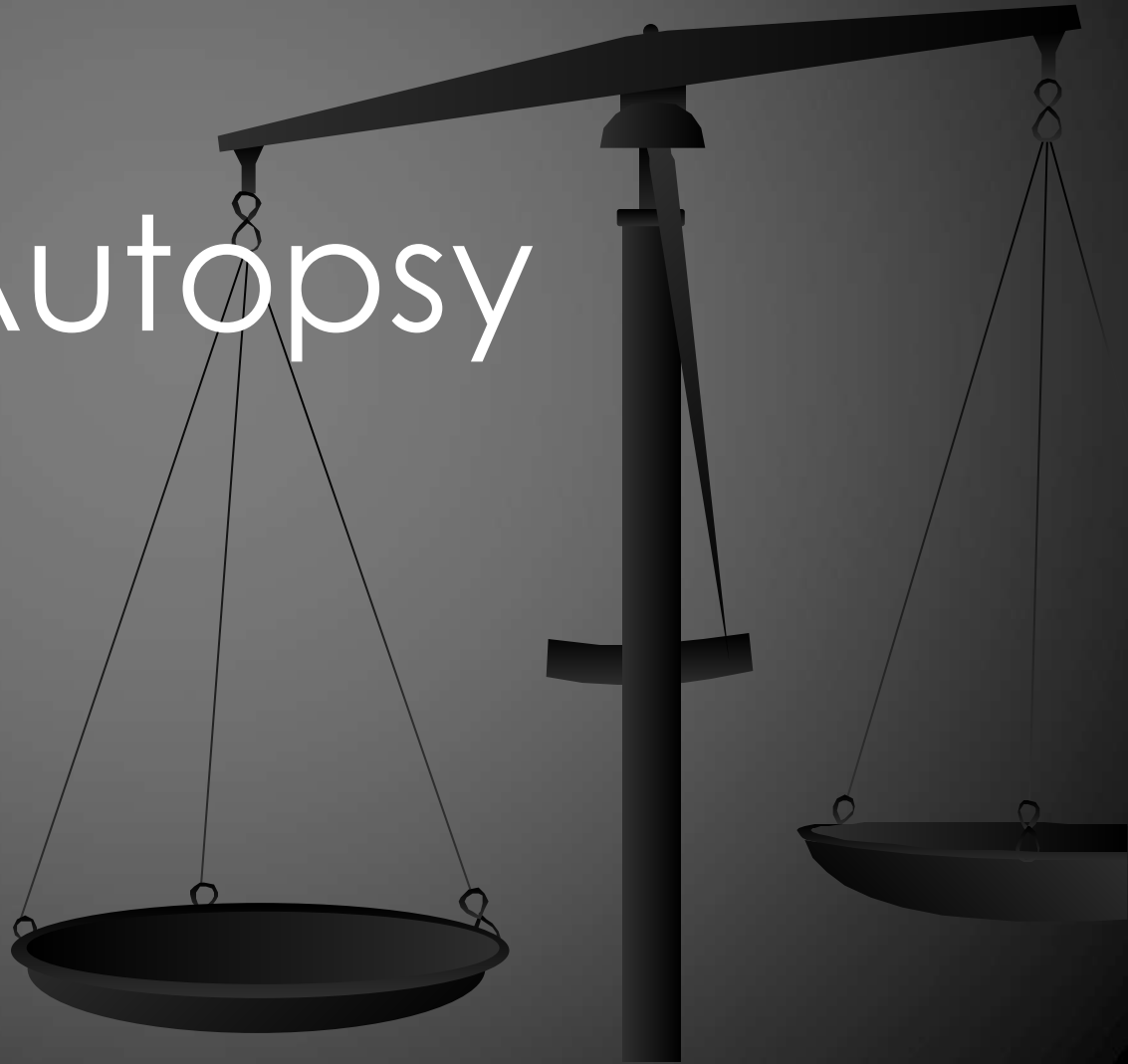
Leading Causes of Death for U.S. Youth 15-19

1. Unintentional Injury (Accidents)
2. Homicide
3. Suicide
4. Cancer
5. Heart Disease

National Center for Health Statistics National Vital Statistics Reports March 7, 2005



■ The Autopsy

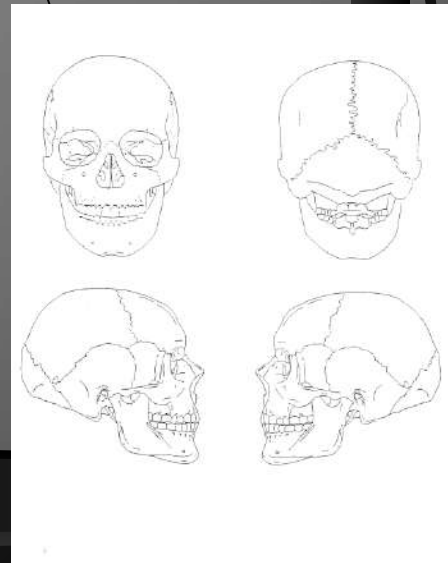
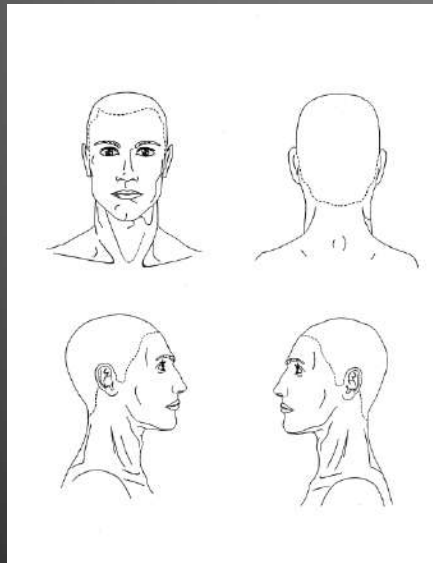
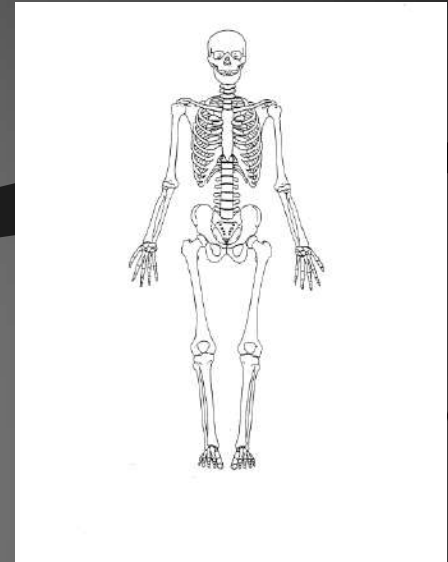
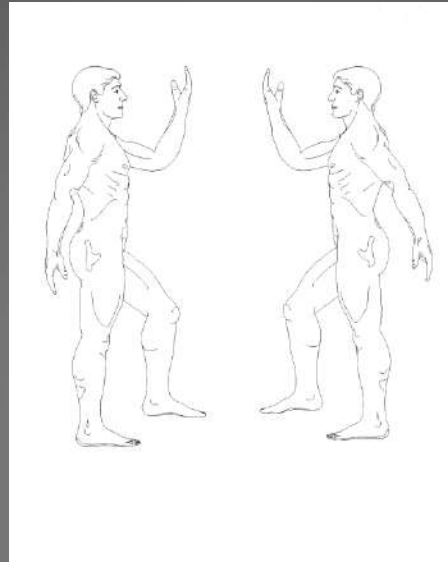
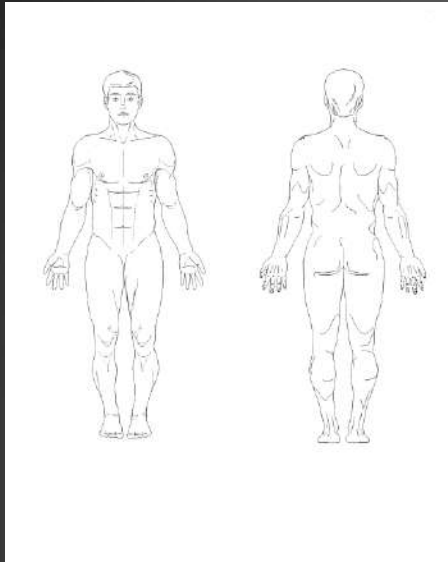


External Exam

- Photographs
- Clothing
- Valuables
- X-rays
- Evidence
- Drawings
- Documents the external findings

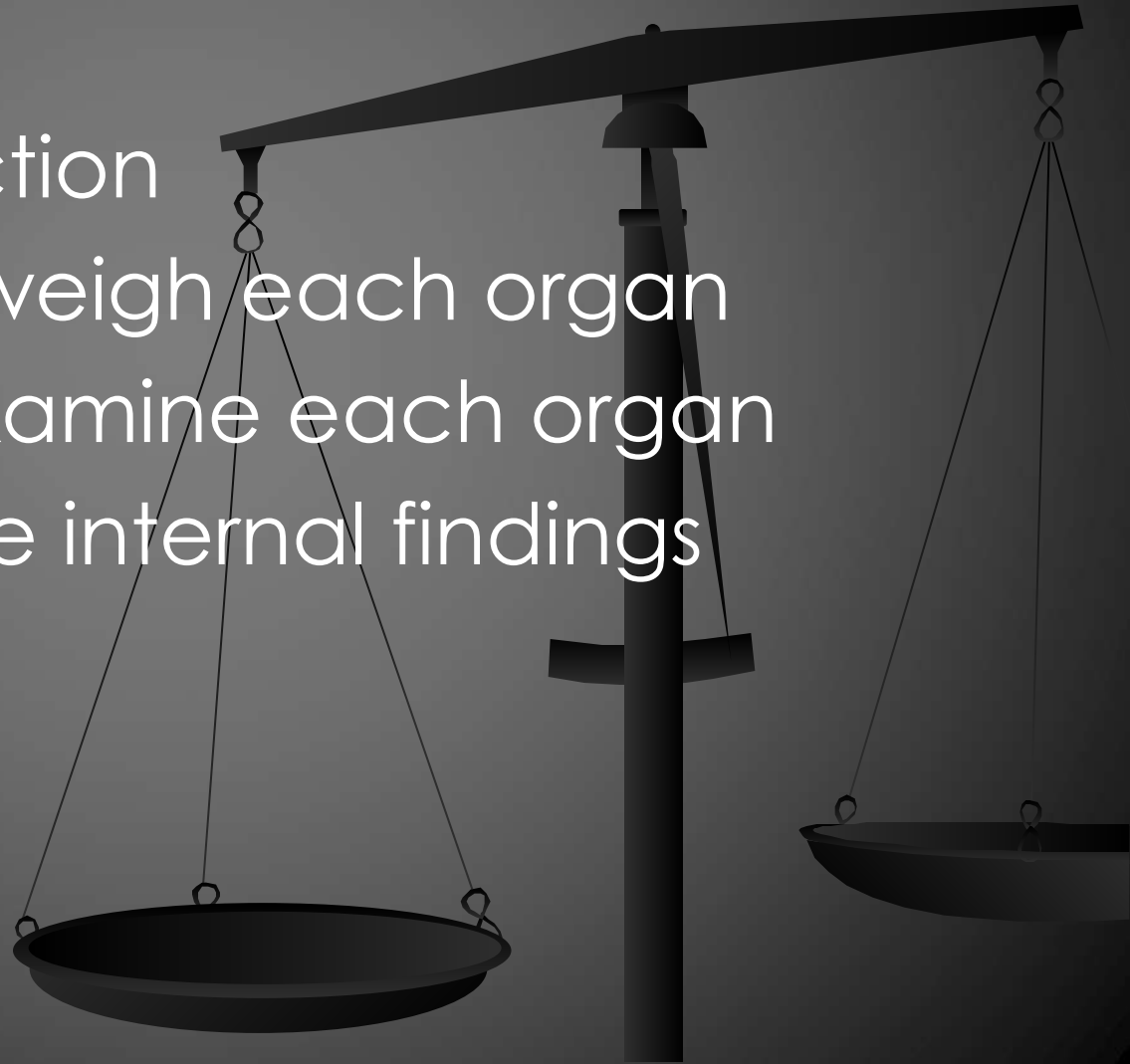


Autopsy Forms



Autopsy

- Surgical Dissection
- Remove and weigh each organ
- Dissect and examine each organ
- Documents the internal findings

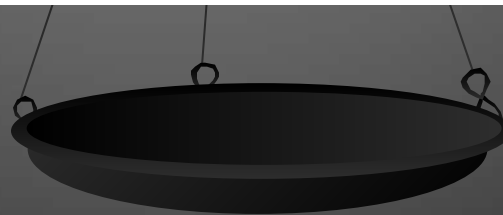


ORGANS

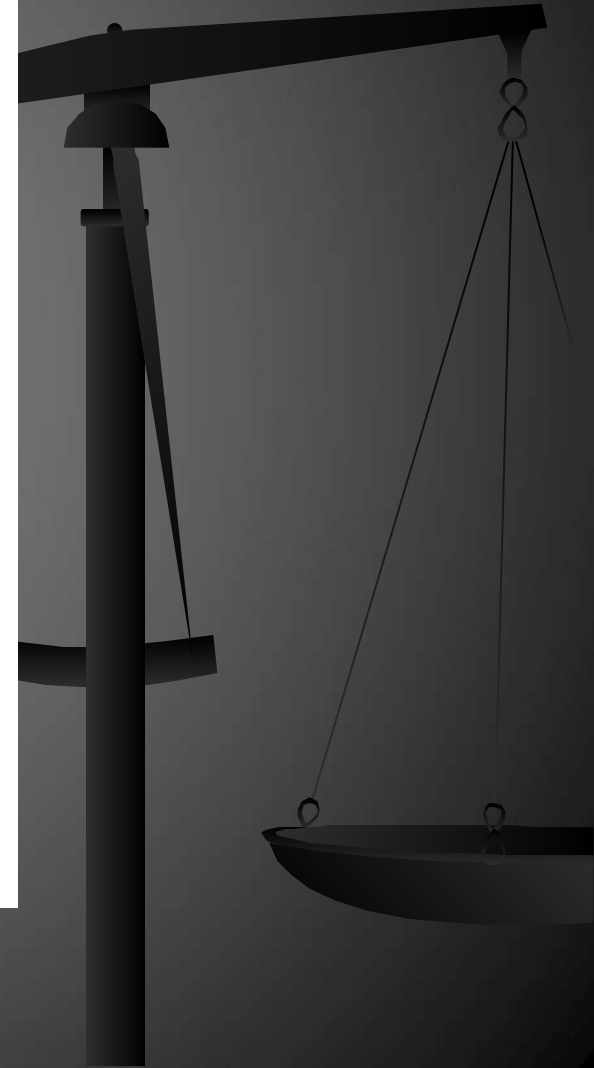
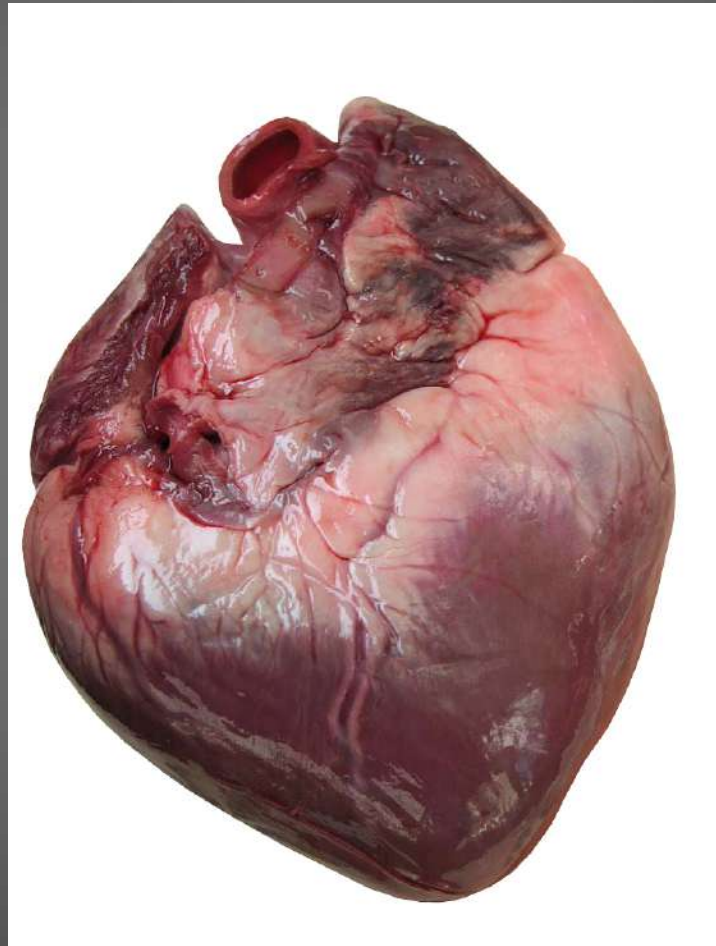
- Heart
- Lungs
- Liver
- Spleen
- Kidneys
- Pancreas
- Gastrointestinal tract
- Brain



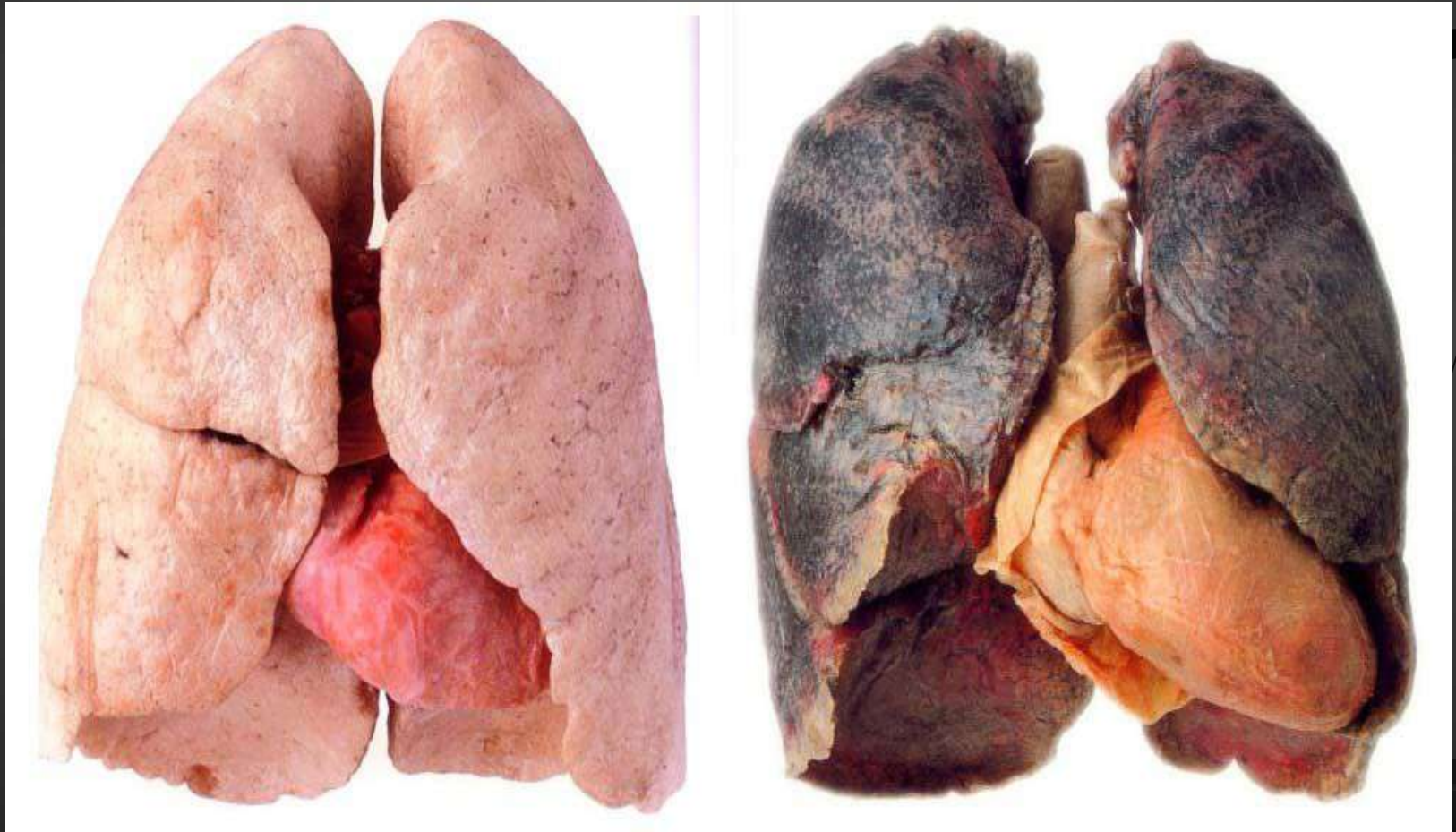
Heart



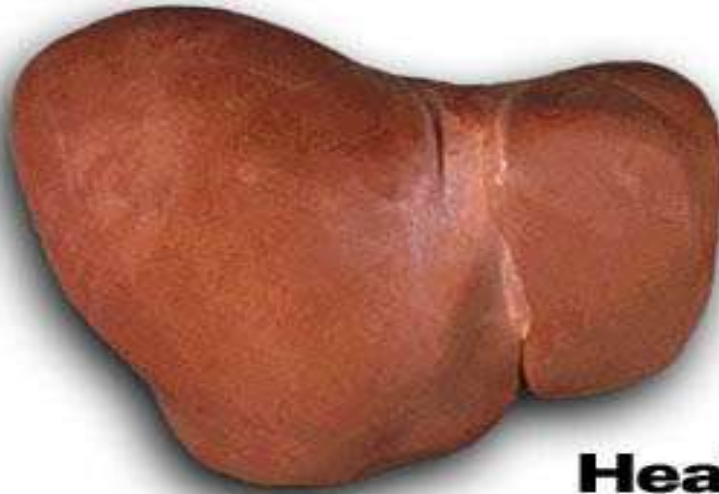
Heart



Lungs



Liver



Healthy



Cirrhosis

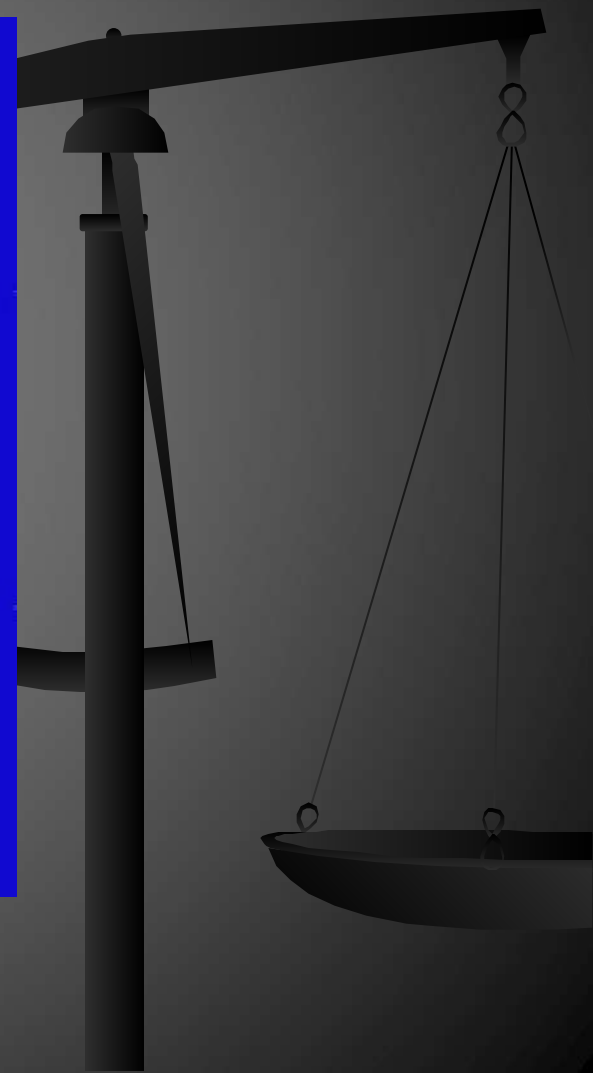
LiverSupport.co.uk



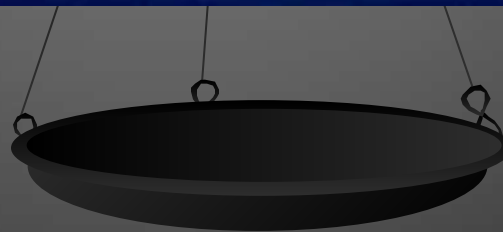
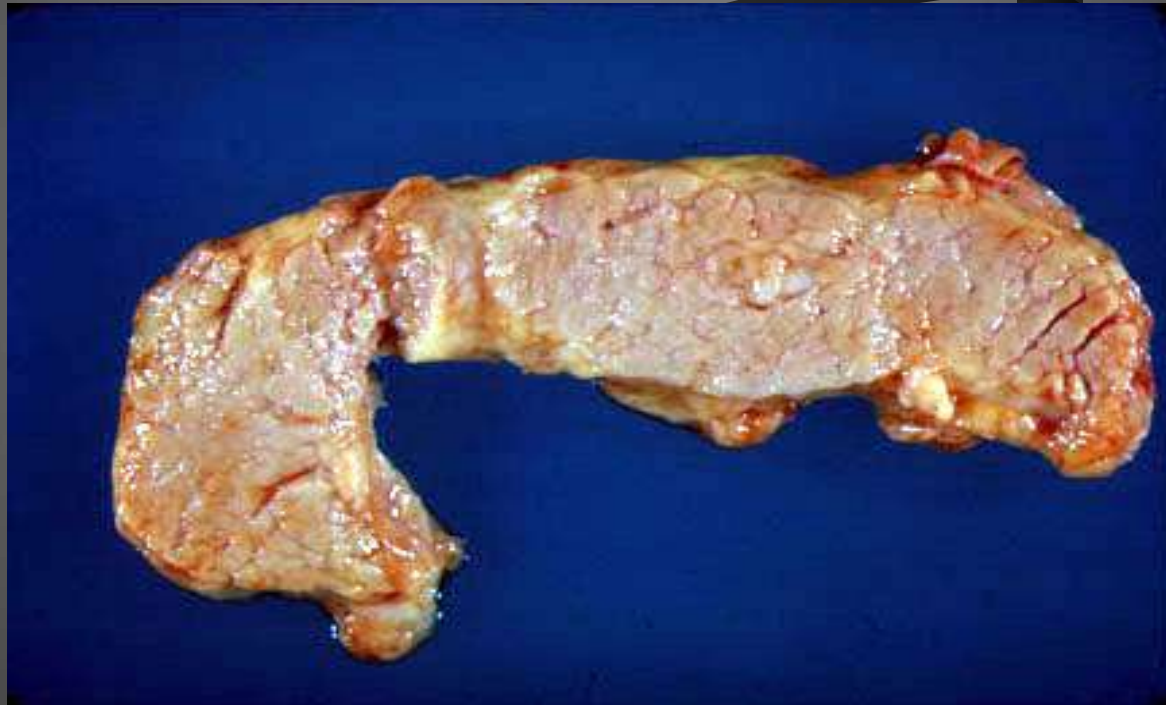
Spleen



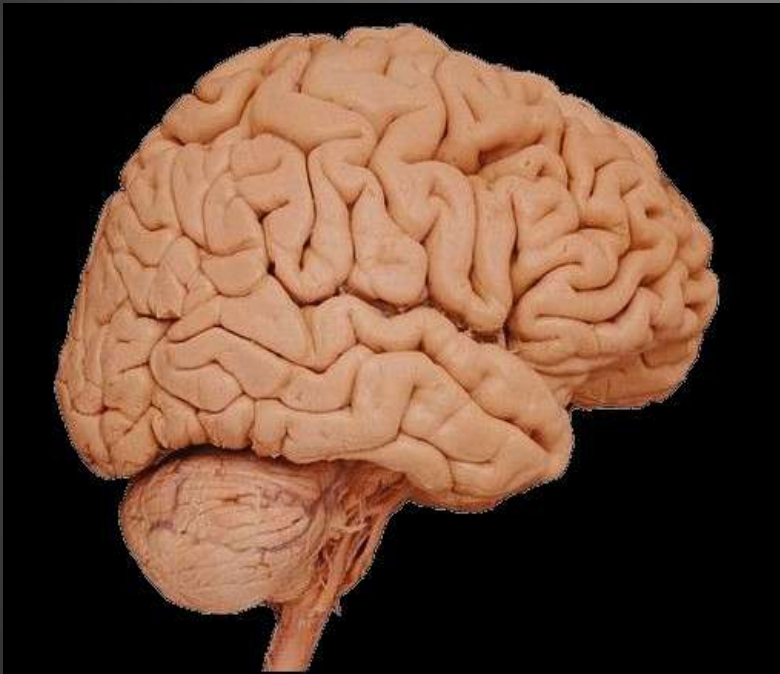
Kidneys



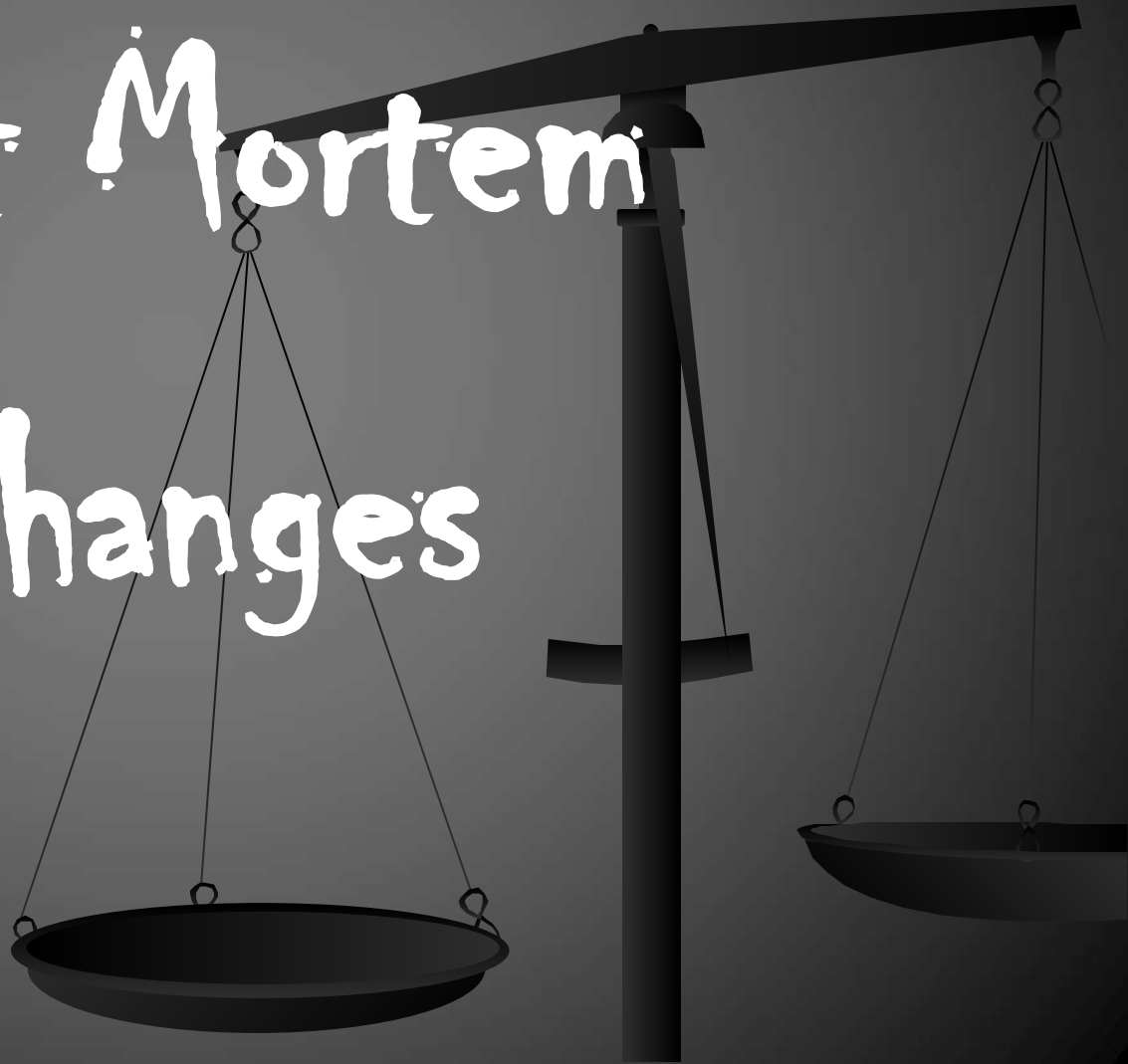
Pancreas



Brain

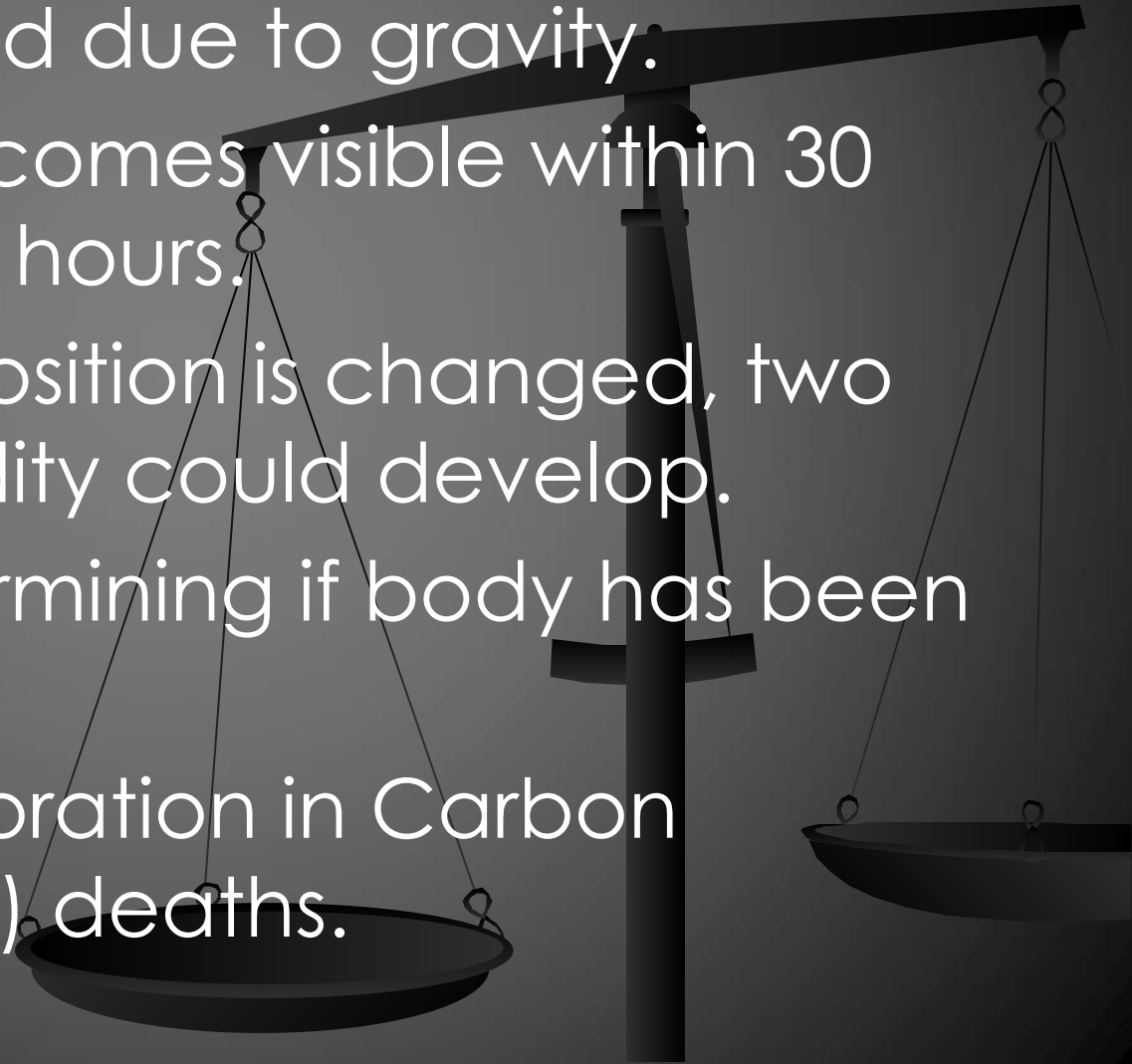


Post Mortem Changes

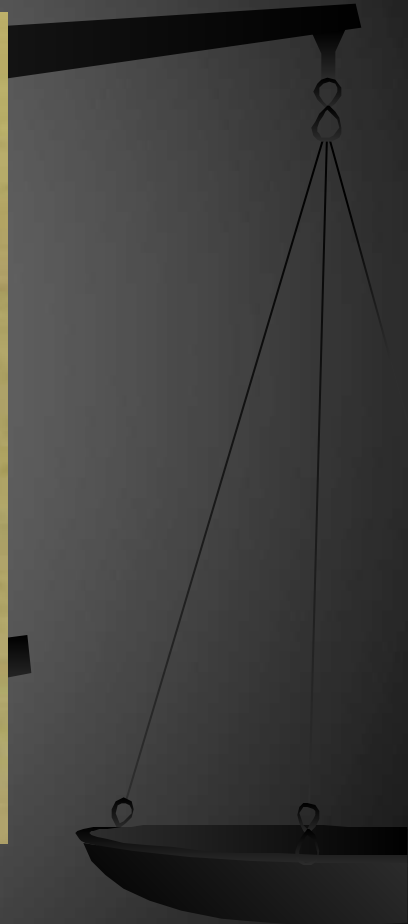
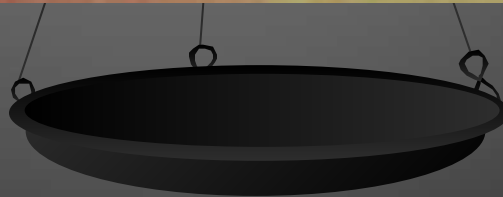
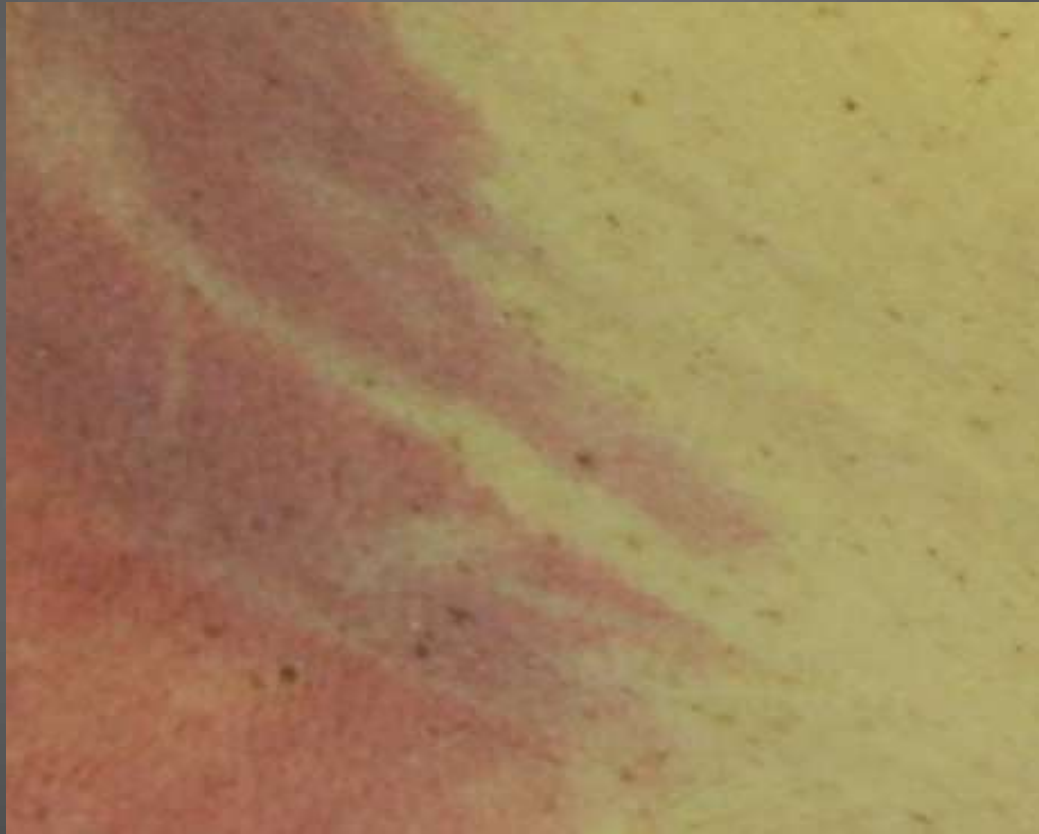


Lividity

- Settling of blood due to gravity:
- Most cases becomes visible within 30 minutes to two hours.
- If the body's position is changed, two patterns of lividity could develop.
- Helpful in determining if body has been moved.
- Cherry red coloration in Carbon Monoxide (CO) deaths.

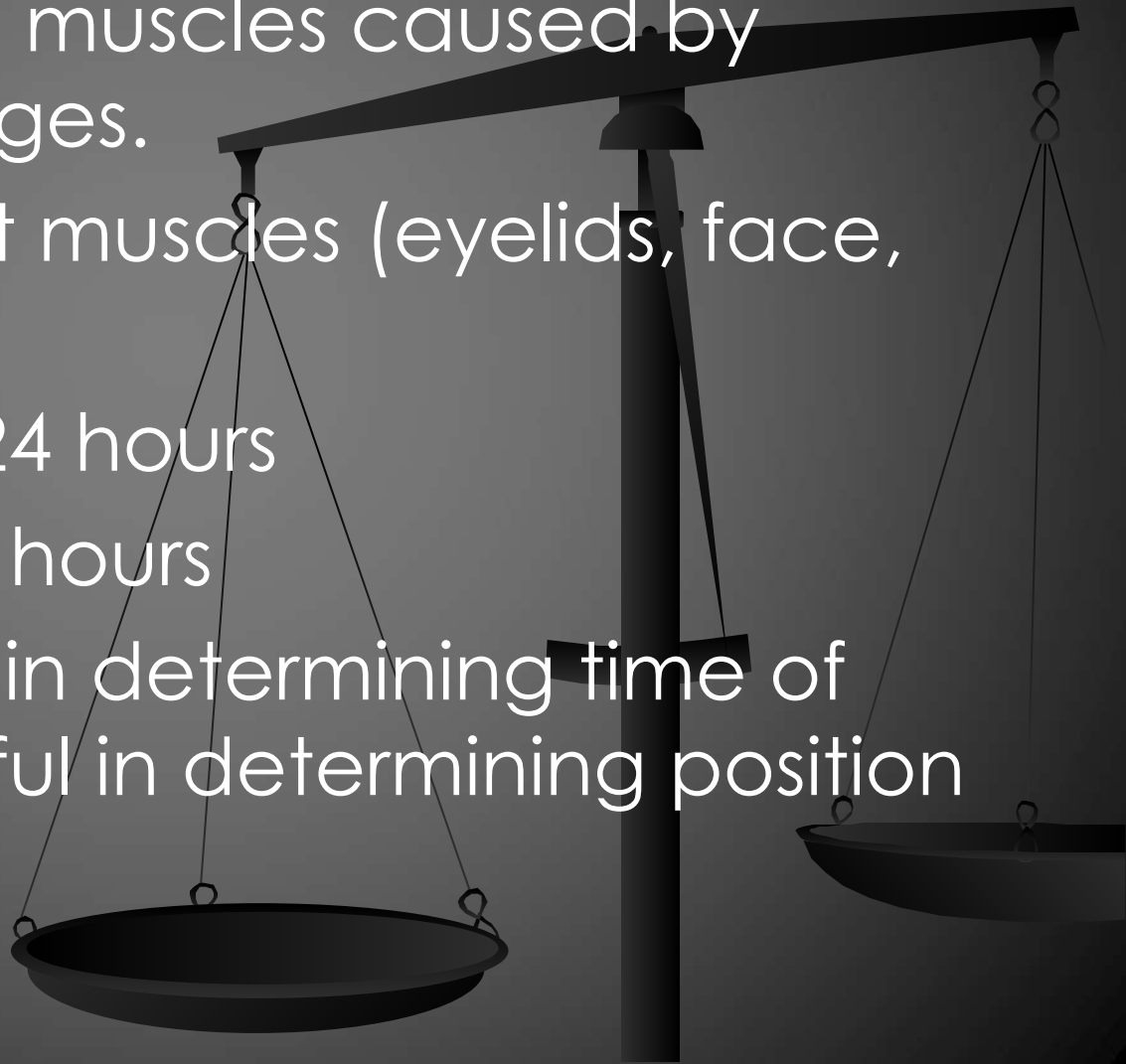


Lividity

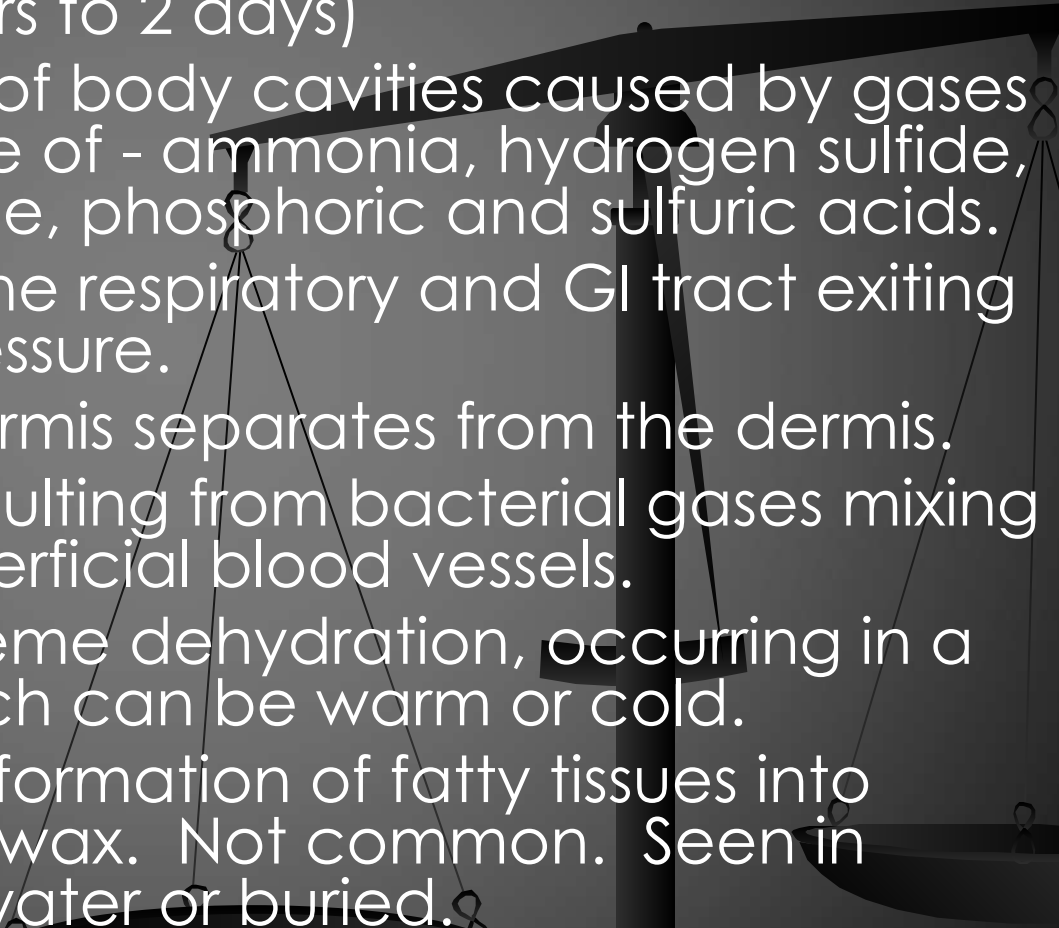


Rigor Mortis

- Stiffening of the muscles caused by chemical changes.
- Starts in smallest muscles (eyelids, face, neck, fingers)
- Peaks at 12 to 24 hours
- Leaves after 36 hours
- Little usefulness in determining time of death but helpful in determining position at death



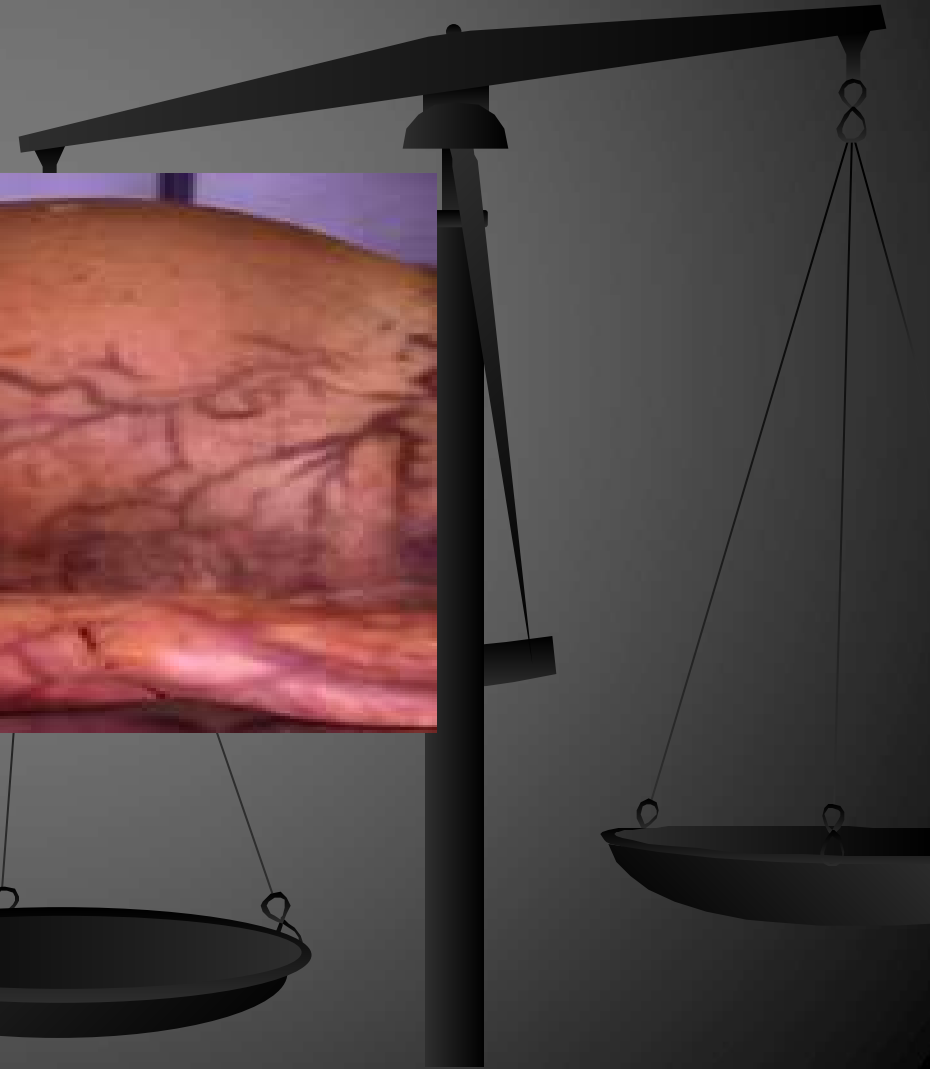
Decomposition

- **First external sign** - Green discoloration over the right lower abdomen (24hrs to 2 days)
 - **Bloating** - Expansion of body cavities caused by gases and chemical release of - ammonia, hydrogen sulfide, mercaptans, methane, phosphoric and sulfuric acids.
 - **Purge** - Contents of the respiratory and GI tract exiting orifices as a result pressure.
 - **Skin slippage** - Epidermis separates from the dermis.
 - **Marbling** - Pattern resulting from bacterial gases mixing with blood in the superficial blood vessels.
 - **Mummification** - Extreme dehydration, occurring in a dry environment which can be warm or cold.
 - **Saponification** - transformation of fatty tissues into adipocere or graves wax. Not common. Seen in bodies immersed in water or buried.
- 

Early Decomposition



Marbling



eMedicine

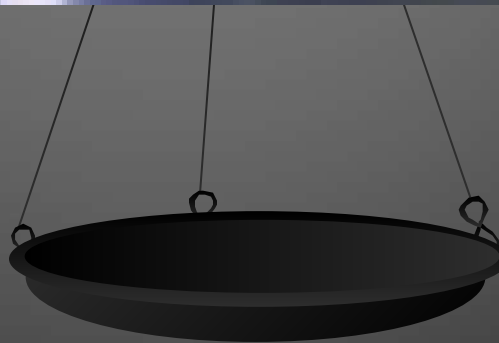
Advancing Decomposition



eMedicine



Skin Slip



Traffic Accidents



Don't be in a hurry



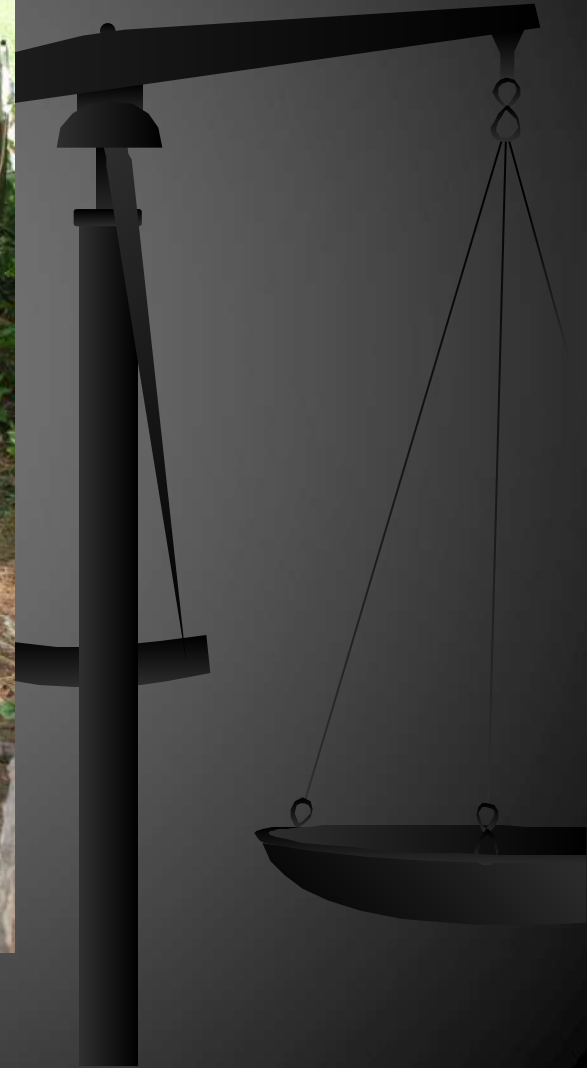




ALWAYS wear your seatbelt

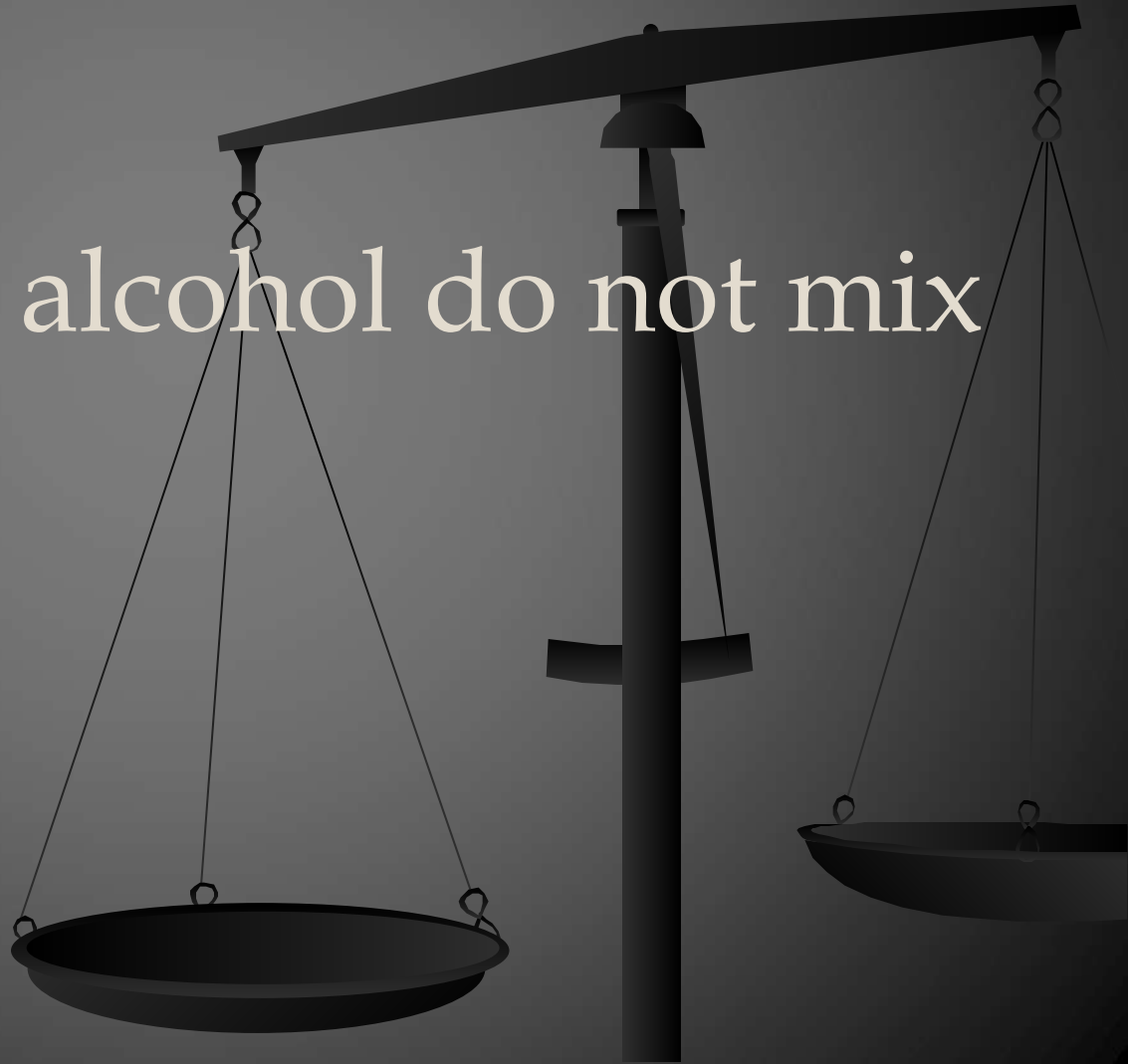




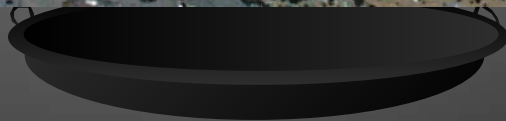




Driving and alcohol do not mix









Determining time of death:

Ocular fluid- potassium level in vitreous humor in eyes rises after death

Gastrointestinal tract:

Stomach- contents digested and emptied within 2-4 hours

Small intestine- food further digested and absorbed, 2-3 hours (4-8 hours total time)

Large intestine-waste 12-24 hours (20-30+ hours total time)

