

# POST MORTOM CHANGES SUMMARY

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Special thanks for Dr.lamia for correction

# ALGOR MORTIS ( COOLING )

What conserve our body temperture is oxidative phosphorylation which will produce  
atp and heat production

In death oxidative phosphorylation will stop , so as a consequence no heat production

In normal situation , you loss one degree per hour , for example if someone died  
before 7 hours , now what will be be his body temperture ? 30

? Untill when you loss temperture

Answer / Untill equalbrium with the outer environment



# FACTORS THAT AFFECT LOSS OF TEMPERATURE

- Age = infants lose temperature faster than adults due to the fact that they have large surface area compared to mass
- 2- sex = female loses temperature slower than males
- 3- obesity = loses temperature slower
- 4- surrounding environment = for example patient wearing clothes will lose temperature slower than someone naked
- 5- cause of death ( asphyxia , electricity , CO poisoning , heat ) this will make you lose temperature slower



# ) POSTMORTEM LIVIDITY ( HYPOSTASIS

It's discoloration of the body?

Only the dependent part of the **body** will have hypostasis = this depend on the position of the body?

It starts immediately but it appears after one hour?

It start as small patches , then this patch will combine together Untill they form a large shape in the dependent part?

Note that = the compressed part won't have livor mortis?

After 8 hours , hypostasis it will be fixed even if the body was changed in position ?

Note that = according to the colour of hypostasis you can know thae cause of death? for examples if the hypostasis was red this mean this patient died due to CO posing or Cyanide



# HYPOSTASIS VS BRUISES

Hypostasis vs. bruises

Hypostasis	Bruises (Ecchymosis)
Dependant areas	Any where
Well defined edges	Ill defined edges
Blood is retained in intact capillaries	Blood escapes through ruptured capillaries
Same level on surface	Raised
Pale over pressure areas	Red
Incision: blood flows from the cut vessel (washable)	Incision: blood coagulates in tissue

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# CHANGES AT LEVEL OF MUSCLE

After you dead = your muscles will be flaccid then rigidity then again it become flaccid and this called secondary flaccidity?

Primary flaccidity = remain 3-4 hours?

Second changes in muscles is rigidity ( rigor mortis ) happen after primary flaccidity and before secondary flaccidity?

= The mechanism of rigor mortis is?

Normally in a live person , we know that our muscles contain actin and myosin , these actin and myosin. Have like a bond between them . This bond is under the regulation of ATP?

What I want to say that this this bond without ATP , will be always functioning and leading to contraction of the muscle?

? What prevent this bond from this unregulated contraction?

Answer = ATP?



# CONT

When you die , there is no ATP which means = no prevention of the bond and as a consequence fusion of actin and myosin and = unregulated contraction

Rigor mortis start after 2 hours of death

It start in small muscles

Last muscles to be affected are = toes and fingers

It reach its maximum after 12 hr

The reason why rigor mortis disappear is = that we have mentioned before actin and myosin are proteins and protein will die with time



# CONT RIGOR MORTIS

الاسباب اللي بتخليك تخش في rigor mortis بشكل اسرع ?

1- in summer = because loss of ATP is faster ?

Athlete patient = rigor mortis will take longer time to occur ?

اذا تمت وانت على هيئة convulsio ) زي بعض الامراض ( tetanus , asphyxia ?

You will go to rigor mortis faster ?





في بعض المرات بتشوف انو الشخص جسمه  
متجمد فبتروح تفكره انو  
RIGOR MORTIS  
وهوا لا زي شو ??

Cold stiffness?

Heat stiffness?

Burns?

You have to differentiate rigor mortis vs cadaveric spasm?

Cadveric spasm = only happen in voluntary muscles in contrast to rigor mortis which  
will happen in voluntary and non voluntary

Cause of cadveric spasm = not known , but it could be due to high stress before death?



# PUTREFACTION

All what we have talked about was early postmortem changes?

The only late postmortem change is putrefaction?

What we mean by late ? Happen after 24 hours?

All human will have putrefaction except 3 type of humans ( mummification , adipocere formation , formation

- ① Mummification
- ② Adipocere formation
- ③ Maceration

?What are the causes of putrefaction?

1- autolysis?

2- in our GI and RS normally we have bacteria , after we die these bacteria will be active and release gasses?



# FACTORS THAT AFFECT THE SPEED OF PUTREFACTION

- putrefaction happen after 2 days in winter?

Putrefaction happen after 1 day in summer?

?What is the first external sign of putrefaction?

Answer = greenish discoloration of the right Lower quadrant = location of cecum , why?  
? this place specifically

Because cecum is highly loaded with bacteria?



Summary  
of  
each change  
and  
its Mechanism

- A - Primary flaccidity = Due to loss of tone
- B - Secondary flaccidity = Due to Potentiation and Autolysis
- C - Rigor mortis = Due to lack of ATP
- D - Algor Mortis (cooling) = Due to Storage of Oxidative Phosphorylation and heat production
- E - Hypostasis = Due to bumping Storage and gravity