



Okay, so what happens after death?

Forensic Science



## Bell-Ringer

- ◆ A woman attending her mother's funeral notices a man. The woman was very interested in the man, but did not get his name or number before he left the funeral. The woman goes home and kills her sister.
- ◆ Why?
- ◆ This is a question asked to Serial Killers...only a Serial Killer can get it correct!



- ◆ So, what is death?
- ◆ **Cellular death**- cells stop respiration and metabolism
- ◆ But all cells do not die at the same rate- except in a nuclear explosion
- ◆ If body fragmented, (bomb) some cells will continue to live a few more minutes than other cells
- ◆ Some cells are more vulnerable to O<sub>2</sub> deprivation than others



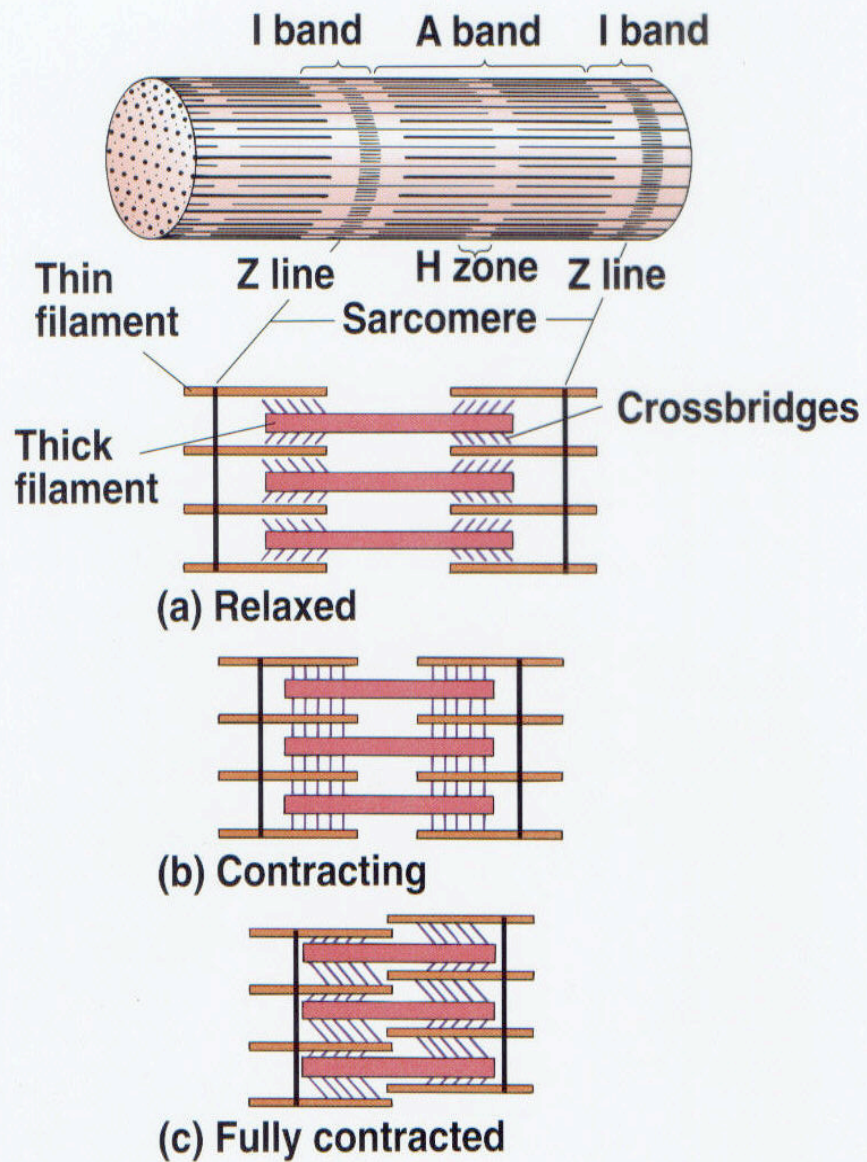
# So what happens after you die?

- ◆ Body temp will decrease- normally 37 degrees Celsius
- ◆ Temp drops 1-1.5 degrees an hour
- ◆ Oh, where do I put the thermometer?
- ◆ *We need to know the ambient temp- Why?*
- ◆ Potassium levels in the eye will increase
- ◆ **BUT** after onset of putrefaction (about 2 days after death) body temp will increase due to the metabolic activity of bacteria and other organisms



# Rigor Mortis

- ◆ What is it?
- ◆ Increase of lactic acid (remember glycolysis)
- ◆ Actin and myosin fuse to form a gel
- ◆ What are actin and myosin?
- ◆ Chemical reaction- if you were doing some activity, rigor happens faster
- ◆ Got it?





# Rules of thumb for estimating death



Temp of Body	Stiffness	Time since death
Warm	Warm	Less than 3 hours
Warm	Stiff	Dead 3-8 hours
Cold	Stiff	Dead 8-36 hours
Cold	Cold	Dead more than 36 hours



- ◆ Caution- never use rigor mortis as the only basis for estimating time of death
- ◆ After death, organisms in the intestine become active, multiply, and decomposition begins
- ◆ First:
- ◆ Intestine and blood are attacked
- ◆ Then, gas formation
- ◆ Then rupture of intestines
- ◆ Now, the inner workings of your body begin to liquefy





Stage	Description
Initial decay	Appear fresh- decomposing internally due to organisms present before death
Putrefaction	Swollen by gas produced internally, smells of decaying flesh
Black putrefaction	Flesh- creamy consistence with exposed parts black- body collapses as gases escapes- decay smell <b>STRONG</b>
Butyric fermentation	Cadaver drying out- cheesy order develops- mold forms
Dry decay	Cadaver almost dry- slow rate of decay



# Thanks for Your Attention

- ◆ Before You Leave...
- ◆ Bell-Ringer
- ◆ Journal
- ◆ Case Study...Due Tomorrow
- ◆ Experiment...Pre-Lab due tomorrow😊