



High School Science Virtual Learning

Forensic Science

Rigor Mortis

April 21, 2020



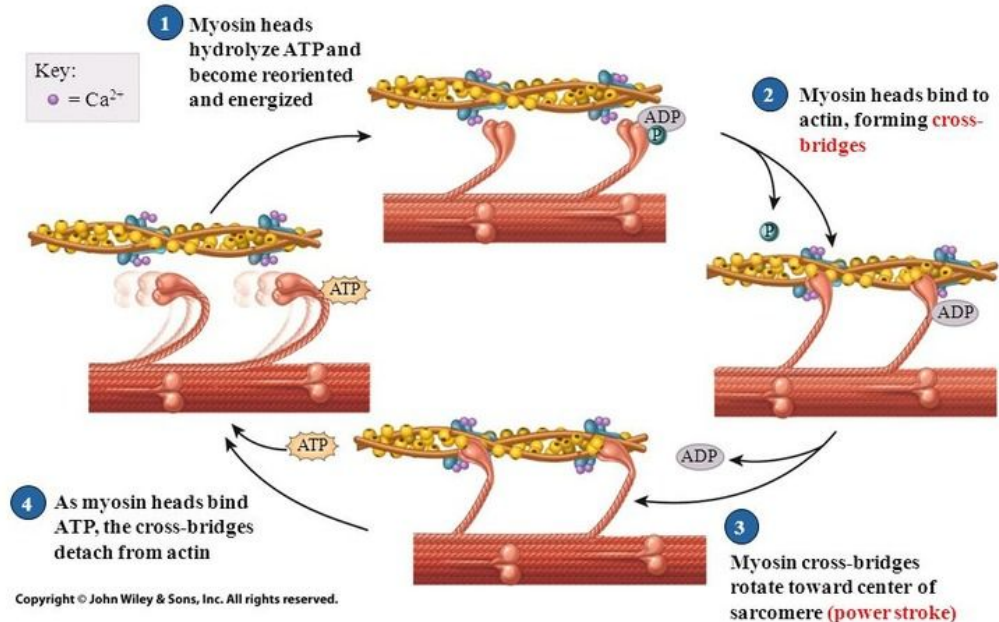
High School Forensic Science Lesson: Tuesday, April 21 2020

Objective/Learning Target:

Students will be able to identify Rigor Mortis and how it relates to the time of death.

1. During a muscle contraction what binds to what?
2. What molecule is needed for the action of contraction and release to continue happening?

The Contraction Cycle



1. Myosin binds to actin
2. ATP an energy molecule is needed to continue muscle contractions and release.



Lesson Activity:

Directions: You will be watching this 2 minute review over what Rigor Mortis is. Then you will follow up with the video over how rigor mortis works on a cellular level. While watching, you will need to take notes over the videos.

Link(s): [Two Minutes On Rigor Mortis](#)
[Rigor Mortis and Muscle Contraction | Muscular System](#)



Practice

You will use the information from the activity on slide 5 to answer the following questions.

Practice Questions

1. What is the latin meaning of rigor mortis?
2. A body was found with no evidence of rigor. How long has the body been dead?
3. A body was found exhibiting rigor throughout the entire body. How long has the body been dead?
4. What occurs in the muscles that causes rigor mortis?

Answer Key

Once you have completed the practice questions check with the work.

1. Rigor = Stiff Mortis= death
2. 0 to 2 hours, rigor mortis hasn't started yet
3. 12 hours, rigor mortis is complete
4. As your cells die membranes are broken down and calcium is released from its holding area. This causes your myosin to bind to actin causing muscles to contract, but because the body is dead no more ATP is available to release the binding and muscles cannot relax.



More Practice

You will use the information from the activity on slide 5 to answer the following questions.



More Practice Questions

You will follow the links below to further your understanding of rigor mortis.

1. [How Rigor Mortis Can Help Indicate Time of Death](#)
2. [Rigor Mortis Reference Table](#)



Additional Practice

Follow the links below for more information about the stages of death.

1. [The Strange, Smelly Science of Decomposing Bodies](#)
2. [Additional Death Timelines](#)