



High School Science Virtual Learning

Forensic Science

Livor Mortis

April 22, 2020

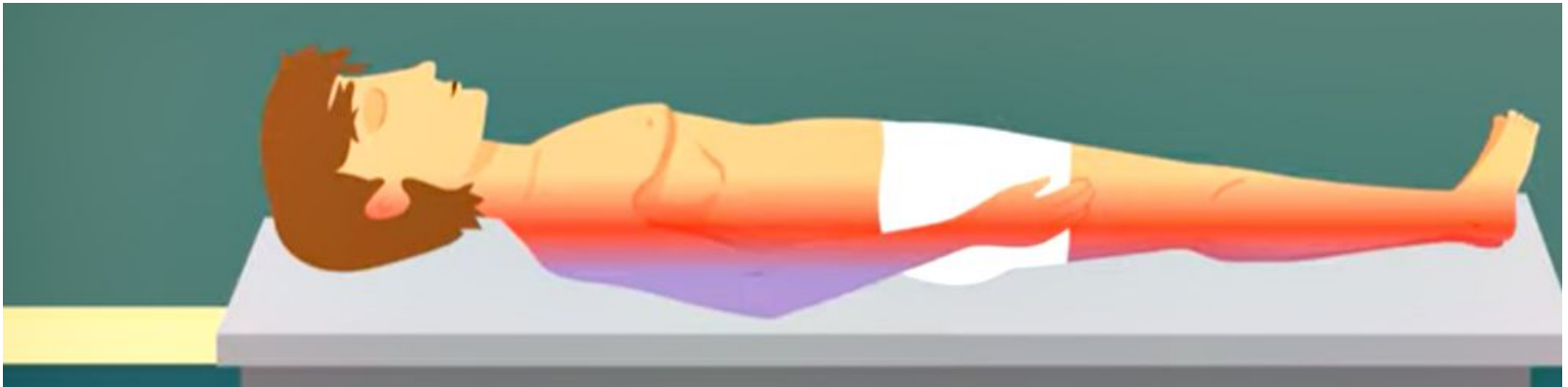


High School Forensic Science Lesson: April 22, 2020

Objective/Learning Target:

Students will be able to identify various stages of livor mortis. Students will apply this knowledge to determine time of death of human remains.

1. What happens cells of an organism that has recently passed away?
2. What do you think is happening to the body pictured here below?



1. The cells run out of energy. They also begin to break down. This means that their cell membranes no longer hold things inside, and cell parts spill out into the surrounding area.
2. It appears that this man's blood is starting to pool on his backside.



Lesson Activity:

Directions: Read the article posted below. Use it to answer the questions on the following page.

Link(s): [Science ABC](#)



Practice

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



Practice Questions

1. What is livor mortis?
2. What is the relationship between gravity and livor mortis?
3. What happens to the blood vessels that causes livor mortis to happen?
4. What color change do we see with livor mortis?
5. How long does it take for lividity to develop?
6. How long does it take for lividity to become fixed or permanent?



Practice Questions **Answer Key**

1. What is livor mortis? **the appearance of a reddish or purple discoloration of the skin**
2. What is the relationship between gravity and livor mortis? **Gravity pulls the blood to the lowest parts of the body.**
3. What happens to the blood vessels that causes livor mortis to happen? **All cells, including the blood vessels begin to break down, allowing blood to seep down into the lower parts of the body**
4. What color change do we see with livor mortis? **Usually we will see a deep, purple or blue color. There are other circumstances like carbon monoxide poisoning where a redder color will appear.**
5. How long does it take for lividity to develop? **Around 2 hours**
6. How long does it take for lividity to become fixed or permanent? **Around 6 hours**



More Practice

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

For each question, indicate three things...

1. How long ago the individual died,
2. What position they were left in immediately after death,
3. If they were moved post-mortem.



More Practice Questions

1. A body is found lying face up with deep purple coloration along their backside. When crime scene investigators touch the darker purple, it stays the dark purple color (lividity is fixed).
2. A body is found with lividity from the waist down. When the coloration is touched, the color briefly disappears, then returns (not fixed).
3. A body is found lying face down with purple coloration along their backside. When crime scene investigators touch the darker color, it stays the same purple color.
4. A body is found lying face up with purple coloration along their front side. When crime scene investigators touch the colored areas, it changes color.
5. A body is found lying face up with no abnormal coloration. When Crime Scene Investigators touch the skin, it stays the same color.



More Practice Questions **Answer Key**

1. A body is found lying face up with deep purple coloration along their backside. When crime scene investigators touch the darker purple, it stays the dark purple color (lividity is fixed).
 - a. How long ago the individual died: **LONGER THAN 6 HOURS**
 - b. What position they were left in: **FACE UP, LYING ON BACKSIDE**
 - c. If they were moved post-mortem: **NOT MOVED**
2. A body is found with lividity from the waist down. When the coloration is touched, the color briefly disappears, then returns (not fixed).
 - a. How long ago the individual died: **BETWEEN 2 AND 6 HOURS**
 - b. What position they were left in: **UPRIGHT, MAYBE SITTING IN A CHAIR**
 - c. If they were moved post-mortem: **NOT MOVED**
3. A body is found lying face down with purple coloration along their backside. When crime scene investigators touch the darker color, it stays the same purple color.
 - a. How long ago the individual died: **LONGER THAN 6 HOURS**
 - b. What position they were left in: **FACE UP, COLORATION IS ON THE BACKSIDE**
 - c. If they were moved post-mortem: **YES, THEY WERE MOVED AFTER LIVIDITY BECAME FIXED (6+ HOURS AFTER DEATH)**



More Practice Questions **Answer Key**

4. A body is found lying face up with purple coloration along their front side. When crime scene investigators touch the colored areas, it changes color.

- a. How long ago the individual died: BETWEEN 2 AND 6 HOURS
- b. What position they were left in: FACE DOWN, LIVIDITY IS ON THE FRONT SIDE
- c. If they were moved post-mortem: YES THEY WERE MOVED, FLIPPED OVER AT SOME POINT

5. A body is found lying face up with no abnormal coloration. When Crime Scene Investigators touch the skin, it stays the same color.

- d. How long ago the individual died: BEFORE 1 TO 2 HOURS
- e. What position they were left in: WE CAN ASSUME FACE UP
- f. If they were moved post-mortem: NO LIVIDITY YET MEANS WE ARE UNABLE TO TELL

Additional Practice

Create your own scenario or situation where human remains have been found at a crime scene. Make sure to include lividity to indicate how long ago the individual died, what position they were left in, and if they were moved post-mortem.

