



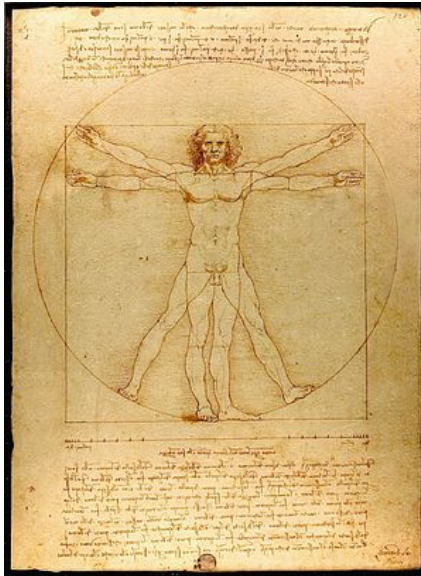
About Science Prof Online PowerPoints

- Science Prof Online (SPO) is a free science education website that provides science-related articles, images, and virtual classrooms. The site is designed to be a helpful resource for students, educators, and anyone interested in learning about science.
- The SPO Virtual Classrooms offer many educational resources. These can include: lecture PowerPoints, practice test questions, review questions, video tutorials, sample assignments and course syllabi.
- Some SPO PowerPoints, such as this one, can be found in different formats such as the fully editable PowerPoint file, the PowerPoint slideshow and video tutorials for PC and Mac. Please email us at alicia@scienceprofonline.com if a format you need is not available.
- Images used on this resource and on the SPO website are, wherever possible, credited and linked to their source. Any words underlined and appearing in blue are links that can be clicked on for more information.
- Several helpful links to fun and interactive learning tools are included on the Smart Links slide, near the end of the PowerPoint
- This digital resource is licensed under Creative Commons Attribution-ShareAlike 3.0
<http://creativecommons.org/licenses/by-sa/3.0/>

Alicia Cepaitis, MS
Chief Creative Nerd
Science Prof Online
Online Education Resources, LLC
alicia@scienceprofonline.com

Tami Port, MS
Creator of Science Prof Online
Chief Executive Nerd
Science Prof Online
Online Education Resources, LLC
info@scienceprofonline.com

Introduction to Anatomy and Physiology Lecture Series



Vitruvian Man.. [Wikipedia](#).



Cardiac cycle. [Heart Health](#)

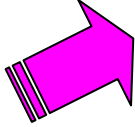
How do the studies of
anatomy and physiology
support each other?

Anatomy or Physiology?

Anatomy and the City



NYC from Space. [NASA/GSFC](#)



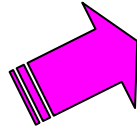
The study of anatomy is much like
The study of geography.

New York City is an important
region of New York State just
as the Cephalic Region (Head) is
important to the human body.

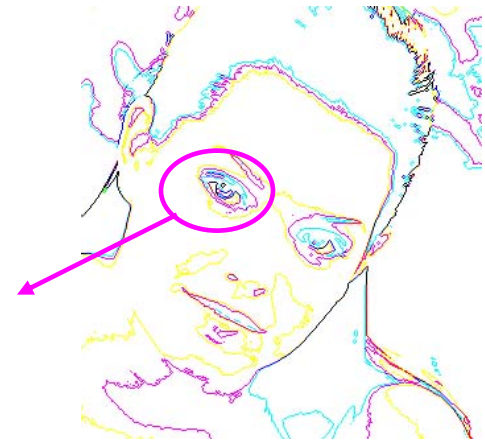
Anatomy is the study of the structure of body parts and their
relative locations .

Anatomy or Physiology?

Anatomy and the City



Manhattan. [Wikicommons](#)

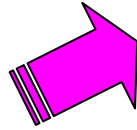


Manhattan is a particular Region of New York City just as the **orbital region (Eye)** is a particular part of the cephalic region

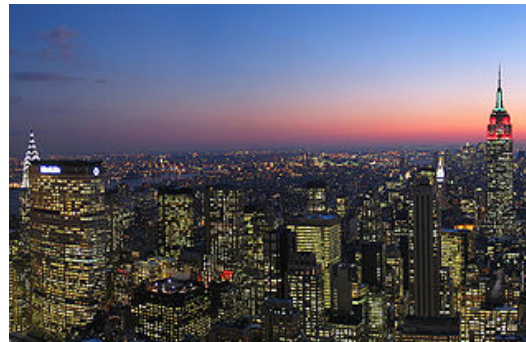
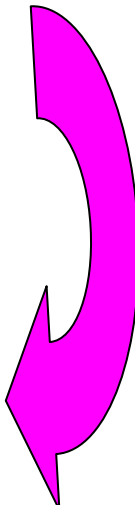
Anatomy is the study of the structure of body parts and their relative locations.

Anatomy or Physiology?

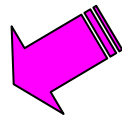
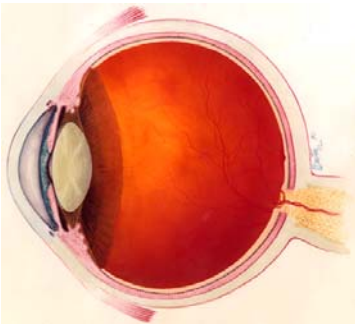
Anatomy and the City



Manhattan. [Wikicommons](#)



Buildings in South Manhattan. [Wiki](#)



Human eye structures. [NIE #NES04](#)

The skyscrapers of Manhattan are similar to the eyeball which is an organ In the orbital region.

Anatomy is the study of the structure of body parts and their relative locations .

Anatomy or Physiology?

**New York City. 5 days.
July 2010. 16 homicides.
1 officer stabbed.**



NYC Forensic Lab. [Wiki](#)

- A New York City metro transit police officer shot and killed the man who stabbed him in the eye. The officer was stabbed with a 4 inch blade. He survived the wound without brain damage but his left eye was destroyed. The attacker was shot four times, in the jaw, chest and hip. He was pronounced dead at the investigation scene.

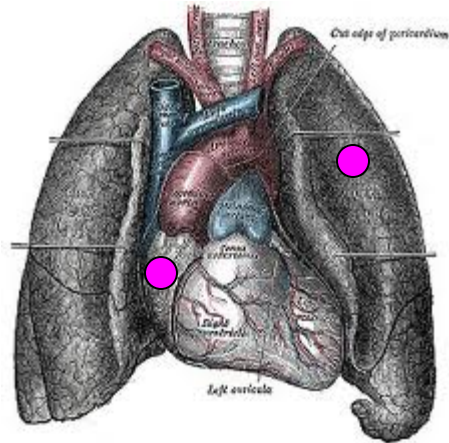
Which organ systems would be of primary interest to the NYC medical examiners investigation?

[Click Here for
NYC Medical
Examiner
Website](#)

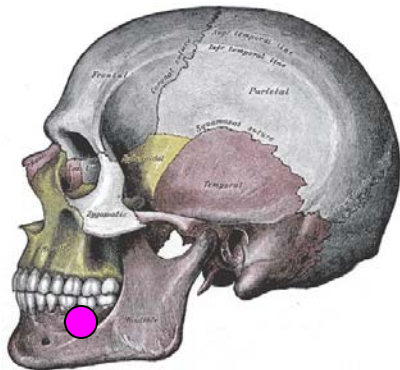
[Click Here for
News report of
the stabbing
incident](#)

Anatomy or Physiology?

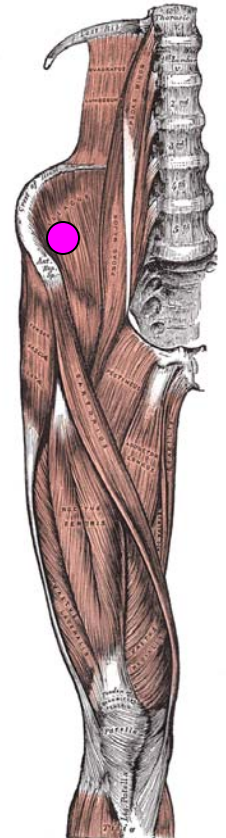
Which organ systems would be of primary interest to the NYC medical examiners investigation of the shooting?



The **respiratory** and **cardiovascular** systems for the shots in the left lung and right atrium of the heart



The **integumentary** and **digestive** systems for the shot in the jaw



The **muscular** and **skeletal** systems for the shot in the left hip

Physiology and the City

Who is driving this car and where is he going?

What is the message this molecule is transporting between cells?

Which type of business does work on this floor?

Which cell process is happening in this part of a cell?



Why are these people on the train? Are they going to work?

Why does this cell process happen?
Which molecules are involved?

NYC Subway. [Netizen blog](#)

Physiology is the study of the **functions** of body parts and their cellular or **metabolic** processes.

Anatomy or Physiology?

**New York City. 5 days.
July 2010. 16 homicides.
1 officer stabbed.**



NYC Forensic Lab. [Wiki](#)

- A New York City metro transit police officer shot and killed the man who stabbed him in the eye. The attack was recorded by a transit video camera. The attacker appeared to be “deranged”. He had a previous record of several other assaults.

Which physiological evidence would be of primary interest to the NYC medical examiners investigation?

[Click Here for
NYC Medical
Examiner
Website](#)

[Click Here for
News report of
the stabbing
incident](#)

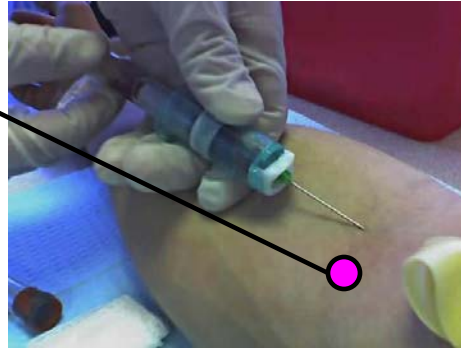
[Click Here for
Toxicology
screen \(NIH\)
Website](#)

Anatomy or Physiology?

Which physiological evidence would be of primary interest to the NYC medical examiners investigation?

Blood Tests

- drugs of abuse
- blood sugar levels
- antidepressants
- Thyroid hormone levels

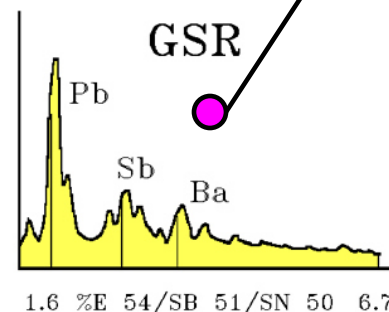
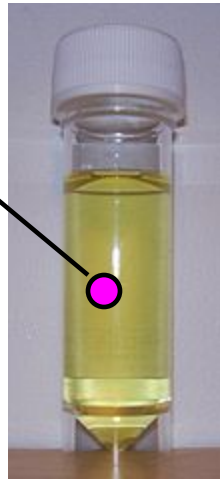


Histology

- Tissue samples check for gunshot residue near wound entrance and exit

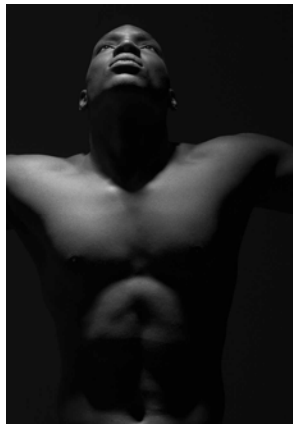
Urinalysis

- Chemical
 - Metabolites of drugs
 - pH, ketones, protein
- Microscopic
 - Presence of cells



Anatomy and Physiology

- Complement each other for our understanding of the human body
- Require licenses, certificates or college degrees to work in both fields
- Use experimental and observational science methods to collect data





Smart Links

These links can help you review or learn more about this topic

- Difference Between Blog

<http://www.differencebetween.net/science/health/difference-between-anatomy-and-physiology/>

- Anatomy and Physiology YouTube Video

http://www.youtube.com/watch?v=y2N_b0qwvxY

- Quizlet short flash card deck and java games

<http://quizlet.com/9627929/anatomy-vs-physiology-flash-cards/>

(You must be in PPT slideshow view to click on links.)