Astronomic Cardiology

Team #1
Lucius Kvech, Caitlyn Birkby, Brandon Tso

Question

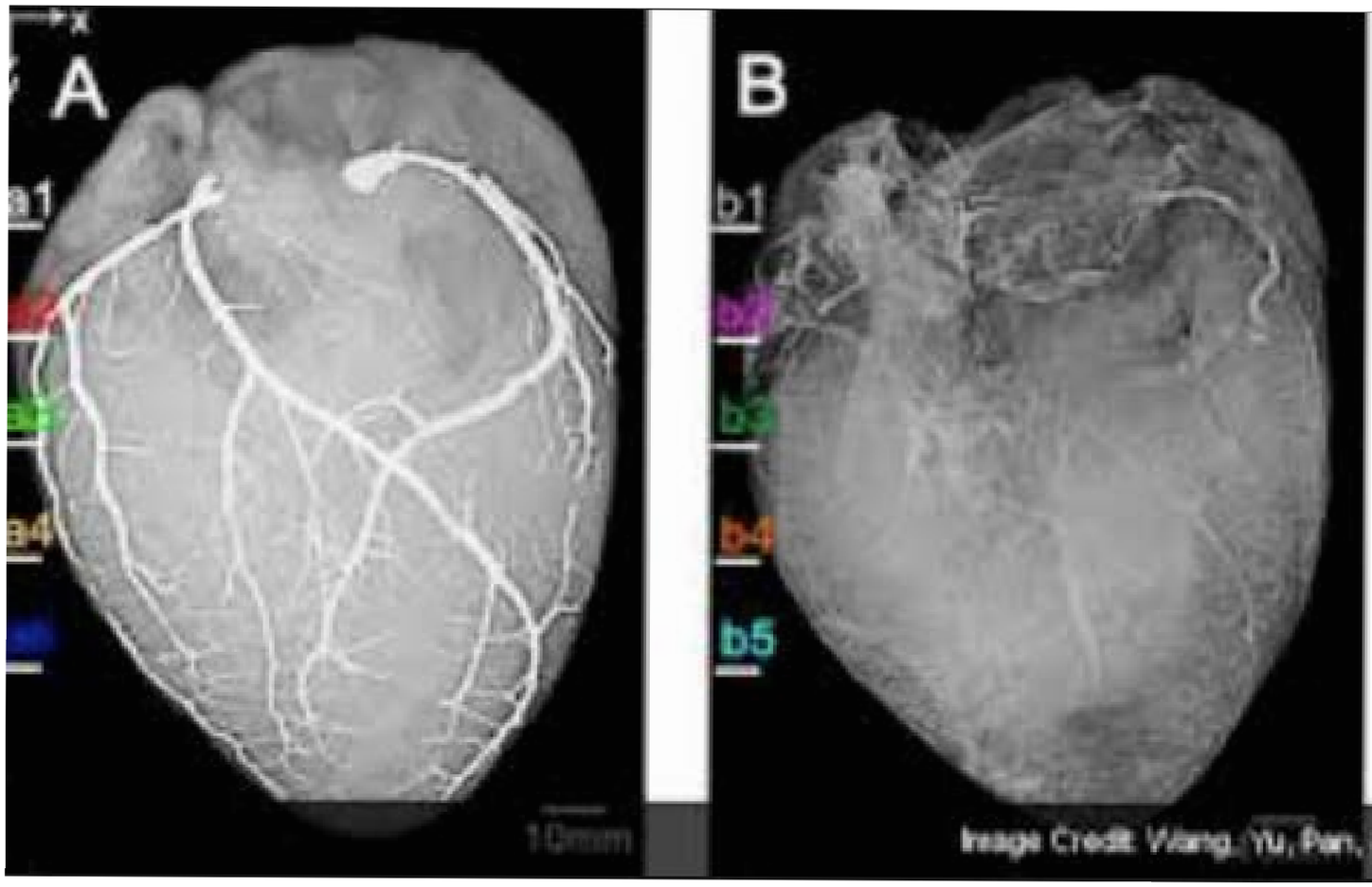
- How does a human heart change in space and how can we help to reduce the amount of time it takes an astronaut to recover?

Rationale

- The reason we chose this problem is because astronauts have a difficult time physically readjusting after long durations in space, with potential heart problems in the future. Research can help with this problem for people here on Earth, too.

Before & After

After being in space a while, the human heart becomes more spherical in shape instead of elongated. Additionally, the heart weakens due to micro-gravity and blood pressure decreases.



Before
months/year
in space

After
months/year
in space

Progress

At the time we are just waiting on a agent model.

Description of Research

- First, we researched how the heart works normally on Earth.

- Second, we looked up how the astronauts train for their time in space.

- Third, we examined cardiovascular changes that occur in space that imitate the effects of bed rest here on Earth.

Defining the Problem/Possible Solutions

- First, we researched heart function as stated on the last slide.
- Second, we brainstormed how we could positively impact astronauts' heart health.
- Finally, we decided on a programming language, agent model, and turtles.

Programming Language

At this time we are used NetLogo for our programming but hope to use StarLogo in the future.

Validating Model

We have not validated a model. We have also found that we cant due to are group not having the proper numbers.

Conclusion

At this point in time we are a little unprepared such as are agent model but all components are covered.

Overview

Y: Yes
N: No
IP: In Progress

- Question:Y
- Progress: N/Y
- Answer to Question IP
- Programing Language: NetLogo 5.3.1
- Validation model: N/IP

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