

HCB 524: Special Topics in Bioethics – Ethical Decision Making in Cardiology
Winter 2022: January 4th-21st

Gregg Cantor, D.O., M.A.

gregg.cantor@stonybrookmedicine.edu

December 13th at 6pm: Zoom session for expectations of the course and reading material. If you are unable to attend, send me an email.

There is no expectation for any student to have any background in cardiology. However, in order to achieve the objectives of this course, the materials and our discussions will necessarily include medical terms which may be difficult to interpret and understand. In this regard, the goal of this course is to begin understanding the very basics of cardiology, which will allow for greater comprehension of the lecture topics. If any student has any questions, please feel free to ask before, during, or after the class.

As referenced above, since we will be working with concepts and terms that are likely new to you, please read through all of the readings for Lecture 1 during Winter Break to begin learning the basics of cardiology.

Tuesday, January 4th

Lecture 1

Introduction Class: Cardiology Basics – Heart Attacks, Arrhythmias, and Heart Failure.

During this session, students will learn a basic overview of cardiac pathology and about the various treatment modalities available. This information will be the foundation for understanding the ethical issues that present in patients with cardiac issues.

Readings:

Heart Disease Statistics

[Heart Disease Statistics 1](#)

[<https://www.cdc.gov/heartdisease/facts.htm>]

What is a heart attack?

[Heart Attack 1](#)

[<https://www.heartfoundation.org.nz/your-heart/post-heart-attack/about-heart-attacks>]

What are arrhythmias?

[Heart Arrhythmia 1](#)

[<https://www.mayoclinic.org/diseases-conditions/heart-arrhythmia/symptoms-causes/syc-20350668>]

[Heart Arrhythmia 2](#)

[<https://watchlearnlive.heart.org/index.php?moduleSelect=arrhyt>]

What is heart failure?

[Heart Failure 1](#)

[<https://www.mayoclinic.org/diseases-conditions/heart-failure/symptoms-causes/syc-20373142>]

Cardiac Arrest and CPR

[CPR 1](#)

[<https://www.mayoclinic.org/first-aid/first-aid-cpr/basics/art-20056600>]

[CPR 2](#)

[<https://cpr.heart.org/en/resources/cpr-facts-and-stats>]

Wednesday, January 5th

Lecture 2

In-Hospital and Out-of-Hospital Cardiac Arrest

During this session, students will learn about ethical dilemmas during a cardiac arrest. We will start with in-hospital cardiac arrest and then transition to out-of-hospital cardiac arrest. At the end of the class, multiple scenarios will be presented and students will discuss proper ethical management during these situations.

Readings:

In-Hospital Cardiac Arrest

[In-Hospital Cardiac Arrest 1](#)

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6482460/pdf/nihms-1021588.pdf>]

Out-of-Hospital Cardiac Arrest

[Out-of-Hospital Cardiac Arrest 1](#)

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6815475/pdf/PAMJ-33-289.pdf>]

[Out-of-Hospital Cardiac Arrest 2](#)

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1769222/pdf/hrt09101505.pdf>]

Ethical Questions During Cardiac Arrest

[Ethical Questions during Cardiac Arrest 1](#)

[<https://www.ahajournals.org/doi/epub/10.1161/CIR.000000000000254>]

Videos:

Watch *Extremis* (in class)

Discussion Questions:

- 1) An in-hospital cardiac arrest just occurred to a patient who is DNR. The HCP is present and demands you start CPR. What is the proper management?
- 2) A code during an in-hospital cardiac arrest is occurring for about 45 minutes. The code team finds it to be medically futile to continue CPR and wishes to stop. The family is present and demands that you continue the code. What is the proper management?
- 3) Are there any ethical concerns that should be addressed prior to starting CPR during an out of hospital cardiac arrest? Does the patient's code status need to be checked? How would this be checked? Can you trust a family member's word regarding a patient's code status?
- 4) Should an out-of-hospital cardiac arrest patient be treated the same as an inpatient cardiac arrest patient?
- 5) How long should resuscitative efforts last for an out-of-hospital cardiac arrest? Is this the same as an inpatient cardiac arrest patient?
- 6) If return of spontaneous circulation (ROSC) is achieved, and the patient does not have a meaningful mental status, should all available treatments be utilized for the patient?

Debate Topic:

- Should patients who suffer out-of-hospital cardiac arrest be able to have all medical resources available to them?

Thursday, January 6th

Lecture 3

Pacemakers and Defibrillators

In this session, we will focus on pacemakers/defibrillators and their potential withdrawal in end-of-life situations. These devices can significantly benefit a patient's life; however, they can also function against a patient's wishes during end-of-life situations. Students will learn about these benefits and dilemmas, and then be able to discuss main ethical issues surrounding them.

Readings:

Pacemaker/Defibrillator Basics

[Pacemaker/Defibrillator Basics 1](#)

[<https://columbiasurgery.org/conditions-and-treatments/pacemakers-and-defibrillators>]

Pacemaker/Defibrillator Deactivation

[Pacemaker/Defibrillator Deactivation 1](#)

[<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5349811/pdf/bumc0030-0157.pdf>]

[Pacemaker/Defibrillator Deactivation 2](#)

[<https://www.jpsmj.com/action/showPdf?pii=S0885-3924%2811%2900202-8>]

[Pacemaker/Defibrillator Deactivation 3](#)

[<https://www.aafp.org/afp/2008/0801/p398.html>]

Physician's Perspective of Pacemaker/Defibrillator Deactivation

[Physician's Perspective of Pacemaker/Defibrillator Deactivation 1](#)

[<https://www.heartrhythmjournal.com/action/showPdf?pii=S1547-5271%2810%2900709-5>]

Discussion Questions:

- 1) Should the shocking function of a defibrillator ever be allowed to be deactivated?
- 2) Should the pacing function of a pacemaker ever be allowed to be deactivated?
- 3) Is deactivation of the pacing function of a pacemaker different than the deactivation of the shocking function of a defibrillator?
- 4) What are the physical and psychological harms that pacing and defibrillation can impose upon a patient?
- 5) What does it mean to be pacemaker dependent?
- 6) Should there be a difference between deactivating pacing function of a pacemaker for pacemaker dependent and pacemaker independent patients?
- 7) Should deactivation of a pacemaker be held to a higher standard than removal of other life sustaining treatments? (Vasopressors, intubation, etc.)

Debate Topic:

- Should medical providers be permitted to turn off a pacemaker if a patient is pacemaker dependent?

Tuesday, January 11th

Lecture 4

Ethical Concerns during the COVID Pandemic

In this session, we will discuss the impact that the COVID-19 pandemic has had upon cardiac patients and cardiologists in terms of patient care and clinical decision making.

Readings:

COVID Readings

[COVID 1](#)

[<https://www.newswise.com/coronavirus/how-covid-19-changed-the-way-patients-responded-to-a-heart-attack>]

[COVID 2](#)

[<https://www.dicardiology.com/content/covid-caused-major-decline-heart-attack-patients-seeking-care>]

[COVID 3](#)

[<https://openheart.bmj.com/content/openhrt/7/2/e001359.full.pdf>]

Physician Burnout Readings

[Physician Burnout 1](#)

[<https://www.ama-assn.org/practice-management/physician-health/half-health-workers-report-burnout-amid-covid-19>]

Discussion Questions:

- 1) If you were a patient experiencing chest pain during the height of the pandemic, would you go to the hospital?
- 2) If you were having a medical problem at home, do you think your threshold for deciding to go to the hospital would have changed before and during the height of the pandemic?
- 3) If a family member or friend was having a medical problem, do you think your threshold for advising them to go to the hospital would have changed during the height of the pandemic?
- 4) Should there be a limit on the number of hours medical professionals are allowed to work in a day/week/month in order to prevent burnout? If so, should this rule be lifted if there are no other options to care for sick patients?

Debate Topic:

- Were patients correct not to come to the ER during the height of the pandemic? Does it matter what their symptoms were?

Wednesday, January 12th

Lecture 5

Global Cardiac Health

Students will learn about the impact that preventative medicine has on the patient from developing disease. Students will also visualize the disparities in medical care and the impact that can be done.

Reading:

[Global Cardiac Health 1](#)

[[https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-\(cvds\)](https://www.who.int/news-room/fact-sheets/detail/cardiovascular-diseases-(cvds))]

Video:

Watch *The Resilient Heart* (in class)

Debate Topic:

- Should cardiac medical professionals in the United States be obligated to provide relief to the global mission to decrease cardiac disease? If so, how much?

Thursday, January 13th

Lecture 6

The Obesity Epidemic

During this class, students will learn about the obesity epidemic in the United States and discuss possible solutions to this major problem.

Readings:

[Obesity 1](#)

[<https://www.cdc.gov/obesity/data/adult.html>]

[Obesity 2](#)

[<https://www.acc.org/latest-in-cardiology/articles/2018/07/06/12/42/cover-story-obesity-and-cardiovascular-disease-risk>]

Video:

Supersize Me (in class)

Debate Topic:

- Should good habits of exercise and diet be forced upon Americans by the government?

Tuesday, January 18th

Lecture 7

The Government's Role in Reducing the Risk of Heart Disease

In this session, students will explore whether the government should be able to place dietary or habitual restrictions on citizens if doing so would lead to a decrease in cardiac disease and improved public health.

Readings:

Ban of Transfat

[Trans-fat Ban 1](#)

[<https://www.fda.gov/food/food-additives-petitions/trans-fat>]

[Trans-fat Ban 2](#)

[<https://www.nbcnews.com/health/health-news/trans-fat-ban-saved-lives-new-york-study-shows-n745631>]

Ban of Sugary Drinks

[Sugary Drink Ban 1](#)

[<https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/beverages-public-health-concerns/>]

[Sugary Drink Ban 2](#)

[<https://www.ucsf.edu/news/2019/10/415746/workplace-sales-ban-sugared-drink-shows-positive-health-effects>]

[Sugary Drink Ban 3](#)

[<https://archive.thinkprogress.org/new-york-citys-large-soda-ban-is-officially-dead-9f7ec56b2fdb/>]

Smoking and Cardiovascular Disease Risk

[Smoking 1](#)

[https://www.cdc.gov/tobacco/data_statistics/sgr/50th-anniversary/pdfs/fs_smoking_CVD_508.pdf]

[Smoking 2](#)

[<https://www.hopkinsmedicine.org/health/conditions-and-diseases/smoking-and-cardiovascular-disease>]

Smoking Ban

[Smoking Ban 1](#)

[<https://www.fda.gov/news-events/press-announcements/fda-commits-evidence-based-actions-aimed-saving-lives-and-preventing-future-generations-smokers>]

[Smoking Ban 2](#)

[<https://www.acc.org/about-acc/press-releases/2010/02/22/11/56/21>]

Discussion Questions:

- 1) What restrictions have the government placed on smoking?
- 2) Should smoking be banned? If so, why hasn't it been already?
- 3) Is there a difference between placing restrictions on smoking and restrictions on unhealthy eating habits?
- 4) Should individuals be limited to the amount of fast food they can eat?
- 5) Should there be an additional tax on fast food?

Debate Topic:

- Should the government be allowed to restrict/eliminate certain foods or habits (e.g., smoking)? Why or why not?

Wednesday, January 19th

Lecture 8

Student Presentations 1

Thursday, January 20th

Lecture 9

Student Presentations 2

Grading

Participation/Attendance- 30%

Presentation- 70%

Presentation- Come up with a solution to a cardiac ethical topic. Each student can pick a lecture from class/debate topic or decide to pick a different topic that has not been discussed. You are expected to present on your topic and solution for 10 minutes, and then moderate a debate on that topic among your classmates. The topic can be any scenario that you choose and how best to manage that scenario.

Examples:

1) The best way to ensure Americans are taking care of themselves is to give them tax breaks if they commit to a healthier diet.

2) It should be required for all patients with pacemakers/defibrillators to have an advanced directive to instruct when they would like to have their pacemakers/defibrillators turned off.

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From Official Stony Brook University Policy:

Statements required to appear in all syllabi on the Stony Brook campus:

Americans with Disabilities Act:

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room128, (631) 632-6748. They will determine with you what accommodations, if any, are necessary and appropriate.

Academic Integrity:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report and suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (Schools of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at <http://www.stonybrook.edu/uaa/academicjudiciary/>

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and School of medicine are required to follow their school-specific procedures.

Student Accessibility Support Center Statement

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: <https://ehs.stonybrook.edu/programs/fire-safety/emergency-evacuation/evacuation-guide-people-physical-disabilities> and search Fire Safety and Evacuation and Disabilities.