

Welcome to Mini- Med!

Spring 2022

Outline for Today's Homeroom

- Introduction to the program
- Basics of medical ethics
- Getting from high school to medical school

Introductions and Attendance

- Preceptor introductions
- Student introductions
 - What interests you about medicine?
 - What do you want to get out of MiniMed?

Zoom Etiquette

- Stay on mute; unmute yourself to participate
- If you can keep your video on, please do so!
- Questions can be asked out loud or in the chat
- Participate as much as possible!
- You can hold up your cats or other pets to your camera at any time
 - (Seriously, we'd all love to see your pets!)

Program Overview

- 5-week program this semester
- Designed to introduce a wide range of medical topics to students who are interested in medicine
- What to expect:
 - Homeroom presentations with medical students (that's us!)
 - Lectures given by Rutgers faculty (right after homerooms)
 - Elective sessions available to enhance your experience
 - Bleeding Control (BCON)
 - Anesthesia Interest Group (AIG)
 - Anatomy
- Final quiz at the end of the program (taken online)

Program Calendar

Date	Homeroom Topic	Faculty Lecture
2/16	Intro, Medical Ethics, and the Road to Medical School	COVID-19 and Youth
2/23	The Nervous System and Mental Health	Diagnosis and Treatment of Genetic Disorders
3/2	Infectious Diseases and Vaccines	Social Justice and Ethics in Medicine
3/9	Cardiology and Lifestyle Medicine	Introduction to Emergency Medicine
3/16	Graduation	Graduation

Any Questions About the Program?

*(good puns and funny jokes are also accepted at
this time)*

Medical Ethics

- How should doctors and medical researchers act towards their patients and research subjects?
- This may seem like an easy question to answer, but there are many situations where an answer isn't quite so clear:
 - Can a patient refuse to get a treatment even if it means that they'll likely die as a result? Could a physician ignore what a patient wants and give that treatment anyway?
 - If you only have a limited number of donated organs, how do you decide who gets a transplant? First-come, first-served? Or should it go to the youngest and healthiest since they'll get more use out of it?
 - Should a physician be allowed to share information about their patients with other people? What if that patients has an infectious disease that might put others at risk?
- It's important to have a system to rely on when these questions arise!

Medical Ethics – The Four Pillars

- Autonomy
 - A patient is a free and rational being; their decisions about their own health need to be respected
 - Patients need to be fully informed in order to make rational decisions
 - Therefore, a physician needs to obtain “informed consent” before performing a procedure
 - A patient has the right to refuse a treatment, even if it causes them to get worse – as long as they’re fully informed about the consequences
 - Some patients have religious beliefs that keep them from getting blood transfusions or surgery
 - Some patients with a terminal illness may have a “do not resuscitate” (DNR) order; they don’t want to receive CPR if their heart should stop



Medical Ethics – The Four Pillars

- Beneficence
 - Physicians should act in the best interests of their patients
 - Physicians should make sure they are giving their patients the appropriate care
 - Giving a patient with severe burns Tylenol for pain relief instead of a stronger drug probably isn't doing enough
 - On the flip side, performing surgery on a patient who just stubbed their toe is probably overkill
 - Physicians also have a responsibility to stay up-to-date on the newest drugs and techniques to make sure they provide the best care possible



Medical Ethics – The Four Pillars

- Non-maleficence
 - From the ancient Greek physician Hippocrates: “First, do no harm”
 - Physicians must make sure that they don’t cause any unnecessary harm to their patients
 - *Some* harm is sometimes necessary: surgery involves cutting through and damaging lots of tissue, but this is often necessary in order to fix a more serious problem
 - Physicians often have to weigh the risks and benefits associated with a treatment
 - E.g. prescribing opioids might relieve someone’s pain, but there’s a high risk for addiction



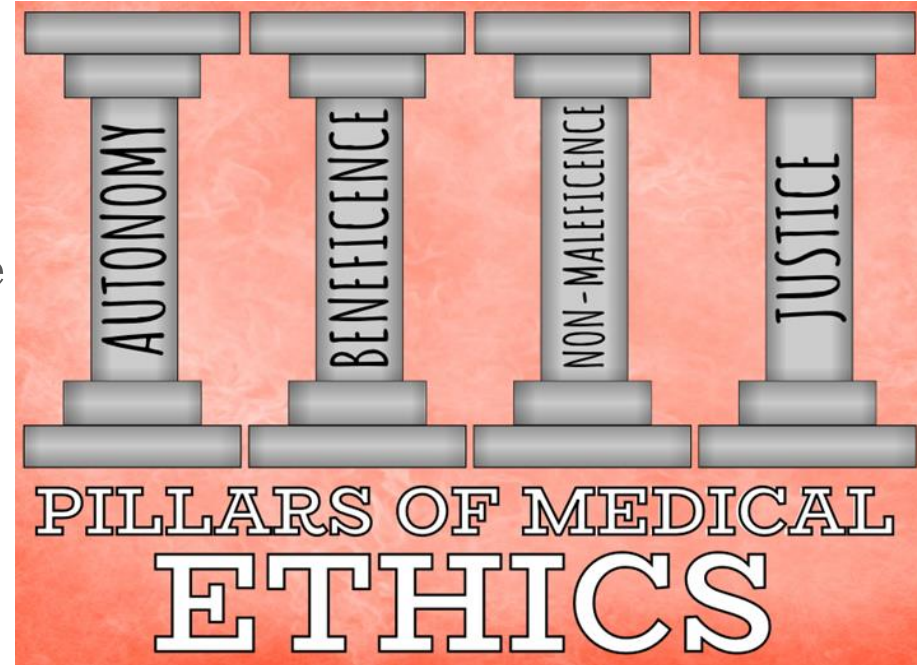
Medical Ethics – The Four Pillars

- Justice
 - Making sure there is an equitable distribution of care to all patients and that marginalized groups are not excluded
 - A common example (at least in the U.S.) is healthcare cost: a hospital that turned away the uninsured and only took patients with the highest-paying insurance could still respect patient autonomy and act beneficently and non-maleficently, but this would be unjust because it denies healthcare to a marginalized group



Medical Ethics in MiniMed

- Each week we'll talk about one or more ethical cases related to that week's topic, so keep these four pillars in mind!
- On March 2nd, during your faculty lecture you'll have a discussion with Dr. Dalla Piazza about some cases that involve social justice and ethics in medicine; these pillars will help guide you through that discussion too



**Any Questions About
Medical Ethics?**

The Road to Medical School

- The following information is just to give you an idea of what's to come (and maybe serve as a reference for you in the future) – you are not expected to memorize any of this!
- This PowerPoint will be on the MiniMed website for you to come back to later if you find it useful

The Road to Medical School - Overview

High School – 4 Years



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graph TD; A[High School – 4 Years] --> B[Bachelor's Degree – 4 Years]; B --> C["[Optional] Master's, Post-Baccalaureate, or other gap year activities – Variable (usually 1-2 years)"]; C --> D[Medical School – 4 Years];
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Bachelor's Degree – 4 Years

[Optional] Master's, Post-Baccalaureate,
or other gap year activities – Variable
(usually 1-2 years)

Medical School – 4 Years

The Road to Medical School – High School

- First and foremost: don't stress yourself out!
 - There are plenty of students who don't decide to go to medical school until they're almost finished with college (or even later!)
 - You're not going to be behind if you don't follow these steps, these are just tips to make things a bit easier for you down the road
- Get ready for college
 - Take your SAT and/or ACT if you haven't already
 - Maintain decent grades (this is important for getting into college, but your high school GPA won't really have any bearing on medical school admissions)
 - If you have a good admissions/guidance counselor, work with them!
 - If not, try to find online resources or college students to get advice from
 - AP, IB, and dual-enrollment credits can make your life easier once you get to college, so take advantage of these programs if your schools offer them
- The Association of American Medical Colleges (AAMC) has a resources page for high school students:
<https://students-residents.aamc.org/aspiring-docs-fact-sheets-get-experience/information-high-school-students>

The Road to Medical School – Undergrad

- For your first year, worry about adjusting to college life and keeping a good GPA
 - Your cumulative GPA over the four years of undergrad will play a big part in being a competitive applicant, but one or two bad semesters isn't the end of the world
 - For reference, the median GPA for students admitted to NJMS was 3.82 (with 4.0 being the highest possible)
- You don't necessarily have to pick a science-related major, but you will have to take science classes
 - In 2020, almost 1/3 of the students who were accepted to medical school had a non-science major
 - More than 1/2 majored in the biological sciences, with many others in physics- and math-related majors
 - Each medical school has a list of required courses you have to take as an undergrad to apply; these are often some combination of biology, chemistry, physics, and math
 - If these classes aren't part of your major, you'll have to fit them into your schedule in addition to your other classes

The Road to Medical School – Undergrad

- Throughout your four years of undergrad, you'll want to be involved in a number of extracurricular activities
- The vast majority of medical school applicants have experience with:
 - Volunteering (both medical and non-medical)
 - Shadowing doctors
 - Leadership experiences
 - Can be with university clubs (e.g. involvement with student council/student government) or outside of school (e.g. Eagle Scouts)
 - Research
 - This one varies more than the other three, but has become much more common in recent years
- Sometime around your third year of undergrad you'll take the Medical College Admissions Test (MCAT) which is basically the SAT for medical school
- Finally, you'll apply in the summer the year before you want to start medical school (if you wanted to start med school in fall of 2026, you would start your applications in the summer of 2025)

Other Healthcare Careers

- Going to medical school to become a physician is just one career related to the healthcare, but there are plenty of others!
 - Emergency Medical Technicians (EMTs)
 - Requires completing a certification program that takes about 200 hours of study; many states do not require a high school diploma for certification
 - Nurses
 - There are many different “levels” of nursing degrees that each have their own requirements, but most of them require completing at least a two-year program after high school (e.g. an Associate of Science in Nursing (ASN) degree) and passing a state licensing exam
 - Physician Assistant (PA)
 - Requires a bachelor’s degree plus 2+ years of PA school
 - Athletic Trainers
 - Requires a bachelor’s degree followed by 2 years of an accredited athletic training program
 - Pharmacists
 - Requires a bachelor’s degree followed by 4 years of pharmacy school (Pharm.D.)
 - Optometrists
 - Requires a bachelor’s degree followed by 4 years of optometry school

That's all for today!

- If you have any questions, comments, concerns, funny jokes, or cute cat pictures, you can direct them to your preceptor(s)
- The MiniMed schedule can be found here:
https://njms.rutgers.edu/education/Mini-Medical-School/mm_schedule.php
- PowerPoints from the homeroom sessions should be uploaded here after each week