

Stephen Calabria: [00:00:00] From the Mount Sinai Health System in New York City. This is Road to Resilience, a podcast about facing adversity. I'm your host, Stephen Calabria, Mount Sinai's, director of podcasting.

On this episode, we welcome Stephanie McQuillan, a researcher with the Neuropathology Brain Bank and Research Corps at the Icahn School of Medicine at Mount Sinai. In this role, Mrs. McQuillan manages the clinical coordination of how and when people donate their brains.

The research conducted by the Brain Bank has already led to advancements in understanding neurodegenerative diseases with a goal of ultimately identifying effective treatments for dementias and other diseases.

Most recently on September 9th, 2025, the Brain Bank was featured in a New York Times cover story that detailed the steps involved in preparing brain tissue for analysis and diagnosis.

The resilience exhibited by patients, their families, and the researchers themselves offers guidance to anyone going through difficult or life [00:01:00] altering circumstances. We're honored to welcome Stephanie McQuillan to the show.

Stephanie McQuillan, welcome to Road to Resilience.

Stephanie McQuillan: Thank you. Happy to be here.

Stephen Calabria: Can you give us an overview of the Neuropathology Brain Bank and Research Corps, and how the work done here is critical for both the scientific and patient communities?

Stephanie McQuillan: Absolutely. So we are a laboratory that respectfully collects and stores human brain tissue after a consented donor passes away.

For the purpose of neuropathological diagnoses and responsible distribution to other researchers and laboratories, we have three main goals: service, training, and research.

So we as a lab feel we have a service to the community to study these neuropathological diseases.

We also collaborate with other labs and train new scientists and future researchers in the best techniques to utilize these incredible resources, which are human brains.

And of course, the research itself hopefully will bring a cure to these [00:02:00] diseases and give people hope after a neurodegenerative diagnosis.

Stephen Calabria: So the focus is on curing dementia.

Stephanie McQuillan: The focus is on curing all of these diseases, hopefully, and understanding them more than we currently do.

Stephen Calabria: Now, generally speaking, why is the performance of an autopsy on a family member important?

Stephanie McQuillan: I think an autopsy is very important because it can give family answers to some questions they may have had while their loved one was living with these diseases.

Even though we don't always know the how or the why, we can try to decipher the progression of the disease. And some Alzheimer's dementias are only diagnosed clinically while a patient is alive.

So a formal diagnosis is not available until a postmortem examination can occur. These families that reach out for us to examine their loved one's brain at time of death are doing so to get answers and closure and understanding.

Stephen Calabria: What is an [00:03:00] example of a brain disease that can only be diagnosed after a patient has passed?

Stephanie McQuillan: So a majority of dementias can only be formally diagnosed once a patient has passed. The clinicians are giving their best guess during life and dementia is a symptom of the disease. So like a Lewy body dementia would only be formally diagnosed once their brain is able to be dissected and looked at.

Stephen Calabria: What is the process of donating a brain and what is your role in that process and those of your team?

Stephanie McQuillan: The process is sometimes very lengthy. There are some patients that are followed in cohorts for years while their disease progresses.

So, we have a plethora of clinical history, a referral by a neurologist who knows the family, cares for the patient, trusts us to have that handoff, that when this patient eventually dies, we would benefit from researching with their brain.

So we would reach out to [00:04:00] families, discuss brain donation and ultimately when an anatomical gift form is signed, we would keep that patient in our database so we could follow up with them yearly as they're going through their treatments or as they're just going through their life with this disease.

And ultimately, when they die, we have the family sign an autopsy consent that allows us to take the brain at time of death. Our coordinators will coordinate transportation from wherever the decedent is to Mount Sinai Hospital for this brain donation, and then the transporters will take them back to the funeral homes so that the family can carry out their wishes, and funeral arrangements won't be delayed.

Stephen Calabria: For those of us who have never handled a brain before, what is the consistency of a human brain? Is it more watery? Is it more rubbery? What does it feel like?

Stephanie McQuillan: So a human brain is actually made up mostly of fat. A healthy brain could feel a [00:05:00] little firmer than a non-healthy brain. Some traumatic injuries or brain bleeds, brain strokes can change the consistency of the location that it occurred.

It's hard to put that into words that maybe a normal person would want to know. But maybe a firm Jello mold. It's very delicate and our researchers have to be extremely careful when handling brains.

Stephen Calabria: Well, thankfully, I am an quite abnormal person, I want to know all these things. What is the typical profile of a patient that comes your way?

Stephanie McQuillan: The typical patient will have a clinical diagnosis of a neurodegenerative disease. They've either heard of us from their doctor, from another loved one from Googling us. We do have a website.

We have some social media that we're getting up and running to get more information disseminated to the public. Most of the time the patient themselves is in. Pretty good spirits. They're hopeful that they wanna make a difference.

They want to donate their brain because that could be the legacy they leave behind. If we can't find a cure in their lifetime or [00:06:00] medication in their lifetime, then we could do it for their children or we could do it for someone else.

And it's very humble to talk to these people, to understand that even though they're going through something horrible or suffering from this disease, they wanna do better for the future that they leave behind.

So the patients themselves are in very high spirits. Their families usually honor and mirror their feelings. Some families are more skeptical. There's a lot of misinformation out in the world.

Some people, the layman wouldn't understand necessarily what brain donation can do. Or I've had people say if I donate my organs, then can't they just take my brain?

And that's a totally different area to donate yourself for research or to just donate yourself for organ procurement. So I like to be able to be a resource that can explain that to families and let them know what we're honing in on.

Stephen Calabria: What's some of the most common misinformation?

Stephanie McQuillan: I think the misuse of tissue. People assume, if I'm donating just the brain, are they gonna take other things and not tell me? And that's absolutely not happening, especially [00:07:00] not at Mount Sinai.

Our autopsy service, we work very closely with the director of autopsy I worked with at the medical examiner's office. She a hundred percent will abide by a family's wishes. So we make it known that if this is brain only, then that is brain only.

We're not gonna take any extra organs, and your loved one will not be used for anything outside what you consent for.

Stephen Calabria: Now you're dealing with families at a very sensitive and emotionally trying time. Are you put through training on how to deal with them, and even then, what does training not prepare you for?

Stephanie McQuillan: So I don't have formal sit down training on this is how you deal with families, but I do have an extensive background in what I call and what my fellow colleagues call the death care industry.

I worked in funeral homes. I worked in the medical examiner's office for the City of New York. I have a Bachelor's degree in biochemistry as well as an Associate's in Mortuary Science.

So from a lot of aspects [00:08:00] of death care and surrounding death, I do have a personal reverence for the field, a respect for the deceased, and that helps me relate to families more and more to understand that these families just need clear communication.

They need to know what is going on, what is happening with their loved one. And just being open and honest and not hiding clinical information from families just because they may not understand it.

We may have to explain it a step further. I feel like that barrier has been able to be broken down using my experience and my education. I truly believe families deserve to know all of the facts, even if it's hard to hear.

So I try to impart this on anyone that I speak to about brain donation and that our coordinators as well are constantly collaborating, reaching out to each other to say, Hey, I have this question. I'm not sure how to answer it.

How would you go about this? Or discussing our past coordinations and how we can do better in the future are what we learned from a hard case or a family that had difficulty collaborating with us and how we [00:09:00] can just be better. But every case is different.

Stephen Calabria: What's an example of a difficult case?

Stephanie McQuillan: Families don't really know how they're gonna feel when they're grieving. No one can prepare for the event of a death, even if you hear that it's happening. We've worked with many families.

One that sticks out in particular was just so adamant that, their father wanted to be a brain donor and their father wanted to leave a legacy behind. He had an amazing career and a ton of hobbies, and I was on the phone with his next of kin for almost an hour while coordinating in the background on the computer because I feel like they just needed someone to speak to.

So having that human connection helps in those harder cases where they are emotional or they're crying or they're angry and it's not at you, it's at what's happening to them.

Stephen Calabria: Of course. So the importance is to not take it personally. How is it pitched to families that this is something that would benefit them and science in general?

Stephanie McQuillan: So most of the families we [00:10:00] speak to have been approached by their neurologist, someone they already trust, someone they're already working with. That makes the conversation a little easier because it's like the ball was already in their court and they're reaching out to us for more information.

But. We wanna be able to have more people know about the brain bank and know about the work we're doing outside of hearing it from their doctor so that this can be more of a premature decision as opposed to a rushed decision where their loved one is actively dying or has died and now they only have a certain amount of time to make this choice.

Stephen Calabria: It seems like it would require a great deal of resilience on the part of some of the next of kin because they are having to power through the grief that they're already feeling from having lost a loved one while also thinking about the future, what legacy their loved one is going to leave behind, what contributions they could conceivably make to science and to others.

What have you learned about [00:11:00] resilience, both from dealing with patients and dealing with their families?

Stephanie McQuillan: I've learned that the desire for answers sometimes outweighs, the sadness that comes along with it. And it's almost like a light at the end of the tunnel they're in. So that whether it be scientists or the public in general, the desire for answers helps drive resilience in this time of grief.

And that families know brain donation is what their loved one wanted. And then they power through their emotions and at the time, in order to coordinate with us, to honor their loved one's wishes.

And it almost supersedes how they're feeling, because they know this is what their loved one wanted, and this is a way to honor them and to keep their legacy alive.

Stephen Calabria: Now obviously the work that you do will have a profound impact on all of those families. How do those personal connections shape your approach to this work?

Stephanie McQuillan: It sounds cliché, but I try to remember the people donating and the people they're leaving behind are truly people at the end [00:12:00] of the day. They're not case numbers, they're not study numbers.

I try to remember something about the family that I speak to, the person that I was on the phone with, I'll recall who exactly it was I spoke to and their relation to the decedent when I'm answering them in emails or sending them a report so that they know they're not just another number to us and that we're caring for the loved one that they lost, and the people that person left behind.

I'll give families my direct work cell number to reach out. They have all of our emails. We have a general brainbank@mountsinai.org email group that all of us are on. So emails aren't getting missed in inboxes that are flooded.

And people have a direct line to reach out to us with our hotline number and or my personal cell if I've already spoken to them, so that they're not pressing seven numbers just to get to a human being.

And that our research center is small enough that. They can talk to a human every time they need an answer.

Stephen Calabria: In a world where we're constantly on the phone with automated [00:13:00] voices, automated messages, I imagine it is a great thing, actually, for a patient and or their families to be able to talk to you because they're talking to someone with expertise in the field who actually cares.

Stephanie McQuillan: Yes, I agree. And I think even just from Googling Brain Banks on the internet, why choose our brain bank over another one in the country? Even though yes, research is collaborative, but you want that personal aspect to it.

You wanna know that your loved ones, organs, brain, whole body, wherever you're donating, is in hands that care and not just a computerized system that puts you on a call list and they'll get back to you in three to seven business days.

Stephen Calabria: That raises an interesting question. What is it about Mount Sinai's Brain Bank that sets it apart?

Stephanie McQuillan: I think just the small team that we have makes it easier to prioritize care and prioritize the individual, the person that's donating, knowing the name of their family member.

It just [00:14:00] allows us to have that comradery between us and the science that we're doing as well as the people we need in order to do this science, because we wouldn't exist without our donors.

Stephen Calabria: I imagine there often arise significant ethical and legal considerations as well. How do you ensure that the wishes of donors and their families are respected while also advancing scientific research?

Stephanie McQuillan: We have multiple consent forms that need to be signed. They are IRB approved. They are vetted every few years to be updated and maintained. But the language is sufficient so that we're explaining exactly what someone is consenting to when they sign up to make this anatomical gift to this brand donation.

We confirm at the time of donation as well that they're aware what samples we hope to collect. And then we also let the families know they do have every right. To bow out without pressure. No one's going to email you angrily.

No one's gonna try to force you into this on the phone. If someone only [00:15:00] wants to donate brain and they don't wanna donate cerebral spinal fluid, or they don't want us to take the spinal cord because that's just extra and they didn't know about that ahead of time, then we won't.

Our autopsy team goes strictly by the consent forms and no one is taking anything that wasn't previously authorized.

Stephen Calabria: Now we've talked about the resilience of the patients and their families. Now let's talk about the resilience of the researchers. What drew you to such a specialized, one might say siloed field.

Stephanie McQuillan: I would say that my work in funeral homes and the medical examiner's office gave me a lot of experience to draw from, but it wasn't giving me the feeling that I was really contributing to something bigger or making a difference. I also lost my own grandfather to dementia.

And I wish I knew more back then years ago, or that my family maybe knew more so that while he was suffering, we could have enrolled him in a research study or donated his brain to get more answers that we didn't end up getting and that we never will get because.

[00:16:00] He's been buried for years. My collaboration with the Brain Bank when I was in my previous role at Mount Sinai was like very positive. It fostered a great work environment, fostered great friendships.

I would pop in on a daily basis to visit them even though that wasn't my current office. And some of them have even been at my wedding.

So it fostered these like friendships as well as professional relationships that when they reached out for me to join the team with like my niche experience of being able to physically procure tissue during an autopsy, but also talk to families at this emotionally sensitive time. It was a no brainer part in the pun for me to.

Stephen Calabria: No, please keep going.

Stephanie McQuillan: For me to join them and be able to, more than I felt I was doing before.

Stephen Calabria: Because you are handling such sensitive times and sensitive emotions for people. Have there been moments where the scale or complexity of your work felt overwhelming?

Stephanie McQuillan: Absolutely. [00:17:00] If it didn't I feel like there'd be a bigger issue there that I would need to address, but I feel like I was put here for a reason. I'm able to handle this for a reason, and if I don't do it, who will?

And these families deserve someone who has been in the thick of it and can talk to them and give them direct answers that other people would maybe not be comfortable saying because they deserve to know all of the facts.

I guess some personal hurdles and traumatic life events for myself sometimes limit my capability. March is a very hard month for me personally, but I have such an amazing team that if I, if my plate's too full, someone else will take it. Someone else will hand off of it. We work together.

Our team's very supportive. No one's alone in this work, and that's important to remember and that even our director, Dr. John Crary, fosters a very collaborative, supportive work environment.

And at the end of the day, remembering that we're all human beings and we are people outside of our professional roles. So it keeps [00:18:00] side of the big picture. It's extremely helpful.

Stephen Calabria: Absolutely. It's a team effort. There's no one person who is the brains of the outfit. See, my turn.

The work of the Brain Bank has contributed to groundbreaking research obviously. Can you share a particularly memorable study or finding that was made possible because of your team's efforts?

Stephanie McQuillan: I'm just, I'm newer to the team, so I can't recall like one specific innovation that has been done. I just feel like all of our research is incredibly important and I don't wanna pick out just one to highlight, because I feel like that would be a disservice to all the rest of them.

And I think the countless efforts being done speak for themselves and the papers that are being written and the studies that are coming of this are just very exciting and are, it's gonna make an amazing impact in the future as a whole.

Stephen Calabria: What innovations or new technologies are helping to advance the work of the Brain Bank and enhance research outcomes?

Stephanie McQuillan: [00:19:00] So AI is a big new thing here in the country and the world in general. So we as a team figured there's no better time to integrate than immediately.

So the Brain Bank in collaboration with the computational team at the Crary Lab is working on training in AI model, named, aptly, Neuro FM, to detect and classify features on microscope slides, so that this AI will use a grading system that's being input given by scientists and it's being like taught and trained and learning as it grows so that we can teach the AI to grade diseases.

Specifically arteriosclerosis, which my colleague, Quazi Hossain, is currently working on. And arteriosclerosis is the thickening of blood vessels.

So in order to grade its severity, where he is scanning slides and scanning in previously diagnosed samples to train this AI so that in the future it can become an assistant for other pathologists to provide [00:20:00] quicker, more accurate diagnoses.

And then this will in turn allow us to give reports to families a lot sooner than we currently do, and provide them closure as soon as possible.

Stephen Calabria: And perhaps fill in the gaps in human error.

Stephanie McQuillan: Yes, I think that would be an amazing tool.

Stephen Calabria: What advice would you give to others who are interested in working at the intersection of science, ethics and healthcare as you do?

Stephanie McQuillan: My personal path was a very windy one. Never really went to school with this intention in mind, but very happily found my way here. Navigating experience while not having finished my degree previously in the timeframe that other people do was definitely a roadblock.

Balancing going back to school while working was difficult at the time, but so worth it and so rewarding to be where I am now in this current role.

So I think I would just remind people that what worked for one person might not work for you and find what does work for you and be able [00:21:00] to keep your eye on the prize and focus more on work that makes you proud.

Because settling for a job that drains you so much that you can enjoy your free time is not gonna give you what you want out of your career. Because life is very short and we see that on a daily basis, I think just find your niche in healthcare and science and research can be super rewarding.

Stephen Calabria: It's not necessarily a linear path. It doesn't have to be black and white. There's often gray matter.

Stephanie McQuillan: Absolutely. See, it's okay. That was so fun.

Stephen Calabria: See, I'm trying here. You don't get all the puns. If there's one message about the power of resilience in research and in life that you'd like to share with our listeners, what would it be?

Stephanie McQuillan: Science is resilient. That's like a big key takeaway that scientists are not giving up. They are very resilient no matter the budget cuts, the political climate, the shift in grants and funding and what we're allowed to research, what we're not allowed to [00:22:00] research.

Scientists are still here. They're working for the public, despite any other roadblocks that are thrown their way. It's a passion that they have that can't be, a flame that can't be ignited. A flame that can't be extinguished. Extinguished, thank you.

Without, their efforts, research wouldn't continue. So I think scientists in general are super resilient and I truly believe in our research. I personally care about the patients and the families this research can help in the future.

And I think maybe as advice for life in general that human beings are resilient, the human body is resilient. In my experience, I've seen firsthand what the human body can physically overcome, but I think people forget what we all mentally overcome and there's a mental strength people forget that they have, and you've already lived through all of the worst days of your life.

So now, while you're here, enjoy the best days because being present is powerful.

Stephen Calabria: Last question. You're the first person we've had on this [00:23:00] show to study human brains. If you could study any one person's brain from history, who would it be?

Stephanie McQuillan: I think as a scientific cohort, we're gonna go with Albert Einstein. There's been some mystery around his brain in the past, if he potentially had an extra gyrus in his frontal lobe.

Stephen Calabria: What does that mean?

Stephanie McQuillan: His brain was just shaped differently. Who knows if that played into why he dropped outta school, why he was as smart as he was, why he made the decisions he made. The world may never know, which is why I would've liked to study his brain.

Stephen Calabria: That's it for my questions. Was there anything else you wanted to say?

Stephanie McQuillan: No thank you. I just, I appreciate you for giving us the platform to talk about the Brain Bank, having me on to discuss something I'm very passionate about.

And just to remind anybody listening that they can reach out to the Brain bank if they want more information for themselves or a loved one, and that we're here and we wanna help.

Stephen Calabria: Where can they find information?

Stephanie McQuillan: They [00:24:00] can find us at our Brain Bank email, brainbank@mountsinai.org, and they can call our hotline number at (212) 659-8617.

Stephen Calabria: Stephanie McQuillan, thank you so much for being on Road to Resilience. Thank you very much.

Stephanie McQuillan: Happy to be here.

Stephen Calabria: Thanks again to Stephanie McQuillan for her time and expertise. That's all for this episode of Road to Resilience. If you enjoyed it, please rate review and subscribe to our podcast on your favorite podcast platform.

To see and read more details about the many steps involved in preparing brain tissue for analysis and diagnosis, check out the New York Times feature article about the process at Mount Sinai's Neuropathology Brain Bank, which was published on September 9th, 2025.

Want to get in touch with the show or suggest an idea for a future episode? Email us at podcast@mountsinai.org.

Road to Resilience is a production of the Mount Sinai Health System. It's produced by me, Stephen Calabria, and our Executive Producer Lucia Lee. From all of us here at Mount Sinai, thanks for listening, and we'll [00:25:00] catch you next time.