

Dr. Darin Wolfe ([00:10](#)):

Okay. I am back for the second episode of Season Two, and we're going to jump right in here shortly. I just wanted to thank everyone up front for downloading and listening to the first episode of Season 2, after a nearly a year absence. Turns out it was the most downloaded first day, second day episode that I have put out. And I appreciate that, so thank you. And if you're listening and you haven't subscribed, you might as well subscribe because this is a fairly interesting podcast and you might learn a lot.

Dr. Darin Wolfe ([00:43](#)):

Now, today, we're going to talk about the autopsy and some of the occurrences of Albert Einstein, and after he died, some of the weird stuff that happened. Now, if you know, if you've read a little bit about Einstein, you may already know how he died. And however, it's a little bit stranger than just what's on paper. Okay. First of all, Albert Einstein died of a ruptured abdominal aortic aneurysm. Now, this is a reasonably common cause of death, particularly in males and particularly in males that smoke, which Einstein was. He was 76 years old when he died in 1955. And I was always under the impression that he died suddenly and unexpectedly, and it was a shock. But actually, it was somewhat of an expected death.

Dr. Darin Wolfe ([01:34](#)):

So it turns out Einstein had an abdominal aortic aneurysm, and it was operated on in 1948 or 49, which is kind of amazing when you think about that time, doing that kind of intra-abdominal surgery on such a complex thing, and him surviving for seven full years. But the interesting thing is, he had an aneurysm and we're going to talk about the pathology of aneurysm in just a moment, but he had this aneurysm in his abdominal aorta. The surgeon went in and repaired it, but here's how he repaired it. They actually wrapped the aneurysm in cellophane with the hopes that the cellophane wrapped aneurysm would scar down and that the scar would hold everything place and prevent rupture. So very unusual technique.

Dr. Darin Wolfe ([02:28](#)):

But I have to say, it's hard to argue with the results, he lived seven more years after the surgery. But Einstein knew he had this aneurysm that wasn't fully repaired. And on April the 12th, 1955, he started to develop abdominal pain and he had increasingly worse abdominal pain for the next couple of days, and eventually was taken to the hospital. And he knew that this was probably it, this was probably his aneurysm rupturing. And so the surgeons said, "Hey, we can go ahead and operate, try to fix it." And Einstein actually denied them, he said, "I do not want surgery." And the interesting thing is his quote. He said, "It's tasteless to preserve life artificially." And I find that interesting from a man who is considered one of the greatest scientists in history, right? Because at what point do you preserve life artificially? At what point do you become a Christian scientist or those people that don't believe in medicine at all?

Dr. Darin Wolfe ([03:36](#)):

Because technically, if you take antibiotic for a simple infection, you're doing something that's somewhat artificial. So I found that to be interesting, but his comment was kind of like, "I've lived a good life, I've lived a long life, and I just want to go out right now." So the surgeons honored his wishes and the rest is history. He died a few days after developing that abdominal pain. So quickly, they took him for an autopsy. Now, in the old days, I mean, we're talking 1955 here, they didn't wait around for an autopsy. I mean, if you died in a hospital, there was a 50% chance you were going to get autopsied. And a lot of that is because we were still learning about the way that medicine worked, the way that

therapies worked and also the human body in general. We were still learning about disease. So autopsy was very big in the 1940s and 1950s.

Dr. Darin Wolfe ([04:31](#)):

Now, it's diminished quite a bit. Most hospital deaths are not autopsied, probably less than 2%. But back then, that was a standard procedure. Plus this was a major historical figure. So there was a pathologist named Thomas Harmey, Harvey, sorry about that. And Harvey is the one who did the autopsy and he did a standard autopsy. He took the organs out and weighed them and all that stuff. And he put the organs back in the body, but this is where the story starts to get a little bit strange. If you Google and you read about Einstein's autopsy, this pathologist named Thomas Harvey, the articles that'll come up will say that the pathologist stole his brain.

Dr. Darin Wolfe ([05:17](#)):

And the more I looked into this, the more I realized that was a little bit of a mischaracterization. They kind of made him seem like a creepy Frankenstein villain, but I'm not really sure that's the case. First of all, you have to understand that in the 1940s or 50s, consent, when you consented for an autopsy, it wasn't like today. Today, the consent is very well documented. You have documents you have to sign and all the fine print is there. Back then, it was the doctor told the family, "We're doing an autopsy," and the pathologist just did whatever he wanted, and you didn't have as many rights. I mean, consider HIPAA did not exist back then too. Okay. So let's talk about this autopsy, what Harvey did.

Dr. Darin Wolfe ([06:06](#)):

So Thomas Harvey saw this opportunity. He said, "This is one of the greatest minds in recorded history." And he was correct in assessing that. If you look at what Einstein did, long before the advent of computers, and he just did it on blackboards and paper, he figured out some of the fundamental questions of the universe. So he was very interested in Einstein's brain and he did a usual brain extraction like we do today. And for those who you who aren't aware of how a brain is taken out, I will tell you that now. Basically, you take a scalpel and you start at the mastoid process, which is a little bump behind your ear. So if you feel behind your ear right now, you'll feel a bump. That's the mastoid process of the skull.

Dr. Darin Wolfe ([06:53](#)):

And you make a cut from there over the top of the skull all the way over to the other mastoid process. And then at that point, you can dissect the skin and the subcutaneous tissue of the scalp away from the skull. And frankly, it just folds over. People who've never been to an autopsy before, they sometimes freak out when they see this because you just fold the skin right over the face. And it's very unusual looking, but then the skull is exposed and it's just this nice, smooth white to tan-white skull. And then at that point, you use the bone saw and you have to cut almost a semi-lunar type cut. Some people will cut the entire top of the calvarium off. And you have to gently peel the calvarium, that's the top of the skull, away, and then the brain is exposed.

Dr. Darin Wolfe ([07:47](#)):

But with a brain extraction for close study, you have to be very careful. You do not want the saw to penetrate all the way through the bone, such that it cuts into the brain, because then that produces an artifact, it's very messy. It kind of ruins some of the architecture. So he did this brain extraction and took it out, put it into formalin. And he actually injected the blood vessels, just like an embalmer injects blood

vessels, he injected the blood vessels with formalin or formaldehyde. Formalin is a 10% solution of formaldehyde and the brain fixed then in formalin, because he was going to study this brain. Now, the weird part is, Einstein's family didn't know about this. They found out about this from the newspaper.

Dr. Darin Wolfe ([08:35](#)):

So in the article about Einstein having died, in the text of the article, it says that pathologist Thomas Harvey removed the brain for scientific study. So the family and the executor of Einstein's estate was pretty surprised and not very happy about this because Einstein had specifically said, "I want to be cremated, shortly after my death and sprinkle my ashes, and move on with everything." So I don't know that Einstein technically consented to having his own brain taken for scientific study. The pathologist, I think, did that as part of the autopsy consent from the physician. He said, "Well, this is, I'm going to study his brain and see what we can learn from it." Now, I'll tell you, even today in 2022, sometimes we do have to save organs, and that is part of the autopsy consent. Sometimes it's an entire heart, or sometimes it is entire brain.

Dr. Darin Wolfe ([09:36](#)):

Now, in 99.9% of autopsies, at least forensic autopsies that I do, the brain is cut at the time of the autopsy, and then it's returned to the organs, the organ bag, so to speak. And I'll keep a few slices of brain, tiny little slices, if I see something that looks like there's some pathology there. Well, in this case, he kept the entire brain. And that's where people have published articles that said that he "stole the brain", it makes it sound like he stole it and put it in his car. But the weird part about this is, is that he actually did not turn the brain over to a neuropathologist, qualified neuropathologist for many, many years. I don't think, well-qualified neuropathologists cut and looked at this brain tissue under the microscope until I think it was 1985.

Dr. Darin Wolfe ([10:33](#)):

So we're talking 30 years here, that this brain tissue was with Thomas Harvey and being moved. Because he moved around the country several times and he always took Einstein's brain with him. I'll tell you the difference with today. If I were to take out the brain and I do have to take out the brain sometimes for scientific study, I've had a couple where the family wanted to have a brain evaluated for a neurodegenerative disease, or sometimes I even had a couple where the family wanted to evaluate for CTE, chronic traumatic encephalopathy, the disease that is described in athletes who have had multiple head trauma. So things like boxing and things like football with concussions and things. At any rate, I will take those out, but you have to immediately put those on ice and you have to send them via, sometimes via FedEx.

Dr. Darin Wolfe ([11:33](#)):

I mean, you have to actually send it across the country to a brain lab, a specialist who specializes in this sort of thing. And then they do their special preparation, fix the brain for quite a while, sometimes up to a month, and then they do a professional neuropathologic dissection, which is a very different dissection than what I do at the forensic bench. And I still look at everything, but the level of detail of a neuropathologist dissection is off the charts, and that's what would happen if Einstein were to die today. We would take the brain, we would carefully take it out without producing any artifact, we would turn that over to qualified neuropathologists, and then they would take probably weeks to a few months to run all the tests they need to run.

Dr. Darin Wolfe ([12:18](#)):

Well, this was a situation where he did his own thing, Harvey, Dr. Harvey. He cut slices out of the brain and, and he made histologic sections. He wasn't doing this, like I said, in a Dr. Frankenstein fashion, Harvey himself had trained with some of the top neurosurgeons and neuroscientists in the country, and he was a Yale graduate, and I think he felt that he could do some of this on his own. And I wouldn't do that, I feel like it would be beyond my level of expertise. I mean, there are people who do brain pathology, 24/7, I would send that to a professional. But he did his own thing. And the interesting part is, after so much time and he photographed this, and sent sections. After so much time, they did find morphologic changes in Einstein's brain, the significance of which I think is still debated to this day.

Dr. Darin Wolfe ([13:18](#)):

But they were saying that in certain areas of the brain, he had more synaptic connections, glial cells and synaptic connections, and that because he had all of these extra synaptic connections, he was able to think on a different level than most of us. The other thing is he had an extra fold or an extra wrinkle, so to speak, in the frontal lobe of the brain, which is also an area for reasoning and processing. That's the thing that I found most interesting, was this extra wrinkle in the frontal gyrus of the brain. And they debate on whether or not that's something that developed over time or if that's something he had since he was a child, and I don't think we'll ever really know.

Dr. Darin Wolfe ([14:02](#)):

But if you look through the scientific literature, you'll find that some scientists have looked at his brain and they did find changes. But again, it's hard to know when you're trying to look for something and you're are looking so hard for something, and you want it to be different, is it a selection bias issue? Nonetheless, this is what happened with Einstein's brain. And I could probably do a whole series on this brain issue, but I'll tell you one of the strangest things about this Einstein case. And that is that apparently Harvey did the autopsy, he moved on, and apparently he did some sort of meeting with the press afterwards. And what I'm reading is that during the time that he was meeting with the press, Einstein's ophthalmologist actually went in and removed his eyes and kept his eyes.

Dr. Darin Wolfe ([14:58](#)):

I don't know why you would do that, and apparently his eyes are apparently at it's either, I think he's at Princeton University, which is where Einstein was a professor, and some of his brain tissue is there, and some of it's at the museum there in Philadelphia too, which I've never been there, I really want to go, and I'm sure some of your listeners here have been there. But I want to address this eye issue because it's very, very unusual to remove a person's eyes, that it's an adult. Every now and then we have to do it on little babies who may have sustained head trauma, abusive head trauma, what they used to call shaken baby syndrome. But we don't really use that term anymore because there's some debate about the mechanism of injury, so we don't want to imply that shaking occurred when it didn't occur. Usually we just refer to it as blunt force trauma or acceleration deceleration injury.

Dr. Darin Wolfe ([15:53](#)):

So every great now and then I have to take the eyes out of a possibly abused infant or toddler. But for an adult I've never done it, and generally, it's not done unless there is a reason to remove the eye such as a tumor. So that would be a melanoma of the retina or something of that nature. So that is one of the strangest parts I think of the autopsy, is this removal of the eyes, the brain saga, which the brain apparently was moved around the country several times, and is now finally at its final resting place. And

then you've got the simple abdominal aortic aneurysm that killed him. Going back to the pathology of this, I just want you guys to understand that abdominal aortic aneurysm, typically seen in older males, somewhere 50 to 80, usually, almost always a smoker.

Dr. Darin Wolfe ([16:50](#)):

I personally have never seen one in someone that was not a smoker. And the reason why that is because there's certain chemicals in smoke, compounds that will actually damage the endothelial lining of blood vessels. And when it does that, when you produce injury to blood vessels, then you can produce weakening of that vessel. Other risk factor would be hypertension, so high blood pressure. So anything you can do to weaken the blood vessels, so atherosclerosis, so poor diet, smoking, hypertension, when you get that atherosclerosis or plaque development in the abdominal aorta, and you've got high blood pressure and things like that, it weakens the wall of the blood vessel. And when it weakens the wall of the blood vessel, it starts to dilate. And that is what an aneurysm is. It's a pathological dilatation of the blood vessel itself.

Dr. Darin Wolfe ([17:44](#)):

And so usually they're what's called fusiform, which means football shaped. And they're kind of football shaped, and they can be the size of a golf ball or a lemon, or they can be absolutely gigantic. I mean, I've seen them where they were 20 centimeters, so getting close to the size of a volleyball. And so what happens is, is as the blood, when it ruptures, the blood starts to squirt out at high pressure, because remember this is an artery, at high pressure into the abdomen. And the blood collects in the abdomen, and it's a form of what you've heard of, internal bleeding. And so that's problematic because if you are having a lot of internal bleeding, you of course are going to lose your blood pressure quickly, and then you'll lose consciousness, your heart will go into an arrhythmia, and you will die.

Dr. Darin Wolfe ([18:33](#)):

So very often, when I have autopsies for abdominal aortic aneurysm, and we refer to that in medicine as a AAA, abdominal aortic aneurysm, the abdomen will appear distended and tense. So if I press on that abdomen, it's really, really high, hard. It's like pressing on the surface of a football or something, or basketball. I open up that abdomen and it's absolutely packed full with blood. Sometimes it's clotted, sometimes it's liquid, and it can be a couple of liters of blood. And I suspect that's what happened with Albert Einstein's autopsy. In fact, the one description from the pathologist, even though we don't have a report, is that upon opening the abdomen, he noticed that there was abundant blood filling the abdomen, ruptured abdominal aortic aneurysm's the cause of death, the manner of death is natural, of course, and then there's the whole saga of the brain.

Dr. Darin Wolfe ([19:25](#)):

So this is a really, really brief description of the saga, the death of one of the most important people in certainly in the 20th century, if not in the history of humanity, when you look at the things that he did with the resources he had at his disposal. And the fact that he did most of his great work when he was a young person, when he was 24, 25, 26 years old, which is pretty amazing because today you have to fight through academia for 15 or 20 years before you start to be able to get in a position to do that kind of work, that quality of work.

Dr. Darin Wolfe ([20:03](#)):

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But yeah, so this is pretty much it. Again, I told you this season, I wanted to keep the podcast short and sweet, so that you can learn something quickly. And if you have any questions, of course, you can find me on social media. I'll go over that now. And unfortunately, there's a lot so of course, this podcast is Knife After Death, and that's the same as my YouTube channel. TikTok is @the_dead_letter, and there's an underscore between each word. Instagram is @anatomy_and_the_dead, which has underscores between all of those. And I also have an Instagram for Knife After Death, but it's usually just to do podcast announcements, there's not anything very exciting there. But if you want to follow that, that's perfectly fine. So if you have any questions about this, please send me a message and I hope you enjoyed this. And I'll be back hopefully next week with another podcast. So thank you again for listening, and thanks for making the podcast a continued success.