THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

# *Jordan Gutterman, MD*

Interview Session 1: April 12, 2012

A note on transcription and the transcript:

This interview had been transcribed according to oral history best practices to preserve the conversational quality of spoken language (rather than editing it to written standards).

The interview subject has been given the opportunity to review the transcript and make changes: any substantial departures from the audio file are indicated with brackets [ ].

In addition, the Archives may have redacted portions of the transcript

**Chapter 00A**
Interview Identifier

***Tacey Ann Rosolowski, PhD***
***0:00:03.2***
All right. We are formally recording. I am Tacey Ann Rosolowski interviewing Dr. Jordan Gutterman at his office in the Research Park at the University of Texas MD Anderson Cancer Center in Houston, Texas. This interview is being conducted for the Making Cancer History Voices Oral History Project run by the Historical Resources Center at MD Anderson. Dr. Gutterman is a professor and section chief of the Department of Systems Biology at MD Anderson. This is the first of our planned sessions together. Today is April 12, 2012, and the time is about twenty minutes after 1:00. And thank you, Dr. Gutterman, for participating in this oral history.

***Jordan Gutterman, MD***
***0:00:44.8***
You're welcome. You're welcome.

***Tacey Ann Rosolowski, PhD***
***0:00:46.8***
This is a followup to a series of interviews conducted with Dr. James Olson and Lesley Brunet in 2004 and 2006. And during those interviews, you went into detail about the startup of your work on interferon. So I'm going to be asking you to fill in some gaps and then continue that story as well as move into some areas of reflection about the institution of MD Anderson and many other subjects also.

MDA-RML_ Gutterman, Jordan_20120412
Session 1— April 12, 2012

**Chapter 1**
**A: Personal Background**
**Lessons from Family and the Liberal Arts**

Story Codes
A: Personal Background
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Character, Values, Beliefs, Talents
C: Human Stories
C: Offering Care, Compassion, Help
A: Faith

***Tacey Ann Rosolowski, PhD***
***0:00:46.8+***
But first—for the record—I just wanted to ask you a few basic background questions. If you could tell me where you were born and when and where you grew up.

***Jordan Gutterman, MD***
***0:01:24.6***
Well, I was born in a little town in the southeast corner of South Dakota called Flandreau—Flandreau, South Dakota—a little farming community. My dad was a Russian immigrant, and my mother was a native of Ohio—both of Jewish extraction. My father ran a general store in that time. They went there in the twenties. I was born in 1938—October 15, 1938.

***Tacey Ann Rosolowski, PhD***
***0:01:49.7***
And that's where you grew up—in that same community?

***Jordan Gutterman, MD***
***0:01:52.4***
I grew up until—it was shortly past my fourteenth birthday, and then we moved in December of 1952 to Norfolk, Virginia, where I completed high school. I had just started the first semester—completed high school and then went on to schooling on the east coast.

***Tacey Ann Rosolowski, PhD***
***0:02:09.5***
Okay. And was anyone else in your family involved in the sciences at all?

***Jordan Gutterman, MD***
0:02:15.8
No. I have a fraternal twin who is a few minutes older—I'm sorry—younger than I am. We were born, actually, different days right before midnight. He became a physician as I did—also a hematologist. But there had been no other—absolutely no other scientists in my family—either side of the family.

***Tacey Ann Rosolowski, PhD***
***0:02:36.7***
And when did you know that you wanted to be a scientist or a physician?

CLIP
A: Personal Background
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Character, Values, Beliefs, Talents
C: Human Stories
C: Offering Care, Compassion, Help

Mom Teaches the Compassion to be a Doctor

***Jordan Gutterman, MD***
***0:02:40.2***
Well, I'm not sure exactly. In high school I did well and everything. I studied a lot, but I didn't find myself like—I was a late bloomer, I think, when it comes to this. In fact, I'm still kind of a late bloomer, because I am doing a lot of laboratory stuff now, which has really opened up—with the intent of going back to patients. And so it took me a while—I went to college, and I was pre-med. I think, in part, maybe because I was Jewish and I felt my parents wanted me to be a doctor—you know—the classic story. But I don't think I was really that committed. I mean, I enjoyed—I particularly enjoyed chemistry, which is now turning out in my recent work to be extremely interesting and important. I really liked chemistry. Biology was okay then. I mean, now it's a passion of mine. But I also majored and ended up majoring in religion and philosophy.

I was in what is called the honors program at the University of Virginia, at least at that time. You actually do not go to classes. It is sort of British system, and you write papers. You still take other classes, but—I mean—pre-med classes. So I was really a major—in fact, I thought I wanted to go—mistakenly—into philosophy or something like that. But I just didn't see a direction there. And particularly again, the chemistry—I really was intrigued by this, and so I applied to medical school. Meanwhile, I think I got more and more interested in the possibility of doing something really meaningful—that could be meaningful to me and that was to deal with healing patients.

Let me digress there because I think this is important. In terms of my career here at MD Anderson and this, that, and the other, I wrote an essay a few years ago called, Rounds with Mom. In between the interferon—and I changed fields—and at some point in these tapes we'll talk about that, but in the nineties—mid-nineties, when everybody was doing interferon and everybody was doing what are called cytokines, things got very crowded. I began to understand that I like to start things and carry them through, and the rest of it is just kind of putting the fine points around the edges. To me—I like to open up new things. I became aware of that. And I did; I started working on plants. It was completely different. But I had a period where I was starting to work in new things where—I took some creative writing courses here in Houston. Houston is really great for that. It's a thing called Inprint, which is kind of a spin out of the University of Houston. I wrote many essays dealing with medicine and science as a doctor, as a scientist, the struggles of getting the funding, but many of them were autobiographical in terms of history—that is memory—and one was called, Rounds with Mom. When I was growing up in this little town in South Dakota—and I hope I'm not giving too much detail.

***Tacey Ann Rosolowski, PhD***
***0:05:34.0***
No, this is—

***Jordan Gutterman, MD***
***0:05:34.6***
When I was growing up—because I think you cannot talk to an individual—you know—what made that person. And those embryonic years or those nascent years are extremely important.

***Tacey Ann Rosolowski, PhD***
***0:05:44.6***
This is precisely what I am interested in.

***Jordan Gutterman, MD***
***0:05:46.8***
So my—this town had about 2500 people. My dad had the store, and my mother took care of me and my brother and my older brother, who is eight years older and became a CPA. She was very kind. She was very sensitive, even though there was no medicine in the family, to sick people, particularly, and older people—people that might live alone. She was always taking my brother and me to visit sick people or older people who are lonely. And she would bring them cookies or soup and visit and so forth. We were rather a novelty in those days. Today, now multiple births aren't so rare, but in those days, particularly in a small town, twins were always considered a novelty. So everybody liked to see us, and it was a small town, so everybody knew everybody.

And I watched her. I sat there year after year, and even into high school I would go with my mother to visit these people. I began to see diseases like multiple sclerosis over the course of three, four, five, six years. And cancer, of course, was—in fact, many of my parents' friends over the years would get cancer, and my mother would call me. She'd say, "So-and-so was opened up, and it's all over." So I began to get a real direct impact of what disease was. My father was busier because he worked and owned the store, so he didn't—usually wasn't with us, but he always used to say to me, because I had good grades, "Just take your brain and do something with it to help these people." So I had amazing training as a child.

The reason I call it Rounds with Mom is because it was just like going on rounds in a hospital to see these sick people. And I would—you know—we were really behaved kids, and so we just sat there, maybe a little bored, maybe not. I think I observed a lot of suffering. I think that helped in college as I began to really think about going to medical school. And the more I thought about it—around my junior year—even though I was very intrigued by the liberal arts and the challenge there, I made the right choice. But it was kind of a late thing. It wasn't something I was nine years old and read a book and said I wanted to be a scientist. It didn't happen that way.

***Tacey Ann Rosolowski, PhD***
***0:07:58.9***
Well, it's kind of a subtle—a real subtle introduction into it, you know?

***Jordan Gutterman, MD***
***0:08:02.0***
Yeah. Yeah.

***Tacey Ann Rosolowski, PhD***
***0:08:02.6***
Which is neat. But I also want to ask—I mean—since you're kind of reflecting on your own temperament and how these different influences come together, I'm wondering if as you look back you see that those interests in philosophy and religion and the liberal arts had somehow added something to your perspective as a researcher in the sciences. I mean, what do they bring?

***Jordan Gutterman, MD***
***0:08:28.4***
Oh, there's no doubt about that. And I think even more recently in my life—I probably won't go into much detail right now. I came in contact with a highly religious Jewish group. It's called Chabad, and they're Orthodox. I'm not Orthodox. I wasn't raised Orthodox, but as I got into the study of the Bible—the Torah and so forth—I have developed some very deep philosophical roots about what our roles are in life, goals, and accomplishments and so forth. So I really don't—I may relax, but I don't waste a minute because I think we're on a—I mean—I really do have a pretty deep-seated philosophical view of what we are supposed to do in the world. I think everybody has a purpose. I really do. So I think that liberal arts education in philosophy, religion, and history did shape me tremendously because I see so much—even my interest—as I said before we started to record—in psychoanalysis and the psyche. There are so many layers that make us all. So I think it did shape me both as a physician, and also it shapes empathy, on the one hand, and also—and I do thank my mother in particular but both my parents for the same.

There is a wonderful story by a Hasidic philosopher named Martin Buber—B-U-B-E-R. He wrote a wonderful essay, I thought, about when he was a child and went to his grandfather's house in Germany. He had a pet horse, and he would bring this pet horse sugar cubes, apples, and carrots. And the horse was so happy to see him. He would pet that horse, and he said he could actually feel the love, feel the excitement. He calls his book I and Thou. That book, I read in college—now that you reminded me—I and Thou, and it's as opposed to I and it.

I think so many relationships getting worse and worse in the world in business and medicine and science are I/it relationships. I see it all the time—I to an object, it, but not another person. And of course, by saying I and thou you are putting it even at a higher level because thou has a religious or spiritual connotation. I try always to do an I/thou relationship to try to understand the person I am sitting across from, whether it's a patient, a colleague, or whatever. There is an I/thou relationship because that person is responding all the time. And that did come out—it's a very insightful question—it did come out of college in reading and thinking. So by the time I got to medical school—I hated, for example, anatomy. You walk in, there's a slab, and it's a cadaver with formaldehyde. And there were so many people that just couldn't wait to dissect those nerves and stuff. I was completely bored out of my mind because it was a dead—it was a human being that was dead, and I hated it. I got a B, and that's not good for me. But I couldn't wait to finish my first semester at medical school. Histology, again, dead. Pathology is dead, you know? But by the second year of medical school, we started to see people, and then I began to blossom. Then I started to have knowledge, and I could do what my mother did with the chicken soup, so to speak. I could do with ideas and stuff, and it just kind of went from there.

***Tacey Ann Rosolowski, PhD***
***0:12:10.1***
Well, I am also hearing this interesting tonality—I mean—not only is there a—you know—sort of palpable sense of family in your practice as a researcher and clinician—

***Jordan Gutterman, MD***
***0:12:21.7***
Right. Yeah.

***Tacey Ann Rosolowski, PhD***
***0:12:23.0***
But there's—it is also a philosophical practice. It is maybe a spiritual practice as well?

***Jordan Gutterman, MD***
***0:12:27.7***
Oh yeah, very definitely. Yeah.

***Tacey Ann Rosolowski, PhD***
***0:12:30.0***
So it is very rich—

**Chapter 2**
**A: The Researcher**
**Mary Lasker: Personal and Financial Support for Research**

Story Codes
A: The Researcher
A: Personal Background
A: Professional Path
C: Portraits
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Character, Values, Beliefs, Talents
C: Mentoring
C: The Life and Dedication of Clinicians and Researchers
D: Business of Research
D: On Philanthropy and Volunteerism
C: Evolution of Career
C: Professional Practice
C: The Professional at Work
C: Collaborations

***Jordan Gutterman, MD***
***0:12:31.8***
But you see—then I see—for example, that's what I get, and I learned a lot of that. I mean, I had it. [Emil] J Freireich [Oral History Interview] is one of my great heroes because he cured childhood leukemia, and you cannot talk about the history of this institute or cancer research in general without recognizing the passion and intensity. I know his whole history. We can talk about it. I have given talks about him. But that passion of sitting in Development Therapeutics and listening to the non-compromise—I mean—sometimes he can overdo it and then compromise of principles of getting drugs into people or doing whatever you need to do because people are dying often of inadequate treatment or neglect or whatever it is. That's why I had—and there was Mary Lasker. We're not going to get into too much detail, but Mary Lasker brought another dimension, and she must have recognized this. But I suspect in the old tapes I talked about how I first met her.

***Tacey Ann Rosolowski, PhD***
***0:13:33.0***
Yes.

***Jordan Gutterman, MD***
***0:13:33.5***
She kind of took me under her wing. She had the same passion, but she came about it from a completely different—you know—non-scientific, non-medical background. And it wasn't so much her money, it was the way she catalyzed bringing people together. But she had the same passion, and so it's that passion and—I don't know what the root of the word passion is or compassion, but the word compassion has got passion in it. So sometimes Freireich is accused of being crazy, intense, and blah, blah, blah, or Mary Lasker was too intense. But it was because of compassion. You have to have it. You get creative when you have those intense feelings, and that probably leads in—and I learned a lot from Mary Lasker about how you cannot rely on one particular source of funding to do a research if you really believe in what you are doing.

***Tacey Ann Rosolowski, PhD***
***0:14:25.0***
Well, I was very intrigued and impressed with the story that you told in—when you were speaking with Lesley Brunet in those former interviews about just the amazing political knowledge you had to have to get funding for this project.

***Jordan Gutterman, MD***
***0:14:42.1***
Yeah.

***Tacey Ann Rosolowski, PhD***
***0:14:42.3***
So for the interferon project—I mean—it seems like Mary Lasker may have taught you a little bit of how to negotiate—

***Jordan Gutterman, MD***
***0:14:50.3***
Oh, a lot more than a little bit. Yeah.

***Tacey Ann Rosolowski, PhD***
***0:14:52.2***
Talk about a skilled person with people—

***Jordan Gutterman, MD***
***0:14:56.3***
And of course, as you know, I don't have to tell you—it's not that she sat down, "Here's lesson one; here's lesson two." You learned by watching and learning and talking and doing.

***Tacey Ann Rosolowski, PhD***
***0:15:05.3***
What do you think she saw in you? I mean, certainly the fundamentals of the research and the possibilities captured her imagination, but what about you as a person? What do you think—? What captured her about you?

***Jordan Gutterman, MD***
***0:15:15.1***
Well, I think two or three things. One I can easily admit to is passion. She could see that I was really committed and I was passionate. I think I know it's correct—integrity. I think she had to trust a person. But I think if someone is really committed and—you know—and she has that sixth sense. Women have that—you know—we talked about that. I kept—because in raising money for interferon I may have discussed this. I usually found—not completely—that women were much more sensitive, much easier, and I asked Mary Lasker once why that was. She said, "Well, they are the ones that have to get up in the middle of the night and take care of middle ear infection. They feel the pain." And that's partially true—partially true. You know, it's feeling the pain. That's a trick in fundraising. You've got to relate.

I used to go to Washington with her all the time, and she had to reach these Congressmen and Senators. She had to reach something deep, and I watched her. She always knew a lot about their history. "Didn't your wife just have a breast removed?" and this type of thing. She made it personal. This wasn't some abstract thing of raising money. So these people could understand it because they felt it, because they experienced it. And so that's a—so back to your question about me. I think certainly she was really interested in the novelty—the originality—because I said I don't want to do it the standard way. I have a new idea here. I don't know where it could go. I was aware of gene cloning back in '74 when she just came, and that was a whole new technology which hadn't even been developed. She liked that vision. She liked the passion. She obviously trusted me. So I think those are the—and she did have this amazing, developed, right-brain intuition. But she wasn't always right, though. None of us are.

***Tacey Ann Rosolowski, PhD***
***0:17:15.9***
But she was obviously a really powerful force in your life.

***Jordan Gutterman, MD***
***0:17:18.6***
Yeah. Oh God, yeah. Yeah, in many dimensions. I mean, certainly in medicines, science, getting to know people, and getting over shyness, because I'm still rather shy. I understand those roots, coming from a tiny town, and I'll still recognize where I will shy away from a crowd or this that and the other. That just comes from analysis. The arts have completely opened up. I mean, she opened me up to color. I didn't even have a clue. It's interesting. I think we all are undeveloped. You know, we have these nascent skills, but you often need someone to unleash it for you. Back in the seventies, I had no idea that I even would respond to color. Well—I mean—I'm not bragging, but I do know I can recognize art now, and I can paint a little bit. But the point is—and I get excited. I understand the power of, let's say, color or form. I like color, particularly. She kind of brought that out. So that was kind of characteristic of Mary. She would bring out stuff you didn't even know was there.

***Tacey Ann Rosolowski, PhD***
***0:18:26.6***
When you mentioned your—I mean—I was stunned when I walked in and your assistant Carol—I immediately noticed the art on the walls, of course. I was remarking on it, and Carol said, "Oh, those are Dr. Gutterman's." And I said, "Wow." You know?

***Jordan Gutterman, MD***
***0:18:40.0***
Well, I want color around here because it's so drab, you know?

***Tacey Ann Rosolowski, PhD***
***0:18:41.9***
Well, sure, but they're really amazing. And I—

***Jordan Gutterman, MD***
***0:18:46.6***
There are Sam Francis paints. I painted—this was done in Sam Francis's studio.

***Tacey Ann Rosolowski, PhD***
***0:18:49.9***
Wow. That's amazing.

***Jordan Gutterman, MD***
***0:18:51.0***
The one behind you—all these colors.

***Tacey Ann Rosolowski, PhD***
***0:18:54.0***
Well, I am always interested in—you know—in asking people who do innovative and creative work—I mean—if they're visual thinkers. Do you consider yourself a visual thinker? Is visual thinking part of how you—?

***Jordan Gutterman, MD***
***0:19:10.8***
How do you define visual—?

***Tacey Ann Rosolowski, PhD***
***0:19:12.1***
Well—I mean—do you—can you see systems in your mind—?

***Jordan Gutterman, MD***
***0:19:16.5***
Oh yeah. Oh yeah.

***Tacey Ann Rosolowski, PhD***
***0:19:17.5***
Okay.

***Jordan Gutterman, MD***
***0:19:18.8***
Connections. Connections.

***Tacey Ann Rosolowski, PhD***
***0:19:20.0***
Yeah

***Jordan Gutterman, MD***
***0:19:20.5***
Yeah, people have remarked about that. That is a big thing. People say, "How do you remember that?" I can just see the connections whether it's an idea in medicine or science and signaling and circuits or people and relationships. Oh yeah, I'm clearly a network. In fact, I am in the right named department—Systems Biology—Systems Thinking—because everything is interconnected. We're all interconnected. So many people—it just drives me crazy—are so—I forget the word in there, but unidimensional. They just—it's an I/it type of relationship even with ideas, you know? They don't see the connection. But you got to be careful because holistic thinking—you still got to do, kind of, focus reductionist thinking, but I think you can do both. It's a paradox. You can have—you can reconcile the two—very focused specific but also interconnected.

***Tacey Ann Rosolowski, PhD***
***0:20:14.6***
Just to connect that dot, do you see those systems? Are they colored? Do you see them in color?

***Jordan Gutterman, MD***
***0:20:21.3***
I don't think I see them in color. I see color, but not in that.

***Tacey Ann Rosolowski, PhD***
***0:20:23.8***
Not in that?

***Jordan Gutterman, MD***
***0:20:23.9***
No, I don't. That's a good question.
***Tacey Ann Rosolowski, PhD***
***0:20:25.6***
I was just curious.

***Jordan Gutterman, MD***
***0:20:25.8***
But, believe me, probably in one of the interviews I'll say, "You know, when you asked me this, and I was thinking about this." So we'll come back to that.

***Tacey Ann Rosolowski, PhD***
***0:20:32.1***
Good. I'm a systems thinker. I see systems in color, so that's why I was curious.

***Jordan Gutterman, MD***
***0:20:38.2***
I loved your interview about desserts and the whole central nature of desserts.

***Tacey Ann Rosolowski, PhD***
***0:20:46.0***
Yeah. It's a fun thing. There was an interesting article in the New York Times yesterday in the dining section about physicians teaching cooking, which is very cool.

***Jordan Gutterman, MD***
***0:20:54.6***
You know what? I'm an extremely busy—and I hate this when this happens, but by the end of the week I'm all piled up. In fact, I was upset today because my Times didn't come. And I do enjoy the Wall Street Journal equally. I also like the political balance there. But there was a restaurant in New York—because I'm going to New York a couple times soon—the Japanese restaurant which got three stars now in the Village. I read that one about the sushi, but I still have it. I have to go back and read it. So there's—oh—okay.

***Tacey Ann Rosolowski, PhD***
***0:21:23.9***
Yeah, I'll send you the thing if you would like.

***Jordan Gutterman, MD***
***0:21:25.0***
Okay. Yeah.

***Tacey Ann Rosolowski, PhD***
***0:21:25.3***
It's a cool essay. Well, I wanted to start with the—

***Jordan Gutterman, MD***
***0:21:33.9***
It was a long answer to where you were born, but—I mean—that's—

MDA-RML_ Gutterman, Jordan_20120412
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[Chapter 03 redacted]

MDA-RML_ Gutterman, Jordan_20120412
Session 1— April 12, 2012

**Chapter 4**
**A: The Researcher**
**Research Challenges: Ethical Questions and Celebrity**

Story Codes
A: The Researcher
C: Patients
C: Patients, Treatment, Survivors
C: Discovery, Creativity and Innovation
C: Professional Practice
C: The Professional at Work
C: Evolution of Career
D: On Research and Researchers
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care
C: Discovery and Success
C: Ethics
C: On Ethics

***Tacey Ann Rosolowski, PhD***
***0:38:14.3***
Would you mind answering a couple questions? Then if it is more appropriate to save these for later that is fine, because we had actually touched on a couple of issues that I had wanted to pick up from on the previous interviews, one of them being you had said that the whole idea of funding drug trials was an unresolved issue. I mean, that question of do you give the drug that is very expensive and experimental to the patient who pays—can pay for it, or how do you decide who gets this?

***Jordan Gutterman, MD***
***0:38:45.2***
Well, I consulted with some people.

***Tacey Ann Rosolowski, PhD***
***0:38:47.3***
Oh, interesting.

***Jordan Gutterman, MD***
***0:38:47.7***
I cannot remember if I thought of it or probably this lady—Elaine Davis or maybe Leon Davis—they said it is totally justified in treating someone who has a chance if they are able, and you are going to have to judge this, and you are very—you have to trust yourself that you are going to do this objectively. These people would sell their last—you know—to save a life. But if they can pay a minimal amount for three other patients—so three additional patients—and it would be about $50,000 a course if you averaged it. You would probably treat more than three, but they would have to give, I think, something like a minimum of $100,000—two to three patients, depending—maybe even four.

Now, the problem with that is that people sometimes, as you know, are justifiably desperate, and they will say, "Well, yes, I will sell my home," and they won't even tell you. So you have to be able to judge who they are, if they are capable of doing so, and we didn't do this very often. We did this on occasion. I did it with the Davises. They came to me and—she didn't fit the early trial. They said, "I want to start a foundation, and I want to raise money. We are willing to put in enough money to pay for three or four other patients." Well, here is a man that is going to raise money—is going to help people. But I was always in—and this is a very interesting ethical question. Again, this actually gets back to college and philosophy and religion. You have to trust yourself. I don't do these things lightly. So I thought I would consult—should I treat this person? But you have to judge. Are they capable of doing this? Also, they had to have some semblance of hope.

I just saw a man who called me this summer—August—on that phone. I treated his wife with lung cancer. He was from Boston. He was up in Cape Cod. He now is in Detroit. She passed away. He was willing to give enough interferon—enough money for three. She was one of the first patients. She was in very good health. I deliberated and deliberated and deliberated. This was 1978. In 2001, August, I come back from vacation, and there is a message. This man is on the phone. I hadn't talked to him in thirty-three years. He is coming to Houston with his new wife, which is a long story. She was friend of—when he married her—he raised his kids—she raised the kids. He came here after thirty-three years, and his gratitude for trying—as he calls it, courageously trying—and he did help other people. So these people remember. And there are other things, caveats, to that story, because he is probably going to help again. Not that he needs any compound—he doesn't. But it was an interesting ethical thing. Again, it kind of fits into the background of family.

***Tacey Ann Rosolowski, PhD***
***0:41:47.7***
It does.

***Jordan Gutterman, MD***
***0:41:52.6***
When you are six years old or when you are sixteen or twenty-six or twenty-three or eighteen in college—or whatever it is—it was not easy. It was not easy.

***Tacey Ann Rosolowski, PhD***
***0:41:59.6***
Can I ask who was it that you consulted with at that time?

***Jordan Gutterman, MD***
***0:42:04.3***
Well, friends, colleagues, the Davises, other people like that. I think even on occasion I went to see a rabbi about it—kind of dilemma about that. As I recall, he wasn't very helpful. But colleagues—just, I rarely do this. I would occasionally do it when it was pretty obvious, but we didn't do it too often. We didn't too often.

***Tacey Ann Rosolowski, PhD***
***0:42:30.8***
But it is a huge burden. I mean, this is—was this the first time that anything quite like this had ever taken place?

***Jordan Gutterman, MD***
***0:42:35.8***
Probably. Yeah, probably.

***Tacey Ann Rosolowski, PhD***
***0:42:37.4***
Yeah—I mean—new ethical ground, new chemical ground, and medical ground.

***Jordan Gutterman, MD***
***0:42:41.0***
Yeah. Yeah.
***Tacey Ann Rosolowski, PhD***
***0:42:41.8***
The whole thing.

***Jordan Gutterman, MD***
***0:42:43.1***
Yeah. You know, you are making me think about stuff, and I haven't thought about this—that is why even the story's a little bit—because from then—I got to think back about—and I am eager to tell you about this leukemia story. But I will get to it in a minute.

***Tacey Ann Rosolowski, PhD***
***0:43:00.2***
Well, I interrupted you. You were going to—

***Jordan Gutterman, MD***
***0:43:01.2***
No, no, no. No, actually, I like the digressions. No, we can get back to the story.

***Tacey Ann Rosolowski, PhD***
***0:43:09.3***
I am glad we—you know—because that ethical question was in my mind when you made that comment.

***Jordan Gutterman, MD***
***0:43:15.4***
I made that comment.

***Tacey Ann Rosolowski, PhD***
***0:43:16.0***
And you didn't have time to follow up on it in those interviews, so I'm glad that we had an opportunity to do that now. I also wanted to ask you, just to digress in a slightly different direction, about the whole public furor about interferon at the time. I mean, the media—you mentioned the magic bullet word, and that was a word that was coming up over and over again in the media. There were many physicians, including yourself, who were trying to calm the fury down and say, "Wait a minute." What was that pressure like? I don't even know quite what to ask about that, but it must have been enormous to suddenly feel that here is this social and public event that is connected to your work. And how did you go about responding to that and trying to provide information to keep the public from thinking that a cure was right around the bend?

***Jordan Gutterman, MD***
***0:44:12.2***
Yeah. First, I want to make a comment. We can do it. I'll put it on the tape. We can get rid of it later. I feel like I am in a Terry Gross interview.

***Tacey Ann Rosolowski, PhD***
***0:44:20.2***
Oh dear.

***Jordan Gutterman, MD***
***0:44:20.9***
No, in a positive—no. I love her. I love her. No, she just asks these penetrating—you know who she is, don't you?

***Tacey Ann Rosolowski, PhD***
***0:44:26.1***
Yes, I do.

***Jordan Gutterman, MD***
***0:44:27.4***
Your voice even is a little similar. Did you know that?

***Tacey Ann Rosolowski, PhD***
***0:44:29.9***
No, I did not.

***Jordan Gutterman, MD***
***0:44:31.3***
Yeah. I don't think I have ever seen her. I don't even know what she looks like, but your voice is even a little similar. She asks these very penetrating questions of these very interesting people. And I love her interviews. I only hear them some on Sundays and stuff. I don't have time to go through them more than that, but she just asks these—and I swear to God you sound like Terry Gross. I feel like—like I said, I feel like I am on Terry Gross. When my book comes out thirty years from now or twenty years from now, I will be on Terry Gross. She will be an old, old lady with a quiver in her voice. No, I swear the way you frame your questions—it is the ultimate of compliments, let me tell you that.

***Tacey Ann Rosolowski, PhD***
***0:45:10.1***
Well, thank you.

***Jordan Gutterman, MD***
***0:45:11.0***
You ask great questions. Now, it came about—I have been thinking about this, and then with the social questions it is just how she—how you frame the questions. Ask the question again.

***Tacey Ann Rosolowski, PhD***
***0:45:24.1***
Oh now—(laughter)

***Jordan Gutterman, MD***
***0:45:26.8***
No, I am playing with you. How did I deal with all this? Well, I was obviously a great deal younger. This was—what?—more than thirty years ago now. At first it was very exciting. I mean, just saying from a personal standpoint. I am just going to free associate. But let me first back up to Mary Lasker. She said the only—she was a big believer in information for the public because she—it is the way she got the National Cancer Plan. And even though people have criticized all that—all this money that has gone into it and the amount of basic knowledge, which will eventually—it has already paid off in some respects, and it has been highly criticized. But the reason she started the Lasker Awards—and I am backing up a little bit because it was really Mary Lasker who crafted the idea of getting attention of the public and getting attention of companies. Her whole idea in 1944 and 1945 to start the Lasker Awards was not so much to honor great scientists in clinical medicine and basic research and the medical sciences, but it was to inform the public of what is going on and what the advances are that say we got penicillin for this or we have this basic advance. And that is maintained—and everybody knows how well—how close I was. So even today, with her long gone for the last eighteen years, that philosophy still is quite aware at the foundation as a trustee as well as within the awards. Now, when it came to this, I think she was strategizing. I was new at this, but she was already strategizing. And the first big—let me go back. I don't know if I discussed this, but the first big wave of publicity occurred in the late fall of 1978. There was a—

***Tacey Ann Rosolowski, PhD***
***0:47:08.8***
The first wave of—?

***Jordan Gutterman, MD***
***0:47:09.7***
Publicity.

***Tacey Ann Rosolowski, PhD***
***0:47:10.1***
Publicity. Okay.

***Jordan Gutterman, MD***
***0:47:11.4***
Time and Newsweek.

***Tacey Ann Rosolowski, PhD***
***0:47:13.5***
Newsweek. Yeah.

***Jordan Gutterman, MD***
***0:47:13.5***
Small articles—not the cover story that came out in March 31, 1980. I have very little in this office or anyplace. What happened was she called me, and I don't know if this in the transcript, but—did I discuss the early stuff back in '78? The clinical stuff we did with the lady who could raise her arm and all that stuff?

***Tacey Ann Rosolowski, PhD***
***0:47:41.9***
Yes.

***Jordan Gutterman, MD***
***0:47:43.8***
She always told me to take pictures, so I tended to pick people with breast cancer who had skin metastasis, which is a nasty thing anyway, in part so we could take some photographs. I had no idea probably what—I mean—I knew kind of what she was talking about. But we went to Hoffmann-La Roche in June—June 15, 1978 to show this to this guy John Burns. They already had a nascent interferon program, but when he saw the pictures it is the classic stuff, you know? A picture is worth a thousand words. You cannot fake that—well, you could, I suppose, today with digital stuff. One day she calls me, and she says, "I think you should send a grant in to the American Cancer Society." I'm pretty sure this is in the transcript.

***Tacey Ann Rosolowski, PhD***
***0:48:29.6***
Yeah. Yeah. You talked about—was it the $2 million from the American Cancer Society?

***Jordan Gutterman, MD***
***0:48:33.8***
Right. And then she got their publicity guy to write a press release. This was, again, pre-recombinant DNA. But the promise of a natural substance that could shrink some tumors—so they had—I was in Time and Newsweek. And as a young guy, never having been exposed to that, it was pretty exciting. It didn't go to my head. I never got arrogant about it, but it was interesting. I mean, everybody knew me, and there were articles all over the place. But it got carried away. So we always were trying to restrain it, and we paid a price for it. It is a balance. I couldn't stop the publicity. I just sent the grant in. It was an unusual thing. A lot of it was political in terms of $2 million and how they did it. There were good things and bad things—mostly good. She said, "You need to get other people involved to verify everything," which was good, sage advice. Anything that happened with interferon after that immediately got the attention of the press.

When it got cloned in January of 1980—not the full protein; it just got the DNA—I was at MacNeil/Lehrer. That was the first time, with a guy—with the president of the company who became a Nobel Laureate, I think, the next year—Wally Gilbert and the head of the American Cancer Society. That was quite interesting because on that show in 1980, at MacNeil/Lehrer—both MacNeil and Lehrer—but MacNeil interviewed me. In that particular show, Gilbert predicted that within one year the first patient would be treated with pure recombinant interferon. I didn't say it, but I didn't believe it. A year and one day later—except it wasn't the Schering-Plough Biogen interferon. It was the Roche interferon with Genentech. And so by and large I thought this was a good thing because the public was beginning to learn about what basic science, cloning—I mean—so little is picked up. Fifty percent of Americans believe in flying saucers. So the scientific intelligence is—I am not trying to demean it, but we have to be aware that. I am aware of that all the time when I am talking—in those days—I have—with this new work, I have completely shut down. I do not want that to happen again and have it go ahead of the science. So I have reacted to this by never talking to anybody ever, ever again. In fact, most people think I don't even work anymore, I think. They don't know what I am doing. Well, if they go to the literature nobody reads anymore, they can tell what I am doing. So I reacted to that. I didn't want—I don't want to go through that again. So it wasn't particularly—it was—when you get older, being on TV isn't that big of a deal anymore.

***Tacey Ann Rosolowski, PhD***
***0:51:14.9***
What was the price you felt you paid for it? You said that—

***Jordan Gutterman, MD***
***0:51:18.5***
Stress—not so much that people were angry with me. It was probably a little bit of—as I got to know the basic science community or any one of those clinicians out there talking about something that may not have that much of an impact, I think there was some—maybe some credibility things that I—no one ever told me that, but I sensed. It took me a while to recover because I've see it a lot since then in a lot of fields—gene therapy. I mean, you can name them—the fashionable things. I know people say, "Oh, that is just a bunch of hype," and this, that, and the other. So I'm sure people were saying that. I don't think it was really good. There was a lot of jealousy, a lot of—kind of—looking down on that. So I don't think, in general—I think the publicity played a big role in the fundraising. There is no doubt with this interferon foundation—without them we would never have made the key discovery, which I will get to in a minute, or other discoveries. It is like so many things in life. It's good and bad. You pay a price for it.

Like I said, I made the decision this time, and we won't talk about it today, but I discovered what is turning out to be a very novel thing with plant compounds that work in very unique ways. It works at the root of the cancer, I think. I don't want to get into it now. If we are right, this is going to open up things I hadn't even anticipated a year ago, for sure. And I've said nothing. All we do is write the articles because I think—I don't need that publicity. We are trying to get money now. I think we are going to get some very substantial funding for it but without the PR. It will probably be a little bit easier with publicity, but this is what it was.
Mary Lasker was a big thing. She has been criticized for that too, that she overplays things or overplayed things. So I think credibility and more from the basic side. But I, again—to repeat—I see it a lot with colleagues or—you know—so much here that are way ahead of the game, and I am thinking. "I think you're making a mistake here." But again, I don't want to judge them because I did it. I mean, I wasn't involved with it. I was kind of dragged into it. But if you read the Time magazine cover story, for the first time, people—I mean—taxpayers are paying for some of this—a lot of it. They deserve to understand. It is best even though they may not understand all of it we need to. In fact, let me make a flat statement. I think what I have learned here at MD Anderson and so forth is we need to inform the public of what is going on, of new treatments.

In fact, I will tell you a story now. I am jumping a little bit. There is a disease I am going to tell you about called hairy cell leukemia. And it actually gave me the name of the book 0:54:08.6 (???) (inaudible). So I was on—well, I am jumping. This is the story I was going to tell you, but I am going to—well, let me tell you the story. So we were working, we had responses, we published articles, but nothing was a homerun, so to speak. I wasn't paying attention to finding something to get the FDA approval. I was just trying to do the clinical science. We had activity in a bone cancer called myeloma and then some lymphomas, a little bit in breast cancer, definitely in kidney cancer, which was untreatable. There is a rare disease; it is a form of leukemia called hairy cell leukemia. I don't know if you have read about this.

***Tacey Ann Rosolowski, PhD***
***0:54:52.6***
Yeah, but explain it for—

***Jordan Gutterman, MD***
***0:54:54.1***
Did I talk about it?

***Tacey Ann Rosolowski, PhD***
***0:54:55.0***
No.

MDA-RML_ Gutterman, Jordan_20120412
Session 1— April 12, 2012

**Chapter 5**
**A: The Researcher**
**Interferon and the Control of Hairy Cell Leukemia**

Story Codes
A: The Researcher
C: Patients
C: Patients, Treatment, Survivors
C: Professional Practice
C: The Professional at Work
A: Definitions, Explanations, Translations
A: The Clinician
C: Ethics
B: Controversy
A: Personal Background
A: Professional Path
C: Portraits
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Character, Values, Beliefs, Talents
C: Patients
C: Patients, Treatment, Survivors

***Jordan Gutterman, MD***
***0:54:55.3***
Okay. So hairy cell leukemia was only recognized by a lady from Ohio State, Bertha Bouroncle, in the late '60s, I think. I can't—it is a B-cell leukemia. I used to sit through Developmental Therapeutics week after week after week, usually autopsy reports of hairy cell leukemia patients dying. They would get chemo, but nothing worked. What happened is leukemia would just pack their marrow so it just couldn't make normal blood elements, so their hemoglobin was low. They needed transfusions. Their platelets were low. They would bleed, or worst is they would develop infections because of the low blood counts. Their immune system was shot, and they would get these opportunistic infections—tuberculosis or related organisms—and nothing worked.

[redacted]

***Tacey Ann Rosolowski, PhD***
***0:56:21.6***
Can I interrupt you just for a second to ask why it is called hairy cell?

***Jordan Gutterman, MD***
***0:56:25.6***
The cells have little spicules on them, so under the microscope they look like they have hairs on end.

***Tacey Ann Rosolowski, PhD***
***0:56:30.5***
Okay.

***Jordan Gutterman, MD***
***0:56:31.3***
It is a form of a B cell. A B cell causes most lymphomas, some Hodgkin's disease. Childhood leukemia is in B cells and antibody-producing cells. This is a very rare, chronic—lymphocytic leukemia is a form of a B cell. They all have different manifestations, and they are different. Until it was defined as a unique entity we would have—well, that is here in a second—we had these unusual responses. We would have missed it. We would have said, "Hey, a small percentage of patients with B-cell diseases responded." But it had been defined as a unique entity. So this colleague of mine was working with me and was interested in this. We were talking about it one day, and it had all the characteristics of a tumor that might respond, but we were scared to death because interferon lowers blood counts, and these people had lower counts anyway. But we talked, and I said—still—this—no, we were already working on the recombinant cloning stuff, and we were doing the pharmacology, and we were working on it. I asked Hoffmann-La Roche if we could treat this disease. They said no. The reason they said no—it was two-fold—dangerous and there are only 3000 patients per year. The market is too small. Even if it works, it won't—

***Tacey Ann Rosolowski, PhD***
***0:57:51.4***
Another ethical question.

***Jordan Gutterman, MD***
***0:57:52.5***
Yeah. So we still had some interferon left from the Interferon Foundation. So again, a decision—should we take our very precious supply? And so [Dr.] Jorge [Quesada] and I talked about it, and I said, "Yes, let's try one patient. Let's just go for one." So he starts this man—it is mostly men—and a week after he called—this is one of the glorious times doing this type of stuff, and I hope to do it again. I know we are going to do it again. He called me one day and said, "Jordan, Mr. So-and-So came back. It's just a week, but his platelets were like 30,000, and he was bruising and everything. They are up to 80,000 today." I said, "Well, repeat it, first of all. Maybe it's a mistake, but maybe it's not." So he repeats it, and it is eighty. And I said—I get goose bumps thinking about that. I said, "Well, bring him back in a week." I don't know. He calls me up. He says, "Jordan, it is 120,000 today." I said, "Oh my God. Are you serious?" This has never been seen. And it kept climbing.

Eventually the white cells started coming up, and the red cells—he stopped needing platelet transfusions. We did a bone marrow, and even before then, after the second platelet count, I said, "Let's get a second patient." Same thing happened—exactly the same thing. So the platelets start coming up, and I mean, my God, this stuff is actually—I mean, we had responses in people, but they weren't—maybe they prolonged life, but they weren't going to be lifesaving. This was an incurable disease. And by the third or fourth patient, it was just obvious this was going to—and there were a lot of skeptics.

After seven we began to write it up. And so what happened is there was a meeting at the FDA in 1983—November, I think it was—in Washington about the status of interferon because everybody was now working on the recombinant. I didn't talk about that. I had my colleague talk about it. I talked about hairy cell leukemia. And in the front row was a representative—and I still remember two guys—Eric Bonnem and Bob Spiegel from Schering-Plough, and Loretta Itri, a woman who ran the clinical program at Roche, who had turned me down. I don't know. Literally, they claimed that what happened. They said before I even finished my speech they were running to the phones—no cell phones in 1983—saying stop the presses. Forget all the clinical trials. We got ourselves an approval. I didn't even know what they were talking about—you know—because it's 100%. All these patients are responding. And there was a meeting very shortly at Roche. That was an interesting meeting, and I will come back to that in a second.

So in January 5, 1984, our article—the first issue of The New England Journal came out with the lead article of hairy cell leukemia of these seven straight patients. And it got a tremendous amount of attention because this was the first real evidence that a recombinant molecule could make a difference in a person's life. People still talk about it. The biotech industry is still—I am dealing with Avicin, and I must say, when I walk into a room with investors and they say, "You are the one that did it before; you will probably do it again," it gives me great credibility. That was an extraordinary time.

Back to David Edwards for a minute, and then I will get back to MacNeil/Lehrer.

[redacted]

When we announced the results with hairy cell leukemia, he saw the stuff in The New England Journal, and he came over to see me, and it was extraordinary. I wrote an essay about that—about the persistence and all the stuff I had to go through and this, that, and the other—that these lives were being saved. And of course, it was too late for his father, but he could see the effect on the—even today—that we—but you see that it could have happened if we had done this two years earlier, three years, and it wouldn't have happened if it hadn't been for Mary Lasker or Leon Davis and Elaine Davis and these wonderful people in the oil industry. That was oil money. That is good blood money—real blood money—helping people with a blood disorder. So these people lived a normal life, and it was an extraordinary thing.

The night before, I got a call from a man. I'm not going to mention his name. He was a professor here who said, "There is somebody in our department who is accusing you and Dr. Quesada of making up this data." I said, "You have got to be kidding me. Your name is on the paper—your name. It sounds like you want to believe it." So I had to go to the president the next day with all the data and— I mean—it was amazing. So I go to this MacNeil/Lehrer thing. This was a followup of the 1980 recombinant. Now, this wasn't done with the recombinant, but it was a success story. It was just me alone. By then MacNeil was gone, and I had Lehrer. And I remember right before—and I probably shouldn't talk about this. I may have to delete it. I am not going to mention names.

***Tacey Ann Rosolowski, PhD***
***1:03:31.2***
If you would like, I can turn off the recorder.

***Jordan Gutterman, MD***
***1:03:33.2***
No, keep it on. Keep it on. I am going to be bold here in legal land. I remember getting a call as I walk into Channel 8 downtown. They did it by satellite. Both were done in the Channel 8 studio. They said, "Are you Dr. Gutterman? There is a doctor trying to get a hold of you at MD Anderson." So I got a call from some doctor here who was representing the president who said, "It would be advisable because of this—until it is investigated—do not go on that show." I said, "I can't do that. We have got a published article, first of all, and secondly, it is true." But I was so nervous. I got on that show, and people thought I was reading notes because I just was—well, first of all, there was an echo, and that is some of the things doing it by satellite. Also, I could see my picture, and my mouth—I was talking ahead of my mouth on the thing. It was just a disaster. People called me up and said, "You were very good." But I kept looking down because I was just so nervous about all these people here watching the show. But I knew I was right. So then I got through all that stuff. Do you know George—was it Orwell?

***Tacey Ann Rosolowski, PhD***
***1:04:47.4***
George Orwell?

***Jordan Gutterman, MD***
***1:04:47.9***
Yeah.

***Tacey Ann Rosolowski, PhD***
***1:04:48.4***
Yes.

***Jordan Gutterman, MD***
***1:04:49.0***
Didn't he have an essay? Was it Orwell? No, no, it wasn't Orwell. Well, I wrote a piece called 1984. This was January 5, 1984, so I wrote a piece about this called 1984 and about big brother watching over you. Well, big brother was watching over me January 5, 1984, and the piece was called—these people in the class love these stories because it is a doctor and scientist writing all this amazing stuff. It was really—but I wrote it in 1984. I remember going home, and the first thing I did was took out a bottle of gin. It was Tanqueray. And I got completely sloshed because I was under so much pressure. So in the end, I talk about how I got sloshed. I ended up calling it victory gin. That is not Kafka. Who was that? Who did victory gin?

***Tacey Ann Rosolowski, PhD***
***1:05:40.5***
I don't—that I don't remember.

***Jordan Gutterman, MD***
***1:05:41.5***
One of those, but it was from a totalitarian society. They used to go to bars and have this terrible kerosene-type drink, and it was called victory gin. They were being brainwashed.

***Tacey Ann Rosolowski, PhD***
***1:05:52.0***
I'll have to look it up on the Internet.

***Jordan Gutterman, MD***
***1:05:52.9***
Yeah, who did that? I mean, I am blanking on the guy's name because I am—I don't want to take the time off the tape. So I ended it by saying victory gin. Okay, that again gets back to reading that stuff in college. So it does pay off.

***Tacey Ann Rosolowski, PhD***
***1:06:09.4***
So how long did it take for the approval—?

***Jordan Gutterman, MD***
***1:06:12.8***
That was January of '84, and the approval occurred around the third week of June in '86. Everything was done with the recombinant. And both companies—you know—got all the forces together. This was an interesting discussion at Roche.

***Tacey Ann Rosolowski, PhD***
***1:06:28.6***
Can I ask you just before you go there, what is the significance of accomplishing this with recombinant material?

***Jordan Gutterman, MD***
***1:06:37.0***
Okay. By the way, I am looking at the time, and I can see that we are going to end with the approval because there is still—

***Tacey Ann Rosolowski, PhD***
***1:06:44.2***
Is that—and that is okay?

***Jordan Gutterman, MD***
***1:06:44.9***
That is perfect because it goes down—I mean—it's kind of—what do you call it?

***Tacey Ann Rosolowski, PhD***
***1:06:50.6***
A crescendo.

***Jordan Gutterman, MD***
***1:06:51.2***
Anticlimactic after that, although there is still plenty to talk about. There is the—

***Tacey Ann Rosolowski, PhD***
***1:06:55.4***
And also remember that these can be—this is not a tape. This is electronic, so it can be sutured together and all of that.

***Jordan Gutterman, MD***
***1:07:02.0***
So I can see where it ended. It will be just about enough emotional because it's crescendoing. Well, the interferon that we did was from Finland—that Finnish stuff.

***Tacey Ann Rosolowski, PhD***
***1:07:18.0***
Yes. From the Red Cross.

***Jordan Gutterman, MD***
***1:07:18.8***
But we already knew from way before then—right—that the in vitro stuff—the test tube stuff and even the clinical was—it was the interferon that was working. So we knew there was bioequivalence of it, which is very lucky, by the way. It doesn't always happen that way. It could have been some other substance. It was only 1% pure. That was really lucky. The companies had a patent and a license on—Roche had it with Genentech, and Schering had theirs with Biogen because Biogen and Biotech cloned it for Schering—Schering license. Roche complicated it. Roche and Genentech were working in a quasi-relationship of some sort. So they have to—they want to sell it. Well, it can't tell—the stuff from Finland—they eventually, I think, sold it in Finland as a product, but it didn't last very long because it wasn't pure and it was—you know—getting it from—and also don't forget the AIDS—the AIDS epidemic started about '81, '82.

Taking blood products and purifying it, oh my God, it would be—I can't imagine doing that today. Giving—I don't know if we would even be approved to do so. I mean, you for sure have to rule out HIV, but you also have to maybe rule out slow viruses and God knows what. So the recombinant technology, this would have been good enough to get approval for the Finnish Red Cross, but I don't know with the AIDS thing what would have happened. So we got out of that business. Not because of that.

The idea of the recombinant is it has to be a pure product that a drug company is making—that is Roche and Schering. They had—and you have to repeat it. I mean, I said it is bioequivalent, but you have to show that the pure recombinant synthetic stuff is as good as the—but they all knew it would be based on our own work. They knew it would be, but they had to prove it.

I remember going to Roche around, maybe, December. This was November of '83. They had a psychiatrist who was head of oncology trials. This was a woman—a nice lady, but a traditional thinker. The whole idea—they were going to do a double-blind Phase Three study. I hit the roof—absolutely hit the roof. I said, "How can you do—?" It reminds me of the joke of two statisticians who meet on the street, and the first one says, "How is your wife?" And the other one says, "Compared to whom?" I mean, how would you not know that this is curing people or at least putting them into long-term remissions? And you are going to get—first of all, how can you do double blind when they all get fever to start with? That is number one. I mean, that is crazy. You cannot do a double blind. Secondly, they all get some form of fatigue. They have a flu. They feel like they have a flu. So you can't do it. Thirdly, you are going to waste all this time and money and lives? Just treat. That is what happened. They eventually did it.

Schering did the same. I wasn't involved with their discussions. We went to the FDA in early '86 with the data. It was a slam dunk. I mean, it took a disease of no responses to 90%. And it got approved in June of '86. By the time they got the trials and the protocols through—you know—it still took some time.

Now, back to one of the poignant stories. After the MacNeil/Lehrer report in January of that year, of '84, I had been in New York. I think it was in the springtime. It was on a Friday, and I was flying back on Eastern Airlines—up in first class, in an aisle seat, second row—and I was really tired. I probably had been to an American Cancer Society and so forth. I am not sure. I am sure somewhere with Mary Lasker. I said, "You know, I am just not going to talk to anybody. I am just tired." So I pulled out a science magazine. I guess I was going to read. This man was sitting in the window seat next to me, and he leans over, and he said, "Are you a doctor?" And I guess I could see that I wasn't going to be able to concentrate, so contrary to what I thought I was going to do, I said, "Oh, yeah." And he didn't—that is all he asked me. Then he started this story. He said, "God, I just love the medical profession." Okay. He said, "Yeah," and he said, "you know, last year in November my mother-in-law," who was from Springdale, Arkansas, "was visiting my wife's sister up in Oklahoma. She got very tired and—" I'm sorry. Let me get the sequence right here.

Well, this had been about a year before, but it was around December. She went to the doctor, and the doctor said, "First of all, we have diagnosed you with a very rare leukemia called hairy cell leukemia. It's unusual for a woman, but that is what you've got, and there is no treatment for it." This was November/December of '83. We talked about publicity. See, nobody knew about it yet. And it was—actually, it was right after New Year's. It was early January. And he said that very night—it was January 5, 1984—actually, it is when he had this experience. She called him on January 5. He said, "By chance, that night, I turned on MacNeil—the Lehrer Report. Do you ever see the program?" I said, "Oh, I know where this is going." And he said, "On the show was this guy from MD Anderson. Do you know about MD Anderson?" I didn't tell him who I was yet. And he said, "He gave this glowing report of these responses with this new drug called interferon, and it was so exciting. There was hope. She was told to go home and die; she was going to die. So I told my wife to call her sister up, and my mother-in-law was still there. The next day, I called down to MD Anderson. I was trying to get into the doctor. I cannot remember his name. I tried to get in, but I couldn't get in. He was too busy. But I saw a colleague of his—Dr. Quesada. My mother-in-law came down here and started the treatments, and she is in a remission now.

A year later we were going to Arkansas, to Springdale, for Christmas, and I had won the office pool and won three bottles of Dom Perignon champagne. So we put one away for my daughter's wedding and one away for my son's wedding,"—I can never tell this story without crying—"And we took the third bottle to Springdale. And on New Year's Eve we said we are going to toast those two doctors at MD Anderson. So we opened up the cupboards, and my mother-in-law had no champagne glasses, and all we had were paper cups. We opened up the bottle of champagne. We poured the champagne on New Year's Eve at twelve, midnight, into these paper cups and toasted the lives of Dr. Quesada and the doctor that—one day it is my dream for my wife and me to meet him." And I said, "You just have." I said, "You just gave me the title of my book, Dom Perignon in a Paper Cup."

You know, champagne is hope, right? I mean, it is celebration. It is hope. And the simple vessel of a paper cup—this whole image of her in a little town in Arkansas, coming to MD Anderson, and pouring this in a paper cup, I don't know if I will keep that. But that is the name of it. It is called Dom Perignon in a Paper Cup because it was just a simple vessel. I mean, I grew up that way.

***Tacey Ann Rosolowski, PhD***
***1:15:14.8***
And those are the people's lives that you were helping.

***Jordan Gutterman, MD***
***1:15:16.1***
Yeah. But this came because I was on McNeil/Lehrer. And I got reamed here for making the data up, told not to go on. I am not bitter about this. I am not—it is very—it is enriching when I think about that stuff. But when you are going through it, it's not so—but I never lost confidence in what I was doing. That I get from my parents—that, again, with firmness. Part of that is my father's immigrant status because he had to leave Russia to go backwards for a second.

This is very important. My father left Russia with his two brothers. My father came over with one brother. His older brother had some separate—no, he came over by himself. He was fourteen. His sisters never came. He never saw his parents again. This was way back in 1911. In fact, we just celebrated his hundredth—he came through Galveston as a Russian Jewish immigrant. He came through Galveston, and we celebrated the hundredth anniversary of his landing in the states last December. It was December the tenth—the day of the Nobel Prizes, I might add. Madame Curie won that year he landed in the states and then immigrated up to Iowa and eventually up to South Dakota. He could never see his parents again because communism came—first it was the revolution and Lenin and World War II and then with Stalin. He never saw his family again. But he was determined, as so many immigrants are—not only of Jewish faith or Polish faith—Polish, Irish, and so forth—all the immigrants. You want to do something with your life. And they want to see—they work so their kids can get that education. I feel completely obligated to his family that sacrificed so much, that sent him.

I also feel the same way about this country—that this is a great country because we have that freedom. We can't rely on big governments and bureaucracies. That gives my personality of not relying on just one way of doing things and fighting against all these restraints and restrictions and rules and all this type of thing. So that is part of my personality because he was that way. And to get something done, you often have to just—not break rules—you got to keep your ethics and all that stuff. But you can't rely on just one way of doing things. That is deeply engrained. So you have my mother doing Rounds with Mom, and then you have my father with this background. That is always with you. It is with you without you evening knowing it, you know? Your father worked. What was he, a physicist or something?

***Tacey Ann Rosolowski, PhD***
***1:17:50.2***
Yeah.

***Jordan Gutterman, MD***
***1:17:51.3***
Okay. Anyway, that is the background. So that is the story of Dom Perignon in a paper cup.

***Tacey Ann Rosolowski, PhD***
***1:17:58.1***
That is a wonderful story. I mean, to think of all the weird things that had to happen to put you two sitting next to each other in a plane on that date. That is amazing.

***Jordan Gutterman, MD***
***1:18:07.0***
Oh yeah. Yeah. Yeah. Sometimes I look—and especially with this recent stuff—things that have happened recently—I am thinking this is—if you look back, it's just too many weird things happened. It just really gives you—I don't understand it at all, but there are just too many coincidences that have happened, even this recent stuff, which I will tell you about. It is just amazing something that happened when I was at my lowest—when I thought it was all dead again. But I have been through this before with this, so it gives me experience and strength to continue, but—

***Tacey Ann Rosolowski, PhD***
***1:18:46.1***
We have about twenty minutes left in today's session.

***Jordan Gutterman, MD***
***1:18:48.0***
Yeah. I will let you—yeah.

***Tacey Ann Rosolowski, PhD***
***1:18:48.8***
I'm just wondering what you would like to do now, because you kind of went through your story there, and I don't want you to—

***Jordan Gutterman, MD***
***1:18:56.0***
That is a big part of the story. There are probably other things involved.

***Tacey Ann Rosolowski, PhD***
***1:18:58.7***
I don't want you to continue if you feel like you would like to stop, but kind of review or—

**Chapter 6**
**B: An Institutional Unit'**
**The Department of Developmental Therapeutics; Personal Stories and Reflections**

Story Codes
A: Professional Path
A: Personal Background
A: Joining MD Anderson
C: Personal Reflections, Memories of MD Anderson
C: MD Anderson Past
C: Portraits
C: Formative Experiences
C: Discovery, Creativity and Innovation
C: Faith, Values, Beliefs
C: Evolution of Career
C: Professional Practice
C: The Professional at Work

***Jordan Gutterman, MD***
***1:19:01.8***
Well, that, but let's talk a little bit—because you brought it up earlier—at least start the dialogue about MD Anderson.

***Tacey Ann Rosolowski, PhD***
***1:19:07.9***
Sure. Sure.

***Jordan Gutterman, MD***
***1:19:09.5***
I don't think, for many reasons, I could have done this, let alone what I am doing now—but let's just stick to the interferon—without being here, which is bizarre in itself. And here again, let me just tell you a quick thing. I was at Duke in training, and I was chief resident of Medicine. There were two of us down at Hematology. I kept going to Washington and getting deferments to go—and I was on what is called the Berry Program. That is how I got to Texas.

***Tacey Ann Rosolowski, PhD***
***1:19:37.7***
That's right.

***Jordan Gutterman, MD***
***1:19:38.1***
That was a serendipitous thing too—how I got to Texas from the Midwest or the east coast. I did go twice to meet a guy named Colonel Hill who made the assignments. I wanted to go to a teaching hospital. There was about six of them—Walter Reed—I learned immediately that no one gets into Walter Reed unless you are full-time army. Nobody gets into Letterman in San Francisco, and no one gets into the old one in Honolulu—I forget the name—in Hawaii because the permanent guys take those jobs. So there was San Antonio at Brooke Army Hospital. There was Madigan in Tacoma, Washington, and maybe one or two others. I always wanted to go to the west coast. I was just intrigued by Washington. So I was all set to go to Madigan, which thank God I didn't. I remember walking from the VA to the university hospital in the middle of the week for a conference. I was a resident. AI got a page, and it was my wife. She said, "You got your assignment from the army." I said, "Well, open it up." And she said, "San Antonio, Texas." I said, "Texas? Oh my God. Texas. Oh God. Okay." So I was there for two years as chief of Hematology—great experience—great experience. They had us consult—first of all, the guy who was—I was a hematologist, but they had an oncologist who was from Bogota. Because he was in this country, he had to serve two years. I was in the Berry Plan, and so—and he was my assistant. But he trained here at MD Anderson. He had just come in himself.

***Tacey Ann Rosolowski, PhD***
***1:21:14.1***
And this is—? Is this Victorio Rodriguez?

***Jordan Gutterman, MD***
***1:21:16.5***
Rodriguez, in '69. And because he had been there earlier, he got his professors, Freireich particularly, to come as consultants. Freireich came and changed my whole world, once I met him. And he took me to Houston—Victorio did. It was a huge city.

***Tacey Ann Rosolowski, PhD***
***1:21:33.5***
So when did you meet Dr. Freireich?

***Jordan Gutterman, MD***
***1:21:35.6***
It was ‘69 or ’70, in the army. But I knew then—Victorio took me over here. I saw MD Anderson, and I could just see possibilities. I could see—and that is what I am talking about Anderson. I could see that Texas, Houston specifically, and then MD Anderson—that maybe I could do things that I couldn’t do in a more restricted, older—in terms of like Duke. I could go back to Duke, which is very conservative. I didn’t have the—well, maybe I had some aspects of his personality, but you don’t know what drives—you know—in retrospect, why did I make this decision? I really liked the idea of the freedom and the openness. I could see that there was money here, and I was impressed with the various buildings with names on them and so forth. It just felt good, you know? But that first summer, as I said, I remember I had been in San Antonio, but it is much cooler—somewhat cooler there. But in ’71, when I came, which was forty years ago—will be forty-one years already, and I am just starting. This is a whole new thing I am working on. This is going to go on for a long time now. The best is yet to come. Who was it? Moss Hart, Act Two or Act Three or something—what is it? You know, there is a play called Act Two. I will call this act two. So this is act one. But that summer, I said, “Oh my God. I will stay a year or two, get my feet on the ground, and then go out to Washington or someplace.” I never left.

***Tacey Ann Rosolowski, PhD***
***1:23:02.5***
What did you think Washington held for you? I mean, why was—?

***Jordan Gutterman, MD***
***1:23:04.7***
Just the weather, just the physical beauty.

***Tacey Ann Rosolowski, PhD***
***1:23:06.5***
Oh, okay.

***Jordan Gutterman, MD***
***1:23:07.1***
It was a dream. I had never been there.

***Tacey Ann Rosolowski, PhD***
***1:23:08.5***
Oh, Washington, meaning the state?

***Jordan Gutterman, MD***
***1:23:10.6***
Yes.

***Tacey Ann Rosolowski, PhD***
***1:23:11.5***
Not Washington DC.

***Jordan Gutterman, MD***
***1:23:11.7***
No. I don't want to go to Washington DC. Not then and certainly not now.

***Tacey Ann Rosolowski, PhD***
***1:23:15.8***
I see. Okay.

***Jordan Gutterman, MD***
***1:23:17.0***
I don't like Washington.

***Tacey Ann Rosolowski, PhD***
***1:23:17.0***
It was interesting; I was talking to Dr. [George] Stancel [Oral History Interview], and he was talking about how he was recruited in part because of his sort of pioneering spirit. I mean, he was recruited to help establish the new medical school. He talked about that same sort of a special time at—you know—feeling freedom. A lot of people have mentioned that, so it is interesting that you picked up on that right away and it intrigued you and made you feel like this would be a good home for your style of working.

***Jordan Gutterman, MD***
***1:23:50.6***
Yes. I don't think—I must have at some level knew it was there—at some level—but it came out—as I got here, exposed to Freireich, and I just developed sort of the way art did and the way Freireich maybe was the one most able to bring out this kind of possibilities and potential, but fully there and the same thing with art, with Mary Lasker, and—

***Tacey Ann Rosolowski, PhD***
***1:24:16.3***
So how did that happen with J Freireich? I mean, what was it that he brought out? And how did that happen?

***Jordan Gutterman, MD***
***1:24:22.7***
Passion, determination, intelligence, no compromise, take no prisoners, never—I mean—just thinking, thinking, thinking, being unsatisfied, very, very exact thinking, and being prepared. Again, it lies with Mary Lasker and the Bay Area's great people I have met, and there are many, many, many of them. I could tell you many stories in many different fields. I always try to learn from these people—anybody. Again, that's sort of an I/thou relationship is that these highly accomplished—I mean, I learn a lot just watching a great golfer like Tiger Woods or something, just the determination and the tenacity of their art and so forth, you know? Or a great sporting event—I am not obsessed with sports, but I do love to watch certain highly accomplished athletes because they practice and they practice their thing. Sure, they are gifted. So you can learn from almost anybody. I mean, I learn from both—I learn from anybody.

But I regret, for example, as a freshman in college, my brother 1:25:37.7 (???) (inaudible), did a year's residence in Charlottesville, and he used to pass our dorm every morning. We would see him in the library with his pipe. God, I wish I had talked to him some, but—you know—you are a freshman in college 1:25:50.1 (???) (inaudible), you know? But today I wouldn't hesitate, you know? I will tell you some funny stories about—I mean—interesting stories about going up to—I mean—famous artists that I noticed, because when I am traveling, I am always watching things.

Now back to Texas, though. But I could feel it. First of all, Mary Lasker, she was very closely tied in with Texas, with Houston, because of a very close relationship with Mike DeBakey. So she and Ann Landers, Eppie Lederer, came down here in '74 and visited. I was asked by Lee Clark, the president—well, he asked Freireich, actually, to select two or three people in those departments. They had seven or eight people. We probably—it's on the transcript. That would not have happened if I hadn't been here in Texas—not in Seattle or Tacoma, you know? So that was a huge, huge thing. Was it preordained? Was it—? I don't know. And she liked the spirit of Texas. In fact—well, Joe Goldstein, I was the one that got him to be chairman. Two of the three chairman of the jury since the thing was started in the '40s have been Texans. So I think the opportunity to do that—to do clinical work again—a lot is framed by Freireich. And he is open to any new idea as long as it makes sense, and of course you have to go through the right approvals and stuff. He gave me the courage to be aggressive, to have a new idea, to challenge—goodness knows—a lot of things, but certainly cancer. We need new ideas, new thoughts, or we are never—yeah, we can pat ourselves on the back for certain things. That is great. Let's move on because we are—and so that environment existed here. You can find it—I don't know if it would have existed too many other places. Would I have succeeded like this anyplace else? I don't know. I'm not so sure. Not because—I don't know.

***Tacey Ann Rosolowski, PhD***
***1:27:52.9***
So it was a unique intellectual environment?

***Jordan Gutterman, MD***
***1:27:55.2***
Yes.

***Tacey Ann Rosolowski, PhD***
***1:27:55.4***
With just—?

***Jordan Gutterman, MD***
***1:27:56.1***
Emotionally, and what I mean by emotional is that the drive and all that was not just intellectual, you know?

***Tacey Ann Rosolowski, PhD***
***1:28:02.0***
Right. Right.

***Jordan Gutterman, MD***
***1:28:03.4***
Well, again, find a way to do it.

***Tacey Ann Rosolowski, PhD***
***1:28:05.0***
Right.

***Jordan Gutterman, MD***
***1:28:06.8***
The committee turned it down? Find a way to get around it if you are passionate. You can't—you know—and do it.

***Tacey Ann Rosolowski, PhD***
***1:28:14.6***
Can you talk a bit about Developmental Therapeutics when you came? Because that is—you came as a fellow?

***Jordan Gutterman, MD***
***1:28:19.4***
Yeah, well, that was the environment—that was the environment.

***Tacey Ann Rosolowski, PhD***
***1:28:21.9***
Yeah. I mean, can you—it is—that department was created in 1965 by J Freireich and Emil Frei, and it was pretty controversial. He talks about that in his interview. And so you walk into this environment. The department is kind of controversial. What were you picking up about that? Did you—?

***Jordan Gutterman, MD***
***1:28:46.3***
There isn't enough—I just—I swear to God, you are a Terry Gross. You are. Listen to her. Go listen to her. I don't know if you can hear it.

***Tacey Ann Rosolowski, PhD***
***1:28:54.5***
I don't. I probably couldn't. I mean, I have heard her interviews.

***Jordan Gutterman, MD***
***1:28:58.1***
I love listening to her. But you were asking the same—just the way—I don't know—your mannerisms. Everything about you is Terry Gross. I'm sorry. I'm probably embarrassing you.

***Tacey Ann Rosolowski, PhD***
***1:29:07.1***
No, I know. I'm just—nobody has ever said that. I guess I'm flattered. I am flattered.

***Jordan Gutterman, MD***
***1:29:12.0***
No, you are Tacey. You are Tacey. You are not Terry. Okay. So I got distracted again because I swear to God I am on a radio show here. Anyway, humor is very important to keep all the time.

***Tacey Ann Rosolowski, PhD***
***1:29:27.6***
No. It is. It is.

***Jordan Gutterman, MD***
***1:29:28.9***
Yeah, so I—that is one thing I always keep. So what? Describe the environment?

***Tacey Ann Rosolowski, PhD***
***1:29:33.5***
Yeah. Well, no. I mean, the story of it first being out in these mobile homes—you know—it is kind of incredible. And people have commented on the controversy of using the very aggressive treatments that they used and that there was this tension between an old guard that—
***Jordan Gutterman, MD***
***1:29:52.5***
Correct.

***Tacey Ann Rosolowski, PhD***
***1:29:52.6***
And so you're coming in and the whole idea—they came up with this name, Developmental Therapeutics, to name what they were doing, whatever that was. I mean, it was sort of a new thing. And obviously you've got this freedom of—spirit of freedom and you're kind of fitting in. So I'm wondering, what was that like? I mean, this is institution building. It was institution building, creating this new department or a certain kind of activity—intellectual, emotional, clinical—was going to take place. And so I guess I am just asking, what was it like? What do you feel you offered? What did you get in those early years?

***Jordan Gutterman, MD***
***1:30:31.0***
Well, it was exciting because, again, I am not sure exactly when that developed, but certainly I was evolving into someone who was an independent thinker who wanted some new things. When I was—and I am going to tell you an emotional story about this briefly. When I was eleven, my uncle who lived with us—he was the one that came with my dad—well, he came right before my dad, but he was a little older than my dad. He lived with us in South Dakota. He never got married, as many immigrants did not. And one day he came down with what I was told was tuberculosis—the cough. He went to Mayo Clinic, he had his lung removed, and he died May 5, 1949, of lung cancer. I mean, he had cancer. He was a Lucky smoker. Not a very creative title, but I wrote a piece about that called Unlucky Strikes. What was interesting in that piece was—and this deals with Developmental Therapeutics—but in that piece is that—and still pretty right field, but new blood vessels and nutrition is so critical—angiogenesis. Although it is not the greatest, it is a long story about the therapeutics aspect.

My father had had a near-fatal heart attack around the same time my uncle was dying. And in those days he kept talking, "The doctor says the collateral circulation is coming back," and he lived another thirty-five years. It was interesting how the same process healed my father and killed my uncle. So I wrote this piece—the paradox. It is called The Paradox of Angiogenesis. One heals, and the other kills. That was an interesting piece.

And so—I was eleven. And my father—it was his only living relative in terms of blood because his older brother had died of some liver cancer or something way before I was born. So I think I was always driven in seeing these other people. And my mother taught me—Rounds with Mom and so forth and aging and all that—to do something different. So Freireich's personality just appealed to me, and that whole environment that you are just free to take your ideas and go with them. No one is going to laugh at you. No one is going to say, "Don't." I saw the other guys around here—oh my God—you know—Neanderthal-type—I'm sorry. I mean in terms of thinking. "No, give single drugs. Please be careful." "But these patients are dying with what you do." "I know, but we don't want problems. Life is simpler." That just wasn't me. And so this whole environment—and we were all imbued with that philosophy. I could just—I would have to think back to, again—I probably will about how it affected me. But it was so exciting to be in an environment where you could do new things and be free to do it. And so when Mary Lasker and I started talking about interferon—and it was only three years after I got here, and I went to a meeting on interferon in 1975. I was only—a little less than four years—which is another interesting story. My father died on the first night of Passover. Have you ever been to a Seder—a Jewish Seder?

***Tacey Ann Rosolowski, PhD***
***1:33:47.2***
Yes.

***Jordan Gutterman, MD***
***1:33:49.0***
He died on the first night of Passover—first day of Passover—April 7, 1974. The first day of Passover this year was also on April 7. It changes every year, which is interesting. You know, I remember he died of heart failure. And in the Jewish religion, often there is an unveiling of the tombstone the year afterwards, which is a very important, I think, mourning process because of the rawness of the death is not so evident. You have had time then to reflect. So frequently families will come together, and the tombstone is laid and so forth there. You have another service.

It turns out, because it was the Passover time, my family and I, we went to Norfolk, Virginia. My mother was still alive. We were there for Passover and—but we went because of the unveiling. I get a call from somebody saying that there is a meeting on interferon up in New York and no one wants to go here. It was Freireich. Actually, Freireich did come for half a day. He said, "I talked to this person who was more senior, and nobody wants to go. Everybody thinks it is nothing." I said, "Oh my God," because I had been already talking to Mary Lasker. So I just flew up on Piedmont Airlines to New York, and there I met all these people, Mathilde Krim included, who was a great advocate of AIDS.

Mary was there, and it sealed the deal with her and me. We both got the lay of the land. People were saying gene cloning will never happen in our lifetime. She would look at me, and she said, "Do you believe that?" I said, "No, not with the way science is going, unless I get caught by the cream color here with the pink in contrast to the red." That is a Richard DeManincor poster. And so, again, it was just—it was like my father's death led to my being at the right place at the right time. Would I have gone to that meeting if I had been here? I don't know. I don't know. I just don't know. But this is an opportunity to jump in.

Freireich actually came to that even though it wasn't his field. He showed up for one night, and then he left. I still remember that, because he sort of recognized the potential importance of it. And so that is the type of thing that just—it was so exciting. And we had been bothered by all the conservative nature—Lee Clark deserves a lot of credit for bringing these two guys here, particularly Freireich, because—you know—Frei was a gentleman. Freireich—you know—really antagonizes people. I mean, I idolize the man. We could talk about him for another tape. We could talk about Mary Lasker for a tape. But these great people—and they are great people, not only with what they accomplished but how they bring other people alive. It's being alive, you know? So I will think a little bit more about it, but then all my colleagues were equally—they wouldn't be in this competitive, chaotic—kind of chaotic—thing, which I like. You know, everything—the reason things happen is because collisions happen, and there is some chaos involved. It's still organized chaos, but you got to have that. Today it's if you don't do this and this and this, you are never going to accomplish anything. Life is dull. Life is dull that way. I mean, I just cannot imagine going through life doing that. And of course the more I got into it the more—you know—you get older and you understand things better.

***Tacey Ann Rosolowski, PhD***
***1:37:19.0***
I was going to say you sound like you have an artistic temperament, and now you are releasing it with your paintings.

***Jordan Gutterman, MD***
***1:37:23.6***
Oh yeah. Oh yeah. I mean, these colors just—if I didn't have all this up—I just had them stacked up here because—I have a large art collection. I mean, I collect real art, not posters. And that was Mary Lasker too. She gave me the courage to put what I—to take $5000 for a Sam Francis work on paper, which today is probably—it's not the money involved—but to start buying art because I saw that her Rothko she bought for $10,000—this particular one—I mean—not this piece, but this poster, of course—for $10,000. She sold it for $400,000, and today it is worth $40 million.

***Tacey Ann Rosolowski, PhD***
***1:38:02.9***
Is there something that—? You were talking a moment ago about the large stature of personalities that you moved with here, and you are one of them too. Is there something of that kind of personality you see behind that Mark Rothko or—? (knocking on the door). Yeah, come in.

Female Speaker
1:38:24.6
I'm sorry. There is some wiring going on in this conference room, so you're going to the conference room on the second floor.

***Jordan Gutterman, MD***
***1:38:31.2***
Second floor.

***Tacey Ann Rosolowski, PhD***
***1:38:31.9***
Let me just—

***Jordan Gutterman, MD***
***1:38:32.7***
Sorry about that.

***Tacey Ann Rosolowski, PhD***
***1:38:33.0***
That's okay.

***Jordan Gutterman, MD***
***1:38:33.2***
Erase that.

***Tacey Ann Rosolowski, PhD***
***1:38:34.5***
It's back on. Yeah, they'll take it out.

***Jordan Gutterman, MD***
***1:38:35.8***
And what did you ask now?

***Tacey Ann Rosolowski, PhD***
***1:38:37.4***
I was asking if you saw a similarity between sort of heroic stature of the people that you work with here and the artists that are behind these works.

***Jordan Gutterman, MD***
***1:38:46.2***
Oh yeah. Oh yeah.

***Tacey Ann Rosolowski, PhD***
***1:38:47.0***
Can you talk about that a little bit?

***Jordan Gutterman, MD***
***1:38:49.5***
Well, I think—I mean, that red is like this—you know—the heroic nature of the painting, opening up new fields. For example, Pollock and Rothko—these people that did abstract art and, again, they thought they were crazy, pouring paint on and there is no real image and all this stuff. But they are trying to express the truth, you know? And it's also what's inside of that—this idea of producing an image that you respond to emotionally. Sam was that way with color. I mean, he was a great colorist. I think they're being courageous. I think they are expressing themselves with little restraint. Some of them—Sam unfortunately begins to get somewhat commercial and is aware of it. And people can change. I mean, they are all different. Pollock was an alcoholic and killed himself in an accident. Rothko was an alcoholic. He also killed himself. I mean real suicide. Rothko said in the play, "Pollock committed suicide, but it was an auto accident. When I commit suicide, I'm going to do it, and nobody has any question about it." It is really a great line. I doubt he ever said—the kids say they don't think he ever said that.

But let me think about that. That is a great question. I'm sure there is a parallel, for sure, of freeing up their inner life, their emotions, and doing kind of courageous things and producing things of beauty—in this case, art. Whether it is music or art or literature or science and stuff, I think it is all part of the same complex. But I've got to think about that a little. I'm not expressing it real well. That probably means I've got to go.

***Tacey Ann Rosolowski, PhD***
***1:40:36.1***
Well, why don't we—we will close off for today. It is just a couple minutes after 3:00. And thanks very much. I look forward to our next conversation.

MDA-RML_ Gutterman, Jordan_20120412
Session 1— April 12, 2012

***Jordan Gutterman, MD***
***1:40:42.3***
Okay. I hope that is what—

1:40:43.1 (End of Audio Session 1)

THE UNIVERSITY OF TEXAS
MD Anderson Cancer Center
Making Cancer History®

# Jordan Gutterman, MD

Session 2: April 13, 2012

**Chapter 0**
**Interview Identifier**

***Tacey Ann Rosolowski, PhD***
***0:00:03.8***
Okay. So this is Tacey Ann Rosolowski interviewing Dr. Jordan Gutterman in his office in Research Park at MD Anderson. The date is April 13, 2012, and it is approximately 1:30. This is our second session. So we ended up yesterday's session talking about the great success with interferon and hairy cell leukemia. And you had wanted to—you had just mentioned that you had some dots you wanted to connect to take us to that story forward in a meaningful way.

***Jordan Gutterman, MD***
***0:00:38.0***
So I see that Terry Gross is still here. I will stop talking about this. It is so weird. Anyway, so we started—

***Tacey Ann Rosolowski, PhD***
***0:00:49.4***
Well, you just promise me that when she interviews you, you will call her Tacey.

Interview Session: 02
Interview Date: April 13, 2012

**Chapter 7**
**A: The Researcher**
**Testing Interferon against Many Cancers**

Story Codes
A: The Researcher
C: Personal Reflections, Memories of MD Anderson
C: MD Anderson Past
C: Portraits
C: Discovery, Creativity and Innovation
C: Faith, Values, Beliefs
C: Professional Practice
C: The Professional at Work
A: Overview
A: Definitions, Explanations, Translations
C: Patients

***Jordan Gutterman, MD***
***0:00:53.1***
Okay. So when we—so the stuff was cloned, and we started the recombinant. We had to repeat everything with the recombinant that had been done with the natural, and it turned out that virtually everything was the same. The pharmacology—that is, how it behaved in the bloodstream—was the same. The side effects were the same. Although we went to the extremely high doses, in the end the active doses were pretty much the same. So it was a very astonishing thing. And in retrospect, the 1% natural interferon that we were getting from the Finnish Red Cross with buffy coat—the white cells—of normal donors, which probably couldn't be done today because of HIV and so forth—but everything was the same. So the active ingredient was—and the activity was all due to the interferon. The other stuff in there apparently didn't have any—much activity or toxicity, as a matter of fact. And again, we thought that the fever we were seeing was due to the contaminants, so to speak.

[redacted]

So we went through this rather tedious repetition. It was very exciting, but it was also repetitious, and I was eager to move on with other diseases. I mean, I—one thing that characterizes me is I get bored easily. Once I have done something, move on.

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A scientist friend of mine who is a Nobel Laureate—I will leave his name blank for a moment—once talked about another great scientist. This dealt with the Lasker awards. This particular guy is like a golfer—say, Tiger Woods or somebody—who would hit the golf ball 320 yards down the fairway. He moves the ball way down. Now, if it is off to the left by ten yards, or right, it doesn't make that much difference. Then this particular guy said, "Most of us as scientists stand on the green waiting for the ball to get up there." Now, precision becomes important. We have to put it in the little hole. This guy is a guy who can drive that ball and open up something—get that ball so far down that the rest of it is just precision. This particular guy won a Nobel Prize, so he clearly was one of these guys that opened up a field. But I liked the first. I don't—the precision is important, but putting little dots together and finally and so forth, that is—to me, it's not—because I think it takes a certain person, not special necessarily but a certain person to do opening up fields and new ideas and new diseases. But you need the other too. You need both. You know, in a golf game you need to have a putter and a driver and so forth.
Okay. So I was eager to try other diseases, but we couldn't do this with the company because it was—we had to repeat everything again. That got to be rather tedious for me because it was obvious for me from the very beginning, having started all this stuff with the interferon for cancer, that it was going to be the same. We weren't going to find anything different.

[redacted]

So the first disease we tried was an uncommon but fatal disease—and at that time, no treatment once it metastasized—kidney cancer—renal cell carcinoma. Not a rare disease, mostly men, and we were really delighted to see in the early '80s—we started this in '81, about the time we started the recombinant—that about 15% , 18%—very small numbers not acceptable to me—however, fifteen did get responses, rarely a complete remission. And we probably did prolong the lives of those patients, although kidney cancer has an unpredictable history, and we reported that. I think it was '82. Mary Lasker was very excited about that. This one I would not have publicized. It was done with the natural interferon, and it came after the wave of publicity in '78 with the ACS report and so forth.

***Tacey Ann Rosolowski, PhD***
***0:05:22.8***
Can I interrupt you just for a second?

***Jordan Gutterman, MD***
***0:05:23.5***
Yeah.

***Tacey Ann Rosolowski, PhD***
***0:05:23.9***
Why did you do that study with natural interferon and not with the recombinant?

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***Jordan Gutterman, MD***
***0:05:27.4***
Well, because we were still doing what is called Phase One in pharmacology. We were never—we weren't even close to doing a Phase—so-called Phase Two study. I knew this was going to take time—big time—and I wanted to move on. So we published that, and it was really the first systemic treatment. And still today there aren't really good treatments for kidney cancer. A couple of other drugs have now been approved as well as interferon. Some people do combinations, but that is still an unmet need. That is still a tremendous need. And we don't really understand the very modest activity of interferon, although other compounds aren't too much more active. So that was interesting. But then because of the activity in lymphomas and myeloma—both of which are B-cell diseases—antibody-producing cells—we began to turn our attention towards this rare disease I talked about yesterday called hairy cell leukemia and concurrently with another disease called chronic myeloid leukemia. That, today, is beautifully controlled by Gleevec.

But we had some really, I think, astonishing findings we made in the mid-eighties, which I will now describe. Now, the stimulus for the two blood tumors—hairy cell leukemia and chronic myeloid leukemia—in part came from a conference, our departmental conference led by Dr. [Emil] Freireich, the old DT conference. It was 1982, and we had weekly conferences on all sorts of things. They were blood baths, in a way. I mean, they were pretty chaotic, and a lot of thought was going in, and people said their peace and so forth. It was not easy to present. My colleague Dr. [Jorge] Quesada presented the kidney cancer results.

Now, kidney cancer is a slowly growing cancer, generally, and what is called a more differentiated, let's say, from the acute leukemia or fast-growing tumors. And when we finished that conference, Freireich was really quite excited, and he bellows out in the hallway to me. He says, "Gutterman, come here. It's clear, this working on well-differentiated." That's slowly growing tumors. It works on myeloma and so forth. "Why aren't you doing hairy cell leukemia and chronic myeloid leukemia?" He called it CML. We had been talking about—my group had been talking about this, but I didn't have that—I didn't—I probably lacked a little confidence that it would work. Both were risky. Both were risky because hairy cell leukemia, they didn't have much blood elements. Our stuff, as I said yesterday, lowers blood counts. So I was concerned that we would make—if you are going to make someone who is going to die worse, then I didn't want to do that, of course. And chronic myeloid leukemia, my colleagues all thought we would actually induce what was the fatal step there is—blast crisis. We would take the benign, early phase and stop—even stop that and convert it. In other words, my colleague Dr. Quesada, who worked with me on hairy cell, was all for it. I mean, he was a great supporter, and he was instrumental in this.

Now, the person doing the CML, Dr. [Moshe] Talpaz, was much more cautious. It took me months to convince him this would be safe to do. And we actually had—I treated a patient with a colleague of mine, Dr. [Kenneth] McCredie, who is long passed away—a colleague of Dr. Freireich's. He treated one patient with CML, chronic myeloid leukemia—I called it CML—and it looked like there was a response. Finally, I convinced Talpaz this was safe to do. I think Dr. Talpaz would maybe have a different story, but that is the story. The story was he was very reluctant. I will tell you about that in a second.

So in late '81, '82, something like that, we began to look at both hairy cell leukemia and CML with the [Dr. Kari] Cantell—the Finnish Red Cross interferon. There was no way Roche or even Schering, if I had been working with Schering, would have taken their precious molecule—first of all, we weren't ready. We had to do all the pharmacology and do all this that and the other. And I was extremely impatient to get going. That was a good decision. That was really, really a good decision. I do credit Freireich, and I have told him this many times that, "You bellowing this out to me in the hallway was the final push to do it." And that was the attitude of DT—of the environment we lived in. I had raised this money with the Interferon Foundation, so we had surplus drug. Now we knew we didn't need any more of the Finnish Red Cross interferon because the recombinant was coming along. So I could afford to be generous now and start looking at other diseases. And that—I don't know where else you could have done that. And I probably need to talk more about the Interferon Foundation. I don't know from the other tape—

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**Chapter 8**
**B: Industry Partnerships**
**Furthering Research through Partnerships with Drug Companies**

Story Codes
A: The Researcher
C: Discovery, Creativity and Innovation
C: Faith, Values, Beliefs
C: Professional Practice
C: The Professional at Work
A: Overview
A: Definitions, Explanations, Translations
A: Character, Values, Beliefs, Talents
B: Industry Partnerships
D: On Pharmaceutical Companies and Industry

***Tacey Ann Rosolowski, PhD***
***0:10:34.1***
There wasn't a lot. You talked about the way it was established, Leon Davis and Elaine coming to talk to you, the setting up of it. I think you mentioned a few companies that were involved. But really, that is where the story stopped.

***Jordan Gutterman, MD***
***0:10:49.7***
Well, I will fill in the blanks, and there may be other things that one day when I go back and look at my own records I will have every meeting chronicled, whether it was Pennzoil or—and my impressions, the key people. I know some of their names. I have thought about this. So again, I think that we talked about, initially, two sessions—this is going to end up being multiple sessions because I want this right. And I want it documented because the more I talk about it, the more excited—it's very difficult, but I have been able to shut off what is going on now to go back in time, and to take two hours out, once I calm down and get started—you know—once I warm up. So we will go back, because I'm afraid I left out—and I probably will leave out some ideas and names and key people until I look over my oral history. Let's call it that.

***Tacey Ann Rosolowski, PhD***
***0:11:42.6***
Well, and the other thing is, remember, that you will get a copy of the transcript and things can be filled in

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***Jordan Gutterman, MD***
***0:11:46.4***
Yeah. No, I understand. So I told you yesterday about the hairy cell leukemia and the excitement of seeing the platelets go up first and then the white cells and the red cells and seven of seven patients and the elation of The New England Journal of Medicine and McNeil/Lehrer and people who said that this was all made up and the lady—you know—Dom Perignon with the paper cup. Quite an experience.

[redacted]

And as I said, I told you the story yesterday how the company confirmed all this once we reported all this. And—you know—people ask me a lot, "Well, did you benefit?"—because this eventually became a billion dollar drug—"You must have benefited. You turned over the license. You got it approved." The answer is no. We never patented anything—ideas or anything. We just—I was just doing clinical medicine. It never even occurred to me.

There are a lot of people including one Nobel Laureate from Biogen who thanked me at dinner one night and said, "Thank you for making me wealthy." Sometimes it does, but you know what? Life is that way. If somebody asked me—I asked my colleague yesterday, "If somebody offered you a million dollars but you couldn't do science anymore, what would you choose?" She said, "That is not a complex decision. Forget about it. That is not going to make me happy. I mean, I will take the money, but I wouldn't change my life for anything." And I feel the same way. If someone says, "You can't"— I mean, this is a challenge where I am working now with the plants as this was—as the interferon. This is really a challenge in terms of, again, the politics, the money, and the regulatory. It's exciting and a challenge, but it's tough sometimes. And there are some days I'm thinking, "Why am I doing this?" But you couldn't—there is no price to pay. It's so interesting.

Anyways, now CML—so chronic myeloid leukemia is—most people who listen to this are aware that in the eighties, again, there was no effective treatment for the disease. In fact, when I first came here, Freireich and his colleagues were using the cell separator to take off the excess white cells. They would give those white cells to patients who needed them, but that's all they did. There were a couple of drugs then that were used—mustard drugs—that would lower the count. There is one drug called hydroxyurea, which inhibits DNA proliferation—that will lower the count. But none of those drugs—none of the chemotherapy did absolutely anything to the prognosis. The early phase of it is called benign phase—is a single mutation—which at the time we knew a little bit about—a translocation called the Philadelphia chromosome, but then—

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***Tacey Ann Rosolowski, PhD***
***0:17:42.2***
I am sorry. I missed that. What is that?

***Jordan Gutterman, MD***
***0:17:43.7***
It's called the Philadelphia chromosome.

***Tacey Ann Rosolowski, PhD***
***0:17:45.0***
Philadelphia chromosome.

***Jordan Gutterman, MD***
***0:17:47.1***
Just the whole research on CML, the molecular aspect is very pioneering. We gave a Lasker Award out for the elucidation of the chromosome defect and the molecular aspects of that. So that was back several years ago. We gave a second award out for the treatment of CML, not with interferon but with this Gleevec, which is so-called targeted therapy. But at the time, in the '80s—'82, '83—there was no treatment. We could lower counts, but there would be nothing for the prognosis. And all the patients—there was an average survival of 3.2 years, and most patients would then convert to what is called blast crisis—acute leukemia—which is sort of like metastatic cancer. And patients would die very quickly.

***Tacey Ann Rosolowski, PhD***
***0:18:39.2***
Why is it called blast crisis?

***Jordan Gutterman, MD***
***0:18:41.0***
Because they get these undifferentiated cells called myeloblasts. They are blasts. They are very indifferent. They are the first primitive—one of the first primitive cells in the bone marrow. So my colleague Dr. Talpaz started using interferon, and he did a nice job of working on the dose. Right away we began to see the blood counts go down. That was nice. That was prerequisite for anything, but it didn't say anything because a couple of the chemotherapeutic drugs could do the same thing. But the chemotherapy never had a sustained elimination of the leukemia cell—that is, the Philadelphia chromosome—the abnormal chromosome. It was described in Philadelphia by a guy named Peter Nowell many, many years ago.

Now, I should mention just for completions sake that [E. Donnall] Don Thomas, who was in Seattle at the Fred Hutchinson, won a Nobel Prize for bone marrow transplantation. He showed you could cure people with CML if they had an identical twin and gave their—so you could wipe out the disease if you just blast them with radiation, the chemo, and you could replace the marrow with an identical twin. He won a Nobel Prize for that and related work. But that is pretty rare for an identical twin. Other than that chemo, you might be able to get transient elimination, but they come back. Well, with interferon we saw the blood counts go down.

And I will never forget one day in late ’82, about the time we were starting to see these interesting responses in hairy cell—this was heavy time—very exciting time. I see Talpaz way down the hall. He comes up to me—he is an Israeli guy—and he said, “Jordan, we got a bone marrow report back on a patient who has 50% reduction in the Philadelphia chromosome.” I said, “Really?” I said—same thing I had said with the hairy cell—“Well, I’ve got to repeat that, first of all. Is this an artifact?” But—you know—we thought maybe it was a transient thing. I mean, I was very excited. The patient would come back a month later, and now it was down to fifteen percent or something. This thing was disappearing. And then we did it a second time.

Now, it wasn’t like hairy cell, where every patient or virtually every patient responded. Getting some suppression occurred in maybe 30%, 40% of patients. Getting a complete suppression was uncommon, but still it was amazing. I mean, we saw a complete elimination in perhaps 8% to 10%. But nonetheless—and then we worked—some patients stayed on the interferon. Interferon you cannot stay on indefinitely because you are just fatigued all the time. So we had to work out various aspects. Some people we would stop. Sometimes the disease did not come back at all. So I would say that I don’t have the precise figure today, but I would say we probably, with interferon alone, cured a small fraction of these patients, maybe 5% to 8%. But nonetheless, for a disease that has, say, 4000 or 5000 patients, that is still some souls. That is some people. I personally think this has been missed—the importance of interferon—because it was the first demonstration outside of the bone marrow transplant in identical twins that with a compound—with a drug—you could—in some patients—not even close to 100%—nothing like hairy cell—you could get selective suppression of the malignant clone of cells and get, at the same time—which really shocked me—restoration of the normal cells. So while you are suppressing the malignant stuff, you are allowing the normal cells to come back. We saw the same thing with hairy cell leukemia, but we didn’t have that type of marker. We eliminated the hairy cells. Andin contrast to normal people—I mean—excuse me—people that didn’t have blood cancers, where we lowered the blood count, in this case, the normal cells were able to restore themselves.

So I think from a scientific standpoint—but the one criticism of the work—and I agree with it—is scientists need to be precise. Nobody understood exactly why this was going on, and it's hard to build on that. It's wonderful. And we now have a new treatment. The first report was 1983, in Blood. And then in '86, the year interferon was approved for hairy cell leukemia, we had a major paper in The New England Journal of Medicine where we showed this Philadelphia chromosome, and it got a lot of attention because this was historical. Ten years later, a drug called Gleevec was designed by Novartis with the push of Brian Druker, who shared a Lasker Award for this. So I was involved with both of those awards along with two other guys, where they targeted the Philadelphia chromosome.

Ninety percent of patients achieve remissions. Most of them have suppression—partial and usually complete—of the Philadelphia chromosome, and it's an oral drug. They stay on it indefinitely. And it is a controlled disease in the vast majority of patients. The only negative about Gleevec is it probably cures very few people. They just have to stay on it. But how many diseases do we cure outside of infectious diseases? We don't cure diabetes, but we control it with insulin. There are a lot of diseases like that. So this was a major advance, and that is why Druker shared the—and he deserves the most credit. A guy named [Charles] Sawyers shared that with him. He worked on resistance.

Studies are going on with interferon plus Gleevec. I'm not aware—there has been some inconsistency whether the two are additive in any way, because most cancers—like most complex microbial infections, like TB and so forth, you best use combinations of drugs to prevent emergence of resistant cells. But nonetheless, interferon was a major advance. And it took another ten years before the real major advance. But still, I am very proud of that work. And it really showed you how to get selected suppression. I still think there is probably going to be a role for interferon in CML. Hairy cell, too, was supplanted by drugs, which were easier to give, less toxic. It's still used today, but that's okay. I mean, it would be like—I'm not equating it necessarily—but it would be like sulfa. Most people think penicillin was the first antibiotic. Sulfa drugs were. They are still used too. But penicillin was better, and now we have some highly effective—obviously tons of effective—so interferon is used in CML. It is used in hairy cell, but probably better—not probably but definitely—better in less toxic compounds are being used. But now hairy cell was on the map, and CML is on the map. So that is pretty exciting stuff.

I haven't been staying on top of those fields, although there are advances in these diseases and others. I noticed just yesterday there has been a resurgence of interest in interferon as an immunotherapy that is enhancing the immune system, so I think we are going to see much more use of interferon. People have asked me, "Is it used in all these diseases that you started?" The answer is not as much. And I think part of the reason is there is no champion like myself, I think. I mean, I'll push if I think there is a real reason to use it. I don't know. I've been a little disappointed that the—for a while, the momentum of interferon—people, again, were doing the cleanup, you know? They are putting the ball in the green. But I think there's going to be a resurgence of interferon in terms of the cancer—in terms of figuring out newer mechanisms. I think if you could figure out precisely how it works it would help, particularly today with targeted therapy. Oncology community, patients, doctors, FDA, and so forth want to understand how this drug works. I don't think we can get along any further by just giving a drug that works without understanding. I think what is most important is that it works. If you understand it, that is better.

But as far as being on top of the list of drugs, I think people want to understand how they work first, and I agree with that. If you take antihypertensive, if you take anticholesterol, we understand how those drugs work, and they are extremely effective. So if there is one major criticism I have—and I got out of the field because I said I like to open things up, and then after it was approved—and I will come back to this—I learned a lot about marketing and how this all does. We made a few more advances, but then there were so many people in the field; I really wanted to start a whole new thing. I thought we needed different answers. I haven't stayed on top of this very much. And who knows what will happen, because what I am doing now—which we won't talk about today—may have an interface with interferon and perhaps other things.

Okay, so in 1986, as I mentioned yesterday, in June—mid-June—the drug was approved by the FDA. It was just a little notice in the Wall Street Journal, I remember, that it had been approved. But this was anticlimactic. We knew it was going to be approved. I mentioned that in a few months before we had gone—I had gone with Roche to the FDA, and Schering went. They were back-to-back presentations. It was almost a forgone conclusion, I mean, you could not deny the use of interferon for hairy cell leukemia. It was an incurable disease at the time—nothing worked—and 90% of patients would benefit. So it was a slam dunk, so to speak.

***Tacey Ann Rosolowski, PhD***
***0:28:53.2***
Can I ask you just a quick clarification question? You have been mentioning Roche and Schering, and were you talking about agents of those companies or actually people by those names?

***Jordan Gutterman, MD***
***0:29:05.3***
No, Roche is Hoffmann-La Roche, a Swiss company.

***Tacey Ann Rosolowski, PhD***
***0:29:08.6***
Right.

***Jordan Gutterman, MD***
***0:29:09.0***
And Schering is Schering-Plough.

***Tacey Ann Rosolowski, PhD***
***0:29:10.5***
Okay, so there were agents of those that were coming to these meetings with you?

***Jordan Gutterman, MD***
***0:29:13.5***
Yeah.

***Tacey Ann Rosolowski, PhD***
***0:29:14.0***
Okay. I just wondered if it was actually a person who was named that. Okay.

***Jordan Gutterman, MD***
***0:29:18.1***
No, no. I had mentioned yesterday a couple of the names that were at the FDA meeting. I worked with Hoffmann-La Roche because I had gone there. It should be on the earlier tapes with Lesley [Brunet]. I went there June 15, 1978. I think it was the same trip, if I am not mistaken—same week as—no, no. It was June 15, 1978. I had gone there, I believe—something like that—after we had seen these responses in breast cancer with the natural interferon to meet with Dr. [John] Burns and Dr. [Sidney] Pestka, who eventually played a key role in cloning interferon-alpha for Roche—Roche Genentech. And there was another group, Biogen—a Swiss company—a Dr. [Charles] Weissmann—that was working. And Schering-Plough licensed that compound. Those were very exciting days. I think I described them on the previous day, but if I see it is left out, we will fill all that stuff in. Those were interesting days. And I, for the first time again, understand the pharmaceutical industry and also the nascence of the biotech industry—you know—Genentech and Roche—because I went with Mary Lasker in the late seventies to Genentech. Then [Robert] Bob Swanson—and my guess is that that is on the previous tapes, but if they are not, that is going to be important to go through.

***Tacey Ann Rosolowski, PhD***
***0:30:41.4***
I don't remember the detail that you gave, but you did talk about the beginnings of the biotech industry with Lesley.

***Jordan Gutterman, MD***
***0:30:49.4***
Yeah. So I think we are going to hold that. I don't want to be redundant.

***Tacey Ann Rosolowski, PhD***
***0:30:51.3***
Yeah, until we have a little bit more—yes

***Jordan Gutterman, MD***
***0:30:55.0***
Okay, so interferon gets approved in June of '86, and we're starting to think about branching out to other, as I called them, cytokines. And the big push in the mid-eighties was a discovery originally from a guy named Don Metcalf who won a Lasker Award for this work on growth factors—proteins—that allowed red cells to mature. One of the first ones was erythropoietin, EPO, which stimulates red cell production. It is produced in the kidney. A company called Amgen developed that for anemias, especially with dialysis. There was a compound called GM-CSF. That was developed by two or three companies—Schering-Plough and a new biotech company at the time called Immunex, which was started in 1980 in Seattle.

***Tacey Ann Rosolowski, PhD***
***0:31:59.8***
What was the name of that drug you mentioned before?

***Jordan Gutterman, MD***
***0:32:02.1***
EPO?

***Tacey Ann Rosolowski, PhD***
***0:32:03.5***
No, the one after that.

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***Jordan Gutterman, MD***
***0:32:04.7***
GM-CSF.

***Tacey Ann Rosolowski, PhD***
***0:32:05.4***
Yes, GM-CSF. Thank you.

***Jordan Gutterman, MD***
***0:32:08.9***
That stimulates white cell formation. The M is for macrophages because it kind of activates the immune system. The connection with Immunex is important, but it becomes particularly important in the story of the nineties and the 2000s. I won't get into that, but that becomes—my connection with Immunex really has a huge impact on what I'm going to tell you at some point.

So I met the two principles of Immunex, the company that was started by two immunologists out of the Fred Hutchison Cancer Center—Steve Gillis and Chris Henney. They started this in 1980. It was interesting, actually. Again, being here at—and I don't want to lose track of talking about MD Anderson, but this was all going on as I was a professor here and responsible for seeing patients and doing this research and then meeting these people, because I could see a lot of the drugs were being produced not by government but by biotech and the big pharma. So we had to figure out a way of working with these people, and it's still complex—conflicts of interest, money gets involved, and so forth. But I was approached by Dr. Henney and Dr. Gillis. They knew about the work with interferon. Could we—would we be the first to do a growth factor in human patients to restore blood counts in people who get chemotherapy primarily? That was the whole idea. And they produced a—called GM-CSF. I think their trade name was Leukine. I hope I am not making a mistake here—L-E-U-K-I-N-E.

Anyway, in '86 we started the first study, as far as I know, as I remember—I think it was around June—around the time interferon was approved—the first study in giving a chemical—a protein GM-CSF to restore blood counts, white cells for sure, and maybe platelets in people getting chemotherapy or in people with diseases that had bone marrow failure, like a disease called aplastic anemia or a complex called MDS, or myelodysplastic syndrome. These people have very low blood counts, and they die of either infection—they either convert to leukemia or if not, before then, then they die of infection or bleeding. It was a very exciting time again, and we were not surprised to see the blood counts go up.

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I worked with a woman who originally—her family is from India—Dr. [Saroj] Vadhan-Raj, who is still at MD Anderson. She did the first studies with me. We had two New England Journal papers, which says we did some really interesting things. We treated patients—we restored some of the blood counts of this disease called aplastic anemia and also, surprisingly, in this myelodysplastic, which is a pre-leukemic syndrome. The best of the group is a drug called G-CSF, and the trade name is Neupogen. This was produced by Amgen. And that came just a little bit later. That has ended up being the drug because it has fewer side effects than the GM-CSF. It made Amgen.

Those two drugs made Amgen. EPO for the red cells—you know—it is a huge, multi-billion dollar company. I remember going to Amgen in '83 because they were interested in interferon because we had just—we hadn't reported the hairy cell yet. I thought this company has no clue what they are doing. They were an early recombinant cloning company. This was '83. I never—I missed it completely. I missed it completely that they would become a multi-billion dollar company. The head of that company, George Rathmann, was a great visionary. He was determined to use erythropoietin to restore red cells in dialysis patients. And Genentech, I understand, turned that opportunity down. That became a big seller. And it became—it is a whole story unto itself. Then they licensed a drug called pluripotin from Sloan-Kettering for, I think, around $40 million, and that became a multi-billion dollar drug. It definitely supplanted the GM-CSF that we were working on.

But it wasn't an area that I was passionate about. It was interesting. We got some nice science. We did a lot of studies. But it wasn't—you know—it maybe allowed for more chemo patients to recover more quickly or certainly not die of infections. So it definitely has a clinical use. But it wasn't my major interest in research. So we did a lot of studies. We published a lot of papers, but—

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**Chapter 9**
**B: Industry Partnerships**
**Research Money: The Economics of Drug Companies; Philanthropy**

Story Codes
A: The Researcher
B: Industry Partnerships
D: On Pharmaceutical Companies and Industry
D: Business of Research
D: Fiscal Realities in Healthcare
D: On Philanthropy and Volunteerism
D: On Research and Researchers
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care
C: Professional Practice
C: The Professional at Work
A: Overview
A: Definitions, Explanations, Translations
A: Character, Values, Beliefs, Talents
A: Personal Background

***Tacey Ann Rosolowski, PhD***
***0:37:08.2***
Did you have any big shifts in perspective? I mean, because this was really approaching research from an entirely different way—going through drug companies, basically.

***Jordan Gutterman, MD***
***0:37:19.5***
Yes. Yeah.

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***Tacey Ann Rosolowski, PhD***
***0:37:20.6***
So what changed, and how did that enhance your outlook? Or what did you learn from the experience?

***Jordan Gutterman, MD***
***0:37:29.3***
Well, now—okay, so that is going to come up later. It's a very insightful question. It's a very good question. To go back for just a second—and I'm really going back because you've opened up an interesting question. I haven't talked about this today, for sure, or yesterday, and I don't think with Lesley even. But actually, the first compound I worked with was BCG, and I may have talked about that.

***Tacey Ann Rosolowski, PhD***
***0:37:55.3***
You talked about it some in the first—

***Jordan Gutterman, MD7***
***0:37:57.3***
This was back in 1971, 1972. It was an immune stimulant. And now immunotherapy is becoming a field. It is used to—it is approved for bladder cancer. And we bought that stuff. Well, yeah, I think we mostly bought it. I'm not going to go into that. I didn't see a great future for this. And then when I became familiar with interferon and went to that conference in '75 when no one would go here, I knew we had something we could measure, we could quantitate it, it was a protein, and I could see that cloning genes could be the future here. That was much more exciting than using some old vaccine that had been around. Also, I thought the science of interferon was much more interesting.

The first study with interferon, I was not with a drug company. We bought the stuff. We bought it. We actually—you know—and Mary Lasker gave that first million. Then I had to raise the money. So that was the first track I took after BCG, treading new ground, all the time not knowing this. And I do need to talk in more detail about the Interferon Foundation, because Mary Lasker turned the switch on. Without that, nothing would have happened. I mean, nobody gets really the right credit when they talk about interferon today because the history of all this stuff. I find that people forget history, and I think history is important. I think what we are doing, what you are doing with the library, what MD Anderson is doing—you need this for younger people to learn this. And a lot of it is on the fly. I mean, I—so that was not with a drug company.

So that is how I started. Then I realized we can't keep buying this stuff, and there is a new historical technology—recombinant DNA. By the way, one of the co-discoverers—inventors of recombinant DNA, Stanley Cohen, was my resident when I was an intern at Duke. I still see him. He is on our Lasker jury. So he and Herb Boyer, who was the co-founder of Genentech started this whole thing in '73, just at the time when we were thinking about all this stuff. It's really exciting.

So I realized we had to work with companies. You can't make—you can't—I mean—the government is not going to do it. MD Anderson is not going to do it. You can't afford it. So it was a natural thing to drift into. When I went to Roche in '78 with Mary Lasker and her nephew Jim Fordyce and her sister Alice Fordyce, I was overwhelmed by the technology of the Roche Institute. Now, that was an unusual place because they had set up a research institute on the campus of Hoffman-La Roche in Nutley, New Jersey. I was overwhelmed by the columns, by the science. They were trying to clone genes. I mean, this was science fiction. This was total science fiction. I mean, I could have flown back on my own I was so excited to see the power of working with intelligent scientists and business people in the pharmaceutical industry. That has changed a lot. Not completely. We will come back to that later. We have had to adjust to the times.

Then simultaneously I heard about Genentech that was started April 7, 1976, which is ironically—the anniversary was just last Saturday. It's also the day—it was two years to the date that my father died that Genentech was formed. And I learned about that. Then Jim Fordyce, Mary Lasker's nephew was—I'm answering your question about big pharma and biotech. Jim Fordyce shared an office with Bob Swanson, the founder and CEO of Genentech who unfortunately died of a brain cancer. Mary, Jim, and I went out there to meet Swanson in '78 or '79, in San Francisco. I remember going to another company that was started earlier but which was never a success story—Cetus—C-E-T-U-S—over in Berkeley and then going to Genentech. And Genentech was mean and lean. Cetus had—they brought in a guy named—well, I forget his name for sure—but they brought in the chairman of the board. It was a very fancy lunch. And Genentech was a bunch of guys in tennis shoes trying to clone genes. I remember coming out of Genentech, and Mary says to me, after we had been to both the same day, "So which one are you impressed with Jordan?" And I said, "Cetus. That is really an impressive place." She shook her head. She was a lady of few words. She shook her head, kind of frowned, and said, "These boys got it." That was Mary Lasker. "These boys got it." Those were her words, and she was right. Genentech became a multi-multi-multi-billion dollar company, which is now owned by Hoffmann-La Roche. It is still a research subsidiary. And Cetus is nowhere to be found. Mary got it. You know, she could just see this stuff. It was amazing.

So then I got the hook of biotech. Again, frankly, at MD Anderson in the early '80s, nobody was cloning genes. It wasn't—you just—it wasn't a thing you did in academics. I could see what biotech was doing, and of course the big pharma, and I recognized that some of the pharmaceutical companies— not all, though—they were very slow getting into proteins and cloning. Roche was early, and Schering-Plough was early.

***Tacey Ann Rosolowski, PhD***
***0:43:26.9***
Why was academic research so slow to pay attention?

***Jordan Gutterman, MD***
***0:43:34.1***
I'm not sure. I'm not sure. Although—well, I'm partially inaccurate here because Mike Bishop and Harold Varmus, who shared the Lasker prize in '82 and the Nobel Price, I think, in '89 for cloning oncogenes—discovering and cloning oncogenes—were doing cloning. But they were in San Francisco, and that is where all of this was going on at Genentech, at least—you know—in the Bay Area. So they were doing cloning. Let's put it this way—a little more accurately—MD Anderson was not doing it, because I remember coming back from the Lasker awards in '82, I think it was, when Bishop and Varmus and Ray Erikson, Bob Gallo, and one other person—I don't know—I think it was Dale Kaiser—shared the Lasker award. But the key ones with oncogenes were Bishop and Varmus who won the Nobel Prize. They were in San Francisco. I remember coming back and talking to some colleagues of mine saying, "We have nobody working on oncogenes here." I mean, we got—these are cancer genes. And there was one guy who stayed another few years and then opened a B&B in the state of Washington. I haven't seen him since. Now, of course, that has all changed, but we were rather slow in basic research. We were rather slow.

***Tacey Ann Rosolowski, PhD***
***0:44:45.8***
I am sorry. That was a funny little move there. I am just going to open a B&B. (laughter)

***Jordan Gutterman, MD***
***0:44:55.1***
He couldn't get grants. And I was frustrated with that. So I looked wherever—and the same with my new one too.

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***Tacey Ann Rosolowski, PhD***
***0:45:03.7***
Now, let me just ask you, was he not getting grants because he was working on oncogenes and nobody was seeing it, or—?
***Jordan Gutterman, MD***
***0:45:09.7***
No. Well, I'm just not sure he was extremely good. He was smart, and I liked talking to him, but he probably—and I don't know why, but I think he just couldn't get the support he needed. But we were way behind the eight ball. But—you know—here—but I am not criticizing because this place is powerful clinically. We've never developed a hugely competitive basic science. There are some very good basic scientists. But I will go anyplace. I don't just stay within these walls. I never have. I will go anyplace in the world, or companies, whatever it takes to put the pieces together that I have to figure out we need, because I like collaborations. Not everybody is that way, but I do—I'm not threatened by it, and there are a lot of people a lot smarter than I am—but putting the pieces together.

So I could see that big pharma with especially Hoffmann-La Roche had this amazing thing of purifying proteins and then trying to clone the genes. Don't forget, in the '70s this was not done routinely. It was certainly not commercial. As I said, the first commercial product of recombinant DNA was insulin, and it was put in the clinic, I think, just a few months before interferon. That was a big deal. That is why Time did that cover story at the end of—March 31, 1980—"The Big IF," but it was—and that is a very, very balanced article. When you see it on the cover of Time, it gets played—you know—oh my God—all this hype. But people, if they are intelligent, are going to read this and try to understand parts of it, you know?

***Tacey Ann Rosolowski, PhD***
***0:46:42.7***
Uh-hunh (affirmative).

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***Jordan Gutterman, MD***
***0:46:43.0***
And people—you can't—I mean—and we need to communicate more. I think that has changed, by the way. I want to stay on track here, but you asked me—I think that has changed. Scientists are much more—completely different today. They are more willing to get their names in the paper and explain the science much, much, much more. It is much less frowned upon, in my opinion. Now, if said incorrectly with hype and blah, blah, blah, of course. So I think that's a really good thing because the scientific education is tough. It is tough for us to understand stuff because science is moving so rapidly. Technology is moving this still so rapidly. But I could see then back—

***Tacey Ann Rosolowski, PhD***
***0:47:19.2***
Let me just clarify for the recording, because you were following up on a conversation that we had before the recorder was turned on, we were talking earlier about how a couple of decades ago it was a different attitude about doctors who would actually speak in the media. It was actually frowned on with suspicion.

***Jordan Gutterman, MD***
***0:47:33.1***
Yeah. Well, doctors being people who see patients as opposed to basic science, there is a little bit of difference there, but go ahead.

***Tacey Ann Rosolowski, PhD***
***0:47:43.5***
No, I just wanted to clarify things.

***Jordan Gutterman, MD***
***0:47:44:3***

Yeah. Okay, yeah. Good. Okay, I understand. So whenever I went to Genentech I just—I mean—I was so excited to walk in those walls and see the power of venture money. And yes, I'm sure as they got bigger and bigger there was more bureaucracy, but I can tell you Bob Swanson and Genentech—they let those guys work. And that's me—you know—freedom with as few restraints. Obviously you have to have some boundaries, less so at Roche. But again—and in part it was because they had the resources and they were under a certain amount of pressure to produce because they had the money. I loved that. I loved the ability to accomplish—the freedom. That is why I respond to art a lot, because these guys I always used to envy—I still do—Sam Francis, Mark Rothko, Richard Diebenkorn—because they can go in the studio if they have enough money to buy paint. There is no committee. There is no oversight. You can do what you want. If you're a writer, you can write. Now, you do have to get the approval of people so you can maintain that, right? You have to sell your poems. You have to sell your literature. You have to see your essays or your art or your music and so forth. But I always envied the creative—the artists. It's that part of me—that side of me. And I think that's true for a lot of scientists—Joe Goldstein—a lot of Nobel Laureates—Mike Bishop—most of the Nobel Laureates I know that I work very closely with and have become friends with, with the Lasker award—Lasker jury.

One of Mary's greatest legacies, if not her best, was getting me involved with that. Because I can work with these people, and I see how they think, and I see how they live and so forth. It's amazing. Most of them are creative people who love the arts. I think that can be so in science if you can construct your environment to have creative people in however you put the pieces together—being very careful with conflicts and paying attention to the I/thou principle that you are not hurting people and so forth. You don't need to. But—you know—the bigger and the wealthier institutes give the more rules—the more regulations. This comes in part through growing up in a household of a father for which the government and the rules say, "You're Jewish, and you're not going to have access to this. And you can't go to school. And you serve in the army or we'll kill you or we'll rape your mother," or whatever they did. I have a difficult time with too many constraints on my creativity and ability to do things because I think I am doing something that really counts or will count. And that passion—it's more than passion. It's intense. I think this is shared by a lot of people, this type of thing. So I was so excited—I still am—about going to any place, whether it is MIT or Harvard or—but it could be Genentech or a pharmaceutical company that has the power. Anybody intelligent doing creative stuff just—it is just the biggest excitement and so forth. And again, biotech and pharmaceuticals at that time—now things have changed, and we will talk about that a little bit later.

So that is how I first started getting involved with—there was no way to get recombinant interferon. We couldn't keep buying stuff. Eventually we had enough where everybody then could do the hairy cell. So in '86 the drug was approved. It was rather anti-climactic, and I wasn't even sure what would happen next. I never had this experience. Then in the fall of that year, I get a visit by a woman who actually taught me a lot. Her name is Meredith Grimm—she may have changed her name by now—an attractive woman from Schering-Plough. She came to my office, and she said that they wanted to do some post-approval marketing and so forth with interferon. I really didn't probably understand why she was here. What she was here for was once it gets improved, you want to start enhancing the indications—the use of it. She was very creative about this. What she says is, "We can offer a small grant to a clinical investigator—enough to pay, say, for a nurse—that would do a study in kidney cancer with our drug or in these diseases that have not been approved to get enough data to try to enhance the label because of reimbursement. Because although you can get reimbursement without being on the label, that is called off-label use." So starting in '86, and going for the next several years, I got very involved and very intrigued by the whole business part of making drugs.

I work with a guy named Steve Huber here, a research pharmacist—I think he is a PharmD—about reimbursements. We have fascinating problems. I'm not going to talk about them right now, but we worked out a lot of issues, even issues regarding patients who would come here who could not afford the interferon for an indication that was really needed, including hairy cell and others. Reimbursements where the company would have a certain supply to give to MD Anderson in exchange for things, that's so patients could have access, so accessibility to this expensive drug. Don't forget that after insulin it was the first recombinant protein for us, approved by the FDA. There was an antibody—okay—I forget the name of it now. I think Ortho Biotech made it. It was produced in part by recombinant DNA, but interferon was the first recombinant—really the first—the second recombinant molecule, I think, approved by the FDA. So this was all new ground, and it was interesting. It was fascinating.

Also, we had enough drug, by these little grants, to begin to expand use. And Schering, in part because of Meredith and I'm sure other scientists there—she was a nurse—is a nurse. I haven't seen her in years. She left Schering. But because of the people at Schering—that I began to work now—see, I had worked with Roche before. Now I began to work with Schering in this issue and consulted with them. They decided to go after hepatitis C because a guy named Tom Merigan, who co-did the first recombinant study with me from Stanford—a virologist—had shown previously in a few people in Europe—individual patients with hepatitis—that crude interferon could work. Roche, for some reason, made the decision to not go after the market. That is where the big money came and the big use, because if you asked me today what is the biggest impact of interferon in patients, it would be hepatitis C.

Now, there are more drugs—Gilead is a major company that has produced drugs. But interferon, intron, other interferons are still a mainstay. The trouble is toxicity, but it's still the natural defense against viruses, so interferon is not going away. It's just—like a lot of drugs, it's going to be other drugs in combination or supplanted and so forth. Now, eventually Roche got into it. So that was interesting.

And I remember—fast-forwarding a little bit—I think it was '82. I was in Chicago presenting, and I—well, around that time in the—not in '82, '92, but in the late '80s, I remember the first person to call me was from Kidder Peabody. I didn't know what Kidder Peabody was. It was a brokerage company, I guess. They were having a meeting, and they wanted certain academic people and company people talking about molecules—growth hormone from Genentech, EPO—the erythropoietin and the red cell thing, and other drugs—interferon of course—and then others as they came along. That was my first exposure to one of these meetings where all these biotech people and analysts trying to predict stocks were in the room, and that was fascinating. They would listen to every word you said. They would question you. Again, it was just a whole new world of analysts—mainly analysts—trying to predict which drug company, which biotech company has got the use—what is the market going to be for interferon and so forth. So I started doing some of that. It was very fascinating, very interesting.

***Tacey Ann Rosolowski, PhD***
***0:56:23.6***
That's another system.

***Jordan Gutterman, MD***
***0:56:24.6***
Yeah, exactly. Then I remembered going to Chicago with one of these meetings, and I presented. A guy stands up, and he presented a curve. I can't remember who he was, but it was in Chicago. I'm sure I have it in my notes—my oral history. And he shows how interferon in 1986 made $30 million apiece for Schering and Roche, something like that. Because that was always the thing—well, this is no big deal. I mean, The Wall Street Journal didn't really care about it. Hairy cell leukemia is a small market. They didn't recognize there would be off-label use. There wasn't a lot of competition, by the way. Today there are so many interesting compounds for cancer, but then there was very little else to do but chemotherapy. So there was a lot of off-label use, and newer indications—the way Schering was approaching it—were beginning to emerge. So in '92—six years later—they showed the first year. And even though I had been to these analysts meetings, I hadn't really paid much attention. It never was on my radar screen. The first year was $30 million, and then it was $60 million. And then in '92, if my memory serves me correctly, he showed it had reached $1 billion. I think that's US, but it could've been worldwide—I'm not sure—a combination of Hoffmann-La Roche and Schering-Plough. Man, was I excited. I remember several people saying, "You must be a rich man." I said, "I haven't made a penny out of this." It just—

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***Tacey Ann Rosolowski, PhD***
***0:58:03.6***
Why did the money excite you? I mean, why did seeing that increase excite you so much?

***Jordan Gutterman, MD***
***0:58:07.7***
Because, first of all, I think there is a piece of a businessman in me. And of course, it wasn't my money, but I think the most important is if you can make money for a company—a pharmaceutical company or a biotech—they are going to do this again and again and again, because if it didn't make money there would be no incentive. I mean, it's just the way it is. And that is a whole dichotomy between the business world and science and philanthropy, which we may not have time to talk about because I did this largely with philanthropic money. I didn't make any more. I did it with Mary Lasker, the Interferon Foundation and this Clayton Foundation, which we haven't talked about as well which is extremely important.

And the whole foundation scene in Houston—you asked about—we will probably not get into it today—what is it about Texas and MD Anderson and so forth? A lot of it are these wealthy foundations, many of them started by bachelors who had no relatives other than nephews and nieces who had made all of this wildcat money to oil money. I remember recently this man who came to see me thirty years after his wife died—thirty-three years. He was here in Houston with his new wife, looking around, looking at these buildings—I walked him around—and he just looked and said, "The beauty of free enterprise," because he sees the money. This was not built on academic grants. This was built by philanthropy, these buildings. Of course, there are a lot of business aspects to it, but money—

Mary Lasker said something—I still—there are three things that I still remember that she said that just are stunning. One of my favorites is that, "Money is frozen energy." So that is why it excited me. I could see money as frozen energy; it just releases all this stuff. Another thing she said which is—what she did when she took me to Roche and Genentech, and then it was on—you know—if I was not very effective, it would have died right there, but she could see I was effective even though I am very shy, I think, personally. But when I talk science, or I can talk—I can get going once I am comfortable. I know those roots—I know why I am that way, where I grew up—where at first, when I meet someone, I am extremely—just shy. That is the little boy in me. That is my analytic thing.

But her—another one is, "The greatest gift you can give a person is another person." I mean, that is profound. It is so profound. So she gave me all this stuff. It's still ongoing. It's like life. It's like my father, my father's ethics and his history, my mother, and a lot of other people—Rounds with Mom—they're still alive. I mean, Faulkner once said that, "The past is not dead. In fact, it is not even the past." You've got to think about that. "The past is not dead; it is not even the past." I think that is why when you live, if you can make the most of affecting people including frozen energy, so—and in a way that could be the title of a book—Money is Frozen Energy—because Texas has all this frozen—I mean—all this oil. All this money came in, and what happened is this—Texas Medical Center. I didn't understand this, of course, but it was intuitive to come here maybe. There is MD Anderson, meeting Mary Lasker. All this stuff is just constantly being extracted without fracking out of the ground—all this energy. It involves money, it involves science, it involves brains, it involves social stuff, and it involves philanthropy. It's just amazing stuff. Okay.

***Tacey Ann Rosolowski, PhD***
***1:02:02.3***
Was there any downside of working with a drug company?

***Jordan Gutterman, MD***
***1:02:06.4***
Oh, yeah. Oh, God—okay. So let's talk about that. You want to just click it for a second?

***Tacey Ann Rosolowski, PhD***
***1:02:12.1***
Sure, no problem.

***Jordan Gutterman, MD***
***1:02:12.6***
I want to just take a deep breath and look at my notes.

[The recorder is paused.]

***Tacey Ann Rosolowski, PhD***
***1:02:15.7***
So we are back after about a five to ten minute break. It is 2:37.

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***Jordan Gutterman, MD***
***1:02:21.8***
Okay, you asked me about the downside—the potential downside of working with the—with industry. First of all, for this stage in my career, even though I had a small laboratory and in '86 became a chairman of the department—a large department with a lot of different clinical scientists and laboratory scientists—I still was primarily a clinical scientist. And companies make drugs. I mean, it's very difficult for an academic institute to make drugs, and they should make drugs. So on the one hand it's very, very exciting, and they have the experience of making drugs. I mean, people don't understand the complexities, and that's why, in part, the cost is so high. But to make a drug—I just love reading the history of drugs. And I'll get to your question about the downside.

But I remember as a kid—again, back in South Dakota—everything always dates back to the same thing. Like a lot of people say everything can be pointed back to Seinfeld, I think everything can pointed back to this little town in South Dakota. And for me, I'm just saying the reason I always go back is because I have a hard time with patience or people when I don't know what they're all about. I just don't fully—I have to get down to the depths of it. I really can't—I have a hard time when I meet new people. I know I'm digressing slightly. But when I meet new people, and I think I'm going to work with them—whether it's a company guy, person, whomever—I always want to start out where are you from and get to know them a little bit. I can't work in a vacuum, but a lot of people aren't that way. They just want to get down to business. I don't do well with people like that. I just can't work with people like that. There has got to be some human connection. There has got be sort of an I/thou relationship—you know—as opposed to I/it.

So my dad had this store in Flandreau—and this, by the way, characterizes a lot of what you're going to have when you ask me a question. It takes me a while to get there, but I will get there. I'm not thinking about it. I'm just spontaneously free-associating. But the thing is, next door to his was a pharmacist. And the wife of the pharmacist was the daughter of a doctor that my parent's house—he bought the house. Anyway, they were very close to the pharmacist—Mr. Roth and his wife. My brother and I—my twin brother and I—we would buy our little comic books, which I still wish I had today, of course, like everybody—Captain Marvel, Batman, and all that stuff. But I can make my interferon money, right? But anyway—and we are going for a cherry Coke and stuff like that. But I remember my dad, in high school, saying, "You know, I think you're going to become a doctor. I think you should go to pharmacy school first. I think you need to learn how drugs are dispensed and made."

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Now, my father had zero background in medicine or science. He was an immigrant. He worked—you know—he owned a grocery store and a department store. That is what his talent was. How prophetic, and did that influence me to make drugs? Because this new one—we have actually discovered a drug. I mean, we have actually started from the discovery, and we're all the way, ready to go to patients. We'll tell that story another time. I mean, this is really a story now because I found this stuff. We found—we discovered it out of a plant. Is it because I want to make my dad happy? I don't know. I'm just sitting here analyzing it because he wanted me to go to pharmacy school. I mean, I still don't understand that. But I did have this sense of this pharmacist dispensing drugs and grinding them up the old-fashioned way and stuff. And I would see this. I hadn't actually thought about that too much until just this moment, but the influence of Mr. Roth and Lillian, his wife, and someone who eventually really did do drugs. But part of it also is because, I think, my nature is to understand, but understanding for me without helping—without translating it—the physician side of me just probably can't deal with that. So to understand something for the sake of the understanding is wonderful, and it is very exciting. I love it. But it's not complete. It's not enough. I feel almost guilty, like what are you going to do with that?

Now, a lot of basic scientists won't agree with you, and they shouldn't agree with me because a lot of the—some of the most amazing discoveries in science have been with no thought of application. This is a constant theme in science, and I agree with that. Scientists should be free to create like an artist. You never know what—you know—without the thought it could be useful, you know? And that is the same with inventions and so forth. But as a doctor or as a person, for me the greatest joy or the incentive is to—can I take my brain and my understanding and my learning and one day maybe help somebody with it? That's just me. It doesn't make it—I'm not better or worse than someone who doesn't think about application. And I don't always think about it.

But I was thinking about that pharmacist—Mr. Roth. I have amazing memories since—you know—very emotional about him in his little white coat and grinding with the mortar and pestle, and my mother going in. At the time, when I was a kid in the '40s, antibiotics were just being made, you know? Penicillin and sulfa, as a kid—you know—I had those drugs. I was sick, my mother would call, and my father would call Mr. Roth, or they'd just walk next door and get the syrup or whatever, and I'd feel better—for a cough, or if it was ipecac—you know—the old drugs. Then I would see these people on rounds with mom, and sometimes medicines would help, and sometimes they wouldn't help. So I think it's natural for me to have realized and to have gravitated in part because of Mary Lasker introducing me—that without the people that make the drugs—that is the industry that makes the drugs. I mean, Boeing makes airplanes. Schering-Plough doesn't make airplanes. Boeing shouldn't make drugs. You need that industry. We have to protect industry. It's a great American triumph, is that industry. And we could talk about what is happening now. It's changing, but things change. And then biotech came out of cloning genes, which was there with interferon starting in '73. The power of being able to take a gene, make a drug out of it, and see a patient get a platelet count and live—I mean—that is amazing. It's just amazing. That's the positive side. Now, let's talk about the downside of the question. See, I get to the question.

***Tacey Ann Rosolowski, PhD***
***1:09:40.8***
I always knew you would.

***Jordan Gutterman, MD***
***1:09:44.2***
At first, with Roche—when I went there in June of '78—the first three years when they were trying to clone and so forth, it was great. It was a challenge—it was—every time I went. But now when you deal on the clinical side, other elements come in, although things have changed a great deal. But when I first started doing this, many but not all—not the ones I mentioned, actually, but some of the physicians are pretty programmed. I mean, that's what they have to be. They follow rules. They follow FDA. They are very conservative, very cautious. Not necessarily some of the ones I have mentioned who were the leaders, but down the ranks—but not all. There is a mix. Whereas I am curious and want to be not reckless, but take risks and understand things, they are very deliberate, and they have to fill in boxes, basically. And they have to be careful with the FDA and so forth. They are more conservative. I think it's the conservative nature of the clinical people that really bugs me. Not all of them. Genentech, again, had—we became great friends, and we're still friends today with many of them that I work with. And I still am friends with many of them. They are wonderful, wonderful people. But some are too conservative. Again, it's part of the job. I mean, they have to—

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***Tacey Ann Rosolowski, PhD***
***1:11:05.5***
And how do you define conservative? Give me an example.

***Jordan Gutterman, MD***
***1:11:08.6***
Cautious. I like to do hairy cell leukemia with a recombinant. Well, it's a small market. In fact, that was the downfall of a lot of companies. I've consulted with Biotech. There was a company in Colorado—Synergen—that went after the wrong target because they went after the biggest market when in fact they could have done with interferon and gone after a market that would have worked, and then after getting it approved, go after the bigger markets. That still has not caught on. I wrote a paper on the nature of biotech in 1987. I think it's been referred to once in the literature of how that strategy backfires. If you only go for the big markets—and now with personalized medicine, these markets are going to be smaller anyway because these—we're not going to have these massive trials. We are going to have to focus. So that is one of the downsides, I think, of a conservative nature.

I don't do well with rules and bureaucracies and the time it takes. Now our institute has become horrendously—one of the reasons I gave up a department and went to the lab is—and I'll tell you, we're not going to talk about it today because I thought there was a new way of going, because of my interest in nutrition and plants. But it also was getting very difficult to get protocols through and the layers and layers and layers of review, in part because of the lawyers. Everybody is afraid of liability and so forth and so on, and that is very strenuous, very, very taxing—very taxing. So it's not just the institute, not just the industry. I think it's a conservative nature.

I mean, if you wanted to go after hairy cell, they're not going to do it because it's not a big enough market, even though it may not be the right strategy. But with interferon, I worked first with Roche, and then Schering. After it got marketed, we had a lot more freedom because the drug was out there, so we could do more of what we wanted to do. I find that Biotech was more risky. I mean more—excuse me—bolder because they had to be. They were younger, leaner, so to speak, and much less established in the years of bureaucracy. So that would be one thing.

And we worked with several companies—this GM-CSF with Immunex and Schering-Plough. That went okay. It went okay, but I wasn't terribly excited about the work. We also worked with Genentech on a couple of compounds that went—did not go anyplace—gamma interferon, another interferon which is really a misnomer. It's not really anything like interferon-alpha. And then TNF—tumor necrosis factor—these turned out to be what—especially TNF and then interleukins—especially TNF turns out to be a cause of the disease of rheumatoid arthritis. It doesn't really help anybody. It makes people sick. So a lot of this—as I said yesterday, many of the cytokines turned out to be causative of diseases, although if you count these growth factors as cytokines, they do help people's blood counts. So it's a mixed bag.

There is a whole field out there of Immunex and other companies—Synacor and so forth, Amgen—who now try to block these cytokines for disease, and they are highly successful. Enbrel is an example of an Immunex—now it's an Amgen—product that blocks TNF for rheumatoid arthritis. Working with them was much easier, I must say. Working with Biotech was much easier. It's just personality, you know? My personality is discovery and so forth. They have to follow certain boundaries to get drugs approved. It's just the nature of the game. The nature of someone who would work in a pharmaceutical company and just carry out somewhat these tedious things of writing protocols, getting FDA approval, following all the rules, setting up all the studies, it's just—that's not what I do. So it's just a different personality. So that is kind of the downside, maybe.

That's why I worked—that's why it kind of explains, maybe—more than maybe—why I told you I did two parallel tags. Fortunately we had enough drug left over we had raised enough money with the Interferon Foundation—not expecting and not knowing what it would be cloned or synthesized—so we actually raised more money probably than we needed, and we had more interferon because—in fact, I was concerned in the '80s—oh my God—we're not going to be able to raise any more money. Everybody is going to say, "The companies are making it." And you know what I said many times? I said it to Mr. Davis—Leon. I said it to Elaine. I said it to others. "Don't count on them to make more discoveries. They don't always make discoveries. Now, in targeted therapy, if they know ahead of time, that's one thing. But if you want to make discoveries, don't count on the companies to make it. We need to have our own interferon." And I was right. That maybe characterized as the downside. "Don't count on it," I said. They're going to do what they have to do to get this drug approved.

We found—listen—we found the hairy cell leukemia. Very few people understand or appreciate that history. Everybody thinks Schering and Roche did it. We found it. I found it. My colleagues at MD Anderson found it with private money from Texas and oil companies. That's how we got it. So Schering and Roche, overall, made billions on this drug. And it was discovered—I mean—the activity was all done by private money in the state of Texas, period. So we need them, but don't completely rely on them. And that is the parallel track, which at some point I figured out. "Wait a minute; they're going to drive me nuts." It's so boring. You get up in the morning, well, what does Seymour want me to do today from Roche? That's the negative—as opposed to being able to paint a picture. I want to paint a picture. I don't want to do it by the numbers. I want to paint a picture. I hadn't thought about that. That's a pretty good one, actually. I don't want to paint by the numbers; I want to make my own picture. Okay? Does that answer the question?

***Tacey Ann Rosolowski, PhD***
***1:17:24.8***
Yeah, that's a good. That's a good answer, a revealing answer.

***Jordan Gutterman, MD***
***1:17:30.4***
And I guarantee you we're doing it now, because we have our own drug, and that's a whole other set of things that we'll talk about some other time. But when we start talking about venture capitalists and starting a company and giving up the reigns, losing control, and how you do all this stuff, that's going to be an interesting story. But we're not going to talk about it today. So that's kind of the downside. I want to paint my own picture. I don't want to do it by the numbers only. I will do some. So why don't you ask me some questions?

**Chapter ~~10~~**
**B: Key MD Anderson Figures**
**R. Lee Clark, Charles LeMaistre, and Philanthropic Houston Oilmen**

Story Codes
A: The Researcher
C: Portraits
D: On Philanthropy and Volunteerism
D: On Research and Researchers
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care
C: Professional Practice
C: The Professional at Work
A: Character, Values, Beliefs, Talents
A: Personal Background
B: Critical Perspectives on MD Anderson

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B: MD Anderson History
A: Experiences re: Gender, Race, Ethnicity
C: Critical Perspectives
A: Obstacles, Challenges
C: Discovery and Success

***Tacey Ann Rosolowski, PhD***
***1:18:12.9***
Are we at the point where—in terms of you talking about your research—where we can talk about you moving away into the area of Avicins, or are there more pieces to put together?

***Jordan Gutterman, MD***
***1:18:24.8***
There may be, but maybe it would be after I have a chance—it's going to be a lot of stuff to read.

***Tacey Ann Rosolowski, PhD***
***1:18:30.0***
Okay.

***Jordan Gutterman, MD***
***1:18:30.4***
At some point maybe tap into my own oral history where I will fill in blanks. I know I will. I've left out probably some things that may be important both in terms of MD Anderson, and I am quite aware that this is an MD Anderson history. It's not just about me, but how I did it within the confines. I think one of the things that I have a gap in right now, and I probably will introduce this topic without getting into it, is what have I missed about MD Anderson? I think a lot. I think I need to talk more about that, but it may not be today.

***Tacey Ann Rosolowski, PhD***
***1:19:04.1***
Okay.

***Jordan Gutterman, MD***
***1:19:04.5***
I'll think about that.

***Tacey Ann Rosolowski, PhD***
***1:19:04.8***
Okay.

***Jordan Gutterman, MD***
***1:19:05.6***
How all this stuff I'm talking about—as I reflect on what I've talked about—meanwhile, I'm here. I'm a professor, and I'm doing stuff. So how does this relate to the political, sociological environment and so forth and so on? The changes from one president to another president—from one department to another department—

***Tacey Ann Rosolowski, PhD***
***1:19:25.7***
Well, actually, you are being very prescient, because I just pulled out that whole roster of presidents that you've worked under, and you've worked under four of them now.

***Jordan Gutterman, MD***
***1:19:37.3***
Four now.

***Tacey Ann Rosolowski, PhD***
***1:19:37.8***
Yeah.

***Jordan Gutterman, MD***
***1:19:39.3***
Three and half, but that is beside the—well, DePinho just started.

***Tacey Ann Rosolowski, PhD***
***1:19:42.6***
Yeah. So I was wondering if you could kind of describe the marks they each left on the institution—you know—maybe if you had personal interactions with you dealing with an issue, how that worked out, your impression of their working styles. And every lead has both strengths and weaknesses, so what did they bring, really, to the institution?

***Jordan Gutterman, MD***
***1:20:07.1***
Well, I'll talk about Clark. I'll say something—some things about Dr. [Charles] LeMaistre, not necessarily particularly favorable, in terms of my interaction with him. There was one thing that I probably will describe, but I'll have a chance to see this before—?

***Tacey Ann Rosolowski, PhD***
***1:20:35.0***
Yes, absolutely.

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***Jordan Gutterman, MD***
***1:20:38.9***
Dr. [John] Mendelsohn came at a different time. And some of this may be better when I describe what I—because Mendelsohn came exactly the same year that I changed into a laboratory person and kind of went underground. I'm serious now. I've gone underground for, gosh, sixteen years.

***Tacey Ann Rosolowski, PhD***
***1:21:04.7***
Wow.

***Jordan Gutterman, MD***
***1:21:07.3***
I haven't talked to anybody about it much. We've published a lot of papers. So during the whole Mendelsohn era—he came in '96—that's when I started with the Avicins—we discovered the Avicins. Mendelsohn left in 2011—you know—2012, and so that would be much less. And I kind of—I went underground. I just became—I became a recluse. People ask me, "Well, why did you give up all that blah, blah, blah? Everybody knew you. Why would you take a chance and start something brand new?" It was completely abstract. The Clayton Foundation deserves a lot of credit. We will talk about that.

So Mendelsohn—there won't be a lot, but we will talk a little bit about that because he and I crisscrossed way back in the interferon days. DePinho, it's too early. So I will talk a little bit about Clark and LeMaistre and also this transition. First Clark, because it does deal with interferon, and then LeMaistre was interferon. Then Mendelsohn came, ironically, as I think about it, exactly when I changed fields.

Clark—well, I was very young when I came here, but I always found him to be just a wonderful, wonderful gentleman. He was just a gracious, gracious man. I came here in '71, and in '78 when all this burst open, he was on the original cancer panel when— Mary Lasker, in '71—it turns out, the year I came here, Mary Lasker pushed Nixon's administration through a guy named Bobst—Elmer Bobst—to pass his national cancer plan. She was convinced that if we put in enough resources we can—and even though people have highly criticized the nature of it, because she thought we could have cancer cured in five years, ten years, twenty years. It's much too complex, if we can ever really cure the disease. Cancer is always going to be with us, every time a cell divides. But what she did, I think, was quite visionary.

She worked with Clark quite a bit because Clark, at that time—see, don't forget now, this is the part about Anderson—and we may not finish all this today—is to go back in time when I'm doing all this stuff. What was the nature of society and MD Anderson cancer research? So in '71, the year I came here, was the time the national cancer plan started. And again, a lot of this was because of—I could see how well trained Victorio Rodriguez was in clinical cancer, and that was what I wanted to do. Again, I'm not sure why exactly. I thought about this last night.

[redacted]

I became a hematologist. I wanted to do blood diseases, but he introduced me to solid tumors more. And in fact, there was no profession—no specialty called oncology when I first came here. It was just started the year I came. So a lot happened the year I came here. But I knew this was a place—I could see this was a place I could do stuff. I'm not dreaming about any of this stuff.

When I came here, I thought MD Anderson was already massive. I thought Houston was massive. And—but I met him pretty early, and he was such a gracious man. He was originally, I think, from Georgia, but—you know—he embraced the Texas culture. He had a ranch, and it was a small place. Almost everybody knew everybody else. I mean, our HR department was just down in the main campus. You would just go down there—if you wanted an employee, you just go down there and talk to Ruth and say, "You know, I need someone who is this and this and this and this," and they would find the person for you. And that is—because he retired in '78. It's funny; these presidents have come in—I'm forgetting DePinho, which I would like to do. Jesus, is that—that goes nowhere.

I came here in '71, the interferon broke in '78, and that was the year Clark retired. I switched fields in '96, the year LeMaistre retired and Mendelsohn came in. And I'm starting a company here in Houston in 2012 when DePinho comes, which keeps me somewhat independent of this place. So I think—I always have kind of a—maybe it's, again, like my father. When you're in that situation with the czars and all this type of thing, you've got to always be ready to go. It could be my background of being Jewish—always have your suitcase packed. When is the time you push your sons out to go to America because I don't know if we are going to make it? I wonder. I'm not—I mean—I've been here forty years, and I'm going to be here another—whatever. But you have to have backup plans in life, I think. I don't know if I'm making sense here, but strategies.

So with Clark I never felt that. I was young. But what I really loved about him personally was in—he knew Mary Lasker. Mary Lasker would praise me to him, and she had dealt with him with the National Cancer Plan and became one of the three advisors to President Nixon on the National Cancer Plan. There are wonderful pictures around here. So he and Mary were very tight. She was very close to people like this. So I was—when she met me in '73, '74, I was kind of someone he knew and supported immensely. And then in '78, as he was leaving—before he left—he really was excited about this—about the interferon and Mary Lasker's involvement. It was quite a story even then, before we had done too much. But he went to Cuba. He got Castro to start making—in the seventies, everybody was trying to make interferon because nobody believed it could be synthetically made—that is, by cloning. So there were companies all over the place with blood banks trying to make all this precious stuff. I'm not sure I've talked about that, but we won't talk about it today. I could review my notes on that. It's been a long time. But Clark was very involved with Cuba.

***Tacey Ann Rosolowski, PhD***
***1:27:19.2***
So what was he doing there?

***Jordan Gutterman, MD***
***1:27:20.8***
Well, to get Castro—he had some relationship with Castro, but I think he was trying to get Cuba to start making interferon, maybe to commercialize it and stuff. I don't know. I have to go back to his history to find out. But I remember the year that he retired, in '78—Mary Lasker and Ann Landers—Eppie Lederer—came down to visit DeBakey and Clark as he was leaving. I gave a little talk up in the conference room that still exists upstairs, over the main campus. Mary was there, Eppie was there, Clark came, and LeMaistre came. LeMaistre was just coming in and was introduced to this whole thing.

I love Clark. I mean, I just—and then it was interesting. I was living in the high-rise after he—many, many years later—he had already retired, of course, for many years.

[redacted]

I had a very, very warm, very fun relationship with him. He was a real person of—he cared about people, and he was a visionary, just an amazing visionary. Those were much simpler times, though.

Now, LeMaistre—we may say more about Clark, but LeMaistre, I think he was concerned about all the publicity. I think he heard bad things about me. He was a different man from Clark. I think he—I can't—I don't know this for a fact, but I think he was concerned whether we were too far over the top. I mean, there was the press here all the time. These were heavy days with cloning. NBC and CBS and—you know—all this stuff was happening all the time—local news and papers. It was hard to avoid that. And then we were getting these results—tumors were shrinking, hairy cell leukemia, CML. We were reporting this stuff, and people were picking up on it. I mean, it was real, and it is real.

***Tacey Ann Rosolowski, PhD***
***1:29:31.9***
Were there ways in which he overtly demonstrated support or concern about that?

***Jordan Gutterman, MD***
***1:29:36.9***
Yeah. Well, what happened was—now, this is where women are interesting. When I met with Elaine Davis—and we've got about ten to fifteen minutes. We will probably just get to this. We're not going to get to the transition today.

***Tacey Ann Rosolowski, PhD***
***1:29:47.8***
That's fine. Next time.

[redacted]

***Tacey Ann Rosolowski, PhD***
***1:31:02.5***
I'll just pause this.

***Jordan Gutterman, MD***
***1:31:05.4***
Okay. Sorry. I should have shut that.

***Tacey Ann Rosolowski, PhD***
***1:31:06.4***
That's okay.

***Jordan Gutterman, MD***
***1:31:07.2***
Ready?

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***Tacey Ann Rosolowski, PhD***
***1:31:07.5***
Yes, we're ready. We're good.

***Jordan Gutterman, MD***
***1:31:11.0***
"I don't want this place getting a penny of it." In fact, when Mary gave a million dollars to the Finnish Red Cross to buy interferon, she just sent the money directly to Finland. But she sent it in '78, just as LeMaistre was getting here, and that doesn't go well with administrators. So we got a million dollars, which economically was an amazing thing because we were getting people—in '78, when the publicity came—we were getting more people than we could possibly handle. And we weren't charging for the drugs, and they were paying to be patients here. But I'm guessing now that administrators in general, not all, don't like that loss of control, because the money never went through here. She said, "I'm not sending it there. If I send a million out there, I might get a half million back out. They'll have some rule or make up some rule and take it." This was Mary. Elaine Davis, not knowing that, said the same thing. Women—intuition. It wasn't a trust factor; it was just knowing how the world works. And she said, "We're going to have not one penny go for anybody. We'll pay for a secretary, whatever it takes, but we're going to buy material for you—frozen energies—so you can treat patients." They didn't care about the research aspects. They just wanted to treat patients. They were rather naïve about things, but—you know—they are not scientists. So that is how they started the Interferon Foundation.

And they brought in a guy named Roy Huffington from Huffco Oil—a billionaire oilman—independent oil dealer who had mostly his oil in Indonesia. That was my first exposure to the oil people. I went over to see Roy Huffington and his wife. He gave recently—before he died at the age of ninety—two or three years ago—he gave a big amount of money for an aging institute over at Baylor—Roy Huffington.

[redacted]

He was the—Leon did kind of the legwork on it. He was the soul behind it among the men in this foundation. But the entrée was Roy Huffington. He knew everybody. And he was a Texan. He had all the entrée to everybody.

We started then going first to Shell Oil. We met with John Bookout, who was then the CEO of Shell. Leon and, again, Elaine were so smart about it. They said, "We're not going to bureaucrats." You know, it is kind of what I said about the downside of big pharma. "We're not going to the head of the foundation. We're going to the CEO. We don't want to have to work through all that. We don't have time. People are dying." And this was in '79, '80. The foundation, I think, was incorporated in early 1980, which, by the way, was exactly the same year that interferon was cloned—not producing the full-length drug—and I'm thinking we're screwed. We're not going to raise anything with all this PR going on at the same time with interferon. But we did. We got it done before it became a drug. It took a year, but in that year we raised all the money we needed to eventually translate it into all these saved lives. I didn't know all that. So the timing of everything was amazing.

So we went to John Bookout. Now, I had been on McNeil/Lehrer, as I indicated, the year before when it was first cloned. And Leon was smart. We'd go down to the Petroleum Club, usually, which was an interesting experience for me—a five-foot-six Jew with the six- and seven-foot Texans coming in in their boots and all. I felt so out of place. I really did. I mean, I'm not saying there was any anti-Semitism, but it was just—I felt uncomfortable. First, I was a doctor. I don't think I'm a nerd, but to them, maybe. And all these rich oil people with their—and they were smoking in those days, and I will come back to the smoking—the cigars and stuff—and, "How you doing?" and all that stuff. But we had had a private room, and Leon would set up this TV set, and he had the cassette that I don't know where it is today, of the first McNeil/Lehrer of interferon being cloned and me being on there. You know, TV has a big impact, and that's what sold it. It was that TV show.
After a while, I would start coming in late because I was busy, because I knew they were going to show the tape, and I didn't want to watch that thing again—time and time again. It was kind of an interesting entrance. About halfway through, the man shows up, so to speak. I never thought of it that way. So John Bookout committed two million to me, and it just rolled from there.

I'm not going to go through all of them because I probably can't remember right now, but we became—so they put together, on this board, some of the really leading people of Houston—Davis, Huffington, Bob Lanier—

[redacted]

So Lanier was at the thing. Ken Jamieson, who was CEO of Exxon at the time, Baine Kerr, who would president of Pennzoil, and a few other—quite a board. We would meet from time to time, but it would be Leon, me, and Roy who would go to Pennzoil, who gave a million, Atlantic Richfield in Dallas that would give a million, Cheney's company—what's the name of that one? It's a drilling company, but it's—forget it. I'll think of it.

I think almost everybody but one or two companies gave us either a half a million—and as Leon would repeatedly say in every single meeting, "We're not here to raise—to sell Girl Scout cookies. We can't do it at five dollar donations. We really want—we need a significant—." But in those days—'78, '79, '80, '81—the oil industry was rolling in profits as they are today. And philanthropy, I think, was easier then because there weren't as many people doing it. Like I was probably—because I had this new idea, and this was sexy—genetically engineered protein. I mean, my God, I had a—you know. So it was highly successful, and we took that money. Literally not a penny went to anything but to buy interferon. They wouldn't even pay for my nurses and stuff.

Then in 1980 a very important event happened. Leon took me over to a thing called—a foundation called the Clayton Foundation. I'm not going to have time today to talk about them, but they started giving me money for nurses and stuff. So I had a staff, because we couldn't handle what was going on. I might just tell you that in 1995, after Mary died, I went to them with the idea I wanted to change fields. I had an abstract idea that plants a lot to offer, and we were missing big things in cancer. I thought there was going to be a revolution of how we understood cancer, and could I start working on a completely different—? It was an abstract—it was just like that paper there. It was just—I had no picture. I didn't know what I was going to paint. I didn't know what I was going to paint when I did that. I just let the emotions go. And they said, "Go for it. You did it before. We didn't make any money. You didn't make any money. Maybe this time we'll get a patent. We'll see." We'll talk about that story. But the Clayton people really helped me. So Leon played—and his wife played—a critical role here.

Now, I was having more and more—the last five minutes—more and more trouble here, though. There was a lot of backlash about all the publicity. I told you there was this thing about the hairy cell leukemia wasn't real. And I had it up to here. So I got Huffington and Lanier, who hadn't been mayor yet, but two very big, powerful Texans—I'm going to tell this story; it's the way it happened—and Leon Davis. I set up a meeting with Dr. LeMaistre. And I didn't blame him. I'm just saying that there are just too many roadblocks. Now, all of the sudden, people are stopping me.

I'm going to sidetrack for a second and give you the thing that just went over the edge. I got a memo around this time from the institutional review board saying, "Your original protocol where you had what is called Phase I interferon—you have now put five hundred and fifty patients on, and you cannot do that. You have to separate this out into disease types. The rules have changed. We're going to stop you from ever treating another interferon patient with your natural interferon until you change the protocol." I said, "We've already cured one disease with it. What are you talking about? What difference does it make if it is, on paper, five hundred patients or each is separate? You can't stop me." "Yes, we can." That was it for me. I mean, that is what—I was—this was probably punitive, and it wasn't fun.

So the three of us—the three of them plus me went to see Dr. LeMaistre. And it was mainly Lanier who was the outspoken one saying, "Dr. Gutterman keeps saying there are roadblocks, and he just can't seem to get the work done. It looks like he's got the support of the administration." All the right things were said. "What about this business of telling him not to go on McNeil/Lehrer, telling him because someone said it was fraudulent? What about that?" Well, finally, after about thirty minutes of this hemming and hawing, Lanier got up. He was so impatient with this because he was a business guy—he was—he'd do it. He stands up. He's about six-foot-four. He smoked big cigars in those days. He goes right over to LeMaistre, who is sitting on this couch, and there was an ashtray there. He takes a deep breath—a big deep breathe—and he lets the smoke out. And he said, "Mickey, I just want a simple answer from you. Are you going to allow Dr. Gutterman to do his work or not? A simple yes or no is all I need." "Yes, sir." And he takes his cigar and—swoosh—all this smoke comes out. He said, "Gentlemen, have a good day," and he just walks right out, all this smoking going—sort of like Woody Allen when he sneezed and all this cocaine was at a party and all this—I don't know if you saw Annie Hall?

***Tacey Ann Rosolowski, PhD***
***1:42:33.8***
I did. Yes.

***Jordan Gutterman, MD***
***1:42:34.2***
He sneezed all the—a million dollars in cocaine goes up in smoke. So I saw through the haze LeMaistre was just kind of like—and I didn't have a whole lot of problems after that. But it was near the end. It was near the end because it got approved and then Mendelsohn came in. And there were some other stories. I'm not going to get into them. One that—well, I know you're interviewing LeMaistre, and I still—when he sees me, it's very friendly. I think there is some admiration on both sides. I think he's done a lot—he did a lot of good things. He had a tough time in accounting—we had some tough times here. I would say he always said the right thing, but I didn't always feel I had the backing of the president's office then. I did with Clark. But—you know—who knows? He was under some—perhaps a lot—of pressures and stuff. But when I see him, I have warm feelings about him. I think he was a good president. I mean, Clark was a great man. I think LeMaistre for the—he was here eighteen years. He did good things. I mean, we flourished. I did, for sure. And again, he kept the place such that—and Freireich had problems with him too. I don't know if you asked Freireich that thing. Freireich probably told you a lot. Did he? I'm not getting into some stuff like Freireich got into. Yeah, that's some tricky stuff. I've got to think about that.

***Tacey Ann Rosolowski, PhD***
***1:44:03.2***
Sure. Yeah, it is. It is.

***Jordan Gutterman, MD***
***1:44:04.9***
I don't like to get into certain things, but it's part of the history.

***Tacey Ann Rosolowski, PhD***
***1:44:06.3***
Yeah. Well, I'm not necessarily looking for dirt and opening the closets, but an evaluation of how someone has operated in an institution—I mean—that's really what—you know—the baseline of what I'm interested in.

***Jordan Gutterman, MD***
***1:44:21.5***
Well, Freireich—I mean—LeMaistre hired this guy, [Irwin] Krakoff, and Freireich had a heart attack he was raging so much back in '85, I think it was. He had big problems, but he was more confrontational than I am. I tend to work around a problem. That's a good character—I mean—I tend not to be as confrontational, but he likes the controversy. I think Freireich thrives on that type of stuff. He likes chaos. He likes the confrontation more than I do. I admire that. I don't like that. In fact, I'm just the opposite. I tend to find my solutions in working around the problems in a positive way rather than—I would never have—but I kept complaining to Leon about I couldn't get my work done. It was somebody else you're interviewing that created a real problem for me. And I—whether I tell you about the story or not—but he blocked a grant to Clayton. And this somebody blocked the grant that you are interviewing—

***Tacey Ann Rosolowski, PhD***
***1:45:22.4***
Yeah. You spoke about it in one of your—

***Jordan Gutterman, MD***
***1:45:24.1***
Oh, did I?

***Tacey Ann Rosolowski, PhD***
***1:45:24.6***
Yeah, with Lesley.

***Jordan Gutterman, MD***
***1:45:25.5***
Did I mention who it was?

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1:45:25.8
***Tacey Ann Rosolowski, PhD***
***1:45:25.8***
Uh-hunh (affirmative).

***Jordan Gutterman, MD***
***1:45:26.6***
Okay. I'm going to keep that. I mean, he would deny it. Every time he sees me, because—you know—he is over in this building. He can't gush enough about seeing me. He loves to talk, and so he loves the old days. There's selective memory. He would probably never remember it, but he did hold that up. But that is kind of par for the course. Anybody who has done anything has had people who get in the way.

***Tacey Ann Rosolowski, PhD***
***1:45:49.3***
Sure. Sure.

***Jordan Gutterman, MD***
***1:45:50.9***
I actually like the guy. After a while, he became a great supporter. Once the stuff really proved that it worked, he became a great supporter. So I don't have any ill feelings. I don't have anything for LeMaistre either. Freireich probably does, but this is not about Freireich; this is about me.

***Tacey Ann Rosolowski, PhD***
***1:46:08.0***
We're at 3:20, so I want to make sure—

***Jordan Gutterman, MD***
***1:46:09.3***
Yeah, we better go.

***Tacey Ann Rosolowski, PhD***
***1:46:10.2***
Why don't we close off the interview for today?

***Jordan Gutterman, MD***
***1:46:12.3***
So—and the way—yeah—and I think we can talk about it or take it off either way.

1:46:15.3 (End of Audio Session 2)

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# Jordan Gutterman, MD

Session 3: April 19, 2012

**Chapter 00C**
**Interview Identifier**

***Tacey Ann Rosolowski, PhD***
***0:00:00.7***
This is Tacey Ann Rosolowski. I am, today, interviewing our third session with Dr. Jordan Gutterman. The date is April 19, and the time is approximately 3:15. So we're off pause. We're recording.

***Jordan Gutterman, MD***
***0:00:24.0***
Okay.

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Interview Session: 03
Interview Date: April 19, 2012

**Chapter ~~11~~**
**B: Giving to/Fundraising at MD Anderson**
**Funding Innovative Clinical Research: Some Institutional Obstacles**

Story Codes
A: The Researcher
B: MD Anderson History
C: Discovery and Success
B: Critical Perspectives on MD Anderson
A: Critical Perspectives
B: Obstacles, Challenges
B: Institutional Politics
B: Controversy
B: MD Anderson Culture
A: The Administrator
C: Leadership
A: Personal Background
A: Character, Values, Beliefs, Talents
D: On Research and Researchers
C: Understanding the Institution
D: On Pharmaceutical Companies and Industry
C: Ethics

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***Tacey Ann Rosolowski, PhD***
***0:00:24.7***
So I just wanted to kind of put a little framework. We were talking before the official start of the interview that you wanted to reflect a bit on some of the administrative, departmental, institutional issues in which you were working over the—basically under four presidents now. So I just wanted to give a frame for that conversation.

***Jordan Gutterman, MD***
***0:00:48.5***
Yeah. Well, when I came here it was 1971, and I think I discussed kind of what attracted me here being [Emil] Freireich and a couple of other people from MD Anderson. [R. Lee] Clark had been here for many years. As I said, he was extremely supportive. He selected me, along with Dr. Freireich, to meet with Mary Lasker when she came in 1974, which was a key event medically and scientifically in my life. You know, it's just amazing the world that she opened up. And I'm not so sure we've talked in much detail about the world she opened up outside of MD Anderson, but at some point we might fill in the blanks on that. Not only in science and medicine, but kind of watching how she operated both within the government and the private sector and so forth, how she brought people together. As I said the other day, she had the greatest gift you can give a person as another person, and she was just a master at that. And so she came down here, and I discussed that.

Then I've also discussed previously, I think, also with Lesley as well as probably some with yourself, that—I'm not—I haven't done this with you, but I remember I went to this interferon meeting in 1975 where everybody thought that cloning genes and making recombinant molecules, biologics—many people said would never happen in our lifetime. I don't think Mary Lasker believed that. And I think I've discussed it previously, so I'm not going to go into it. I'll just mention it. In August of 1977—I always like to leave Houston in August. It's so intensely hot. I remember that summer saying, "How can anybody tolerate it?" I didn't think I would stay here that long, but—I mean, the first year I was here, way back in '71, '72. But in '77 we had a newborn—a young boy—a little boy that wasn't even one yet, so we couldn't travel. Mary Lasker called me, and her secretary—it would have been Albert Lasker's secretary—Jane had developed recurrent breast cancer. She said, "Jordan,"—and she sometimes swore—"God dammit, we've got to do something about this disease. Will you go to Sweden if I get you—and Finland—if I give you a million dollars?" But I think I've told that story, so I'm not going to repeat it.

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I think we've talked about all the preparations and the excitement about getting the interferon. It was called leukocyte interferon at the time. Finally it arrived, and we got FDA—Food and Drug Administration—approval to start the clinical studies in February 13, I think it was, 1978, with the schoolteacher. I won't repeat that either. Around that time, Dr. Clark had decided to retire, and his replacement, Dr. Charles—known as Mickey—LeMaistre came in as the new president. It's interesting; the inflection point is when we started those first patients. I think Clark was still in charge, but around that time—we could check the dates—LeMaistre came in as the first president. And I remember Mary Lasker returning here with Ann Landers, or Eppie Lederer—her real name—to Houston to visit [Michael] DeBakey. She came over, and I gave a short summary of where we were. We had already started the clinical studies. Mary and I had done a lot of stuff already. We had gone to drug companies, and I won't repeat all that because I think that has been discussed. So it's interesting that the year of LeMaistre's arrival was the year of all this intense activity and excitement and publicity. And not all of it was well received.
Mary said she wasn't going to give a penny to an institute. Nothing about MD Anderson, it's just that she didn't want overhead. She wanted every penny to go to making the drug. And she's not the only one in my life that has had that—it was said to me many times. So she sent the money directly to the Finnish Red Cross to make the interferon, which I think has been documented. But it's interesting—this did not help me very much, which I agree with her. And I'm a bit of a rebel because I don't—you know—we were bringing—once the publicity started, patients were coming here, and the institute was generating income from a lot of the patients, I think. All of the publicity—I mean—this was many, many years ago now. But there was not complete support for this, as I said, in various areas of the institute.

***Tacey Ann Rosolowski, PhD***
***0:05:39.3***
Why?

***Jordan Gutterman, MD***
***0:05:41.4***
Good question. It's probably multi-factorial. I think, first of all, people in general don't like other people to get credit or publicity perhaps. There may have been some concern about the credibility of all this. This was pretty bold. I think that's one of the lessons for students and others—there are different types of people. I want to do really, really bold and important things in life. For me, to do incremental things or do whatever everybody else does, to me, would be very boring. That's not what makes me—that's not who Jordan Gutterman is. And we can discuss that in terms of my own self-awareness and image of what I want to do. So you are going to rub—I mean—anybody who has done—I'm not saying I've done great things, but I'm just saying anybody who changes the paradigm, opens up new areas, gets people to think, perhaps, differently is going to rub people the wrong way sometimes. You can't avoid it. You can't be popular. And you have to develop, and I did. I mean, I came from a small, little town, and I still am a very shy person in many ways, but I can open up. I must have developed a very hardcore shell about this, and not a shell that it didn't affect me. It affected me deeply, but there were a lot of barbs and criticisms and pressures, including at the very highest level of the institute.
I think I discussed in '84 when we made the big break—announced the big break in hairy cell leukemia publicly with The New England Journal paper. One of my colleagues accused me of making up the data with my other—one of my other colleagues—the person that worked with me, Dr. [Jorge] Quesada, who was very, very brave and courageous and honorable. And—you know—I think people believed it at the very top. I was asked to not go on McNeil/Lehrer. They had to clarify everything. So that was tough. I told you; we talked about "victory gin" and all that stuff back in 1984. The fifth of January, 1984—now, that is still a really interesting time. I always look at events. But I think for students and people, one day when they read this or hear this, I think that if your nature is to do major things, you are going to have to struggle. Nothing is easy.

Once I heard a little parable—that you don't climb a mountain on the smooth side. You have to climb it on the rough side. And so those steps are—it's a struggle. I could understand, perhaps, in retrospect, as I'm a little older, why the higher levels might be nervous about all this PR and all this type of stuff. So, I think it's multi-factorial. I'm not saying it's all jealousy. I'm just saying that, in general, the establishments like to maintain order and control, and bureaucracies do that certainly. And this place has gotten bigger and bigger and bigger, and it gets more ingrained. I still maintain—and we'll talk about this in a minute—that this institute is still a place, for various reasons including resources, if you are creative, you can still do things here in medicine and cancer research, for sure, that you almost can never do any place else. You probably could, but this is a place—the environment here—the place is very, very important. That's where I choose to do the work. I've grown to love what you can do in Houston and Texas even more when I tell you the next story in just a second.

So after the approval of interferon, I mentioned I started a department, and we did a lot—we published a lot of papers. We ran a lot of trials. But they weren't that satisfying and fulfilling. They weren't really getting at the deeper roots. Now a lot of big breaks and understanding are beginning to take hold in terms of our understanding of cancer. In the early eighties—the discovery was made in the late seventies. The concept of the oncogene was finally recognized by a Lasker award for Mike Bishop and Harold Varmas, both of whom I got to know very well now on the Lasker jury. They eventually won a Nobel Prize, I think in '89. And I mentioned we weren't doing much work on those things, but it wasn't just oncogenes or a bit later suppressor genes. It was the whole result of understanding many of the complexities of cancer which are still not completely understood by any stretch of the imagination. I mentioned in the early nineties I learned a lot about the business end of drug development, and that was very educational. I think, as I said earlier—before in the tapes—I brought a lot of that knowledge, began to work with the pharmacists and reimbursements, and so there are many aspects of making new drugs in terms of an institute, of the economy of the institute, with the progress of the institute, and so forth.

***Tacey Ann Rosolowski, PhD***
***0:10:51.3***
Was there a similar discomfort at the administrative level for the negotiations that you were undertaking with drug companies?

***Jordan Gutterman, MD***
***0:10:59.2***
Oh yeah. Well, you have very—you know—very strict conflict. You've got to be very careful. In the end, you have to police it. I think that there was initially—when I first started working with Roche and Schering, not with Dr. Clark, but just in general. I think looking—scientists working with—collaborating—in fact, I wrote a piece in the nineties, as I began to wind down this department, about the war of the parts against the whole, how private sector—like in this case the pharmaceutical industry, the emerging biotech industry, the third sector that is the philanthropy and the foundations, and the government all seem to be at war with each other. And I just never see it. I mean, I never published that article. I still have it. It was about drug discovery—that you have to have all elements because there's part—we should not be dealing with pharma. We can't do really what pharmaceutical companies can do or even biotech companies. There is a thrust now in the government to make new translational research and drug discovery. There is a thrust here now at MD Anderson. I think you can do elements of it. I'm doing it, but I always reach out to these other elements. I mean, the Lasker Foundation, and I haven't talked much yet about the Clayton Foundation. I will. Without their support, much of this could never—or maybe none of it could ever have been done. I'll come back to a very key decision they made.

That's the third sector they call the philanthropy—the foundations. That's one of the great attractions of Houston are these medical research foundations that are amazing. Big resources, very philanthropic, very few cities—I don't think any other city could equal that. So that makes MD Anderson a unique, special place to be in this wonderful medical center.

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**Chapter 12**
**A: The Administrator**
**Department Chair and Section Chief: Leadership Issues**

Story Codes
A: The Administrator
C: Leadership
B: MD Anderson History
C: Leadership
A: Character, Values, Beliefs, Talents
D: On Leadership
C: Evolution of Career
A: Professional Values, Ethics, Purpose
A: Critical Perspectives
B: Growth and/or Change
B: Institutional Politics

***Tacey Ann Rosolowski, PhD***
***0:12:59.4***
You mentioned last time—you told the story about that meeting when some of the oilmen who had been responsible for setting up the Interferon Foundation came to see Charles LeMaistre and kind of drew the line in the sand about interfering with your work. I'm wondering if you could reflect a little bit, when you were chair of the department, on the places in which the department functioned very well because of the way the institution is set up. And then conversely, some places where the department couldn't function because of some institutional roadblocks.

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***Jordan Gutterman, MD***
***0:13:36.6***
Well, we worked with a lot of compounds from companies. We got them—you know—we didn't start anything, but people knew me. And so they all wanted to work here; there were many people who wanted to work here because we have patients. We have a large department of very capable—many of these people have gone on to have leadership positions. For example, Dr. [Moshe] Talpaz worked on the CML—chronic myeloid leukemia—and I can't remember if we talked about that, but that was so exciting. Dr. Razelle Kurzrock worked with many of the growth factors. She's now head of the Phase 1 program here at MD Anderson and is the department chairman, doing extremely well and others—many others, actually, as well. And so—and a lot of them were—that was a wild group to manage because they were very, very strong-willed and very capable. I think we all did very well. I mean, actually, I don't recall today, right this minute, too many roadblocks other than the fact that slowly there were more and more control of drug trials, but we just kind of blended with the times. And I think—I don't recall that there was anything we wanted to do that was prevented.

I think the problem was internal in terms of the fact that I was spending a lot of my time going to committee meetings. I was known as someone who was always late, always brought articles with him, would not really listen to all the boring stuff going on, and would be reading constantly. That's just me. I just read. I had very little interest in the administrative aspects of it. I was thinking of new ideas and stuff, and that doesn't go well, and it should go well. You shouldn't be running a department if that's what you really prefer doing, and that's the other—another lesson. My heart was not in it. At first it was pretty exciting, of course. You are a department chairman. This was the end of '85, '86, when I took over.

***Tacey Ann Rosolowski, PhD***
***0:15:40.1***
How did that happen?

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***Jordan Gutterman, MD***
***0:15:41.2***
Well, the chairman—first of all, when I came here we were a section. It was called the section of immunology. Finally, after years and years of being labeled an immunologist—I think the label is dropping and will drop for sure with the new stuff that's coming out. And I can see we are only going to get part way through that story today. That's okay. And—you know—I'm itching to talk about it because it's so fresh, you know? I get bored quickly. I remember reading—and I'll answer your question. I think I forgot the question. Sydney Brenner, who won the Nobel Prize a few years ago for his work on the worm—but he really should have won a Nobel Prize well before then—he worked with [Francis] Crick. He discovered messenger RNA. And he won a Lasker—he won two Lasker awards. I know him pretty well. He's quite a character—extremely humorous, brilliant, genius. I read once, in his autobiography, that—and he has told me this too—that once he has accomplished something, he wants to move on. He just doesn't like all the details. It is like shooting that golf ball 350 yards, putting the little details on it—he wants to open up new ideas. I have the same personality. I don't know if it's a Jewish personality, but it's certainly a personality, because he's from South Africa. But—now, you asked the question—?

***Tacey Ann Rosolowski, PhD***
***0:17:04.4***
How did you become—?

***Jordan Gutterman, MD***
***0:17:05.5***
Oh, the chairman, yeah. So, the—we were a tiny section of three faculty members in DT—Developmental Therapeutics. Then as the interferon became well known—and people labeled it, I think, inappropriately as cancer immunotherapy. It was not immunotherapy, but it stimulated—all that work stimulated the National Cancer Institute to start a biological therapy program which is my preferable term. It is a biologic. It's a natural substance. Yes, interferon does do some fascinating things to the immune system, and I think only in the last three, four, or five years as that work really matured into something pretty profound, but I don't think the anti-cancer activity is primarily immunological. I think it plays a role. I don't think we know that for sure, but that worked. And my chairman at the time, Dr. Evan Hersh, who I had met in San Antonio, was head of the section. I wanted a separate department, which was appropriate. And Freireich being Freireich said, "Of course, I think it's time for—" It was called cancer, immunology, and—I'm sorry—it was called CIBT.

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***Tacey Ann Rosolowski, PhD***
***0:18:29.0***
Cancer, biology—

***Jordan Gutterman, MD***
***0:18:29.8***
Cancer, immunotherapy, and biological therapy.—CIBT. I just thought of something really, really interesting in terms of letters. I'll come back to that. This is amazing, actually, about CIBT. I'll come back to how the name has been truncated and now will be truncated for the last time into something with just a T. I'll tell you all about that—how it went from CIBT. In terms of my career, how something called IBT was the critical thing in my new work, and then that got morphed into BT, and then, as of the next day or two, it's going to be T. But I'll tell you about that. That has nothing to do with anything; it just is. Maybe there's a force there that controls that, but let's get back to the issue.

So I don't think, as a department, we were hindered too much. But I was really—I was getting bored with managing people, writing reports, evaluating people, a lot of infighting all the time, and a lot of these other people were feeling the ropes. They wanted their own things, and that's not easy. You know, Dr. Talpaz was very capable, and Dr. Kurzrock, but they are all strong-willed. Dr. Lopez, who I didn't work too closely with but is very talented, is still here. He's a great entrepreneur. And many others wanted their own programs. So I think that gradually the head of medicine, Dr. Irwin Krakoff—who Freireich had big problems with—I think he could see—at first I was kind of the golden boy, the new department head with all this—we had just gotten interferon approved and all this stuff. And for the first four years or so, things went very well. Then there was a lot of grumbling, and I think it's because I didn't pay attention to being an administrator. I wasn't a real good nurturer of this kind of chaos. Freireich does it in a genius way. I just don't know how to do it.

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**Chapter 13**
**A: The Researcher**
**Going on Record with New Research: Avicins and Nutrition**

Story Codes
A: The Researcher
A: Personal Background
A: Influences from People and Life Experiences
C: Discovery, Creativity and Innovation
C: Faith, Values, Beliefs
C: Professional Practice
C: The Professional at Work
A: Overview
A: Definitions, Explanations, Translations
C: Patients
C: Cancer and Disease
B: MD Anderson History
B: Growth and/or Change
B: Obstacles, Challenges
B: Institutional Politics
B: The Business of MD Anderson
B: Controversy
C: Portraits
D: On Texas and Texans
D: On Philanthropy and Volunteerism

***Jordan Gutterman, MD***
***0:18:29.8+***
So in the mid-nineties—and by the way, LeMaistre was still the president until '96—'92, '93—somebody who worked for me who played a key role in the new thing initially, and she was trained as a botanist. Her name is Mary Blake. She came to me with a manuscript of a paper, which I can still find, on genistein, which comes from soy and other plant products, about inhibiting a process that is involved with cancer. She's a botanist, and she said, "Why don't you work on plants?" She knew I was pretty much a vegetarian, and I had major passion about nutrition. My interest in nutrition really comes from my mother. Growing up in a tiny town where we had a big garden—and I think I told you the story when she died—maybe I didn't—in 2004 about the carrots and all?

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***Tacey Ann Rosolowski, PhD***
***0:21:46.2***
***No. Uh-hunh (negative).***

***Jordan Gutterman, MD***
***0:21:48.8***
I guess I didn't even tell you about her death, which I will come back to. I'm jumping a little bit around. Mary came to me and said, "Why don't you work on plants?" And it just was the perfect time. I can still remember exactly where I was in my office when she walked in with this article. I'm going to put that aside for just a minute. Why don't you work on plants? That started the whole thing in terms of my head and gradually what happened.

I'm backing up now. I've told the story in some detail, but my father died in '74 and how I happened to be in Norfolk, Virginia. So in 1984, in January, she was here visiting in Houston. She was here for that McNeil/Lehrer show—it was now Lehrer—where I was—you know—under such stress because I was told not to go on, and I drank the gin and so forth. My mother was always concerned about distress—always concerned. She said, "Jordan, why do you do this?" And she was very proud and all this stuff. On May 15, 1984, I was in my office. It was in the morning—about 10:00 in the morning—and my brother called me. It shows you that lives go on with all this work that goes on. He was my brother Lawrence—my fraternal twin. He's a physician and was, at the time, in private practice in Columbus, Ohio. He had gotten a call from a neighbor who said my mother was too tired to get out of bed and that he was going to travel there, but he couldn't get there, I think, until the next day. I'm trying to remember, again. So I made arrangements to go. We both made arrangements to go. And we got there, and she was—my oldest brother lived in Norfolk, in Virginia Beach. They put her in the hospital. She was jaundiced, and I knew she had cancer. It was obvious—just—and so we walked in the room, and she was yellow—completely jaundiced. She had a massive liver. And she had this beautiful smile. She was just—I—recently we were in Virginia visiting my older brother. I remember on her eightieth birthday there was this picture of her in the Norfolk newspaper because she always came to visit me on my birthday and then would travel at the end of the day—she would come two or three—a week ahead of time, and then—I'm sorry—the next day because my brother was born the day after I was, right after midnight. So she could visit both sons on their birthdays, and then she would travel, even at the age of eighty, by herself. She was healthy, but she was getting older.

***Tacey Ann Rosolowski, PhD***
***0:24:54.6***
What's your mother's name?

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***Jordan Gutterman, MD***
***0:24:55.6***
My mother's name was Satoris—very unusual name, probably—and I want to tell you a story about that name in a minute. It's a little diverse. We're going to have to do four sessions, I can see that, because the Avicin story is quite a story. It makes the interferon sort of like, excuse the term, foreplay for the—and maybe it is. Pretty heavy foreplay, maybe, but—but I'll tell you about Satoris.

So we went there, and we knew it was liver metastases of something. We got an oncologist, and they did a biopsy. We determined it was pancreatic cancer, which, ironically, is a death sentence today, still. And even though we know a lot more about it, there is so much to be done there because it is diagnosed so late. It's ironic; As a sidetrack, there are people, including here, who I would have to say almost boast about the advances we're making in the treatment of lung cancer.

[redacted]

So there's so—and this is what angers me. This is what drives me, because there are so many people today, tomorrow, and the next day that are going to die of these diseases. I have a lot of ideas scientifically and medically. I'm not the only one, of course—how we can get this—I mean—we're treating way too late. And we need drugs that work on some other cells. We can get into the science, and this was why I changed fields.

But anyway, my mother—we determined there would be—I consulted with a friend of mine who I knew from—in fact, I roomed with him for a few weeks when I first came, before my family moved in 1971. So I knew, very well, an Australian guy. I called him. I said, "I don't want to make the decision by myself, or my brother, let him make the decision. She's eighty years old." And, of course, he concurred—no chemo, just supportive care. Now, my mother never talked about this, and this was typical of her. She was sort of a denier. She knew what she had. There was no doubt. But it was never spoken, and she didn't want to talk about it. I honored that.

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My mother would often call me in college, even medical school, and so forth and so on. A friend of hers—she had a lot of friends with ovarian cancer. "Ruth, they opened her up, and it's all over," or, "Molly, they opened her up. It's all over." This was a constant theme with my mother of—so she was quite aware of disease. As I said, rounds with mom, but cancer in particular. She knew what she had. She probably knew what she had for three months prior to just succumbing to it. She didn't want—just her dignity. She would never take chemo. My mother was a beautiful lady, beautiful until she died, very meticulous about her dress, her hair, but not in a vain way necessarily, not in a bad way. She never made anybody feel—I mean—she wasn't a movie star. I'm just saying she just was real proper. She was the old-fashioned proper lady. And there was no way she was going to tolerate chemo.

This is not easy to talk about because the time is coming up. I mean, certain dates mean a lot. April, when my dad died, means a lot. We're still in April—May. And so we got her home, and we got private nurses for her. My brother and I—my two brothers and I—we all decided we would—there were some family resources from some property and that we would pool those. That's what my dad would want—would have wanted, of course. I mean, he was so devoted to my mother. He had been dead for ten years.

We brought her home. That's what she wanted. We never even asked her. We knew what she wanted. We knew my mother. She wanted to be in her home, in her bed. We brought nurses in around the clock. I came back almost every weekend to see her—not quite. She lasted until—she died the fifth of July and was diagnosed—you know—clinically on the fifteenth, sixteenth of May, so about—what?—six or seven weeks? The last time she ever sat up was on Father's Day, which was actually the twelfth birthday of my third child and daughter on June seventeenth, which was actually the—my daughter was born, in retrospect, on Watergate. I would—with me, with my life and dates, I always have—it's how I remember things and make sense out of stuff. So my daughter was born on the seventeenth of June.

Both my parents were here in Houston. It was the last trip my dad took because he was in early heart failure on that trip. And the last meal she sat up—but she could barely sit up—and then she went to bed and could never get up again. She was on morphine. I mentioned nutrition because it was my mother, when I was a little boy, always, always, always was emphasizing eating modestly—excuse me—and fruits and vegetables, especially vegetables. And it wasn't easy, in retrospect, compared to today where shipping was so easy. In the Midwest today, with the Whole Foods and all that type of thing, you can get so much healthier foods. But she was big on frozen stuff during the wintertime, which in retrospect is pretty smart because you retain a lot of the nutrition approach—you know—stuff that is shipped.

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I remember being in Milwaukee once. I just remembered this. My daughter was living there back in the nineties, going into a supermarket in the wintertime for some vegetables, and they were horrible. I mean, because they had been shipped and sitting around. Who knows what I was eating other than some fiber? You know, it could have been cellulose. But my mother always had—she always said, "Get the frozen stuff." You know—the snap frozen—so that was a pretty good invention, if you think about it. But she always had fresh vegetables when they were available.

This is going to be difficult. I'll tell you the story, but then I'll make it the link to the comment, "You should work on plants." So on the fourth of July, I decided I was—I had to get back to work. My mother was kind of in and out, and this—we didn't know if this would go on for a day or two, a week, or even a month. And she would want me to go back to work. So I went in to see her for the last time, for the very last time, and sat next to her bed. She was sort of in and out, but she was somewhat lucid—no pain, a lot of morphine—and she smiled. I held her hand. And then she said, "So-and-so," I guess one of the nurses, "went out and got fresh carrots for you. They are in the bottom bin." So her last days she wanted me to have carrots. So I went—and I loved it, you know? And that was it. I never saw her again when I left. Why don't we stop it just a minute.

***Tacey Ann Rosolowski, PhD***
***0:32:57.6***
Sure. Of course. Okay.

***Jordan Gutterman, MD***
***0:33:01.0***
I don't know, maybe—it seems like yesterday—maybe it was four years ago, I get an email, and I see the byline of it. The name of the woman was Satoris Culbertson, and I said, "Oh my God, what is this?" An email appeared from a woman who actually, as it turns out, was a PhD psychologist at Kansas State University in Manhattan, Kansas. Her grandmother, whose name is Mary Bruno, who is still alive, who lives in an old town in Missouri, lived above my parents store in Flandreau in the 1950's—1951—and she was a new mother. She had a little boy. And when she had her first granddaughter—this girl, who was the daughter of her—her daughter's daughter—she told her daughter, this woman, Satoris's mother, "I want to name a woman, a girl, after the most beautiful person. I'm sorry.

[The recorder is paused.]

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***Tacey Ann Rosolowski, PhD***
***0:34:18.4***
That's all right. We're back after a brief break.

***Jordan Gutterman, MD***
***0:34:20.7***
And this little—I'm sorry—and this little girl is born with dark, brunette hair, just like my mother had in those days. This woman, Mary Bruno's daughter, named her little girl Satoris after—in memory to honor my mother. She called me and wanted to know everything about my mother because she had just had the little boy and now had two little boys, and she had just recently been married. I looked her up. I've never met her. She's a beautiful young woman—PhD at Kansas State. I need to maybe get back in touch with her. I had been in touch. There's no sense on spending too much time on this. I would love to talk about it, but I'm in touch with the grandmother who told me stories about my mother and my father and how my mother tended to all these young women with babies. The reason why—I met someone in Norfolk when we went back—another person just like this who just, when she saw me again, talked about my parents. They were always just taking care of people. So the tribute to my mother is just wonderful there. And so when this woman says, "Work on plants," this passion I had—because I felt that the epidemiology of cancer was telling us—I'm not the only one who knows this, you know. The Japanese would come over here and begin to get the same cancers we do in one generation. So, it's an environmental thing.

I think what has happened—one of the many breakthroughs in cancer in the last 20 years has been the increasing appreciation of environment with genes. And we know this from smoking, and now with obesity. I mean, this happened before the big obesity thing happened. So I said I want—I just think there is going to be stuff in plants that I ate as a kid, that I ate the day before my mother died, that have never been discovered. And that was the impetus for starting this journey which will probably never end. But it keeps me young.

Now, I'm going to digress a minute because—to give my father equal time—because he had an equal impact on me. So the day before he died, I also was at his bedside. It was April sixth, a Saturday. That night was going to be the first night of Passover. He died the next day, April seventh, which was the first day, which this year was exactly the same. He was so short of breath he could barely talk, but he asked me about my work. He was the more intellectual of my parents, very emotional. My mother had the more tender side. My father was an immigrant and tougher. He was not—I mean—he was a strict man, but he just wanted to hear about the work.

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I was working at the time on melanoma. I had just come and was working—this was pre-interferon and pre-Mary Lasker, but just by a few months. I met Mary Lasker right after that. It's amazing. I could barely hear him because he was just gurgling; he had so much fluid in his lungs. And there was a baseball game on. In those days they had the Saturday afternoon baseball games. And Henry Aaron had just hit his—what—now I'm just trying to remember. Had he tied Ruth? I guess he tied Ruth, and the next homerun he was going to break the 714 homeruns of Babe Ruth. He was playing with Atlanta. I think they were playing the Cincinnati Reds, and they kept him out. They kept him out because they wanted him to break the record at home. And my father commented about the plight and progress of African Americans—blacks. That was one of his major themes is the underdog. You know, being an immigrant, he had this soft spot. I had such a hard time—and I don't want to get too much into it because it's probably not relevant for the work. Well, it is relevant for the work. This is the underdog. I think cancer patients are like this.

You know, this is why I have such a hard time with bureaucracies and decisions. We'll talk more about them with the next things, because I've had more roadblocks with the new work than I had with the interferon because things are more complicated. I think that's part of my personality too, not trusting authority figures, because my father came out of that. I mean, he never saw his parents. He never saw his sisters again because of authoritative rule, you know? Once the Iron Curtain came down, forget about it, and the Nazis and so forth. These all came from authoritarian—so it's not that I don't respect authority; I do. But when those authority figures overstep their bounds, I have to stand up. That was my father standing up for the injustice.

And he just was—he said, "I can't wait until the game Monday night to see him break that record. I know he's going to break it at home. We'll watch it together. It'll be after the Seder, after the second night." I remember him—no, no—he was—no, the Seder was Saturday night and Sunday night, and the game was going to be Monday night. He said, "We'll watch that game together." Well, we never watched it because the next day he died. And it was that passion for correcting wrongs and—you know—I think so many of these people come here—here and every place else—you can't let the system destroy it. You have to break through these barriers. People are more comfortable, in my opinion, in maintaining the status quo for lots of different reasons. I'm not saying I'm better than anybody else; I am not saying that at all. It's just my personality is different. I just won't—I mean—I have been here forty years, so obviously I've done the right things. I haven't broken any rules or stuff, but I'll stand up—and I'm not as outspoken as someone like Freireich. That's why I respect him so much. He makes me like a mute. I mean, he's gotten himself—he's got more courage than I do. But a lot of that came—my own stuff—has come from my father. And just looking at this, you can just see the compassion that he had for this black man who was going to beat the great Babe Ruth's record. And he wanted to watch it with me and his other sons, I'm sure. And I thought we would. I mean, I knew he was dying as well. My mother was more predictable. So there's this blend of mother, father, nutrition, passion, and all sorts of stuff. My mother came—was American-born. She came from very modest means, but American born. My father—you know the history.
So now I wanted a new idea because I hadn't seen a whole lot of progress. The interferon was very gratifying, but I was over it already. Everybody was doing it. I was excited about the hairy cell leukemia, the CML. In other diseases like biloma and lymphoma and kidney cancer, we made a modest improvement of things. But I felt I had more in me, and I didn't see the innovation going on anymore. Plus I didn't want to probably run the department, and people didn't want me to run the department.

So the final decision, actually, was made about 1994. I walked in for my annual—the annual review of the department and to Dr. Krakoff, the head of the division. And for the first time, I was shocked. The administrative executive—

[redacted]

She had a spreadsheet, and she said, "Your department only generated X amount of dollars." We were a clinical department, but mostly research. I said, "What are you talking about? What do you mean generate an income?" I had never thought—that was not something we ever dealt with. How many papers did you have? What progress have you made and so forth? Not how much money that you make. Then Dr. Krakoff comes in, and he said, "This is paltry. You guys have got to see more patients." I said, "Why? We're doing research." "No, not anymore you're not. You're going to have to generate income."

This was a terrible time for the institute—'94—terrible time. I think it was through some downsizing going on. LeMaistre was a master at keeping this place going, but we lost some employees. He, himself, retired in '96. It was not easy times. But I had already begun to think about plants. So this was the nail in the coffin. I said—you know—I don't want to do this anymore. I could see that the clinical departments, even though we still do fabulous clinical research here, there was going to be this increasing pressure, certainly on the chairman, to generate money and so forth and so forth. And I was getting increasingly excited about the idea of plants. But I had no idea what to do. So around this time, I went over to a lecture to an institute called the Institute of Biosciences and Technology, I think—IBT. That's the IBT of the CIBT. It's in the old Shamrock Hilton location.

What happened was Texas A&M had put up an institute here in the medical center, a small one, a division, in part at least, of a friend of mine now—a scientist I didn't know—Charles Arntzen—A-R-N-T-Z-E-N—National Academy of Scientists. He was the dean of Agriculture, I think, at Texas A&M. I didn't know any of this. I just knew about this institute. And one day I went over to see—hear a lecture by a guy named Erkki Ruoslahti from The Burnham Institute in San Diego on the integrins. On the way out—I had never been in the building; it had a nice auditorium that came up—and on the way out I said, "You know, this is—I heard a little bit about the institute."

***Tacey Ann Rosolowski, PhD***
***0:45:26.7***
Could you repeat the name? I'm sorry. I missed it.

***Jordan Gutterman, MD***
***0:45:28.4***
Arntzen—A-R-N-T-Z-E-N.

***Tacey Ann Rosolowski, PhD***
***0:45:32.7***
It is the Arntzen Institute?

***Jordan Gutterman, MD***
***0:45:34.5***
No, no, no, no. He was the—

***Tacey Ann Rosolowski, PhD***
***0:45:36.1***
That's what I meant, the name of the institute.

***Jordan Gutterman, MD***
***0:45:38.0***
Oh, I'm sorry. It's called IBT—Institute of Biosciences and Technology, I think.

***Tacey Ann Rosolowski, PhD***
***0:45:43.0***
Okay. There you go.

***Jordan Gutterman, MD***
***0:45:43.1***
I think that's what it is. It was built by Texas A&M. And the whole vision, as I learned, was to bring some of the technology that A&M had had—particularly plants and to some extent agriculture and maybe—I don't know about engineering—and to see if they could create something. And this is the best kept secret in the medical center, because I can't imagine anything more exciting. I'm going to tell you, sometime, what came out of this thing. So on the way out, they had a guard. And I said, "Do you have any plant guys here?" Something like that. It was a bit—you know. He said, "Yeah, there's a real dynamic guy upstairs there, Charlie Arntzen." I said, "How do you spell that?" "Arntzen—blah, blah, blah." I went back. This was—now, I had a computer on my desk, but they were these big, huge things, and I didn't even know how to use it. This was in the nineties. It's amazing how fast we came. I'm sure I didn't look him up on the—well, there was no Google. I got his phone number. I used the thing called the phone that people used to use—you know—on my desk.

***Tacey Ann Rosolowski, PhD***
***0:46:52.6***
And probably a phone book too.

***Jordan Gutterman, MD***
***0:46:54.2***
And a phone book. I think we didn't have a rotary anymore. I still love the phone, by the way, because I love voices, and I think I can at least hear. The guy takes the call, and he's so dynamic. I learned very quickly he's in the National Academy, and his major interest in life, he said, was plants and human health—a marriage made in heaven. So in the next day or two I went over to meet him. He's as dynamic—ironically, he came from western Minnesota—Grandview, I think it is, Minnesota. It would probably be about sixty miles northeast of Flandreau where I grew up—a little town in Minnesota. His father was, I think, a farmer. And he had been at the University of Illinois, and—well, he was very famous. He made his work on photosynthesis.

So we decided we'd try to work together. And what I decided to do is this woman named Mary Blake, I would put her over there. I would go to the Clayton Foundation, try to get some money for him, and start thinking of how we could work together. I got introduced to all these plant people, and I was in seventh heaven. This is always the case with me. Brand new—I didn't know anything except that plants look green, but that's about it. I knew nothing, and I love to learn a new field, because I could see studying something like that maybe you could find these things, and you could help people one day and all the challenge of it, the science of it—it was just so exciting. I love to go over there, you know? It was so different from here. So I went over to the Clayton Foundation, who had given me money, and I was introduced by Leon Davis.

How things happen—Mary Lasker—the best gift you can give is another person. So by now I had been working the Clayton Foundation for fourteen years. They trusted me. They knew the whole interferon story, and they had become entrepreneurial now. Now they were thinking about patents. They didn't make anything, nor did I, on the interferon story, and that's going to come back to be positive twenty, thirty years later. But I went over there with the idea that I was going to change fields, and I didn't know how they were going to react.

The chairman at the time, who is still a trustee, was C.W. Wellen, who was the personal attorney for Ben Clayton. We haven't talked about the founding of this foundation. It turns out the foundation, which has been the key to this whole new story, was founded by a man named Ben Clayton, based on one interest in life in terms of science. It is called nutrition. He lived to his nineties. He was cotton dealer. Anderson Clayton was a big company here. That's the MD Anderson family and the Claytons. The original $500,000 came from the MD Anderson foundation namesake, and it was matched by the state. But Anderson had been in business with Clayton in cotton and, I suspect, oil. Who knows? They made tons of money. Ben was one of two sons—I mean—one of two brothers, and he started a medical research foundation called the Clayton Foundation. His attorney was this man C.W. Wellen, who was the chairman. He died, I think, in the late seventies, early eighties. I forget. I could look this up. It was, at the time, I think, around a $400 million foundation—medical research foundation. I remember going over there and saying that I wanted to change fields. I had an abstract idea. And I remember Bill Wellen looked at me—they had three trustees, at the time in the room with some other people—and said, "You know, you've done it once. Why not? Let's go for it."

Now, where in the world would you get someone to do that but Texas—but Houston? I mean, where could you do that? Where would someone give me a blank check and say, "I like what you said"? Ben Clayton would be proud—looking at plants. The connection with my mother and probably her mother eating carrots before she died—as a kid, eating parsley—going there, and Wellen is the lawyer of this man who made all this money but wanted to put money back for the good of humanity. And I go there and say, because I'm interested in nutrition—and I don't think I knew it at the time because—you know—we didn't have the Internet. And I didn't probably know all that history about nutrition and Ben Clayton. He loved it. He said, "This time you'll do it." And actually, we have done it, but we'll talk about it because he's still there. I just saw him the other day. He's getting some memory lapse and stuff, but he gets enough of it. And I—he is in his late eighties. No one gives him credit for anything. And I said, "Mr. Wellen, it was your vision. You did this, you know." You'll hear the story, but I said, "You did this." We haven't done everything yet, but we're getting there. And he remembered. He said he remembered. One way or the other, he remembered. And he's not that demented at all. I mean, he's losing some stuff.

So we moved Mary over to that institute, and then she organized speakers on various plant topics. So I could—you know—learn the difference between a leaf and a root and bark, stuff like that. And ironically, by the way, Taxol had become sort of a big name around this time. So natural products and plants were kind of reemerging, because even today, 60% of all drugs are derived directly, still, from the plant, or our analogs are—you know—synthetic derivatives of plant products—60% of drugs. Around this time, however, the big pharmaceutical companies had decided to deemphasize natural products. They are very complex. They thought all this new stuff of 0:53:19.7 (???) (inaudible) synthesis would work. We'll come back to that. But I was kind of swimming upstream in terms of the way the industry was going. I didn't know that exactly at the time. I didn't know anything about drug development other than the clinical stuff. I sure have learned it now.

So one of the lessons you and anybody listening to this or reading this voluminous number of words will learn is if you are energetic and motivated and have passion and this, that, and the other, you can learn all this. It's the most fun of all if self-taught, then reaching out to other people that are smarter than you. I think I told you Mary Lasker—well, she always said, "Have someone who is older than you." My thing is always be around people who are smarter than you. And that's not too difficult for me because it's easy to find people smarter than me. They may be in one area, but that's okay. It doesn't make any difference. So you just get rid of the ego.

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So we start bringing all these people in and nothing happens. I mean, we couldn't figure out exactly an organizing principle of what we wanted to do. And then—this was 1995—and then in the fall of—I would have to check the facts. Around this time in '95, Arntzen announces he's going to move to Ithaca, New York, to be president of the Boyce Thompson Plant Institute on the Cornell campus. I was devastated. What are we going to do? He's moving his whole team. The plant guys are gone; that's it.

So around this time, just as a slight diversion, I was asked by a couple people right before Mendelsohn got here, since I was no longer department chairman and I was writing a big review on interferon and I was doing a lot of writing—I actually took some courses in creative writing because I was trying to figure out what to do next, because I was thinking about plants, but we weren't doing anything—I was asked if I could bring in big pharmaceutical monies. So I did this for a while. That wasn't all I did, but I brought in a big grant from Monsanto. I mean, monies went to various—it was a very interesting program with very basic researchers. And I ran that program.

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**Chapter 14**
**A: The Researcher**
**Establishing a New Research Focus: Experiments, Money, Organization**

Story Codes
A: The Researcher
A: Personal Background
C: Professional Practice
C: The Professional at Work
A: Overview
A: Definitions, Explanations, Translations
C: Patients
C: Discovery and Success
B: MD Anderson History
D: Business of Research
D: On Philanthropy and Volunteerism

***Jordan Gutterman, MD***
***0:53:19.7 +***
We also got a big grant from one of the real success stories in biotech, from Boston Millennium, another grant working on diagnostic stuff, so I was staying very busy when he announced all this. Then one day Charlie called me up on the phone. This is a free-standing research institute on the Cornell campus, which is quite a stunning campus. And he said, "The institute owns an arboretum in the middle of the Arizona desert between Phoenix and Tuscan, closer to Phoenix." And I remember his words. He said, "Some crazy botanist had collected seeds from desert plants from throughout the world, and most of these trees and plants and so forth were growing in the arboretum, and then he was also growing down at the University of Arizona in Tuscan because they had kind of a center there to grow these things." He said, "Would you be interested in studying the body parts of these plants?" And I said, "Let me think about it." It sounded pretty interesting, but I didn't know anything. I mean, I—you know—I'm a hematologist, and I had a lab. I knew how to do self-culture work and stuff, but working on plants and chemistry and isolation—I mean, that's—so I thought about it and did some reading. I realized that desert plants were initially looked at in the birth control days. I think the Mexican yam is in the desert. That was the basis of the birth control pills by [Dr. Gregory] Pincus and the company called Syntex. But in general, desert plants have been sort of ignored for rain forest plants, so this sounded interesting. Then I thought about this. What are the stresses that desert plants have to deal with? They have to deal with ultraviolet stress—I mean—huge out there in the desert. So they must have interesting chemicals that deal—you know—we have skin cancer and aging overnight, also dehydration. So I called him up, and I said, "Yeah." He said, "You know, there's a natural product chemist named Joseph—" sorry.

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***Tacey Ann Rosolowski, PhD***
***0:58:19.5***
Sure. Okay, we're good. Joseph Hoffmann.

***Jordan Gutterman, MD***
***0:58:25.0***
So he and I met in Tuscan, and we went over to see Joe, who unfortunately passed away a few years later. He was a marvelously mild man. But he had a lot of problems. He was severely allergic. I can appreciate this. He had asthma and all sorts of allergies. He also had just undergone a divorce. His first wife—I think he remarried—they had a daughter. His first wife is a very well-known writer, and I'm forgetting her name right now. She has written a book on nutrition with her daughter Camilla. I can't remember her name right this second. It's not someone I've read. I see her books all over the place. So he was having severe—you know—he was just going through a lot of personal stuff—a wonderful guy.

He agreed to make extracts from all these different plants and trees and stuff—from the leaves, from the bark, from the roots, from the pods, from this, that, and the other. And I hired a PhD who was actually doing some work for me, who was very good with her hands, very skilled. Her name was Kalpana. She was from India. Kalpana—K-A-L-P-A-N-A—Kalpana Mujoo—M-u-j-o-o. Her husband is a scientist here. They are both still here in the medical center. She was working for a colleague that collaborated with who was in my department—a pharmacologist—and I kind of took her over. She was working on some suppressor genes. I knew she was very skilled with her hands. She couldn't write very well, unfortunately. You know, she has two languages—Hindi and English—but this is not uncommon. I mean, let's go over there and try to write in Hindi or Chinese, you know? That's not an uncommon problem around here. I feel like Joe Hoffmann—you know—every time I go there, he was like this coughing and sneezing and blah, blah, blah.

***Tacey Ann Rosolowski, PhD***
***1:00:29.6***
Spring in Houston.

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***Jordan Gutterman, MD***
***1:00:30.7***
Yeah. So, we set up a little screen with an ovarian cancer align, and a few weeks later we began to get extracts. I didn't know what they were. And we began to screen. Before killing—so it's called—in retrospect—it's called a phenotypic screen. Most drugs are not discovered this way anymore. Most drugs you find a target of interest, and then you screen millions of little compounds until you hit one. That is traditional. But the old way of doing it, what I call phenotypic screens—functional screens—you set up an assay. You want to see that it either blocks or enhances, that it would translate from the test tube situation, in vitro, to the in vivo. This is kind of the old-fashioned way of doing things. And this was definitely going out of favor. I didn't know any—you know—this is a good example of not knowing a whole lot, and that's good. Because I think if I had read too much or talked too much, people would have given me thousands of reasons never to do this. But I was going by gut and intuition and some of this other stuff.

We went through many, many extracts. I thought we were just going to kill everything because of all these toxins. As it turned out—a little bit like the interferon story, where the impure stuff was just exactly like the pure stuff—these extracts from all these things didn't do anything. And then one day, Kalpana comes into my office—same office where Mary had come to see me—and said, "Dr. Gutterman, it looks like we got a hit. There is this extract of this plant that killed some ovarian cancer cells." I was only modestly excited. It was nothing like seeing a platelet count going up in hairy cell leukemia or a Philadelphia chromosome disappearing in a CML patient, but that's because I'm a clinician, and I knew what that meant. I had no idea—and in fact, even if you knew what I was doing, I wouldn't have been very excited. It didn't mean much. But I called Joe up, and he said, "Well, let me try to purify that a little bit more." I thought he would purify it a little bit more, and that would be it. And to our surprise, the killing was actually somewhat improved. It was still there. We took some normal cells, and it didn't kill them. Now it began to get interesting.

This was—and I remember flying out to Tuscan, by the way. As an aside, around this time, I decided to join the department that I'm still in, in 1996. It has gone through several iterations of names and so forth and grown from the department of a new guy who had just come from Canada around the time Mendelsohn came—unrelated—'96, '97. It was called, I think, originally Molecular Therapeutics. Today it's called the Department of Systems Biology. [Dr. Gordon] Mills is an MD/PhD, and he kind of left me alone. I mean, I'm a full professor, and I had Clayton funding to do this. And they gave me money for Dr. Mujoo and a couple of other—a tech and so forth. Not a lot of money, but they just said, "Do it." As I said earlier, where else would you get this green—you know—blank check?

Now, I wasn't seeing patients. As a department chairman, I had kind of gradually stopped seeing—I would go down on rounds and hear about patients. We ran—during the really exciting days in the eighties and early-nineties at that department, we had conferences every day, where we went over patients, and it was very—it was actually quite exciting because we—well, obviously we had made the big breakthrough already in hairy cell leukemia and CML, but we were doing other things. And we also continued that work. But I, personally, had gradually stopped seeing patients. That was a choice. The choice wasn't made overnight, but as I got more and more into the science, as I will tell the story, it became obvious to me that I—this was a conscious decision, that seeing patients—I couldn't handle both. I wanted to read and read and learn and learn and learn. I said, "I think I'm going to be able to do more good for more people one day if I can really understand what I'm doing rather than seeing individual patients." Other people make different choices.

Do I miss it? Yes, I miss the human side. I still get calls on people, and I'm still involved. I still go to conferences. And I haven't lost too much. You lose a little bit. I can't remember the names of the new antibiotics, but the principles are the same. But that was a conscious decision. For someone listening or reading and so forth—you know—as a physician, it doesn't mean that you absolutely—particularly now—physicians and many professions you get trained as whatever it is. Whether it's a lawyer, an architect, a physicist, physician—you can do a lot of stuff. That's the beauty of the world today. There's so much information you can teach a lot, and you can go to people.

So meanwhile, we got two or three or four other hits, but—you know—I could see that Hoffmann could only really concentrate on one or two things. So he began to concentrate on this particular one. I have no idea what the other ones are to this day. Then I went out there in the fall, I remember—October 1996—meeting with Arntzen and Mary. Now meanwhile, Mary relocated with a single child—she was a single mother—to set up this program in Arizona to collect all these tree and plant parts and coordinate—make sure Hoffmann was staying on track. He was a bit, to say the least, disorganized.

***Tacey Ann Rosolowski, PhD***
***1:06:26.3***
What was the name of the program? Did it have a name?

***Jordan Gutterman, MD***
***1:06:31.3***
Yeah. It's called the Legume Project. I think these were mainly legumes—bean plants. I think that's the name of it. That's what Clayton called my program. Oh, by the way, I had to go back to Clayton and get money for him. They had to do an agreement with the University of Arizona. Meanwhile, Arntzen was up at Boyce Thompson—part of Cornell—again, and I got Clayton to put money into his lab. So now it was starting to expand. I forgot all this. Well, it was only after we got the hit. No, no, that's not true. In '96, I had to go back to them. In '95, they were supporting Mary and had a little money in Arntzen's Houston lab and my lab. When Arntzen moved, they transferred that money up there. Mary stayed—came back physically over here. And he coordinated with Arntzen. And then in '96, when we finally made that agreement with the University of Arizona and Hoffmann, she relocated to Tuscan because—

***Tacey Ann Rosolowski, PhD***
***1:07:33.8***
What was the agreement you made with the University of Arizona?

***Jordan Gutterman, MD***
***1:07:37.6***
Well—excuse me—the agreement was that they would only—that the Clayton Foundation would own all the intellectual property and they would give them money. I forget what the grant was to Hoffmann, but they gave him—I mean—they supported his whole program out there in an agreement, in exchange for the patent rights and so forth. And they still have some part of it, actually, today. Even eighteen years later they still have a potential role here. And so money was also being transferred—instead of A&M now, it went to—the agreement went to Boyce Thompson. And then we just continued this. I remember, by the time—by the way, around this time, '96—during that year is when Mendelsohn came in. For the first year, he kept everything pretty much and then gradually made changes, and more and more specializations were going on. It was more economy. And he does a magnificent job in terms of growth. I mean, he was a magnificent fundraiser. He himself had some interesting issues with a drug, Erbitux—conflict of interest potentials. He made a lot of money, but he was one of the early ones in targeted therapy. He went through a difficult period because he was on the Enron board and then on the ImClone board. Enron, we know the story, and also because he was head of MD Anderson. By the way, LeMaistre was also on the Enron board. So those guys were in the—

[The recorder is paused.]

Tacey Ann Rosolowski
1:09:17.3

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Okay, we're recording again.

***Jordan Gutterman, MD***
***1:09:18.7***
But—you know—I was kind of doing my own thing. I mean, I was in Mills's department. We were protected. We were considered to be a research department but had clinical privileges, and I was protected since I had my own money. I got more and more into the science, as I will talk about. The chemistry, the biology—I had to learn all this stuff. I mean, I had to learn about everything—plants. It was—it's stated that it takes a minimum of ten years to master a topic. There's probably more than one—there are many topics here. But it took me probably up until about 2006 that I felt even comfortable, and I still don't feel that comfortable with most of it. But I know enough now to have directed this program. And then I reach out to the best.

But back in '96, '97, '98, Hoffmann ran into a roadblock. He was getting sicker and sicker. He eventually passed away. He could not get pure compound. I had learned enough chemistry that we needed to get the structure of this stuff. So I was talking to a friend of mine that used to be at MD Anderson at Science Park, Tom Slaga, a PhD guy who is now in Denver. He said, "Why don't you go to Hauser Chemical there in Boulder?" I don't know anything about Hauser. It's a natural product company, and they had made all the Taxol for the initial clinical trials, which eventually Bristol took over, but in the eighties and early nineties—and they were in Boulder. They were looking for business because natural products were kind of fading. And Slaga was interested in plants and nutrition. He was head of Science Park research. That's out near Austin, in Bastrop, but now he lives in Denver.

So I flew to Denver and drove with him up to Hauser, met two natural product chemists—a guy named Bailey and a guy named Sherlock and a guy named Jayatilake. I think it's J-A-Y-A-T-I-L-A-K-E—Gamini—G-A-M-I-N-I. He and I began to work together a lot for several years. I still remember on September 1, 1998, the Clayton Foundation formed an agreement with Hauser to do this contract work to try to purify and get the contract. I had no idea. I thought it would take them—maybe because interferon took forever to clone and all that stuff. Now this is, again, the same excitement, because I had to learn about how you take crude stuff out of a plant. This was, by the way, coming from the seed pods, which is a renewable source. I obviously came to learn with the Taxol story that you can't—don't have to chop down trees. You get these pods every year when you renew—very exciting—lucky.

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October 15, 1998, my sixtieth birthday, I got a call from Gamini. We got pure stuff, and we got the structure, just like the interferon. We got the pure interferon, we got the structure, and we cloned it. I mean, this is really exciting stuff. So now I had to learn chemistry. I flew up eventually so see Arntzen, and he's not a chemist, but he had a guy named Meinhart—German guy from Munich—Meinhart Zenk—Z-E-N-K—visiting. Zenk is a terpene chemist, and this was a terpene—a terpenoid. It had five rings and stuff. I didn't know squat about what this was. I mean, I just knew that it was—a little bit about it. He looked at the structure now, and I see why he did it. There are three parts to the molecule—four parts, really. He pointed to three of the parts. He said that's a delivery system, and the warhead—the business end is on the side chain over here. Well, he was right on. He got it. He had it exactly right on. But now I see, in retrospect, how he did it, because he's an organic chemist. But still, it was very insightful. I didn't know what he was talking about, but I said I'll learn. And I've learned.

So now we have to figure out what to do, and we didn't have a lot of the stuff. We had to figure out what the mechanism of action—that's the next—there are two things you want to do. You want to find out how it works and if possible find out what the so-called target is—what the molecular target is. Generally, a protein—it could be a nucleotide like RNA or maybe—or DNA for cancer. We were starting with a black box. We had no idea. We just knew it blocked the growth of cancer cells; it killed them. We didn't even know how they killed. So that was my next phase now is to come back here and begin to figure out how this stuff works.

Around this time I was very lucky. Another scientist, a young woman, who was working for another Indian scientist who I hired—she was working for him in a PhD—her name is Valsala Haridas. She still works with me. She's my right hand and left hand and everything else—you know—scientifically, a marvelous human being. V—V as in Victor—A-L-S-A-L-A—Valsala Haridas—H-A-R-I-D-A-S. She was working for a guy named Aggarwal—Bharat Aggarwal—A-G-G-A-R-W-A-L. I first met him in Genentech, where he had purified something called TNF. And Dr. Aggarwal I hired her to work on cytokines, back when I become a department chairman. Only recently, like in January, he was accused of dressing up something like eighty manuscripts of reproducing the same data in different formats, and he's in big trouble, I think, unfortunately. I like him. He ran a very strict lab. Dr. Haridas wanted to have a child with her husband who is a scientist and didn't like the strictness of it. She asked for a job, and I liked her. That was one of the smartest things I've ever done—hiring her.

So I sent her and Dr. Mujoo on the task of working on the mechanism of action. Dr. Mujoo, I might add, around 1980, moved on to another position because there were just reasons. It was just—she was very good at finding the original, and she made the original observation and discovery, and she was on the original patent. She'll benefit if there is any financial reward and credit. She is a co-discoverer; there is no doubt about it. But she—I don't know—rightfully or wrongfully, there were things happening in this department that just weren't going to work out for her to stay.

I'm not a control freak, but I had to have control of this program because it was so bizarre. In fact, the funny thing is today, finding drugs and working on drugs and academic centers now is becoming slightly fashionable. I was way out of place. And I can tell you, no one understood what we were doing or cared what we were doing or appreciated what we were doing. Again, a little bit like the interferon stuff, but I didn't care I just—and I—

***Tacey Ann Rosolowski, PhD***
***1:17:24.9***
Can I interrupt you just for a second?

***Jordan Gutterman, MD***
***1:17:26.0***
Yeah, of course.

***Tacey Ann Rosolowski, PhD***
***1:17:26.3***
I just wanted to ask, just for the record—

***Jordan Gutterman, MD***
***1:17:29.0***
No, you know what? I don't even give you a chance to even ask questions.

***Tacey Ann Rosolowski, PhD***
***1:17:31.6***
No, no, no. You're—because I don't need to. You're just covering all the bases. But this is just one little detail.

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***Jordan Gutterman, MD***
***1:17:36.9***
Yeah, of course.

***Tacey Ann Rosolowski, PhD***
***1:17:38.3***
Out in Tucson, the program was called the Legume Project—Program.

***Jordan Gutterman, MD***
***1:17:42.5***
I think so. I don't know. We could check.

***Tacey Ann Rosolowski, PhD***
***1:17:43.4***
Now, did you have a name for the chemical studies that were being done here to determine the mechanism of action? What was that called?

***Jordan Gutterman, MD***
***1:17:50.4***
Well, okay. So I knew once we got the structure, I was now familiar enough—in fact, just today I was looking for the book that has a set of—I have everything in my books in storage, and I can't find the book. There are a couple really wonderful books about the history of drugs. They're just so exciting. Don't forget, it was my father who said become a pharmacist. He lived next to that pharmacy. So mother and father are intertwined constantly. I'm not going to go back any more generations because I don't know enough. But they're always there—always, always, there.

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I looked up the history of how aspirin was named, and it was named after the plant—I forget exactly right now. I'm not—I'm starting to feel not very good here. I'm really winding down. But the name of the—they named it after the plant, and then it just—the structure of it ended in an I-N, so they came up with aspirin. I think the—it's not aspergillus. That's a fungus. But we can look up the name. So they named it after the plant and put an I-N at the end. So this comes from an Acacia victoria. I'm kind of an optimist, okay? And I'm really focused and determined. So I said, "Valsala, one day this is going to be important, so we got to get the name. It's got to flow right." And we were lucky. It comes from an Acacia—and I'm going to digress on that one in a minute and tell you kind of an extraordinary story about Acacias. But Acacia is A, and then comes—the victoria is the species. It was first discovered along the banks of the Victoria River, which is not, I think, in the state of Victoria, I've been told. I'm not sure where it is. It's up near that area near Sydney, on the eastern—I guess that's the eastern coast. So we named it A for Acacia and then V-I-C for Victoria. And the general structure of it—it's got five rings and then two sugars in this side chain, which is really the action. But there is a generic name for these types of compounds that have rings—four rings or five rings—and sugars. They're called saponins or saponins, which is a derivative of soap. Or soap is a derivative of saponin. If you shake them up they can form suds. And they don't have a great track record. Digitalis is a saponin, by the way, so that was my great hope. The heart—the first heart drug from Dropsy back in '77—not '77—1777 or whatever it was. So that was a hope for me. But a lot of them are toxic.

So I had my concerns whether this was going to do anything. So that's how we named it—A for Acacia, V-I-C for Victoria, and then I-N for the last part of the—the general structure of the saponin, which is not the greatest name in the world because people don't like them. Fortunately, this has activities different from saponins, but that's I-N—and I-N is good because a lot of antibiotics have I-N at the end. They look like drugs. So the name—it's an easy name. It's a pleasant name. V is a very strong letter. A is—starting with a vowel, it's got a nice ring to it. You know, that's the name. So we called it the Avicin Project or the Legume. I think Clayton probably, still on the books, calls it the Legume Project.

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Now, meanwhile, Clayton is getting more and more excited. I took him out to Tucson. They had these trees growing. And these Acacia's have thorns. That's how they deter animals from eating them. The trustees came out on a hot, fall day—probably October I think—but it's still 102 degrees out there. And we went out in the fields to see these. One of the trustees, Tom Brorby, who is now the chairman, was wearing—he told me just the other day. Just a week ago he told me this story that this was the first time he wore this suit—light wool Italian suit. He said the most money at the time that he had ever spent on a suit, tailor-made, blah, blah, blah, the whole nine yards. And he snagged it on a thorn out there. What in the hell is he doing with a suit? But he's Clayton Foundation, and they're very formal. I mean, I've never seen them without a necktie. So he snagged—he had to have to it. I've heard that story a thousand times. I still think he's—he's not mad at me, but he said, "Well, you better make some money out of this stuff for the foundation." He had to get that reweaved. I just heard about this a week ago for the umpteenth time—how I took him out and didn't warn him about the thorns in the field. It was hot. He was sweating in wool. It was just crazy. But they were excited—you know—and they were excited.

So we put a patent application in on what's called composition of matter. Again, I had to learn about patent law. Now, I had a great teacher. Charlie Arntzen probably could teach patent law. He just loves patents. And so Charlie was pretty involved in those early days. He didn't stay involved because—you know—he was—Charlie was working on edible vaccines. And just to show the interesting people you meet when you start doing these things—you never know. Charlie was in—he loves to travel. He was in either Indonesia or Malaysia, and he saw a mother holding a child who was crying. And the mother just took a ripe banana and took a little—opened it up, and took a small little piece and put it on her finger, and then put it on the baby's tongue, and the baby calmed down. And this—he got this idea. Why don't we make vaccines and engineer them in plants? It's cheaper, supposedly, than any other way of engineering vaccines. You put them in either potatoes or bananas. That's what he was working on. I'm not sure where that field is now, but that was—but it was—more for third world stuff. So he had a hard time getting funding from—you know—from places I would go to. He would go to the WHO and so forth. He's a very, very creative guy. I don't talk to him much anymore. I haven't really—he's not been involved in this work for about the last decade. But he was key—key to the instrumental. Who would have known? He goes up to Cornell, and all these things start and weave, and this thing happens.

So let's see. This may be a good stopping point. I don't know. Let me think about this a second. So we're starting the work on mechanism—I'm starting to wind down, too, a little bit—we'll talk about that. I think probably we start publishing—well, first we had to get the papers, and then we start publishing work and the chemistry. We applied for a patent, which, by the way, was awarded. It's called composition of matter. That was, I think, awarded, I believe, in 2002. That's the most important patent because the structure—you know—you can get around it. You can modify it, perhaps, and stuff, but a composition of matter is considered to be the most important patent you can get.

***Tacey Ann Rosolowski, PhD***
***1:25:29.5***
Is that on here? Oh triterpene compositions?

***Jordan Gutterman, MD***
***1:25:32.2***
Yes.

***Tacey Ann Rosolowski, PhD***
***1:25:33.0***
Okay. It's pending here.

***Jordan Gutterman, MD***
***1:25:35.4***
Yeah, that's way—it must be way out of date.

***Tacey Ann Rosolowski, PhD***
***1:25:36.5***
It must be out of date. Okay. Oh, here's one. Yeah. Right, triterpene compositions and methods for use thereof 2002—

***Jordan Gutterman, MD***
***1:25:46.3***
Yeah. That's it.

***Tacey Ann Rosolowski, PhD***
***1:25:47.2***
Okay. Yeah.

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***Jordan Gutterman, MD***
***1:25:50.0***
Arntzen et al, because they go alphabetical.

***Tacey Ann Rosolowski, PhD***
***1:25:53.4***
Yeah, Charles Arntzen, Mary Blake, Jordan Gutterman, Joseph Hoffmann, Gamini—

***Jordan Gutterman, MD***
***1:26:01.6***
David Bailey.

***Tacey Ann Rosolowski, PhD***
***1:26:02.4***
Yeah, David Bailey. I couldn't—I'm stumbling over that woman's name. But okay, great.

***Jordan Gutterman, MD***
Kalpana Mujoo. The Hauser people waived—the contract was that they would waive their rights to the few patents. So they're on the patent, but the patent is turned back over to Clayton. I think it's a good stopping point.

***Tacey Ann Rosolowski, PhD***
***1:26:22.4***
Okay. Let's—why don't we—? We'll terminate for today.

***Jordan Gutterman, MD***
***1:26:24.2***
I think we made a lot of headway. This is a whole story. It's a whole new career. It's a whole other story. Like I said, it's Act Two.

***Tacey Ann Rosolowski, PhD***
***1:26:33.8***
Yeah. Well, we'll continue with Act Two next time.

***Jordan Gutterman, MD***
***1:26:37.0***
It's so exciting, though. You haven't even heard the exciting stuff yet.

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***Tacey Ann Rosolowski, PhD***
***1:26:40.2***
Well—you know—you've been dangling this in front of me all this time, and I'm like, yeah. No, I'm glad to be in the story now. It's really fabulous.

***Jordan Gutterman, MD***
***1:26:47.8***
Oh it's—yeah—you know—we started a company in Seattle, and we got to the point to the clinic, and then they gave the technology back. I'm starting a company with a brand new accelerator here with state money. We're probably going to raise $16 million. We're ready to go to patients. I mean, we're ready.

***Tacey Ann Rosolowski, PhD***
***1:27:04.3***
This is great. So to be continued.

***Jordan Gutterman, MD***
***1:27:07.2***
Oh, for sure.

***Tacey Ann Rosolowski, PhD***
***1:27:08.4***
To be continued.

***Jordan Gutterman, MD***
***1:27:08.5***
Plus we have a whole decade now of stuff. I can condense that down, but how it affects metabolism, and—oh, it's just—it just fits right in with the new—all this new work coming out with obesity and metabolism. It's just—I mean—we're just starting.

***Tacey Ann Rosolowski, PhD***
***1:27:28.3***
Well, it's 4:45, and we're closing off the interview for today.

***Jordan Gutterman, MD***
***1:27:33.2***
Oh, okay. Sorry.

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***Tacey Ann Rosolowski, PhD***
***1:27:34.0***
That's all right.

1:27:35.6 (End of Audio Session 3)