Eugenie Kleinerman, MD

Interview #58

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Eugenie Kleinerman, MD

Interview #58

Interview Profile

Interview Information:

Four interview sessions: 21 May 2014, 29 May 2014, 4 June 2014, 18 June 2014
Total approximate duration, 5 hours 30 minutes
Interviewer: Tacey A. Rosolowski, Ph.D.

For a CV, biosketch, and other support materials, contact:

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About the Interview Subject:

Dr. Eugenie Kleinerman (b. 16 April 1949, Baltimore, Maryland) was recruited to MD Anderson in 1984 as an Assistant Professor in the Department of Pediatrics. Today she holds the Mary V. and John A. Reilly Distinguished Chair. She also has a joint appointment with the Department of Cancer Biology.

Dr. Kleinerman is best known as a pioneer in the use of immunological treatments for osteosarcoma. Her first discoveries involved the agent, MEPACT, and she has gone on to investigate many agents, combination therapies, and novel delivery systems.

As Head of Pediatrics at MD Anderson, a role she has served since 2001, Dr. Kleinerman established an oncology services specifically designed for pediatric patients, and was successful in establishing their unique identity in the “hospital within a hospital,” the Children’s Cancer Hospital.

Major Topics Covered:

- Personal and educational background
- Women in medicine and at MD Anderson
- Areas of research; development of her translational approach
- History of translational research at MD Anderson
- Leading the Division of Pediatrics
Views on change at MD Anderson with shifts in executive leadership
Eugenie Kleinerman, MD

Interview #58

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Chapter 19 / B: Critical Evaluation

Privileged to Work at MD Anderson; An Active Life and Family
Chapter 20 / A: Personal Background
Dr. Kleinerman begins this chapter by explaining that she came to MD Anderson from the NCI in the early eighties because she was interested in running clinical trials with children diagnosed with osteosarcoma, and was unable to do so at the NCI. She recalls her colleagues’ reactions when she said she was going to Texas and notes that despite the growth of MD Anderson’s reputation, there is a lingering perception that the institution is not as good as those in the East and in California. She tells an anecdote that indicates the perception that “we’re yokels.” She notes that MD Anderson never aspired to have the same structure as an academic institution because of the strong focus on cancer and translational research. “We don’t want to be a Harvard, a Yale, a Stanford.”
Dr. Kleinerman offers observations on how the culture of MD Anderson has been changing since the arrival of MD Anderson’s fourth president, Dr. Ronald DePinho. She sets context by describing the impact of a change instituted by Dr. John Mendelsohn, M.D. [Oral History Interview]: requiring faculty to derive 30% of their salaries from grants, with this rising under the new administration.

She discusses concerns that the institution is no longer distributing value equally between basic science research, clinical research, teaching and mentoring. She also fears the loss of a “special atmosphere” of collaboration and collegiality as well as innovation that the older system fostered. She demonstrates the support for innovation using her own innovative study of immune-therapy in children, an atmosphere that allowed her to conduct research impossible at the NCI.

Dr. Kleinerman next explains that today the institution is more rigid and rule-governed, with a strong focus on genomics.

Chapter 3
A: Educational Path
*Focused on Medicine; Navigating Institutions without Mentors*

Story Codes
A: Personal Background
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Experiences re: Gender, Race, Ethnicity
A: The Researcher
C: Evolution of Career
C: Women and Minorities at Work
C: Discovery and Success

Dr. Kleinerman traces her educational path up to medical school.

Dr. Kleinerman begins by sketching her family background and notes her father’s role as her first mentor. She describes experiences that inspired her to be a physician-researcher from the age of five.

She next sketches her path to Washington University (St. Louis, Missouri, BA 1971, Biology). She describes instances of gender bias that left her without a mentor to help her navigate the college environment. She notes that she became accustomed to not being taken seriously and credits her mother with providing her with determination. She also sets her experience in the context of the cultural environment of the 1960s. Dr. Kleinerman notes that she married Leonard Zwelling, MD (while in medical school) in 1972, describing the assumption on the part of colleagues that she would then become less serious about her career.
Chapter 4  
A: Professional Path  
*Medical School, A Fellowship, and A First Research Project*

**Story Codes**  
A: Experiences re: Gender, Race, Ethnicity  
A: The Researcher  
C: Evolution of Career  
C: Women and Minorities at Work  
C: Discovery and Success  
A: Experiences Related to Gender, Race, Ethnicity

Dr. Kleinerman traces her path to medical school and into her clinical fellowship (1974−1975 Clinical Fellowship, Rheumatology, Duke University).

She first explains the process of getting into medical school at Duke University, Durham, North Carolina (MD 1974). She describes the curriculum and notes that the small number of women. She explains her view of different specialties and her selection of pediatrics. She recalls instances of gender bias encountered, then describes how she met Dr. Ralph Snyderman, who was instrumental in introducing her to immunology and setting up her collaboration on a research project conducted during her clinical fellowship in the rheumatology laboratory. She then talks about how her research results were controversial. She concludes with additional memories of gender bias.

Chapter 5  
A: The Researcher  
*Bringing Clinical and Laboratory Experience Together and Identifying a Research Focus*

**Story Codes**  
A: The Researcher  
A: Inspirations to Practice Science/Medicine  
A: Influences from People and Life Experiences  
C: Professional Practice  
C: Evolution of Career  
C: Discovery and Success  
C: Human Stories

Dr. Kleinerman notes that her fellowship in clinical research had enabled her to secure national recognition. She then spent three years focusing on clinical practice at Children’s Hospital National Medical Center in Washington, DC. She explains how this helped her later research career when it came to identifying treatment for patients. She also describes going to see the film, “Promises in the Dark,” an experience that influenced her decision to focus on oncology.

Dr. Kleinerman then explains how she took a position as a Clinical Associate in the Metabolism Branch of the NCI Bethesda (1978−1981), where she met Isaiah Fidler, DVM, PhD [Oral History Interview], who was working on immune therapy for lung metastasis, research she felt could work for osteosarcoma. Dr. Fidler would become her mentor.
Chapter 6
A: Joining MD Anderson/Coming to Texas
Leaving the NCI for Research at MD Anderson

Story Codes
A: Professional Path
A: Experiences re: Gender, Race, Ethnicity
A: The Researcher
A: Influences from People and Life Experiences
A: Contributions to MD Anderson
C: Portraits
C: On Texas and Texans

Dr. Kleinerman begins with stories to demonstrate that she was not taken seriously as a researcher at the NCI. She explains that when Dr. Fidler left the NCI for MD Anderson, he brought her with him. She recalls interactions with Norman Jaffe, MD (Oral History Interview), and notes that she never had to prove herself with him. She also notes that she was the first person to do clinical research in pediatrics.

Dr. Kleinerman next describes the climate for women in the institution when she arrived in 1984. [The recorder is paused for 2 minutes.]

Dr. Kleinerman notes the absence of women leaders at MD Anderson. She then talks about the benefits of living in Houston. She tells stories to demonstrate the support she had as a working mother and the welcoming attitude of the Jewish community in Houston.

Interview Session 2: 29 May 2014, about 1 hour 30 minutes

Chapter 0:B
Interview Identifier

Chapter 7
A: The Researcher
An Introduction to MEPACT and a New Research Collaborator for Study of Osteosarcoma Treatment

Story Codes
A: The Researcher
A: Influences from People and Life Experiences
C: Discovery, Creativity and Innovation
C: Evolution of Career
A: Definitions, Explanations, Translations
A: Critical Perspectives
C: Discovery and Success
D: On Research and Researchers
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care
Dr. Kleinerman speaks in detail about her pioneering work on the immunotherapy agent, liposomal muramyl tripeptide –MTPE.

She describes the drug and the mechanisms of its interaction with macrophages, as well as the technique she used to sheath the drug in lipids that would result in attacks on cancer cells. She sketches Dr. Isaiah Joshua Fidler’s [Oral History Interview] work on this agent in mice and describes her “Eureka moment” in understanding the implication of his results for osteosarcoma. She also talks about her first interaction with Dr. Fidler, whose reaction to her idea was “Let’s collaborate.” She explains why she was a good partner for him in translational research.

Next Dr. Kleinerman explains why the NCI was resistant at the time to running clinical trials on children. Sketches her own experience with osteosarcoma and how she discovered that the disease, though rare, is a big problem.

Chapter 8
A: The Researcher

Putting the Pieces in Place to do a Phase I Trial with MEPACT

Story Codes
A: The Researcher
C: Discovery and Success
C: Discovery, Creativity and Innovation
C: Professional Practice
C: The Professional at Work
C: Women and Minorities at Work
C: Obstacles, Challenges
A: Joining MD Anderson
D: Ethics
A: Contributions

Dr. Kleinerman begins the MEPACT story by discussing her growing collaboration with Dr. Fidler.

She explains the preliminary work required before running a human trial involving the immunotherapy agent, MEPACT. She talks about partnering with Ciba Geigy.

Next, Dr. Kleinerman explains how an individual at the NCI blocked her attempts to develop a trial, noting possible gender bias, followed by Dr. Fidler’s invitation for her to come with him to MD Anderson.

Dr. Kleinerman explains her strategy of constructing “the ultimate clinical protocol.” She describes the ethical issues that arose and research challenges in determining the Optimal Biological Dose (OBD). She notes that she and Dr. Fidler were the first to design a study around this concept and that they have not been adequately recognized for this contribution. She notes that they also ran studies to demonstrate that human patients could respond to the drug.

Next Dr. Kleinerman notes that in 1986 with support of colleagues at MD Anderson. She describes the results and some surprising discoveries.
Chapter 9
A: The Researcher
*Designing a Phase II Trial for MEPACT, and the Characteristics of Translational Research*

Story Codes
A: The Researcher
C: Discovery, Creativity and Innovation
C: Professional Practice
C: The Professional at Work
C: Discovery and Success
B: Institutional Mission and Values
B: MD Anderson Culture
B: Multi-disciplinary Approaches
D: Understanding Cancer, the History of Science, Cancer Research
B: MD Anderson History
B: MD Anderson Impact
C: Controversies

In this Chapter, Dr. Kleinerman tells the next part of the MEPACT story: designing a Phase II trial. She sketches the practical elements of submitting a proposal and notes ways in which it was innovative.

Dr. Kleinerman explains how she designed the Phase II trial and the unusual parameters she set for selection patients. “I was one of the cowboys at MD Anderson.” Dr. Kleinerman explains that MD Anderson had a culture of using pioneering approaches to treat cancer.

Dr. Kleinerman describes the protocol and some surprising initial results that came from the Phase II trial and demonstrated the effectiveness of MEPACT on pulmonary metastases.

Chapter 10
B: MD Anderson Culture
*A Pioneering Attitude at MD Anderson: The Nature of Translational Research and The Physician-Scientist --a ‘Dying Breed’*

Story Codes
A: The Researcher
A: Character, Values, Beliefs, Talents
D: Understanding Cancer, the History of Science, Cancer Research
B: Critical Perspectives on MD Anderson
B: Growth and/or Change
B: MD Anderson Culture
B: Beyond the Institution

Dr. Kleinerman begins by explaining that she looked at problems differently because of her basic sciences background. She then explains her view that physician-scientists are a dying breed, and goes on to explain her definition of translational research and important a physician’s perspective is to it.
Picking up a thread of the discussion about MD Anderson culture in Session I, she explains that closing clinicians out of research is a “national tragedy” created by the decreases in money available for funding. She observes that before Dr. Ronald DePinho assumed the presidency of MD Anderson, the institution held the attitude that it was unique and did not want to rely on external systems to validate the research conducted within the institution.

Chapter 11
A: The Researcher

A Successful Phase III Trial and European Approval, But No FDA Approval for MEPACT

Story Codes
C: Professional Practice
C: The Professional at Work
C: Collaborations
D: On Pharmaceutical Companies and Industry
D: Ethics
B: Beyond the Institution
B: MD Anderson and Government
D: Global Issues –Cancer, Health, Medicine

In this chapter, Dr. Kleinerman brings the MEPACT story to a close.

She first describes how the Pediatric Oncology Groups of the NCI first had a very negative reaction to the results of the Phase II trial, then explains why this turned around. Dr. Kleinerman worked with collaborators to design a Phase III trial. She describes practical and political complexities that resulted in the FDA not approving MEPACT, despite its efficacy.

Dr. Kleinerman next explains the process that won approval for MEPACT from the European Medical Association, where her work defined has become standard of care in the United Kingdom.

Dr. Kleinerman discusses FDA approval processes.

In the final moments of this Chapter, Dr. Kleinerman talks about the impact that clinical trials can have on faculty careers, when it takes years to achieve results.

Interview session 3: 4 June 2014, about 1:30

Chapter 0:C
Interview Identifier

Chapter 12
A: The Researcher

Innovative Aerosol Therapy for Bone Metastasis to the Lung and an Overview of Translational Research

Story Codes
A: The Researcher
In this chapter, Dr. Kleinerman describes her work on a novel aerosol therapy for bone metastasis to the lung, weaving in explanations of biological and genetic processes as well as overviews of work in the field.

She explains that her research approach begins with understanding the disease and then she looks for novel alternatives to chemotherapy. She outlines the science involved in this study then sketches the phases of research she developed.

Dr. Kleinerman summarizes how she took basic science and clinical knowledge to development treatment, then gives an overview of her philosophy of translational research and the evolution of this kind of work at MD Anderson.

At the end of this chapter, Dr. Kleinerman talks about the advantages of aerosol therapy for patients.

Chapter 13
A: The Researcher
Mesenchymal Stem Cell Treatment for Ewing’s Sarcoma; Harnessing Autophagy to Reduce Tumors

Story Codes
A: The Researcher
A: Overview
A: Definitions, Explanations, Translations
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care
C: Discovery and Success
C: Offering Care, Compassion, Help
C: Patients

In this chapter, Dr. Kleinerman talks about her interest in the rare cancer, Ewing’s sarcoma. She first sketches the research questions she poses, based on the tumor’s reliance on blood vessels. She sketches how she focused on mesenchymal stem cells and a pathway to block to successfully prevent angiogenesis, turning this cancer into a chronic disease. Dr. Kleinerman notes some challenges to doing clinical trials, then comments on her approaches to clinical problems and the importance of funding for basic research.

Next Dr. Kleinerman talk about a new area of research she has undertaken harnessing the process of autophagy.

Chapter 14
B: Building the Institution
Challenges to the Division of Pediatrics
In this chapter, Dr. Kleinerman talks about her activities as Head of the Division of Pediatrics.

She explains how she came to be Division Head in 2001. She sketches the history of pediatric care at MD Anderson. She says that when she arrived at MD Anderson in 1984, it was challenging to care for pediatric patients in an adult facility. Dr. Kleinerman provides an overview of what is needed for pediatric care.

Next, Dr. Kleinerman talks about measures she first took as Division Head: holding a strategic planning retreat, developing a vision, hiring critical care staff. She talks about the process of gaining the trust of the faculty, then goes into more detail about the retreat and her strategies for developing the strength of the faculty. She gives an example of shifting the responsibilities of a faculty member who was suffering from burnout, enabling him to perform more effectively. She also notes that, with the new administrative (and billing) structures in place, it is not possible to use such creative approaches to problems.

Chapter 15
B: Building the Institution
*The MD Anderson Children’s Cancer Hospital; Creating a Successful Training Program*

Dr. Kleinerman begins this chapter by discussing her working relationship with Dr. John Mendelsohn, MD [Oral History Interview], who supported her efforts to develop pediatric care. She notes that Dr. Mendelsohn formed an Advance Team composed of Board of Visitors members to advise Dr. Kleinerman on strategy to develop Pediatrics. Their main advice: “You need a separate name,” and in 2005 Pediatrics received their designation of the Children’s Cancer Hospital. She describes initiatives arising from this.

Next, Dr. Kleinerman explains that at the same time, she was building the faculty. She acknowledges that faculty were leaving because of conflict with her new focus on innovative research and research productivity. She notes that she recruited about 75% of the current faculty and describes the active networking required to identify good candidates.
Dr. Kleinerman next sketches her vision for the future of the Division then talks in more detail about the successful Fellowship program that she initiated twelve years ago.

**Interview Session 4: 18 June 2014, about 1 hour and 15 minutes**

Chapter 0:D
Interview Identifier

Chapter 16
B: Building the Institution
* Developing the Division of Pediatrics

Story Codes
B: Building/Transforming the Institution
B: Multi-disciplinary Approaches
B: Growth and/or Change
B: Research, Care, and Education in Transition
C: Patients
B: Philanthropy, Fundraising, Donations, Volunteers

Dr. Kleinerman discusses the growth of the Division of Pediatrics and the need to further develop services for adolescents and young adults.

She explains the business plan she developed at Dr. David Callender’s request when she assumed leadership of the Division.

Next she discusses the design of the Children’s Cancer Hospital opened in 2013 and the four advisory councils created to help guide the design and staffing.

Next, Dr. Kleinerman explains the need to develop services for adolescents and young adults (particularly in the area of fertility counseling) and explains why pediatrics is attuned to the special needs of patients. She talks about a failed attempt to open a special lounge area for this group.

Chapter 17
B: Building the Institution
* Plans to Develop The Division of Pediatrics

Story Codes
B: Building/Transforming the Institution
B: Multi-disciplinary Approaches
B: Research, Care, and Education in Transition
C: Patients
C: Offering Care, Compassion, Help
C: Leadership
C: Mentoring

Dr. Kleinerman talks about several areas she is working on to build the Division.
She notes challenges in developing research areas. She explains difficulties in enrolling children in Phase I clinical trials and the need to develop the Survivorship Program. Dr. Kleinerman then talks about her desire to have an impact on Supportive Care.

Next Dr. Kleinerman talks about the Family Advisory Council and gives specific examples of how the Council provides guidance as programs and units are developed. She observes that the Division of Pediatrics is attempting to preserve a primary care model of care delivery while also working for more efficiency. She notes the influence of institutional silos on survivorship and family-centered care issues.

Next Dr. Kleinerman talks about the need to develop translational research on cell therapy and transplantation. At the end of this Chapter, Dr. Kleinerman comments on lessons about leadership she has learned.

Chapter 18
B: Diversity Issues
*Women at MD Anderson and Becoming a Leader*

**Story Codes**
A: The Leader
A: The Mentor
B: Gender, Race, Ethnicity, Religion
C: Leadership
C: Mentoring
B: Critical Perspectives on MD Anderson
B: Gender, Race, Ethnicity, Religion
C: Women and Minorities at Work

Dr. Kleinerman begins this chapter by talking about the respective responsibilities of mentors and mentees. She tells a story about a regular dinner support-group of women faculty. Dr. Kleinerman describes the different ways that male and female faculty members approach her for mentoring.

Next, she talks about efforts to develop the visibility of women at MD Anderson around the time when she arrived. She describes issues she wanted to push forward: a day care center and a four-day work week option. She observes that the community of women at MD Anderson has become stronger, but otherwise there is no movement to change the culture for women at the upper levels of the institution.

Dr. Kleinerman next sketches what women bring to leadership. She quotes Dr. Isaiah “Josh” Filder [Oral History Interview] who says that it will take men recognizing the situation to change it.

Chapter 19
B: Critical Evaluation
*Leadership, Leaders, and Concerns For MD Anderson*

**Story Codes**
B: Growth and/or Change
B: Critical Perspectives on MD Anderson
B: Institutional Mission and Values
B: MD Anderson Culture
C: Portraits
B: Controversy

Dr. Kleinerman begins this chapter by talking about how her view of herself as a leader has evolved through lessons learned. She talks about how she identifies and develops potential leaders. She also cites wisdom she has learned: “You have to be ready to bask in reflected glory,” and offers the view that president of the institution, Ronald DePinho, MD, is a “negative example” of that kind of leadership. Next Dr. Kleinerman talks about changes in MD Anderson culture under Dr. DePinho’s leadership and expresses concerns that “we are losing a lot of our soul.” Dr. Kleinerman then offers perspectives on Dr. Charles A. LeMaistre [Oral History Interview] and Dr. John Mendelsohn [Oral History Interview].

Chapter 20
A: Personal Background
Privileged to Work at MD Anderson; An Active Life and Family

Story Codes
A: Character, Values, Beliefs, Talents
A: Personal Background
A: Career and Accomplishments
C: Funny Stories
C: Portraits
C: Personal Reflections, Memories of MD Anderson

Dr. Kleinerman begins by talking about the “privilege” she feels to work at MD Anderson. Next she lists the initiatives she would like to be remembered for. She then talks about her family life and active personal life.
Eugenie Kleinerman, MD

Interview Session 1 – 21 May 2014

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 and audio file in compliance with HIPAA and/or interview subject requests.

Chapter 00A
Interview Identifier
[00:00:00]

Tacey Ann Rosolowski, PhD
[00:00:00]
— put on the identifier and then we’ll be ready to go. All right. So we are recording at this point, and let me just quickly read the identifier for the record. The time is two minutes after two p.m. It is the 21st of May, 2014, and I’m Tacey Ann Rosolowski. And today I’m interviewing Dr. Eugenie Kleinerman for the Making Cancer History Voices Oral History Project run by the Research Medical Library at MD Anderson Cancer Center in Houston, Texas.

Dr. Kleinerman was recruited to MD Anderson in 1984 as an assistant professor in the Departments of Pediatrics. Is that correct?
[00:00:37]

Eugenie Kleinerman, MD
[00:00:38]
Actually, I was assistant professor in the Department of Cancer Biology, with a joint appointment in Pediatrics.
[00:00:44]

Tacey Ann Rosolowski, PhD
[00:00:45]
Okay. All right. I will make a note of that. Thank you.
And today she holds the Mary V. and John A. Reilly Distinguished Chair, and that is in Pediatrics.

Eugenie Kleinerman, MD

Tacey Ann Rosolowski, PhD

Okay. She also has a joint appointment with the Department of Cancer Biology. Since 2001, Dr. Kleinerman has headed the Division of Pediatrics, and I will note that she’s the first woman to head a division at MD Anderson. This session is being held in Dr. Kleinerman’s office in the Division of Pediatrics in the Main Building on the main campus of MD Anderson, and this is the first of our interview sessions together.

So thank you again for making the time for me.

Eugenie Kleinerman, MD

My pleasure. My pleasure.
Chapter 1
B: Overview

*MD Anderson Culture and Faculty*

**Story Codes**
A: Professional Path
A: Joining MD Anderson
B: The MD Anderson Brand, Reputation
C: On Texas and Texans
B: Critical Perspectives on MD Anderson
D: On Research and Researchers
B: MD Anderson Culture

*Tacey Ann Rosolowski, PhD*
[00:01:29]
And before we turned on the recorder--we kind of did that abruptly because you were talking about the perceptions of MD Anderson in the national scene--and you were beginning to tell me about someone in pharmacology. So thank you for letting me interrupt you with these details. (laughs)
[00:01:42]

*Eugenie Kleinerman, MD*
[00:01:43]
Well, you know, I like to tell stories, so I’ll start with a story by really how I got here. I had always been interested in the immune system and actually was fellow at the National Cancer Institute doing research in immunology, had no notion that I would go into cancer. I was a pediatrician. And we can talk about it later how I got into it, but anyway, there came a point in my career where I had this idea, after meeting with Dr. Fidler, to put an immune-therapy into a clinical trial for children with relapsed plastiosarcoma in the lung, and it became very clear to me that they really were not interested in the NCI with developing new treatments for children with cancer. I mean, they said they would, but there were so many roadblocks. Sam Broder was head of--I think he was head of the DCT, which is the Division of Cancer Treatment. This was like in 1983.
[00:02:57]

*Tacey Ann Rosolowski, PhD*
[00:02:57]
And that was here at MD Anderson?
[00:02:59]
Eugenie Kleinerman, MD
[00:02:59]
Well, no, that was at the National Cancer Institute.

Tacey Ann Rosolowski, PhD
[00:03:01]
Oh, okay. Sorry.
[00:03:02]

Eugenie Kleinerman, MD
[00:03:02]
I was there as a fellow. Well, I had become a senior investigator, so I was like a faculty position. there was, “Well, first, you have to do this Eugenie, and then you have to do this.”

So I came home and I said to my husband, “You know, if I’m ever going to be able to follow my dream, no way I can do it here.” And that’s when Dr. Fidler was recruited here to be head of Cancer Biology, and he asked me to join him.
[00:03:30]

Tacey Ann Rosolowski, PhD
[00:03:31]
Wow.
[00:03:31]

Eugenie Kleinerman, MD
[00:03:32]
So when we told our friends that we were moving to Houston, Texas—and both my husband and I had the equivalent of tenured positions at the National Cancer Institute—people’s response were, “Are you crazy? You’re leaving Washington, D.C., the National Cancer Institute, to go to Houston, Texas, to MD Anderson, that cowboy state, that institution that is always out there doing crazy things?” So that was the perception, and I think, obviously, the reputation of MD Anderson has increased over the thirty years that I’ve been here, but there clearly is still a perception that we’re not as good as the institutions in the Northeast or the West, on the West Coast.

And so what I was starting to tell you was there was a very distinguished professor of pharmacology from a topnotch institution in New York who came here to give a lecture, and Dr. Travis had a luncheon for women who—physician scientists, who were physicians but they do basic research as well. So we had a discussion, lovely young people, young women there doing terrific research, and we all went around the table telling her what we did. I’ve known her for over thirty years. She said, “I am so amazed that there’s such talent around this table.”
And I thought to myself, “Isn’t that typical?” I said to her—and we’ll just call her Mary—“Mary, I am so tired of hearing that philosophy from you northeasterners. You’ve got to get over yourself.” And that is still the perception. People come here and they think, you know, we’re yokels, we don’t know quality, we’re not as good. And that is just so far from the truth.

[00:05:49]

**Tacey Ann Rosolowski, PhD**

[00:05:49]

Does that attitude have an effect on people’s careers, on the effectiveness of MD Anderson individuals as they go out in the world? What’s the impact of all that?

[00:06:01]

**Eugenie Kleinerman, MD**

[00:06:04]

I don’t think it has an effect on the impact of MD Anderson, because we know that we’re good and we’re topnotch in certainly clinical trials and cancer treatment. Our basic science has never been as good—I don’t want to say “good”—on the same level as in the East Coast universities and the West Coast, because we’re not a university. We’re a cancer hospital. And I think we’ve prided ourselves in doing the type of research that moves clinical trials forward. I think those of us who came here thirty years ago never wanted to have the same structure as an academic university, be it East, West Coast, Central, whatever. Our basic science was meant to focus on cancer and translation, and there are many of us here today that remain of the philosophy that we don’t want to be a Harvard, a Yale, a Stanford.

Our identity is MD Anderson and the fabulous clinical research and translational research and the breakthroughs in cancer therapies that we are famous for. And if we don’t have any Nobel laureates, that’s fine, and if we only have a few members at the Institute of Medicine, that’s fine. That’s not what makes this institution great. We don’t value ourselves by saying we have all of these people in the National Academy or Nobel laureates or whatever. That’s not the philosophy, I think, of our new leadership.

[00:07:52]
Chapter 2
B: Institutional Change

MD Anderson Culture and Faculty: In Transition with a New Administration

Story Codes
B: Critical Perspectives on MD Anderson
B: Growth and/or Change
D: On Research and Researchers
B: MD Anderson Culture
B: Institutional Politics
D: On Research and Researchers
B: MD Anderson Culture
B: Institutional Politics
A: The Researcher
B: MD Anderson Impact
C: Discovery, Creativity and Innovation

Tacey Ann Rosolowski, PhD
[00:08:00]
How would you characterize that philosophy [of the new administration] and what impact is that having on the culture of MD Anderson?
[00:08:10]

Eugenie Kleinerman, MD
[00:08:10]
Okay. So, for example, when I first came here, if you were a laboratory investigator, you did not have to put your salary on grants. You were encouraged to write grants, but that allowed you the freedom to put—I don’t want to say crazy ideas, but ideas that were outside of the mainstream. And getting an RO1 NIH grant—and I sit on study sections, so I know the process—it’s very difficult to get a grant on something that is outside the box, really innovative. Now they have innovative awards where you don’t have a lot of preliminary data. So because people weren’t afraid that they weren’t going to be able to get money to support their salary, it was freeing, so you could write things that were not necessarily in the mainstream, and oftentimes it hit. So there was no pressure about if I don’t do what everybody thinks is the important thought process, that you would not be able to maintain your position.

So that changed with Dr. Mendelsohn. He mandated that 30 percent of your salary, if you were basic science, had to go on grants. You know, and I think to some extent, that’s good, because obviously there are people who take advantage of the situation and they say, “I don’t have to
have my salary on grants, so I’m just going to not be as productive as I could be.” I mean, so I thought that was fine.

Now it’s moved up to 40 percent, and I think that the goal, at least the message that I feel I’m getting, and many of my faculty have validated that that’s how they feel, too, that your value is in how much grant funding you bring in and how many papers you write to *Cell* and *Nature* and *Science*, which are top journals. But those may not be the important journals for the things that we do, for the things that we’re good at. For example, in pediatrics, our journals are *Pediatric Blood & Cancer*, the pediatric-focused oncology journals, and those are never going to have the impact factor that *Cell*, *Nature*, *Science* does. But the research that we do will never get published there, but the research that we do can make an impact on patient care, a real impact on patient care, not just here’s a pathway and we can exploit this for the development of targeted therapy. No, no, no, no. What we do is, okay, we have this, now we’re going to actually treat patients.

And I am very concerned that we will lose that balance. I think you need to have both, but I really think that we’re losing the perspective of valuing people for their innovativeness in clinical research, for their excellence in teaching, for their passion in mentoring, and I don’t feel that there really is an appreciation for how much that takes and that that should have equal importance.

[00:12:16]

*Tacey Ann Rosolowski, PhD*

[00:12:21]
I can see how, given that perspective of the faculty, that’s actually taking the institution away from the mission.

[00:12:32]

*Eugenie Kleinerman, MD*

[00:12:34]
I’m concerned that it will. I don’t think it has yet, but I am concerned. I think it has somewhat because people are leaving, but I am concerned that we’re going to lose the special atmosphere that I experienced when I came here, which was one of collaboration, collegiality. It wasn’t “You’re in the ‘in’ crowd, and you’re not.” I’m very concerned we’re going to lose that. I’m very concerned.

When I first came here, nobody was keeping score about how many patients you saw and how many patients I saw, and, “If I let you see that patient, then it’s going to take away from me.” It was “What’s best for the patient?” Not to say that we’ve lost that, but I’m very concerned, as you start to keep score, that people are going to, as is human nature, say, “Well, I’d better protect my territory, myself.”
Over and over again when I’ve interviewed people, they’ve referred to R. Lee Clark’s system of setting things up so that there wasn’t a territoriality, and so from what you’re telling me that there’s a sense that that’s very much in danger.

Eugenie Kleinerman, MD
[00:14:01]
Yes, yes. He was a visionary, an absolute visionary. And if you compare the culture here and the culture at Memorial Sloan Kettering, the culture that he set up here was everybody’s on salary, so it’s not like you’re going to make more money if you refer somebody, you work with somebody, you give them your time, you collaborate. It created this collaborative environment where the focus was the patient and the family and doing what’s best for the individual patient, not, “Well, I don’t want to refer. I’m a neurosurgeon, and I don’t want to refer this to a radiotherapist,” and this is extreme, “because I’d rather take out the tumor than have him, because that’s going to reflect on my salary or my resources or whatever.” So he created this.

That’s why I’m saying MD Anderson was so far ahead of its time. We were the first institution really to have multidisciplinary care, and everybody’s trying to duplicate us. And so what are we doing? We’re reverting to trying to go to the measures that everybody else did, is doing in terms of keeping score and grants and RO1s and SPORES and, you know, Nobel Prizes and papers in Nature, Cell, and Science. I think we’re just losing our way. I’m concerned we’re really going to lose our way.

Tacey Ann Rosolowski, PhD
[00:15:36]
Thank you for that evaluation. I just finished up interviewing Dr. Keating [Oral History Interview] yesterday and—

Eugenie Kleinerman, MD
[00:15:45]
His daughter’s in my department.
Tacey Ann Rosolowski, PhD
[00:15:46]
Oh, okay. That’s neat. If I’m remembering correctly, her name Anna Franklin.
[00:15:51]

Eugenie Kleinerman, MD
[00:15:51]
Anna Franklin. Right, right.
[00:15:52]

Tacey Ann Rosolowski, PhD
[00:15:52]
Anna Franklin. And he [Dr. Michael Keating] was telling me about the first years when he arrived in the seventies where it was kind of the golden age of that spirit that R. Lee Clark set in place, as you just described it. And not only was there an enormous impact for patients, but there was this very fertile ground for collaboration, of course, in research in this critical period when there were entirely new disciplines being formed. So the question I wanted to ask you, kind of in follow-up, was now even though there’s such a focus on team science and translational, do you feel that this movement of culture at MD Anderson in a slightly different direction is changing a little bit the practice of research at the institution?
[00:16:47]

Eugenie Kleinerman, MD
[00:16:47]
Oh, yes, I do.
[00:16:48]

Tacey Ann Rosolowski, PhD
[00:16:48]
How so?
[00:16:48]

Eugenie Kleinerman, MD
[00:16:49]
I do. When I first came here, and that was probably ten—I came in 1984. I don’t know when Dr. Keating came, but it was at least ten years after he did.
[00:17:03]

Tacey Ann Rosolowski, PhD
[00:17:05]
Seventy-four.
Eugenie Kleinerman, MD

No idea was too crazy. If it made sense and, you know, there was a safety, no idea was too crazy. I was the first—probably one of the first people to use immunotherapy in children. I had this idea that osteosarcoma that usually metastasizes to the lung where you can excise the tumor, but it comes back, looking at what we had done before, chemotherapy only took us a certain route, and once a patient failed chemotherapy, taking out the lesion and using a different chemotherapy did nothing to change the overall survival.

So I had been in immune-therapy, so I said, “Let’s try it here.” You can take out the tumor, you only have a small number of tumor cells left, that’s where immune-therapy’s effective. But at the time, the standard was you have this new therapy, you treat it with the tumor in place, and you see if the tumor shrinks. But I knew from my work with Dr. Fidler that the immune-therapy could never take care of bulky tumors, so why would you design a clinical trial knowing that your therapy can’t work in that setting?

So what I did is I designed a trial where I took out the tumor and treated with the immune-therapy and I said, “Let’s look at the time to relapse,” knowing that most kids relapse within a year. Could we extend the disease for survival? Could we improve in the overall survival? So I designed a totally new way of doing a Phase 2 trial. It was easily accepted here. People said, “Oh, yeah, I see the rationale. I see what you’re saying. Absolutely.” My adult colleagues in sarcoma knew that sarcomas recur in the lung, and you take them out, and it’s a very short time. They thought that end parameter was fine.

And I did the trial here. I couldn’t have done it at NCI, I knew I couldn’t, because that was my concept, and that’s why I left. I’m from Duke University, I love Duke University, but I for sure know it wouldn’t go over there, because that was not—so at MD Anderson it was a very fertile working ground where you could come up with these ideas that were a little bit off the beaten path but rational, and put it into the clinic, and people were supportive.

When my Phase 2 trial was completed and it showed to be effective, I was asked, because one of the patients that was referred to me was from a physician from New Jersey and he was on one of the cooperative groups, the Pediatric Oncology Group. There were two cooperative groups at the time: the Pediatric Oncology Group and the Children’s Cancer Study Group. He said, “You know, this girl was going to die and you really saved her, and look how many other patients you’ve saved. We need to put this is a Phase 3 trial, in newly diagnosed patients. Come to the Pediatric Oncology Group. Present your idea. I want to do a national trial.”
I went there. The head of the Bone Tumor Strategy Group did not like the idea and torpedoed it. I came back very depressed, and I talked to Josh and he said, “This is ridiculous. Let’s talk to Irv Krakoff,” who was the head of Cancer Medicine at the time.

So we talked to Irv Krakoff, and he said, “I’m not going to take this lying down. I’m going to invite—I know Joe Simone. I know Jerry Rosen. I know all these experts in sarcoma. I’m going to invite them here, and you’re going to present the data, and we’re going to see if we can help you move forward somewhere else besides the Pediatric Oncology Group.”

This was a man—I was not his faculty. I was Pediatrics. He was head of Cancer Medicine. He didn’t care that it wasn’t his adult sarcoma physicians that came up with this idea. He was just going to help a young faculty member, because he knew all these important people in the field. So he brought them all down here. One of them couldn’t come, so they sent one of their pediatric oncologists, who just happened to be the head of the Bone Tumor Strategy Group in the opposing for the Children’s Cancer Study Group.

And that’s how I got the Phase 3 trial done. If it weren’t for Irv Krakoff and if it weren’t for his enthusiasm and willingness to help a junior faculty member outside of his division, it never would have happened. And that gives you an idea of the atmosphere, the collegiality, the passion for the mission. It didn’t matter who. The idea was we need to help each other and get these things through.

So now I think people are much more rigid, and, “Well, you know, but did you think about this and did you think about this?” And, “You know, that’s not the way we do things,” and, “What do you know?” I mean, truly, I was an assistant professor. What did I know compared to Norman Jaffe, who was the father of chemotherapy in osteosarcoma? I came here and said, “I have this idea.” He said, “Eugenie, we need all the help we can get. I’m there with you.” Assistant professor, full processor, internationally known, says to me, “I’m your partner.” Where at the NCI it was always, “Well, you have to do this. You can’t do this. You know, this is the way we do it.” And I see that changing. I see that changing.

Tacey Ann Rosolowski, PhD
[00:23:42]
Wow. Very interesting.
[00:23:42]

Eugenie Kleinerman, MD
[00:23:45]
Because if you’re not in—I mean, everything is genomics right now. Genomics, genomics, genomics. And if you’re not on the genomics path, you’re not taken seriously and you’re not
considered part of the team. And I think there has to be a place for people who don’t necessarily think the same way. That’s what makes us stronger.

[Tacey Ann Rosolowski, PhD]

[00:24:18]

Thank you. Yeah, it’s a very interesting contrast, and I appreciate your stories that really demonstrate it. It’s good to be a storyteller. (laughs)

I’d like to pause the recorder for just a moment, if I may.

[00:24:34]

[Eugenie Kleinerman, MD]

[00:24:34]

Sure.

[00:24:34]

[Tacey Ann Rosolowski, PhD]

[00:24:35]

All right. I’m pausing at twenty-six after two.

[00:24:38]

[recorder is paused]
Chapter 3
A: Educational Path
Focused on Medicine; Navigating Institutions without Mentors

Story Codes
A: Personal Background
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
A: Experiences Related to Gender, Race, Ethnicity
A: The Researcher
C: Evolution of Career
C: Women and Minorities at Work
C: Discovery and Success

Tacey Ann Rosolowski, PhD
[00:00:03]
All right. We have the recorder back on again, and it is now 2:33. So after we kind of turned on
the recorder just—oh, my gosh, we’ve got to turn it on because we had a conversation in progress,
and I’m really glad we captured that. But as we just decided, we’ll kind of go back and sort of do
the usual pattern. So I wanted to ask you kind of the standard beginning question for an oral
history interview. Can you tell me where you were born and when, and where you grew up?
(laughs)
[00:00:33]

Eugenie Kleinerman, MD
[00:00:34]
I was born in Baltimore, Maryland, April 16th, 1949. My dad was a physician. He was a
pathologist. He was in the army.
[00:00:50]

Tacey Ann Rosolowski, PhD
[00:00:52]
His name?
[00:00:52]

Eugenie Kleinerman, MD
[00:00:53]
Jerome, middle initial I, Kleinerman. My mother was Seretta, S-e-r-e-t-t-a, Miller Kleinerman.
She was a teacher.
And I only spent actually twelve days in Baltimore, and then my dad was shipped over to Japan. So he was in between World War II and the Korean War, fortunately. He was a physician. So my mother took me and went to live with her mother in Pittsburgh, so my first few years were spent in Pittsburgh, and the first year my dad was overseas. And my parents spent a couple years in Philadelphia. My dad did a fellowship at the University of Pennsylvania and then got a position at Case Western Reserve in Cleveland, and so that’s really where I grew up, Shaker Heights, Ohio.

Tacey Ann Rosolowski, PhD
[00:02:11]
How did it affect you, seeing your dad in his profession? To what degree did you understand and when did you understand what he did as a doctor?

Eugenie Kleinerman, MD
[00:02:21]
I think very early. He was certainly my first mentor and, you know, I wanted to be a doctor from—I think five years old is when I really remember it.

Tacey Ann Rosolowski, PhD
[00:02:22]
Really?

Eugenie Kleinerman, MD
[00:02:24]
Yeah.

Tacey Ann Rosolowski, PhD
[00:02:27]
What did you think of at that time? How did you see being a doctor?

Eugenie Kleinerman, MD
[00:02:27]
Okay, well, mostly from the aspect of my own pediatrician. So, of course, my dad is a physician, so he has a lot of physician friends. In fact, my mother used to say, “We have our physician friends and we have our civilian friends.” And she said, “I find our civilian friends are much more interesting.” But anyway. (laughs) So he had a very close relationship with many
physicians of all different disciplines, internal medicine, pediatrics, OB/GYN, people in basic science, because he was a laboratory investigator and doing pulmonary research.

So, of course, back then pediatricians made house calls, and I remember having the measles once—well, yes, only once, yes. I remember having the measles, and then it was a pretty—it wasn’t an easy disease for a kid. It was before vaccinations. And so he would make house calls, and he came and he said, “Hi, Genie, I see you have the mizzles.” But I think the vaccine was just coming out then. And so he spent maybe a minute with me and then immediately went to my sister to give her the vaccine so she didn’t get it.

So I really, you know, I just had an affinity for the way he was and the way he treated the whole family. The whole family was really part of the visit, even though it was just me and my sister. It was always talking to my mother and follow-up with my dad. So I decided I wanted to be a pediatrician.

Tacey Ann Rosolowski, PhD
[00:04:13]
Wow. That’s amazing.

Eugenie Kleinerman, MD
[00:04:15]
Also, my dad took me to the laboratory, so my mother—in those days, the woman stayed at home, and my dad was a doctor, and I think if my mother—if it were today, she would have been a professional woman, but who was going to take care of the children? And my father was definitely traditional, you know, “You stay home, cook dinner, take care of the children,” whatever. So, Sunday she would teach Sunday school, so it was his responsibility to take care of me on Sunday. So he took me to the lab, so I got a very early exposure.

Tacey Ann Rosolowski, PhD
[00:04:53]
What kind of world was that when you were little?

Eugenie Kleinerman, MD
[00:04:56]
Oh, it was exciting. I loved it. I mean, he’d always give me a little project to do, or he’d have one of his postdocs or whatever, you know, take me, and we’d figure out something to do. I’d look under the microscope with him.
Now, one thing, he did animal research, and there was a kennel where they had lots of dogs, and
I remember—as I said, I was like five or six years old, and I’d have to walk through that kennel.
And when you walked through, the dogs would, you know, really bark, and I remember, like,
taking a deep breath, putting my hands down, and walking quickly, because I was afraid if I
didn’t, I would fall against one of the cages and the dogs would bite me or whatever.
[00:05:44]

Tacey Ann Rosolowski, PhD
[00:05:46]
But that didn’t put you off?
[00:05:46]

Eugenie Kleinerman, MD
[00:05:47]
No. No. No. So, you know, from an early age I had an exposure to the lab and to medicine.

The other thing was that my dad, even though he had this traditional viewpoint for women at
home, was very supportive for women going into medicine. One of his technicians, her name
was Mabel, she was a black woman, and he thought she was very talented, and he was really
instrumental in getting her to go to medical school. She went to Meharry, which was a black
medical school back then. So he just felt medicine and science was the most wonderful field, and
anybody who wanted to do that, he felt that it was his duty to, if they were hard workers, to
facilitate that, to be a mentor.
[00:06:45]

Tacey Ann Rosolowski, PhD
[00:06:46]
So tell me about your education path. What were you drawn to in school and how did your sense
of science and your interest in science evolve?
[00:06:56]

Eugenie Kleinerman, MD
[00:06:57]
I just liked science. I loved biology. I liked chemistry. The concept of physics, I was not—but I
could memorize formulas okay, so I was able to get through physics. But loved biology, just
loved it, and I loved the organization of chemistry, you know, with the Periodic Tables and
balancing the equations. And the organic chemistry, figuring out how you put two things
together with the fire and you make a new molecule. I mean, that was fascinating for me. But I
also had other interests. Ballet was a big interest for me. Cheerleading; I was a cheerleader in
junior high. Music; I played the piano. But my path was I wanted to be a doctor.

Tacey Ann Rosolowski, PhD
[00:07:59]
So tell me how you selected your college.

[00:08:01]
Eugenie Kleinerman, MD
[00:08:02]
(laughs) Okay. So as I told you, my dad had a very close-knit group of friends that were physicians, and a man named Tom Kinney was his chief of pathology, was chief of pathology at Case Western Reserve, and he was recruited to Duke University to be chief of pathology, and several of the members of my dad’s department followed him. My dad did not.

But one spring break—and I think I was in middle school—we drove down, because we were good friends. The children of those doctors we used to have Sunday picnics with, so we were very close. So we were going to go to Florida, we figured we’d stop in Durham, North Carolina. I took one look at Duke, and I said, “Oh, my god. This is amazing. I want to go to school here.”

[00:09:01]
Tacey Ann Rosolowski, PhD
[00:09:02]
What was it that grabbed you?

[00:09:03]
Eugenie Kleinerman, MD
[00:09:04]
The chapel, the campus. It was Gothic architecture. It was contained. It wasn’t a city school like Case Western Reserve, like University of Pittsburgh. That’s where my parents went, and my mother was very loyal to University of Pittsburgh, which is a city school. And just seeing that campus, I just fell in love with it. And, of course, it was a fine school, and it was also in the South. I hated the winters in Cleveland, I hated the weather, and so my goal was I was going to go South. So I applied there. And, to me, St. Louis was south, Washington University, so I applied to Washington University. We were only allowed to apply to four schools in high school, four colleges. That’s all that Shaker Heights limited. You couldn’t apply to—so I applied to four schools.

And I didn’t get into Duke, so I got into Washington University, so that’s where I went. And why did I pick Washington University? Well, I picked it because the campus looked a lot like Duke. And my father said, “Well, they have a good medical school, so that’s okay.” And it was a
Tacey Ann Rosolowski, PhD
[00:10:18]
So tell me how you kind of flowered during college. What was that like?
[00:10:22]

Eugenie Kleinerman, MD
[00:10:25]
Well, I’ll tell you, my freshman year—and this was in the book [Legends and Legacies]—you know, I got dressed, you know, made sure I looked proper, and I went to see the premed advisor, and she proceeded to tell me after the first semester, because that’s when you saw—you know, you had a semester to decide—that’s when she told me I was not cut out to be a doctor.
[00:10:45]

Tacey Ann Rosolowski, PhD
[00:10:46]
And what was the reason she gave?
[00:10:48]

Eugenie Kleinerman, MD
[00:10:49]
Well, she said, “You’re a cheerleader and you’re a sorority girl, and clearly, you’re not serious.” (Rosolowski laughs.) So, of course, that was a real blow, and it was very difficult, because she provided guidance in how do you apply to medical school, when do you take your MCATs, all this other stuff. So I had to really navigate that process by myself, and I really didn’t have any other—there were no other women students that I was friendly with so that we could do this together.
[00:11:27]

Tacey Ann Rosolowski, PhD
[00:11:27]
So was anyone a mentor to you during your college experience?
[00:11:32]

Eugenie Kleinerman, MD
[00:11:32]
No.
[00:11:33]
Tacey Ann Rosolowski, PhD
[00:11:33]
Wow.
[00:11:34]

Eugenie Kleinerman, MD
[00:11:34]
No.
[00:11:34]

Tacey Ann Rosolowski, PhD
[00:11:34]
Wow. So tell me how did you react to situations like that in college when they presented themselves to you, I mean people being dismissive or—
[00:11:47]

Eugenie Kleinerman, MD
[00:11:48]
Made me angry. Made me angry, and I said, “I’m not going to let them deter me.” I was used to not being taken seriously, so, you know, it’s like, “Here we go again. Will nobody take me seriously? Why do you think I—this is something that’s fly-by-night? Why don’t you think this is something that I really want? You don’t know me.” I was very quiet. “You don’t know me. How can you make the assessment that I’m not going to follow through? I am determined, and I will show you.”
[00:12:30]

Tacey Ann Rosolowski, PhD
[00:12:31]
What was your relationship with feminism at the time? Because you were in college, you got your degree, your BA, from Washington University in ’71, so this was the late sixties. There was discussion of feminism in the nation.
[00:12:45]

Eugenie Kleinerman, MD
[00:12:46]
Not that much in the Midwest. It’s not like the East Coast or the West Coast, for that matter. So there really wasn’t. I mean, it was starting. And, of course, my mother was a woman ahead of her time. She always preached equality for women, and I think that’s why my sisters and I all had this determination. You know, I think she was very frustrated with staying at home. I think she never realized her dreams of being a professional woman, and so she drilled it into our heads that
we didn’t have to take a back seat and that women deserved to have every bit as much as men
did. She was very active in League of Women Voters.

I remember a lot of my friends’ mothers would play cards, you know. They’d play Marjong or
whatever, Mahjong, I don’t know, whatever, however you pronounce it. But she was always
somebody—League of Women Voters, she’d work for candidates. She worked for Johnson,
Adlai Stevenson. I remember her doing that. And, of course, my dad was a Republican, so we
had heated discussions at the table, political discussions at the table. So I think probably she was
my mentor, I guess.
[00:14:15]

_Tacey Ann Rosolowski, PhD_
[00:14:16]
Mm-hmm. Mm-hmm. It sounds like she really did model things for you as best she could, given
the limitations of the family structure.
[00:14:23]

_Eugenie Kleinerman, MD_
[00:14:23]
Yeah. You know, it was very “You don’t have to get married to have value.”
[00:14:28]

_Tacey Ann Rosolowski, PhD_
[00:14:28]
It was really a difficult generation. I mean, I’m of that generation, too, you know, and it’s the
first generation of women who were raised by traditional mothers but expected to have men as
their role models.
[00:14:39]

_Eugenie Kleinerman, MD_
[00:14:40]
Right.
[00:14:41]

_Tacey Ann Rosolowski, PhD_
[00:14:41]
Yeah. So, really tough situation to be in.
[00:14:43]
Eugenie Kleinerman, MD
[00:14:44]
Right. And back then, the philosophy was, well, if you choose a career, you can’t have a family, and I was very determined I was not going to make a choice. Why did I have to make a choice? And probably in my mind it was, “I’m not going to marry somebody like my dad who can’t share things.” Now, what we thought “share” was is not really reality, but—9
[00:15:13]

Tacey Ann Rosolowski, PhD
[00:15:14]
Mm-hmm. Right. Well, it was learning on the job for women all the time in those years and still continues to be in a lot of ways. (laughs)
[00:15:20]

Eugenie Kleinerman, MD
[00:15:20]
Right. But it was very—if you’re going to do this, then you’re clearly—this is your phenotype, and you couldn’t have the phenotype of a professional woman and also like to be a sorority girl or, you know, have parties, have a social life. It was like either/or, and it was like I’m not this and I’m not this.
[00:15:42]

Tacey Ann Rosolowski, PhD
[00:15:43]
I know a professor at University of Wisconsin at Madison who brings a tie with her the first day of class, and she hangs it over the lectern, and she says, “If that’s what you’re looking for, you’re in the wrong place.” (laughs)
[00:15:58]

Eugenie Kleinerman, MD
[00:16:01]
That’s great.
[00:16:02]

Tacey Ann Rosolowski, PhD
[00:16:02]
Yeah, I love that.
[00:16:02]
That’s great. That’s great. You know, but it also was an interesting time because the Vietnam War was going on, and I think it was my junior year when all the protests, when the Kent State incident happened. Of course, coming from Ohio, you knew people at Kent State, and so for me it was much more of an impact. And the rioting that was going on. And, you know, thinking about am I not going to go to class and not complete my coursework and perhaps this will have a negative impact because I won’t complete my coursework and I won’t get good grades and I won’t get into medical school, thinking about, you know, am I going to break the line and go to class? Because a lot of kids that I knew were doing this because they didn’t want to take finals.

*Tacey Ann Rosolowski, PhD*

[00:17:04]

No protests. Yeah, right.

[00:17:06]

*Eugenie Kleinerman, MD*

[00:17:07]

And struggling with that and just making the decision I’m going to class and I’m going to take my finals, that there’s nothing I can do really for the people in Vietnam. I’m against the war, but here this isn’t—and one of the guys I went to college with, actually—I don’t remember exactly what he did. He was an elementary friend of mine. He was eventually arrested. So it was an interesting time—

[00:17:46]

*Tacey Ann Rosolowski, PhD*

[00:17:46]

Very interesting time, yeah.

[00:17:47]

*Eugenie Kleinerman, MD*

[00:17:47]

—both for women, and, of course, Gloria Steinem was just coming out then. Respected her tremendously, I remember that, and people saying she’s bitchy, she’s hard, you don’t ever want to be like her. And so it was trying—how can I maintain my feminism and yet be taken seriously and convince people I can do the job and I’m committed and I’m not just going to turn around and get married and drop out, which was the perception. If you didn’t want to go on this path and you wanted a balance, well, of course, you were eventually—and I remember when I got married, I got married in 1972 after my first year in medical school, and my in-laws had a party for us after we were engaged.

[00:18:47]
Interview Session: 01
Interview Date: May 21, 2014

*Tacey Ann Rosolowski, PhD*
[00:18:47]
Your husband’s name?
[00:18:48]

*Eugenie Kleinerman, MD*
[00:18:48]
Leonard Zwelling, Z-w-e-l-l-i-n-g. I met him in medical school.

And so people saying, “Oh, well, okay. So you’re getting married, and now what are you going to do?”

And I thought to myself, “What do you mean, what I’m going to do? I’m going to finish medical school. What are you talking about?” But the presumption was you’ve got a husband now, he’s going to be a doctor, you don’t need to do this anymore. And it was like, what are you talking about?
[00:19:21]

*Tacey Ann Rosolowski, PhD*
[00:19:21]
What are you talking about? (laughs) Yeah.
Chapter 4
A: Professional Path
Medical School, A Fellowship, and A First Research Project

Story Codes
A: The Researcher
C: Evolution of Career
C: Women and Minorities at Work
C: Discovery and Success
A: Experiences Related to Gender, Race, Ethnicity

Tacey Ann Rosolowski, PhD
[00:19:21]
So tell me how you got yourself together without a mentor and got yourself into medical school. How did that happen and—
[00:19:34]

Eugenie Kleinerman, MD
[00:19:36]
I just, you know, did it. There was nobody to cry to, you know. It wasn’t like today where, you know, my son could call me, you know, every ten minutes, “What do I do? How do I do it? The computer’s—,” whatever. It was expensive to call, so I called my parents maybe once every two or three weeks, so there was nobody else. I had to rely on myself, and I figured, “Okay, either you’re going to do this or you’re not.” So I just got the applications, read the books, signed myself up for the SATs, studied as best I could, got the interviews, flew to the cities by myself. I just sort of did it. I didn’t think about it.
[00:20:17]

Tacey Ann Rosolowski, PhD
[00:20:20]
So were you still laser-focused on Duke, because that’s where you got your MD?
[00:20:25]

Eugenie Kleinerman, MD
[00:20:25]
I was laser-focused on Duke, I was absolutely laser-focused on Duke, and I got on the waiting list. Did not get in. I got into Case Western Reserve, so I said, “Okay, I’ll go to Case Western Reserve.” Great medical school. Probably got in because of my dad. I mean, you know, it’s okay. It’s fine. Use every—it doesn’t matter as long as I work hard and finish.
So I was all set to go to Case Western Reserve. Two weeks before the start date, the chief of pathology that my dad knew at Duke, who was now the dean of the medical school, called my dad and said—now, this is the story he told me. They had gone for diversity, and they had taken somebody with an American Indian ancestry, and he failed his whatever it is, so there’s an opening, and I was the first one on the waiting list. “Jerry, I know it’s only two weeks and I know she’s set to go to Case Western Reserve, but I wanted to let you know it’s open.”

I said, “I’m there.” So I had two weeks. My dad bought my microscope, so I had to—and then you had to fly from Cleveland to Washington, D.C. and change planes and get on a plane to Durham. So there I was with my microscope, not knowing how am I going to carry on the microscope that’s got to fit under the seat, because you can’t put it—there were no overheads there, you know; they were open. So there was no closed bins. So I don’t know—

Tacey Ann Rosolowski, PhD
[00:22:23]
Right. The microscope’s delicate equipment.
[00:22:23]

Eugenie Kleinerman, MD
[00:22:25]
I don’t know how I did it, but I got there, and I arrived in the Durham Airport, and I walked out and I’m looking around. It’s outside. The Durham Airport was—you know, they had like a rain shield, but everything was open air. It was the Raleigh-Durham Airport. So, okay, now where do I get my luggage? And so you walk outside and a man hands you your luggage. No carousels like in St. Louis, not the big airport like in Cleveland, Hopkins Airport.

So, you know, and I met some people and they were going to University of North Carolina, and I was going to Durham, and so we shared a cab, and he dropped me off at my dorm at Duke. My parents didn’t take me.
[00:23:21]

Tacey Ann Rosolowski, PhD
[00:23:22]
Wow. Forging an independent woman there, yeah. So tell me about medical school.
[00:23:29]

Eugenie Kleinerman, MD
[00:23:31]
So I was in a dorm, and actually my roommate was a first-year law student, and her husband was fighting in the Vietnam War. She was a black student. So she had a very difficult time. But I met
three other girls, three other women, and we forged a bond and we’d study together, and, you know, it was just magical. I mean, I couldn’t believe it. Here I was at Duke.

And the atmosphere was amazing, and it still is there, which is why I just love the medical school. Very focused on learning, very focused on the students, not this—I mean, there were some professors that were this hierarchy, but mostly it was, “We want you to do well.” It was a different curriculum. The Duke curriculum was you do all your basic science the first year. At most medical schools, you do it in two years. So, for example, we had twelve weeks of anatomy, where most medical schools, you have a whole year of anatomy. So we crammed in. A lot of people say, “I’d never want to do my internship again.” I’d always say, “I’d never want to do my first-year medical school again.” Very, very intense. And we went to class Monday through Saturday, had Saturday classes, so it really was—you know, you’re in the library studying, and, of course, I’m looking up every other word. You’re in anatomy, anastomosis. What the hell is anastomosis? I had my medical dictionary, looking. Okay, fascia. What is fascia?

But it was hard for all of us. We were all, all—and actually there were some students who were not science majors. There were a couple of guys who graduated from Princeton, and they were English majors, so for them, I mean, brilliant, brilliant guys. For them it was even more foreign. But we all sort of worked together in this one dorm.

_Tacey Ann Rosolowski, PhD_

[00:25:39]

_How many women?_

[00:25:41]

_Eugenie Kleinerman, MD_

[00:25:42]

There were 14 women in my medical school out of 115.

[00:25:46]

_Tacey Ann Rosolowski, PhD_

[00:25:50]

_What was the atmosphere like for women?_

[00:25:52]

_Eugenie Kleinerman, MD_

[00:25:56]

So in the class it was fine. I mean, in terms of my male colleagues, there was never any discrimination, “You’re not as good as we are. What are you doing here?” It was very
respectful, very respectful. We were colleagues. We were all in this together. We were friends. You know, we’d help each other.

That was the other thing. So at Duke, the grading was high pass, pass, fail. So most of us were going to get a pass, so there’s none of this grade-grubbing. We’d study in groups. We’d help each other. Nobody had this, “I’m not going to help you because I’m afraid you’re going to have more points than I am.” It was a wonderful, collaborative environment.

Tacey Ann Rosolowski, PhD
[00:26:47]
I mean, I’m just really interested that you’re describing these collaborative experiences, and, of course, you’re tracking yourself towards a research career and a clinical career that’s very, very reliant on exactly that kind of building of collaboration and networks and collegiality, I mean, all those things you described at the beginning of the session. So do feel that was something you learned? Is that part of how you thought about things even from the very beginning? Where did that piece come from in your own career?
[00:27:25]

Eugenie Kleinerman, MD
[00:27:29]
I don’t know. I guess it just was there, so there was no question. I mean, you know, I just didn’t think about it.
[00:27:39]

Tacey Ann Rosolowski, PhD
[00:27:40]
It sounds like you found it very exciting and formative for your own thinking.
[00:27:45]

Eugenie Kleinerman, MD
[00:27:46]
Oh, yeah, and I remember thinking, “These people are really smart. No wonder I was on the waiting list. What am I doing here?” But, you know, it was just a wonderful experience. Now, that was my colleagues and that was a lot of the professors. On the clinical side, however, you had a chief of surgery who said openly, “I will never take a woman as one of my residents.” And there was a very strict hierarchical order that surgeons were on—that’s when night call was every other night.
[00:28:34]
Tacey Ann Rosolowski, PhD
[00:28:34]
Had you considered being a surgeon?
[00:28:36]

Eugenie Kleinerman, MD
[00:28:36]
No, not really.
[00:28:38]

Tacey Ann Rosolowski, PhD
[00:28:38]
But does it help the atmosphere any to hear that?
[00:28:40]

Eugenie Kleinerman, MD
[00:28:40]
Not really. But he would call you Ms. Kleinerman or Ms. Jones. During the second year, you did your rotations, so there were eight-week rotations, and at the end of every rotation, he would have a cocktail party in his house for the students that were there, and all of the surgical residents that were not on call that night had to attend the party and they had to bring their wives. So it was a very—now, he was a brilliant man, Dave Sabiston. He had come from Hopkins, a brilliant cardiovascular surgeon, and he was an outstanding teacher. I loved to hear him lecture. But, you know, I said, “I cannot believe this man is getting away with saying this. How can the university let him get away with saying this?”

There were women residents in medicine, and I don’t think—well, no, that’s not true. Okay. So my first rotation I took my second year was internal medicine, because I had met my husband, and he said the only—I told—“What do you want to go into?”

“I want to go into pediatrics.”

“Oh, no, no, no. The only intellectual field is internal medicine. You have to go into internal medicine.”

I’m, “All right. Fine.” I mean, you know, all I know is pathology and pediatrics, and I don’t want to do pathology, because I don’t want to deal with dead people and be behind a microscope. I want to be with people.

So I took internal medicine, and it was GI bleeders and alcoholics and chronic liver failure and hysterical women with thyroid disease and chronic rheumatoid arthritis and chronic obstructive
bowel disease. I’m going, “Oh, my god.” And the crowning blow was the first week I was on, there was a GI bleeder, an alcoholic, who came in, and, of course, in those days what you had to do is you had to take iced saline, put an NG tube down, and lavage, you know, to clamp down the vessels. And I had done that. I had stayed up with him all night, got him, you know—“Oh, Doctor, thank you so much, wonderful.” Got him out of the hospital.

Three weeks later, I get my admission. Who is it? It’s this guy with GI bleeder. I said to myself, “I cannot deal with this. I have no patience for this. I have no patience for adults that will not take responsibility.” I don’t mind crying kids. You want to cry? Cry. It’s a child. I mean, I’m going to have to draw blood. Fine. You don’t feel well? Fine. It’s fine.

My husband says, “I can’t stand those crying kids and their mothers. I can’t.” (Rosolowski laughs.)

But to me, you know, I just wanted to slap. I said, “This is not good if you want to slap your patients.” (Rosolowski laughs.) This is not good.

Tacey Ann Rosolowski, PhD

So you had always wanted to go into pediatrics—

Eugenie Kleinerman, MD

Yes.

Tacey Ann Rosolowski, PhD

—and never really wavered from that at all.

Eugenie Kleinerman, MD

Except for this one—

Tacey Ann Rosolowski, PhD

Except for that one glitch, yeah. (laughs)
[00:31:53]

**Eugenie Kleinerman, MD**
[00:31:53]
No. No, no, no.
[00:31:57]

**Tacey Ann Rosolowski, PhD**
[00:31:56]
When did the oncology piece come in?
[00:31:58]

**Eugenie Kleinerman, MD**
[00:31:58]
Oh, the oncology piece didn’t come in till much later.
[00:32:00]

**Tacey Ann Rosolowski, PhD**
[00:32:01]
Yeah, I was wondering about that.
[00:32:02]

**Eugenie Kleinerman, MD**
[00:32:02]
No. So I thought I wanted to go into general pediatrics, and the Duke curriculum was as such, so your first year you did all your basic science, your second year you did all your required clinical electives: medicine, surgery, OB/GYN. The third year you either did research, and they had different tracks, virology study program, the immunology study program, or you took graduate courses. For example, the guys who wanted to become cardiovascular surgeons, they took two semesters of cardiophysiology, so they really delved into the cardiophysiology, how does the heart work. It was Duke’s philosophy, and still is, that you need to spend the third year really understanding the disease, or doing research and being an investigator.

So I had wanted to work with one of the women pediatricians who was doing infectious disease because I was interested in virology, but she had already taken a student in her lab. On my medicine rotation, one of my rounding men was a man named Dr. Ralph Snyderman, who was a young rheumatologist who had just come from the NCI, who did research in inflammation, and he was my rounding man. He took an interest in me, and he said, “Genie, why don’t you come to the lab. Why don’t you come to my lab.”

“No, no, no, no. I want to work with Dr. Cathy Wilfert.”
“Oh, really?” So he said, “So are you working with Dr. Wilfert?”

“No, she has somebody.”

“Well, why don’t you come to our lab, you know, really.”

“Well, I really want to do virology.”

So he said, “Well, come talk to me.” So we sat down. He says, “Look, I’d always had this idea that when people get influenza, they always get super infected. And the influenza doesn’t kill them; it’s the viral infection, it’s the pneumonia. I have this thought that viruses, when they infect immune cells, they paralyze the immune system. So maybe we can collect—maybe we can—.” So he said, “Why don’t you go talk to Tom Kate,” who was an infectious disease physician.

So I talked to him, and he said, “Yeah, I grow influenza and I do this.” And I talked to a pathologist who does herpes, blah, blah, blah.

So I came to him and I said, “Look, maybe the three of us could work together.”

He said, “Great idea.”

So I put together a project working with these three men. I learned how to grow the viruses, I learned how to infect the animals, I learned how to do the immune assays in Dr. Snyderman’s lab, and I had the project and it worked. We showed that if you infected mice with influenza and then gave them a stimulus to create an inflammatory response, you couldn’t get an inflammatory response.

Well, then Ralph just thought this was great, so he got me on TV to talk about paralyzing the immune system. There was a section in the paper. What was it? It was like when immune cells fail, pneumonia may strike.

And I had a wonderful time. I had absolutely—again, it was this collegial time. And at Duke you could go summers and that would speed up your progression through medical school. So I actually finished all of my required courses the end of November. Ralph said, “Why don’t you become a rheumatology fellow and you’ll work in my lab. You’ll see rheumatology. They have to be adults. You’ll see rheumatology patients one day, and then you’ll come and you’ll continue working in my lab.”
So I did, because my husband was a resident, so I had to wait till he finished. And it was an absolutely wonderful experience. I mean, this is in the heyday of science when a little bit of money went a long way and people, again, could do crazy ideas and didn’t have to worry about everything.

Tacey Ann Rosolowski, PhD
[00:36:32]
This was ’74, ’75, for your clinical fellowship.
[00:36:34]

Eugenie Kleinerman, MD
[00:36:35]
Yeah, right. And actually during that time, Bob Lefkowitz, who subsequently won the Nobel Prize in chemistry two years ago, he had just come as a new faculty member to Duke, and he was working down the hall from Ralph. And Ralph and I would come in on Saturday to write my papers. The lab meetings were fun because we would discuss ideas. Or we’d all gather in his office at the end of the day and, you know, there was technicians and other graduate students.

I remember vividly—I recently told Ralph this story. So Bob Lefkowitz, he was the one who really discovered receptors, that there are proteins on the surface of cells that actually when other proteins come, they stick. So this was Bob’s concept. And people thought, “Receptors? What are you talking about, receptors?” So I remember we were having a heated discussion. I remember Ralph saying to him, “Bob, you mean to tell me if I take a handful of mud and I throw it on the wall and it sticks to wall, you’re going to tell me the wall has a receptor for mud?” But that gives you an idea of—and, you know, I was a medical student, and here I was involved in these scientific discussions with these brilliant people.

Tacey Ann Rosolowski, PhD
[00:38:11]
Yeah, yeah. That just sounds like a—was that an unusual situation?
[00:38:16]

Eugenie Kleinerman, MD
[00:38:17]
Not at Duke, I don’t think. I mean, I don’t know. But there wasn’t this hierarchy, “I am the lab chief and therefore what—.” There was no question that you could say, “Are you crazy? That’s a crazy idea. Why do you say that?” Never fear of—even as a student.
[00:38:34]
Tacey Ann Rosolowski, PhD
[00:38:35]
What do you think these guys saw in you? I mean, Dr. Snyderman obviously pursued you to be connected with his work.
[00:38:44]

Eugenie Kleinerman, MD
[00:38:44]
Well, I guess—I think he probably saw, because he was my rounding man, that I was very serious. In fact, he tells me, “You were so serious. You’d present, and I’d crack jokes and you wouldn’t laugh.” (Rosolowski laughs.) I wanted to be taken seriously.

And the other reason was the chief resident at that time when I was on medicine, oftentimes what would happen was, you know, you’d be there late at night and you’d finish your notes. Now, there were no on-call rooms for women, so we couldn’t stay. I had to go home to my apartment, where my male counterparts had a room to sleep in because they shared it with a resident.

And I remember sitting on the ward very late at night, I don’t know, twelve o’clock, eleven-thirty or whatever, finishing my notes, and I’d turn around and there’s nobody there. There’s only me. I’d think, “God, am I slow? I guess I’m slow. Okay, well, just finish up.”

And then as I’m walking out, I go past the cafeteria and I see the chief resident was holding midnight rounds with all the other male students and not me. And I remember saying, “Okay, I got it. I got it.” There’s no point in complaining. Who to complain to?
[00:40:00]

Tacey Ann Rosolowski, PhD
[00:40:00]
Right. Right.
[00:40:04]

Eugenie Kleinerman, MD
[00:40:05]
So it was a mixed message. And OB/GYN, they took the first woman resident from the woman the class ahead of me. She was the first woman to be a resident in OB/GYN.
[00:40:21]

Tacey Ann Rosolowski, PhD
[00:40:21]
Oh, my gosh. That’s ironic. (laughs)
[00:40:24]
Eugenie Kleinerman, MD
[00:40:27]
(cell phone ringing) I’m just going to get this.
[00:40:28]
Interview Session: 01
Interview Date: May 21, 2014

Chapter 5
A: The Researcher

Bringing Clinical and Laboratory Experience Together and Identifying a Research Focus

Story Codes
A: The Researcher
A: Inspirations to Practice Science/Medicine
A: Influences from People and Life Experiences
C: Professional Practice
C: Evolution of Career
C: Discovery and Success
C: Human Stories

Tacey Ann Rosolowski, PhD
[00:40:28]
Sure. I’ll pause the recorder. Okay. We didn’t need to pause the recorder.

So your next move—and I wasn’t sure what your position was—was this another fellowship from 1975 to ’76 at Children’s Hospital National Medical Center?
[00:40:49]

Eugenie Kleinerman, MD
[00:40:49]
No, I was a pediatric intern resident.
[00:40:51]

Tacey Ann Rosolowski, PhD
[00:40:51]
Oh, okay, a pediatric, a resident at that point.
[00:40:53]

Eugenie Kleinerman, MD
[00:40:53]
Right.
[00:40:54]
Tacey Ann Rosolowski, PhD
[00:40:54]
So you were there for between 1975 and 1978.
[00:40:58]

Eugenie Kleinerman, MD
[00:40:58]
Correct.
[00:40:59]

Tacey Ann Rosolowski, PhD
[00:40:59]
So tell me about that experience. What was happening there with your research and your—
[00:41:04]

Eugenie Kleinerman, MD
[00:41:04]
Okay. Well, so my husband finished his residency and he was accepted at NIH for a clinical fellowship in oncology, so I really had to limit—I had wanted to do my residency with Children’s Hospital, Philadelphia, because that was the premier pediatric program, and I had already published, and I had received an award at medical school graduation for my research. Ralph was instrumental and Dr. Charlie Daniels [phonetic], who’s the pathologist that I did the collaboration with, they were instrumental in getting me that award.

So I really probably could have gotten into CHOP or into Boston Children’s, but I sort of—you know, my marriage was important, so I had to either go to Hopkins or to one of the two programs in Washington, which were weak compared to Children’s Hospital, Philadelphia or Boston Children’s. But Hopkins was not. Hopkins was the Harriet Lane Service, and that was a very preeminent service, but it was in Baltimore.

But I went there to interview, and they offered me a position out of the match. You know, on the match, you have to write down what your four choices or ten choices are, and then the hospital writes and they sort of match you. And what they said, “If you want to come here, we’ll take you, and we’ll give you time during your first year to do research, we’ll give you time—,” you know. “We want you to continue your research.” But the call is every other night and Saturday rounds, so that meant I would be commuting from Washington, and most of the residents lived in the compound across the street.
[00:42:51]

Tacey Ann Rosolowski, PhD
[00:42:51]
Oh, wow.

[00:42:52]

**Eugenie Kleinerman, MD**

[00:42:54]

So I thought long and hard and I said, “You know, my marriage’ll never sustain this, just won’t. I’m going to be tired. I’m going to be cranky. He’s going to be tired. I’m going to be commuting an hour each way. Not going to work.”

So I looked at Children’s Hospital National Medical Center and I looked at Georgetown. Georgetown was a very small program; it was D.C. Children’s at that point, before they renamed it. It was a big inner-city children’s hospital. They could have cared less whether I did research. They could have cared less whether I came from Duke. So they didn’t offer me a position outside the match. They said, “You know, rank us. We’ll rank you, and we’ll see what happens.”

So I did rank them first, and I did get matched there. And actually, in retrospect, it was the right decision to do, because it was a very intense clinical three years. Nobody did laboratory research there, really. They had this what they called the interstitial space. It was between two floors with no windows. That’s where the labs were. I mean—

[00:44:14]

**Tacey Ann Rosolowski, PhD**

[00:44:14]

Yeah. (laughs)

[00:44:14]

**Eugenie Kleinerman, MD**

[00:44:18]

But, boy, did I learn how to take care of patients. Could do it in my sleep. My clinical skills were really sharpened. And because it was in D.C. and there were many women who were married to attorneys, so they were locked into the D.C. area as well, my colleagues were exceptional people. So it really was a lot of fun, a different, totally different atmosphere, all only focused on clinical—

[00:44:58]

**Tacey Ann Rosolowski, PhD**

[00:44:58]

Interesting.

[00:44:58]
Eugenie Kleinerman, MD
[00:44:59]
—taking care of the patient, no clinical research, no basic science, you know, “How does this work? What’s the mechanism?” Just taking care of the patient.
[00:45:07]

Tacey Ann Rosolowski, PhD
[00:45:08]
How did that clinical immersion have an impact later on your research career?
[00:45:12]

Eugenie Kleinerman, MD
[00:45:13]
Excellent question. It gave me the confidence to come here and take this position, because after my clinical residency—I was there for three years—I realized I don’t want to go into private practice. After five years, I’m going to be bored. Nothing against it. It’s just after—you know, I want to be with the discovery. I want to be the one not just following the recipe. I want to be cooking, making the recipe. I want to change practice.

But I was going to be an immunologist, in keeping with the research that I did in undergraduate school. So I got a fellowship at the National Cancer Institute in the metabolism branch, which did immunology, after my residency. So I went out to NCI from ’78 to ’81.

My husband was an oncologist, and he kept saying, you know, just like [unclear], “Oncology, oncology, oncology. It’s interesting. It’s—,” whatever. He was a movie buff, so he’d drag me to all these movies. So he took me to see—it’s called Promises in the Dark, starred Marsha Mason, and it was the story about a woman general practitioner who got divorced and is moving to a small town in probably eastern Massachusetts, I guess, and she’s covering the practice for her partner, and she gets called because a high school student kicks a soccer ball and she breaks her leg. So she’s called to the emergency room, and she looks at the x-ray. She doesn’t like something on the x-ray. “You know—.”

“No, I want another x-ray taken.”

So they take another x-ray, and it turns out she has osteosarcoma, and she develops pulmonary metastases, and she goes through the chemotherapy and she relapses. And Marsha Mason’s on the phone calling the NCI and saying, “You must have something. This is a young girl. You must. Don’t tell me you don’t have anything for her. She’s going to die.”

And I walked out of that movie and I was in tears, and I was like, “I don’t know what I’m
supposed to do with this. I just don’t know.” So then I started becoming more interested in oncology and I—

Tacey Ann Rosolowski, PhD
[00:47:49]
(laughs) I’m sorry. You’re the first person who’s ever told me that they had a movie that was a catalyzing event, but you never know where the inspiration’s going to come. And I have to say when you were telling the story, I was kind of tearing up. I probably shouldn’t go to that movie. It would be Kleenex central. (laughs)
[00:48:03]

Eugenie Kleinerman, MD
[00:48:03]
I have it here in my desk. I have it here in my desk. I’ve made my children watch the movie.
[00:48:06]

Tacey Ann Rosolowski, PhD
[00:48:06]
Really? That’s amazing. Yeah.
[00:48:09]

Eugenie Kleinerman, MD
[00:48:09]
It was very realistic. In retrospect, they did a great job, very realistic. So I really didn’t know what to do with it.

So I was going to finish my fellowship, and then we had the decision what’s the next thing to do. And during that time I started to investigate what effect chemotherapy had on the immune system. Remember I told you I had done viruses, so this is sort of like it was a natural. Okay, cancer, a little cancer chemotherapy. People said it’s immunosuppressive. Is it really immunosuppressive? Nobody proved it. In fact, it isn’t necessarily.

So, you know, I was doing this research. Okay, where am I going to go? Bottom line, my husband got offered a position, a permanent position at NCI, and there was a new facility opening up in Frederick, which was thirty miles north, but it was an NCI facility, and I was offered a position. And I was offered a position down at Walter Reed.

And I just didn’t know what to do, so I called Ralph. I said, “Ralph, you know, Len wants to stay here, and I just don’t know what to do.”
He says, “Well, you know, there’s this guy Josh Fidler, who’s out at Frederick, and he has a really great reputation. I think you need to go talk to him.”

I said, “Okay.”

He said, “Tell me about Walter Reed.”

I said, “Well, you know, it’s in the city and, you know, the pay is good, the benefits are good, and I knew the people. They’re very nice.”

And he said, “No, no, no, no. What about the work?”

“Well—.”

He says, “I don’t like what I’m hearing. If you don’t like the work, if you’re not excited about the work, you’re going to be miserable. I don’t care how much money you’re making and I don’t care that it’s convenient. You’re not going to like it.”

So the American Association for Cancer Research happened to be meeting in Washington, D.C., and I opened up the program and there Josh Fidler is giving a lecture. Ralph says I should go talk to him. Okay. Well, let me go hear what he’s doing before I go talk to him. So I go, and what does he present? He presents his work using this immune modulator in this mouse model that has a tumor in the leg. He amputates the tumor, it has lung metastases, he gives this immune-therapy, the lung metastases go away. I said to myself, “This is osteosarcoma. This therapy could work in kids with osteosarcoma.”

Tacey Ann Rosolowski, PhD
[00:50:50]
Wow.
[00:50:51]

Eugenie Kleinerman, MD
[00:50:53]
So, took me about two months to make an appointment with him, because this was in April, so I wasn’t going to start till July. So I took the position at Frederick, and I went to make the appointment, and I told him my idea. And you can imagine, “Okay, this is what we’re going to do.” He takes out paper. “Okay. This is what we’re going to do. You’re going to come. You’re going to get [unclear]. We’re going to have to show the—,” da, da, da, da, da, da. That was the beginning.
[00:51:18]
Tacey Ann Rosolowski, PhD  
[00:51:18]  
Yeah. So he just completely—wow. You walk in the door, you’re in.  
[00:51:21]  
Eugenie Kleinerman, MD  
[00:51:21]  
Right.  
[00:51:23]  
Tacey Ann Rosolowski, PhD  
[00:51:23]  
What did he see? What did he see in you?  
[00:51:26]  
Eugenie Kleinerman, MD  
[00:51:27]  
I guess somebody who was eager. I don’t know.  
[00:51:30]  
Tacey Ann Rosolowski, PhD  
[00:51:31]  
And you presented him with this idea, and it’s like, “Wow [unclear].”  
[00:51:33]  
Eugenie Kleinerman, MD  
[00:51:34]  
Yeah, and I think he was looking for—you know, he’s a vet and he’s a Ph.D., and osteosarcoma does affect dogs. So I think he saw this as a real opportunity for him, too, to get into the clinic, because I had clinical legitimacy.

So this is a long way to get to your question of how did that immersion, clinical immersion—so when he came here and wanted me to come here, I had not seen a patient for three years because I was in the lab.  
[00:52:06]  
Tacey Ann Rosolowski, PhD  
[00:52:07]  
So the whole time at the NCI, you were just in the lab.  
[00:52:09]
Eugenie Kleinerman, MD
[00:52:09]
It was actually more than three years. No, it was three years. It was three years when I went out to Frederick. I didn’t see patients anymore. I was there for three years. And I walked into the clinic, it was like riding a bike.
[00:52:22]

Tacey Ann Rosolowski, PhD
[00:52:22]
Wow.
[00:52:22]

Eugenie Kleinerman, MD
[00:52:23]
And I think it’s because I was just so comfortable with taking care of patients and drawing blood and feeling bellies and looking in eyes. You know, after you do it a million times, it just comes back. And so I exuded the confidence when I walked into the clinic, people saying, “You know, she’s a basic scientist. She’s coming into clinic for one day a week. Who does she think—?” But they became comfortable and they saw that I knew what I was doing.
[00:52:53]
Chapter 6

A: Joining MD Anderson/Coming to Texas

Leaving the NCI for Research at MD Anderson

Story Codes
A: Professional Path
A: Experiences re: Gender, Race, Ethnicity
B: Gender, Race, Ethnicity, Religion
A: The Researcher
A: Influences from People and Life Experiences
A: Contributions to MD Anderson
C: Portraits
C: On Texas and Texans

Tacey Ann Rosolowski, PhD

[00:52:55]
So tell me about that process, and I guess this will be the last question for today because we’re almost coming up on time and I don’t want to make you go over, but I just wanted to quickly hear the story of you coming here. How did that all work? So first, Dr. Fidler came, so how did you—

[00:53:13]

Eugenie Kleinerman, MD

[00:53:13]
Okay. So he said, “I want you to come with me.”
So I told my husband, “You know, if I’m ever going to be able to realize my dream, it ain’t gonna be here, because they’re not interested. They don’t take me seriously.” They didn’t renew my fellowship either. Not only was I a woman, I was a pediatrician. And you could see it when they constructed the call schedule. It was, okay, we alternate patients, but if there’s ever a child, Genie takes the patient, but Genie doesn’t get credit for the patient. She still has to take in a rotation.

So he said, “Okay. Let’s see if there’s anything for me.” So it just so happened that Irv Krakoff, who I told you about, was coming here, and so he interviewed with Irv Krakoff, and there was a position for him, so he followed me here. He says, “You know, you followed me to NCI. My turn to follow you here.”

Tacey Ann Rosolowski, PhD

So basically that was it. I mean, Dr. Fidler wanted you to come. You kind of came as part of his team.

Eugenie Kleinerman, MD

I came, I interviewed, but I wanted to get a joint appointment in pediatrics, so I came down and I met with Norman Jaffe, and he was all welcoming, “Great! Come to clinic. You can come to clinic one day a week, you can see my patients, you can be part of my team. When I’m out of town, you can cover my patients.” Never any question, “What do you know? How many patients have you treated with [unclear]? Never any question. “When I go out of town, you work with
me, you’ll cover my patients.” You know, there was just no question. I didn’t have to prove myself to him.

And in figuring out how to do clinical research, nobody was really doing clinical research in pediatrics the way I wanted to do it, so I just sort of had to navigate myself. I went over to Cancer Medicine, because they had a very good—I talked to this person. She said, “Okay, this is what you have to do. You have to write a protocol. It has to go to the IRB.” And, again, I just sort of navigated myself on my own, but people who were willing to stop their day and talk to me and tell me what I had to do, not, you know, “I’m busy. Make an appointment.” I’d show up. They’d, “What do you need?”

[Tacey Ann Rosolowski, PhD]

[00:55:35]

You’re reiterating the kind of small-town feel that people have described.

[Eugenie Kleinerman, MD]

[00:55:42]

You got it. Absolutely, it was a small-town feel.

[Tacey Ann Rosolowski, PhD]

[00:55:45]

Yeah. It’s very interesting, and probably just a complete breath of fresh air. Any incidents with being a woman here when you first arrived? What was the climate like?

[00:55:57]
Eugenie Kleinerman, MD

[00:55:59]

Well, you know, with Dr. Fidler, there was no—because, you know, he was married to Dr. Kripke and he promoted her. He put—I mean, he really did.

Let’s turn off the recorder.

[00:56:14]

Tacey Ann Rosolowski, PhD

[00:56:14]

Okay. I’m pausing the recorder at 3:20.

[00:56:17]

Tacey Ann Rosolowski, PhD

[recorder is paused]

Tacey Ann Rosolowski, PhD

[00:00:01]

Okay. We’re back on at 3:30.

[00:00:04]

Eugenie Kleinerman, MD

[00:00:05]

So in terms of women, Dr. Freireich was difficult to deal with, and a lot of the Cancer Medicine physicians, and I think it was more that I was a pediatrician than I was a woman, but nothing sticks with me as I couldn’t do anything. There were no really women department chairmen or leaders, I don’t think, certainly no head of clinical divisions, because I’m the first one. So I think
there was an absence there, but I don’t believe that I ever felt restricted because I was a woman.

[Tacey Ann Rosolowski, PhD]

And just for the record, you came to MD Anderson in 1984.

[Eugenie Kleinerman, MD]

Correct.

[Tacey Ann Rosolowski, PhD]

Yeah, it sounds like it was sort of a whole arena of new opportunities over there.

[Eugenie Kleinerman, MD]

Oh, it was wonderful. I mean, Leonard and I say it was the best decision we’ve ever made. Next to marrying each other, it was the best decision, the best decision. (Rosolowski laughs.) And our friends could not understand it. They could not. “You want to go to Houston? Why do you want to go?” And it was a wonderful place to raise a family. I’ll just tell you one last story.
Eugenie Kleinerman, MD

[00:01:32]
You know, it was very difficult in Washington to be a working mother, very difficult. You would think why? There are all these attorneys. But there really was a segregation. You were a working mother or you were a stay-at-home mother, if you’re a working mother, you’re not in our group. I couldn’t get anybody to carpool with me. Women wouldn’t talk to me when I went to birthday parties. I remember one birthday party, I was so upset, I was in the corner. I was close to crying, and one of the fathers brought me a cup of coffee because he felt sorry for me.

[00:02:08]

Tacey Ann Rosolowski, PhD

[00:02:08]
Wow.

[00:02:09]

Eugenie Kleinerman, MD

[00:02:10]
So when we moved here, I said to my husband, “Okay, I’m getting in a carpool, and I’m not going to tell them that I work.”
Because we lived close, so I could come home at noon. I mean, the attitude was, “You work, it’s your problem. You can’t come home at noon to pick up the carpool? Forget it. We’re not interested.”

Okay. So I said, “I’m not telling anybody.”

So I got into a carpool based on our zip code. And one of the mothers who lived around the corner said, “I want to get all the kids together so they know each other.”

Okay. So we went over to their house, we’re talking, very nice. None of the other women worked. And Richard, who’s my oldest, said something about, “Well, Mom, when you go to work,” and I was like, “Richard!” I go, “It’s okay. It’s all right. I’ll leave work. There’s no problem. I’ve already worked it out.”

And one of the other mothers said to me, “Honey, I got three kids. It’s all I can do to get myself out of the house in the morning. If you want to drive two mornings, I’d be happy to pick up at noon twice.”

I thought, “Oh, my god, I’ve gone to heaven.”

_Tacey Ann Rosolowski, PhD_

Wow.
Eugenie Kleinerman, MD

[00:03:18]

And that was the attitude. “We will help you. You want to pick up carpool, soccer carpool at the end of the day? You pick up the soccer. There’s a no-school day, your child can come to play with my child.” It was a welcoming, again, collegial, collaborative, supportive community like I had not experienced.

[00:03:45]

Tacey Ann Rosolowski, PhD

[00:03:46]

Right. Right. Kind of an extended family sort of situation.

[00:03:48]

Eugenie Kleinerman, MD

[00:03:49]

Absolutely. Absolutely. You know, we’re Jewish. In the nine years I was in Washington, I never was invited to anybody’s house for Rosh Hashanah, Yom Kippur, Passover. We moved here in July. Rosh Hashanah was in September; I think we had four or five invitations. “You’re new, you’re Jewish. Come over. Come to Shabbat dinner. Come for Rosh Hashanah.” It’s the South. So, you know, again, one of the best things that we did was to move here. We love it here.

[00:04:33]

Tacey Ann Rosolowski, PhD

[00:04:34]

That’s great.

[00:04:34]
Eugenie Kleinerman, MD

[00:04:35]
Which is why it’s so hard when you see something that you love so dearly begin to change, and I know change is necessary and all of that, but you sort of do mourn the loss.

[00:04:48]

Tacey Ann Rosolowski, PhD

[00:04:48]
Yeah, I can see that.

[00:04:50]

Eugenie Kleinerman, MD

[00:04:50]
It’s a loss.

[00:04:51]

Tacey Ann Rosolowski, PhD

[00:04:51]
Yeah.

Well, we’re a little past three-thirty, and I don’t want to abuse your time today, so why don’t we—this feels like a good place to stop.

[00:05:01]
Eugenie Kleinerman, MD

[00:05:01]
Mm-hmm. All right.

[00:05:01]

Tacey Ann Rosolowski, PhD

[00:05:02]
So I am turning off the recorder at 3:35, and I want to thank you for your time, Dr. Kleinerman.

[00:05:08]

Eugenie Kleinerman, MD

[00:05:08]
My pleasure. Thank you for listening. (laughs)

[00:05:10]

Tacey Ann Rosolowski, PhD

[00:05:10]
Oh, it’s my pleasure. Thanks.

[00:05:12] (End of Audio Session One)
Tacey Ann Rosolowski, PhD
[00:00:00]
All right. So we are recording, and the time is about four minutes after ten. And I’m in the Main Building of the Division of Pediatrics, talking to Dr. Eugenie Kleinerman for our second session.

Thanks very much for making time.
[00:00:16]

Eugenie Kleinerman, MD
[00:00:16]
My pleasure, of course.
[00:00:18]
Chapter 7
A: The Researcher
An Introduction to MEPACT and a New Research Collaborator for Study of Osteosarcoma Treatment

Story Codes
A: The Researcher
A: Influences from People and Life Experiences
C: Discovery, Creativity and Innovation
C: Evolution of Career
A: Definitions, Explanations, Translations
A: Critical Perspectives
C: Discovery and Success
D: On Research and Researchers
D: Understanding Cancer, the History of Science, Cancer Research
D: The History of Health Care, Patient Care

Tacey Ann Rosolowski, PhD
[00:00:18]
And we talked a little bit before the recorder was on, that it kind of made sense to talk about your research. We’d just gotten to the point at the end of the last session when you come to MD Anderson. I don’t know, does it—you mentioned your work with Dr. Fidler at the NCI, but I was hoping you could go into more detail about exactly what Dr. Fidler had discovered and what you saw as being so significant to the potential treatment of osteosarcoma.
[00:00:51]

Eugenie Kleinerman, MD
[00:00:53]
So what he presented at the American Association for Cancer Research, AACR, at the national meeting, was that he had this immune modulator, this drug that is called liposomal muramyl tripeptide. It is like a fat globule that is made up of lipids that are the same lipids that make up an old red cell. One of the immune cells in the body called the macrophages is a scavenger cell. It’s an immune cell that recognizes self from non-self. When you get infected with bacteria or viruses, these are the immune cells that say, “Woops, this is not good,” and they ingest the bacteria or the virus, and they kill it. Through research, it was found that when these macrophages are activated by viruses or bacteria, not only will they kill the virus and the bacteria, but they will recognize tumor cells, attach to the tumor cells, secrete proteins across that membrane interaction, and kill the tumor cell. And it’s selective. They don’t kill normal cells. So there’s some kind of recognition between the tumor and the normal cell, and to the day, we do not know exactly what this is.
So because the macrophage is a cell that ingests things, one of the other properties in the human bodies is it is able to detect old red cells from new red cells. The lifespan of a red cell is about 120 days. And you would say, well, how does it know that it’s 120 days old or 12 days old?

Well, what happens to the red cell as it ages, the phospholipid called phosphatidylserine, PS, flips from the inner leaflet to the outer leaflet, and this recognition of PS on the outer surface of the red cell says to the macrophage, “This is an old cell. I’m going to ingest it and get rid of it so the body has fresh cells.”

So what Dr. Fidler did with his collaborators was to create a lipid vesicle with PS on the outside, and then inside the vesicle he put an agent that was derived from a bacteria. So this is an ingenious way to trick the macrophage and say, “This is an old red cell.” The macrophage ingests it, starts to break down the lipid wall, and once inside the macrophage, the activating agent is released, so you get selective activation and you don’t get exposure of this bacteria. It’s not live. It’s been modified, so it’s not infectious or anything. It’s really the protein, but no normal tissue is exposed to this agent.

Tacey Ann Rosolowski, PhD

Yeah. So it’s not a systemic thing like chemotherapy that’s—

Eugenie Kleinerman, MD

Well, it is systemic, but it selectively goes to areas in the body where the macrophages are.

Tacey Ann Rosolowski, PhD

I see.

Eugenie Kleinerman, MD

And that’s lung, liver, spleen. So there’s uptake in the lung, and what Dr. Fidler did was create a mouse model, a melanoma mouse model, where he injected the melanoma into the limb, let the tumor grow, amputated the limb. At that time, if you looked at the mouse in the lung, there were tiny micro metastases, and if you didn’t treat the animals, they would be dead very shortly. Ninety percent of them would be dead. So what he showed in this presentation is if he injected the melanoma cells, let the tumor grow for a month, amputated the leg, and then started
treatment with this drug, liposomal MTP-PE, he was able to cure about 70 percent of the mice and completely eradicate the micro metastases in the lung. But they had to be small micro metastases. You couldn’t have a bulk tumor.

Well, when I heard this and saw his data, I said, “This is osteosarcoma.” You’ve got a tumor in the limb. We either amputate or resect the tumor. Then we give combination chemotherapy to address the lung metastases, and we can cure about 65 percent. But we’ve been stalled at that 65 percent point, and treating kids with seven drugs or two drugs or four drugs for eighteen months, for twelve months, made no impact on the survival. So my idea was what if we could add an immune modulator where the chemotherapy could get rid of most of the tumors, the metastases in the lung, and then you could use this immune-therapy to activate the macrophages to mop up the cells that were left behind in chemotherapy. So that was my sort of eureka moment.

So it took me about a month to get up the courage to go meet with Dr. Fidler, and I told him my idea, and, of course, he—again, here I was, a new faculty member at the National Cancer Institute. And he said, “A great idea. Let’s collaborate. But I’ve only shown this in mouse macrophages. What we really need to do first is show that human macrophages will take up the liposomes and become activated and kill tumor cells and not kill normal cells, before we even think about whether this can go into a clinical trial.”

Tacey Ann Rosolowski, PhD
[00:07:22]
Can I ask you—I’m sorry to just go back a little bit, but, you know, I just wanted to go back to that moment when you figured this out. I mean, that must have been really exciting. Was it really a eureka moment, like, “Oh, my god, here it is,” or—

Eugenie Kleinerman, MD
[00:07:36]
Yeah, it really was, really was. It was a eureka moment saying, “Now I understand.” I’d been having these thoughts about this movie and about osteosarcoma. What was that all about?

Tacey Ann Rosolowski, PhD
[00:07:50]
And this was Whispers in the Dark you talked about last time.
Eugenie Kleinerman, MD
[00:07:52]
Yes. *Promises in the Dark.*
[00:07:53]

Tacey Ann Rosolowski, PhD
[00:07:53]
*Promises in the Dark*, yeah.
[00:07:54]

Eugenie Kleinerman, MD
[00:07:55]
And I said to myself, “Here’s the connection.”
[00:07:57]

Tacey Ann Rosolowski, PhD
[00:07:58]
Yeah. Where were you when you made the connection?
[00:08:00]

Eugenie Kleinerman, MD
[00:08:00]
I was in the audience. It was in Washington.
[00:08:03]

Tacey Ann Rosolowski, PhD
[00:08:03]
So you were right there.
[00:08:04]

Eugenie Kleinerman, MD
[00:08:04]
Yeah.
[00:08:04]

Tacey Ann Rosolowski, PhD
[00:08:04]
So it was very immediate.
[00:08:05]
Eugenie Kleinerman, MD
[00:08:05]
[00:08:07]
Tacey Ann Rosolowski, PhD
[00:08:07]
Wow.
[00:08:07]

Eugenie Kleinerman, MD
[00:08:07]
I saw that, and a light bulb went off and said, “This is osteosarcoma,” and recalling the movie where she was on the phone to the NCI saying, “There must be something. This is a young girl. Don’t tell me you have no clinical trials.”

And the response was, “Well, it’s a rare disease, and, you know, it’s not going to make that much impact. Nobody’s interested in developing anything.”

Now, when I met with Dr. Fidler, of course he was interested in using this for melanoma. Melanoma at the time was not a big killer of children, but the cancer was not a big cancer. So I said, “Well, I’m really interested in osteosarcoma.”
[00:08:46]

Tacey Ann Rosolowski, PhD
[00:08:48]
But he was very game to [unclear].
[00:08:48]

Eugenie Kleinerman, MD
[00:08:50]
Oh, yes. Oh, yes, yes. I think he also had been searching for someone that could give him the clinical connection. I mean, he was a vet, he was a PhD, but in order to translate it, he really needed to have a clinical collaborator. So I think what he saw in me was the opportunity to really translate his basic research into the clinic, and he was always very translationally oriented.
[00:09:15]

Tacey Ann Rosolowski, PhD
[00:09:15]
Right. Now, I just remembered that I had forgotten to ask you last time, because one of your frustrations was that the NCI was unwilling to take children into clinical trials. Why was that?
Eugenie Kleinerman, MD

Well, pediatric cancer is a rare disease. I think it’s a poor perspective, because if you look at what the impact of curing childhood cancer in terms of years of lives saved, in other words, how many life years will you gain by curing childhood cancer, it’s about the same as curing breast cancer. So if you look at the number of years, if you cure a child of osteosarcoma when they’re fourteen, and you figure they’re going to live till they’re seventy, so that’s, what, fifty-four years, whereas if you cure a woman of breast cancer when she’s fifty, that’s twenty years. And if you add it all up.

But at the time—and osteosarcoma is one of the rarer pediatric cancers as well. Leukemia is the most common, relapsed leukemia is the second most common, and brain tumors is the most common solid tumor. There are probably only 1,500 to 2,000 new cases of children with osteosarcoma.

Tacey Ann Rosolowski, PhD

Now, how many cases of osteosarcoma had you encountered throughout your clinical practice?

Eugenie Kleinerman, MD

Before I heard Dr. Fidler, not a lot. So I was in my last year of fellowship, actually, when I—it took me—you know. So the cancer meetings are now, and I wasn’t going to start my faculty position till July. So during that time when I went back as a fellow, I started to look for all of the cases of osteosarcoma, and it was amazing to go through the history, to sit and listen to all the cases that presented.

At the time, there was a national clinical trial randomizing children with osteosarcoma to receive surgery alone or surgery and post-op chemotherapy, because there had been a study at the Mayo Clinic that said that surgery alone was as good as surgery plus chemotherapy, and why are we using chemotherapy if it’s not effective and there’s all these side effects and long-term sequela. And so there was a national study, and, anyway, a lot of children died because of that study. But anyway.

So in the sitting in the meetings, listening to Sally presented with osteosarcoma, was randomized and treated, and then is now presenting with metastases in the lung and metastases in the lung and metastases in the lung. So that just validated my eureka moment hearing Dr. Fidler and what
was in the movie, that this indeed was a big problem. Even though the numbers were small, this was a big problem, and that adding an immune-therapy could make a big impact in a lot of children’s lives. So really, prior to hearing Dr. Fidler, I maybe had one or two patients. [00:12:57]
Chapter 8
A: The Researcher

Putting the Pieces in Place to do a Phase I Trial with MEPACT

**Story Codes**
A: The Researcher  
C: Discovery and Success  
C: Discovery, Creativity and Innovation  
C: Professional Practice  
C: The Professional at Work  
C: Women and Minorities at Work  
C: Obstacles, Challenges  
A: Joining MD Anderson  
D: Ethics  
A: Contributions

*Tacey Ann Rosolowski, PhD*
[00:12:57]  
Interesting. Yeah, yeah. Now, you were talking about how he [Dr. Joshua Fidler] saw his next steps, and then what did you do to come together? How did that collaboration first take shape?

*Eugenie Kleinerman, MD*
[00:13:09]  
So what he said is, “Okay, we’ve got to show you how to make up the drug and how you assess it.” Then I needed to plan the experiments to get normal peripheral blood and isolate the macrophages in the peripheral blood so that we could do the experiments with the agent. So he taught me how to make up the agent, how to purify it, whatever. We designed an assay. I mean, all he had done is use mouse macrophages, pulmonary macrophages, so it was not really applicable. So we had to design an assay system where we could isolate human monocytes and quantify their ability to kill tumor cells before and after exposure to the drug. We have to work out how do you expose them to the drug, how many hours, you know, do you wash it away. So all of the little details that one needs to do to show that it is applicable with human cells in addition to mouse cells.

*Tacey Ann Rosolowski, PhD*
[00:14:19]  
And how did that process go? Were there any surprises or turning points?

[00:14:23]
Eugenie Kleinerman, MD
[00:14:24]
Not really. Not really at all.
[00:14:26]

Tacey Ann Rosolowski, PhD
[00:14:26]
Mm-hmm, pretty straightforward.
[00:14:27]

Eugenie Kleinerman, MD
[00:14:27]
It was pretty straightforward, and I duplicated everything that he had shown in the mouse. At the
time, there was an investigator who had identified another immune cell called the natural killer
cell, and so there was a debate in the immune world whether what we were describing, Dr. Fidler
and I were describing, was really macrophages or whether it was NK cells. So we had to stop and
do a lot of experiments to prove that it was indeed the macrophage and not the NK cell. And
that’s sort of just the way science goes. So that was all also part of the process.

But it was probably—I don’t know how long it was—maybe a year, year and a half, something like
that, till—maybe two. I don’t know. Maybe a year, year and a half, we had the data and it was
really ready. Dr. Fidler had a relationship with Ciba-Geigy, which was the pharmaceutical
company that made the MTP, and we were ready to go into a clinical trial. And, of course,
because I was the clinical liaison, you know, I sort of could control what disease.

So he and I went to discuss this with the people at NCI to try to set up a clinical trial, a Phase 1
trial, looking at the toxicity and the ability to give this drug. Now, I will also say, in Europe,
Ciba-Geigy had already done testing with this drug in accident victims, because the theory was if
you could give this drug to accident victims, you could fend off infection. You know, when
somebody’s in a car accident, they have a broken leg, it’s the wound, and all this other stuff. So
they really had done safety testing, so it wasn’t like this was going to be a first in human.
Because whenever you talk about putting drugs into children, they get—you know.

So I said, “Look, we can do it in adults.” I mean, I had been on the metabolism branch and took
care of adults with immune deficiency. And that’s where the roadblocks started. I believe it was
Sam Broder who was head of the Division of Cancer Treatment, DCT, at the time, and it was
clear to me that there was going to be no way that he was going to allow me to do any clinical
trials with the drug. You know, he would say, “Well, Genie, first you’ve got to do an extra year
of clinical fellowship focused in pediatrics. You’ve done immune patients.”
I came home to my husband and I said, “You know, I’m never going to be able to get this.”

**Tacey Ann Rosolowski, PhD**

What were the issues that were really at work there, do you think, with these roadblocks?

**Eugenie Kleinerman, MD**

I think I wasn’t in the favored group. I think I wasn’t taken seriously. I think probably being a woman had something to do with it. I think if it had been one of my male colleagues that had been doing research in what was felt to be a really breakthrough field, that they would have made accommodations and seen that it was done. So I do think that played a role in it. I do think that played a role in it, because Sam Broder—I was in the metabolism branch when he was a senior faculty member in the metabolism branch. And you can just tell the way somebody talks to you, jokes with you when you present, whether they’re taking you seriously or not, and he did not. He just did not. And I think it had to do with I was a pediatrician and I was a woman.

**Tacey Ann Rosolowski, PhD**

Well, fortunately, you had an exit strategy.

**Eugenie Kleinerman, MD**

You know, I really believe that there was some, you know, divine intervention here, I mean with the movie and the meeting with Dr. Fidler, Ralph Snyderman telling me to go see Dr. Fidler, the connection there. Then Dr. Fidler was offered the position here and said, “Why don’t you come with me.” And that’s when I said to my husband, “If I’m going to be able to realize my dream, we’re going to have to leave. There’s no way. They’re going to keep me chained to the laboratory, always excuses with why you can’t do it. I really have an opportunity here to make a difference. It may not work, but I’d like to have the opportunity to try, to give it a go. It makes perfect sense.”

**Tacey Ann Rosolowski, PhD**

Mm-hmm. Mm-hmm. So where were you in the scheme of these tests evolving when you came to MD Anderson?
Eugenie Kleinerman, MD
[00:19:59]
So where was I in the scheme? So we had already shown that it can be done. Okay, so I guess where we were was thinking about how to construct the ultimate clinical protocol. I said there’s no way that you can ask a patient, a family, to say, “I don’t want to give you chemotherapy. I want to give you this new immune-therapy,” because chemotherapy cures 65 percent of patients, and it is not ethical to say to a patient, “Forgo this chemotherapy for this new therapy that I just believe is going to work.”

Tacey Ann Rosolowski, PhD
[00:20:51]
Right.
[00:20:52]

Eugenie Kleinerman, MD
[00:20:52]
So it became very clear to me that we were going to have to combine this with immunotherapy, chemotherapy and immunotherapy together. Well, the dogma at the time was chemotherapy is immunosuppressive, so it make no sense to use an agent that’s going to stimulate the immune system with chemotherapy that’s going to suppress the immune system.

So what I did when I first came here was go in to animals and show that you could combine chemotherapy with MTP and you still got activation of macrophages and you still got tumor regression, that you did not interfere with the activity of the chemotherapy, and the chemotherapy didn’t interfere with the activity of MTP. So we did that both in vitro and in animal models.

I was trying to also look at the mechanism. How does MTP stimulate macrophages? What does the macrophage produce that is a signature of a cell that’s going to kill a tumor cell? So we defined cytokines, you know, proteins that are produced by immune cells, because we also needed to have a marker. At the time in Phase 1 trials, which are first in—well, not first. Yeah, first. So it wasn’t first in human, but, you know, when you’re trying to design what the maximum tolerated dose is, what dose are you going to use? Do we use a little? You always have to start low, see what the side effects are. At the time, the dogma was you want to give as much drug as you can, because in cytotoxic chemotherapy, you want to give the most, because more drug means you’re going to have a higher concentration and that’s going to kill the cell. Well, with immune-therapy, immune-therapy doesn’t do anything towards the tumor cell. I mean, I
could take a tissue culture of tumor cells and put a high concentration of MTP, it’s not going to do anything to the tumor cell. You’ve got to have the immune cell in there.

So what Dr. Fidler and I said is, “We don’t want the maximum tolerated dose. We need the optimal biologic dose,” OBD. And we were really the first to present this as a concept for a Phase 1 trial. I think people don’t give us any credit for that. It’s accepted now.

But anyway, so we needed to have a way. How are we going to determine what the optimal biologic dose is? Because toxicity may not be the same as the optimal biologic dose. So we had to know what were we going to measure, what were we going to look for. So one of the things that we showed could happen was that we could give the drug and we could take samples of blood before the drug was given and various time points after, and actually show that the peripheral blood macrophages developed tumorsidal activity.

So I gave the drug, took blood before, one, four, twenty-four, seventy-two, took the blood back to my lab, and immediately had to isolate the macrophages and put them with tumor cells.

_Tacey Ann Rosolowski, PhD_

[00:24:30]

Now, just to clarify, this was you were working in animal models at this time, or you were in humans?

_Eugenie Kleinerman, MD_

[00:24:36]

No, this is humans. This is humans.

_Tacey Ann Rosolowski, PhD_

[00:24:37]

Wow. Okay.

_Eugenie Kleinerman, MD_

[00:24:37]

This is humans. Actually, let me back up. So first I had to show—because also people said that cancer patients have a depressed immune system, so it makes no sense to give them an immune-therapy. So what I had to do was I had to collect blood—and this all required protocols that went through the IRB—blood from children with osteosarcoma, and take their blood back to the lab, isolate the monocytes, incubate them with MTP, and show that I could stimulate their
macrophages just like normal macrophages to kill tumor cells. So there wasn’t an inherent macrophage defect in these patients. They could respond to the drug.

I also then took blood samples of children who were undergoing chemotherapy, so they would get their chemotherapy and then I would take blood samples and take it back to the lab, and showed that actually with some chemotherapies, the drug worked better. Adriamycin was one of them. So we don’t understand that, but anyway. So I showed that children with osteosarcoma, their macrophages responded to the drug, and when they were getting chemotherapy, there was no interference. So not only did I do that in animals, then I did it in patients with osteosarcoma.

_Tacey Ann Rosolowski, PhD_
[00:26:02]
It sounds like this research is also creating new understanding about how the immune system works.
[00:26:06]

_Eugenie Kleinerman, MD_
[00:26:07]
Yes.
[00:26:07]

_Tacey Ann Rosolowski, PhD_
[00:26:08]
Pretty amazing.
[00:26:08]

_Tacey Ann Rosolowski, PhD_
[00:26:08]
Yes, yes, yes. And so that research with the patients was funded by a grant from the NCI. That was my first grant from the NCI, was to obtain the translational data that would allow us to go into clinical trials.

So I came here in ’84. So in ’86, we were ready to go into a Phase 1 trial. But again, you couldn’t do a Phase 1 trial in children first, so, again, the collaborative spirit of MD Anderson. I collaborated with one of the adult oncologists, Dr. Lee Murray, who used immunotherapy in the clinic, and so he was the principal investigator on the Phase I trials, so it was done all in adults. And this is where we defined the optimal biologic dose. We said, okay, we’re going to start low and see what the side effects are, but we’re also going to collect blood from these patients, and I’m going to take it back to my laboratory and look at what proteins are being stimulated to be
released, what is the dose that gives the highest levels of these proteins, and what is the dose that gives the maximum activation of the macrophages in the blood.

And so we determined that the maximum tolerated dose that we could give was 6 milligrams-per-meter-squared, and the side effects were fever, shaking chills, fatigue, and muscle pain. The fever and the shaking chills usually lasted an hour or so, could be easily controlled with Benadryl. At the time, we couldn’t pre-medicate because we wanted to look at the side effects. The fatigue lasted about twenty-four hours. The fever could last a little longer, and the muscle pains lasted about a day. So by twenty-four hours, patients were fine.

But based on the protein levels in the blood and the macrophage activation, the optimal biologic dose was two, and, in fact, if you went above two, you saw suppression of the macrophage activity, which showed how important it was to determine the optimal biologic dose [OBD] and not assume that the maximum tolerated dose, when you’re talking about an immune-therapy, would be what you need to do.

Tacey Ann Rosolowski, PhD
[00:28:55]
What were the side effects with the optimum biologic dose?
[00:28:58]

Eugenie Kleinerman, MD
[00:28:59]
You still got fever and chills. You still got the same. But with six, patients just couldn’t tolerate it. You had to stop. They couldn’t get more than one infusion or so.
[00:29:11]

Tacey Ann Rosolowski, PhD
[00:29:11]
Interesting. Huh. Now just a little side question here. It sounds like these were—not a randomized trial [unclear]?
[00:29:18]

Eugenie Kleinerman, MD
[00:29:18]
No, no, no. Phase 1 is never. It’s always in patients who have exhausted all therapy, and it’s never disease-specific. All you’re looking at is feasibility to give it and toxicity.

Now, as part of the Phase 1, we also wanted to know where this drug was going. In the animals it was going liver, spleen, lung. Where is it going to go in humans? So we treated a few patients
with technetium-labeled liposomes.

[00:29:47]

_Tacey Ann Rosolowski, PhD_
[00:29:48]
[unclear].
[00:29:50]

_Eugenie Kleinerman, MD_
[00:29:50]
Technetium is something that you can use that will be picked up on x-ray, so it has some radioactive—not radio, but—so we treated—the company made up technetium-labeled liposomes with MTP, and so in the first, I think, four patients, we gave them the drug, and we found that, again, it went to liver, spleen, and lung. But actually, interestingly enough, it also went to the nasopharynx, which we were very surprised at, which could mean that eventually this drug could be used in cancers that are in the nasal area. But, again, those are not biggies in pediatrics.
[00:30:27]

_Tacey Ann Rosolowski, PhD_
[00:30:27]
Right, right, right. I had a question and lost it. Sorry. It will come back to me. (laughs)

So, next steps?
[00:30:38]
Chapter 9  
A: The Researcher  
*Designing a Phase II Trial for MEPACT, and the Characteristics of Translational Research*

**Story Codes**
A: The Researcher  
C: Discovery, Creativity and Innovation  
C: Professional Practice  
C: The Professional at Work  
C: Discovery and Success  
B: Institutional Mission and Values  
B: MD Anderson Culture  
B: Multi-disciplinary Approaches  
D: Understanding Cancer, the History of Science, Cancer Research  
B: MD Anderson History  
B: MD Anderson Impact  
C: Controversies  

*Tacey Ann Rosolowski, PhD*  
[00:30:27]  
Right, right, right. I had a question and lost it. Sorry. It will come back to me. (laughs)

So, next steps?  
[00:30:38]

*Eugenie Kleinerman, MD*  
[00:30:38]  
So we finished the Phase 1, we had the dose, and now we’re ready to go into Phase 2, and, of course, I wanted to do it in relapsed osteosarcoma. Well, at this point I had *never* written a clinical trial, knew *nothing* about clinical trials and what you had to do. There was nobody in pediatrics who had really written a clinical trial that could guide me. Norman Jaffe did clinical trials with high-dose methotrexate years ago, but things had changed so much.

So I went to my colleagues in Cancer Medicine. Mary Silverstein was in leukemia, and she sat down with me and says, “Okay, here’s a template, and here’s what you have to do.” I talked to people in the IRB. “Here are the things you have to do.” And I just sort of took—here are examples of Phase 2 trials, and I took Phase 2 trials and read it. I knew the design that I wanted and then read it to figure out how I needed to write, you know, what the specific gains were, how to lay it out. The layout of it’s very specific. You have to have a specific layout. The things that
you have to cover in terms of the sponsor and follow-up and informed consent, and all of those things I had absolutely no clue about.

Now, in designing the clinical trial, again, the usual design of a Phase 2 trial is that you treat relapsed patients who have not responded to the standard of care or any follow-up salvage care, and you treat them in the setting of disease. Well, I knew from Dr. Fidler’s work that there was no way that we would ever see a positive response if patients had bulk tumor, because he had shown definitively in the mouse that this immune-therapy could only get rid of minimal residual disease, microscopic disease. So I knew I had to be very careful, because if I did it in the setting of bulk disease and it didn’t work, that would be the end of the therapy. Nobody would be interested. That would be gone.

So how was I going to design a trial where the therapy could work? Well, fortunately, osteosarcoma lends itself very well, because when patients relapse, they usually relapse in the lung, and the approach is to resect the lung metastases, so you are putting the patient in the setting of minimal residual disease. But we know there are cells left behind because if you don’t do anything, 85 percent of patients will come down with more pulmonary metastases within a year. So from the time of surgery to one year, 85 percent of patients will relapse.

I had researched this. I had gone to the literature and looked at what people had published, thinking about how I was going to design this. What is known about relapsed osteosarcoma? And what I also learned is there have been groups that resected the lesion and gave patients follow-up chemotherapy with agents that they hadn’t seen before, and there were some people who didn’t do anything, and it made no difference, that these salvage chemotherapies really were not effective in changing patient outcome. You may get disease shrinkage, but in terms of outcome, it made no impact.

Now, back then people said, “No, that’s not true,” but I think now today people are finally—have done the experiment over and over and over and over and see that we’re not making any impact when you just use chemotherapy. So I was ahead of my time, probably too early and caused me a lot of grief, but that’s the way it goes, right? For pioneers, that’s the way it goes. (laughs)

So the way I designed the trial was patients would have to have had surgical excision of their lung metastases within one month of starting therapy with MTP. It was an arbitrary selection, because I figured to get patients here, I’m going to have to do a national. I’m going to have to open it up. I can’t just do it here, because there are not going to be enough patients. I needed about thirty patients for the trial. And what I proposed is I want to examine what is the impact on the disease-free survival, using the established data showing that if you resect lesions by one year, 85 percent have relapsed. So I said, okay, if we resect lesions and we treat with MTP, let’s see if we can increase the number of patients who are disease-free in a year. This was a new
concept. Only at MD Anderson would this have been allowed to proceed.

Tacey Ann Rosolowski, PhD
[00:35:56]
Why? Kind of tell me how that is true.

Eugenie Kleinerman, MD
[00:36:01]
Because you just didn’t do a Phase 2 trial in the setting of minimal residual disease. You did it show if a therapy was effective. You had to show that it could shrink the tumor. Immune-therapies were just emerging and nobody really—I understood the concept because of the basic science that Dr. Fidler did. Most clinicians come to it showing, here’s it in the lab, and you give it to animals and it shrinks the tumor. Okay, now let’s take it to the clinic.

Tacey Ann Rosolowski, PhD
[00:36:31]
You know, I had a question that’s kind of been simmering in my mind for about a half an hour, which is about translational research. And you had mentioned the term much earlier in the interview, talking about how Dr. Fidler was always—had that in mind but needed a clinical partner, and obviously you were thinking about it. And this was really at a formative time. I mean, people were just beginning to do this, so you’re not only pioneering immunology and treating pediatric patients, but you’re also working with him and pioneering what does a translational study look like and how does it shape the kinds of questions we ask and how we design our work. So that’s kind of amazing. I mean, that must have been really, really exciting to be involved in all of that.

Eugenie Kleinerman, MD
[00:37:19]
Yes, it was exciting, but I took a lot of beatings for it.

Tacey Ann Rosolowski, PhD
[00:37:22]
Did you?
Eugenie Kleinerman, MD
[00:37:23]
I did. I did.
[00:37:24]
Tacey Ann Rosolowski, PhD
[00:37:25]
Tell me about that.
[00:37:25]

Eugenie Kleinerman, MD
[00:37:29]
I think most of the accepted pediatric oncology community thought I was one of the cowboys at MD Anderson, you know, and what did I know, and really were unwilling to listen, because “That’s not the way we do things.” But I knew that it was right. I just knew it. And fortunately, I had Dr. Fidler as a mentor and a supporter, and I had Dr. Krakoff, who was chief of Cancer Medicine at the time, who was very open to new ideas and listened and said, “Oh, gee, that makes sense,” rather than, “No, you can’t do it that way because that’s not the way you do it. That’s not the acceptable way.”
[00:38:17]

Tacey Ann Rosolowski, PhD
[00:38:17]
And you said just a few moments ago that only at MD Anderson could you have done this. Why was that the case?
[00:38:24]

Eugenie Kleinerman, MD
[00:38:25]
Because that’s the tradition. That was the tradition at MD Anderson. We do things that nobody else will do. We pioneer how to treat cancer, and we just are not locked into the acceptable way of doing things. And if you have a good idea and it’s reasonable and it’s safe and the IRB can find that there’s no risk to patients in terms of the things that—and you do it properly with informed consent and you let the patients know and the families know, why not? Why not try? What do we have for these patients? What are we saving these patients—what are we saving these children from? Here you have a drug that doesn’t cause hair loss, that doesn’t cause vomiting, you have some fever and chills that you’ve shown you can control in the Phase 1 trial, you have a disease that relapses in the lung where we can take out the tumor but we’ve got no therapy afterwards. You know, why are we saying no because nobody else has done it this way? That’s what MD Anderson does. We are the pioneers. We do it first. We show the world. So that was the mentality.
So I designed the trial and I had support of my adult sarcoma physicians. They said, “We’re in this with you. We will collaborate with you. We will send you patients to put on to your trial.” So I designed the trial that we would document at the trial entry by x-ray and CT scan that there was no detectable metastases in the lung. If we could see it, the patient was not eligible.

We would treat the patients. Now, how long do you treat the patients? What do you do? Well, Dr. Fidler’s mouse work, he treated them twice a week for a month, because you can’t just give it once like chemotherapy, because the immune cells renew themselves from the bone marrow. So if you just give one dose in a two- or three-week time, you’re not going to provide a significant number of activated immune cells. So he gave it twice a week for a month and showed that it worked. So I figured, okay, we’ve got to give it twice a week to begin with. How long are we going to treat the patients? Let’s go three months. It was pure pulling out of the air, “Let’s go three months.”

So we went twice a week for three months, and during that time, several patients completed therapy, we stopped the therapy, and they started to relapse. And when they relapsed or they had a lesion on the film—there was a lesion on the film—we’ve got to go get it. So in thinking about, okay, this lesion, maybe the lesion—you can see the lesion not because there’s cancer cells there, because you have all these immune cells coming in, so an x-ray doesn’t tell you whether it’s a cancer cell or a normal cell or whether it’s inflammatory response or fibrosis or whatever. Like you can have an old tuberculin lesion in your lung and it shows up on x-ray, but it’s really just fibrosis of the tumor, the lesion that had been walled off by your immune system. So I said, “You know, okay, maybe it’s not really live tumor cells.” So I said, “Okay, we’re going to get the lesion.”

I talked to the thoracic surgeon, and the first thoracic surgeon took out the lesion, and he called me. He said, “Well, I got it, but it really looks unusual.”

I said, “What do you mean, it looks unusual?”

“Well, you know, usually osteosarcoma is invading into the lung and you can’t tell where the tumor begins and the lung is, and they’re always very difficult because they’re invasive. This one was really nicely encapsulated. I just took it out and that was it.”


Another patient, the same thing happened. We stopped therapy and within a short period of time, they showed up with a lesion in the lung. This was a different thoracic surgeon, again at MD Anderson, and says the same thing to me, “I took it out, Genie, but, you know, really—.”
Really? Pathology comes back: relapsed osteosarcoma.

Another patient relapsed. This was a little girl from New Jersey, and her pediatric oncologist had referred her to me. And he called me and says, “We have a lesion on the—.”

I said, “Okay, Michael, have the surgeon take it out and call me, okay?”

So he calls me. He says, “Genie, they called me down to the OR. The thoracic surgeon said he had never seen anything like this, so I went in to see it. The lesion was encapsulated. I’ve never seen a pulmonary metastasis from a patient with osteosarcoma look like this.”

I said, “Michael, send me the slides.” So I took her slides and the slides from the two other patients and I took them down to one of our pathologists, Dr. Kevin Raymond, and said, “Kevin, don’t tell me this is relapsed osteosarcoma. Tell me if you see anything unusual.”

And he looked, he says, “Oh, yeah, but I thought you just wanted to know whether it was osteosarcoma or not.”

I said, “Okay, well, tell me what you see. Let’s look at it under the microscope.”

He said, “Look. You see this fibrosis around the tumor? You see these dead cells within the tumor? You see this hemorrhage within the tumor? This is all dead cells. This encapsulation looks like tuberculosis.”

Tacey Ann Rosolowski, PhD
[00:45:02]
It’s killing it.
[00:45:02]

Eugenie Kleinerman, MD
[00:45:03]
It’s killing it. I took the lesions, I took them back to the lab, and clearly we had the pre-lesion that was removed from these patients and now we had the post-lesion, so we could compare them, looked totally different, and we showed that there were inflammatory macrophages infiltrating into the lesions post MTP and they weren’t there. So my conclusion was that we did have a therapy that was working. Maybe three months wasn’t the right guess.

So we went back and amended the protocol to treat for six months. Now, there were all sorts of things that I needed to do to make sure that this protocol could be completed. For example, okay,
so we treated twice a week for three months, and then when we extend it, it would be once a week for three months, because I didn’t want to tie the kids to the hospital.

Tacey Ann Rosolowski, PhD
[00:46:07] Now, just to clarify, because you originally said that you were asking adults to be part of this, was this all children, mixed children and adults?
[00:46:14]

Eugenie Kleinerman, MD
[00:46:15]

Tacey Ann Rosolowski, PhD
[00:46:15] Okay, I just wanted to clarify that.
[00:46:16]

Eugenie Kleinerman, MD
[00:46:16] Mixed children and adults, but the majority turned out to be children.
[00:46:19]

Tacey Ann Rosolowski, PhD
[00:46:20]

Eugenie Kleinerman, MD
[00:46:20] Yeah, the majority, and teenagers, although I did have a sixty-five-year-old lady, who is still alive, sarcoma-free.
[00:46:28]

Tacey Ann Rosolowski, PhD
[00:46:28]
Eugenie Kleinerman, MD
[00:46:28]
How old is she? She must be in her eighties, late eighties now, by now. And she used to come to
the pediatric clinic, and when she checked in, people would say, “Are you sure you’re going to
pediatric clinic?”

“Oh, yes, Dr. Kleinerman’s my doctor. I’m seeing her. She’s in the pediatric clinic.” (laughs) So
I had several adults come to the pediatric clinic, which, again, only at MD Anderson would they
say, “Yes, you can treat adults in your clinic.” Got the nurses’ okay. They loved having the
patients. The treatment was benign.

Okay. So to complete the trial, I was going to have to get physicians to refer me the patients to
get thirty patients to complete the trial. So, you know, the web wasn’t really—I opened this trial
in 1988. It wasn’t really very—I don’t know. People didn’t use the web. So we sent a lot of
flyers, I went to meetings, tried to publicize the trial, and that’s how I got physicians to refer. But
what I really did not want to do was to have a family required to be here for six months. It was
okay if they were from Houston, but, you know, I had patients from New Jersey, I had patients
from Pennsylvania, Denver, Colorado. How could you do that to a family?

So, knowing that the therapy was really easy to administer, it was an hour infusion in the
outpatient clinic, I went to the IRB and said, “Okay, I’d like to have them stay here for a month, I
have my research nurse, so they would learn what the side effects are, what you have to do.
We’ll educate them. And then minors will go to their referring pediatrician or pediatric
oncologist and show them how to administer the drug in the outpatient clinic.”
[00:48:32]

Tacey Ann Rosolowski, PhD
[00:48:32]
Wow.
[00:48:33]

Eugenie Kleinerman, MD
[00:48:33]
Again, totally new concept. I think anywhere else it wouldn’t have worked, because this was
really an experimental therapy. This was a Phase 2 protocol.

Company said that was fine, and so that’s what we did. We had the patients come here, and said,
“You have to stay here for a month. You can stay at Ronald McDonald House.” We had a very
nice support from Ronald McDonald House. So they stayed here, they came into clinic.
And for the kids that were local, what I would arrange it is, “You can go to school and then come here at the end of the day, we’ll give you your infusion, and then you go home and you’ll have fatigue, and you’ll get up the next morning and you’ll go to school.” I really was very conscious of that, and for these other families that were from out of Houston, they’d come in, they’d be treated twice a week for a month, they’d learn. So they would become experts in MTP therapy, and they’d know you have to get Tylenol beforehand and Benadryl, and if it really becomes the shaking chills, you can get Demerol. So they were very comfortable with the side effects. And then my nurse would go to the office and say to the nurses, “Here’s how you do. Here’s how you take the vial. You put saline in.” And we’d give them a vortex. “You vortex it for five minutes, you dissolve it up, and you run it in in an hour, and in and out.” And it worked extremely well, and so I was able to complete a Phase 2 study with thirty-three patients in three years—

Tacey Ann Rosolowski, PhD
[00:50:05]
Wow.
[00:50:06]

Eugenie Kleinerman, MD
[00:50:07]
—which for a rare disease, a single-institution study—and what we showed at the end of the study was that we raised the disease-free survival at one year from 15 percent to 33 percent in the patients that got six-month therapy.

In following the data for many, many years—so this trial was completed in 1991, so we’ve got over twenty years of follow-up, survival, 50 percent of the patients are still alive. So even though they relapsed, like the ones that we took to—I’ve kept in contact with some of the patients that were on the three-month and then we took out the lesion. They never had another relapse.

Tacey Ann Rosolowski, PhD
[00:50:54]
Wow.
[00:50:54]

Eugenie Kleinerman, MD
[00:50:55]
So something in the immune system is working. We took out what was there, and I don’t know, I mean, but the proof is in the pudding. So half the patients are alive more than twenty-five years later.
[00:51:10]
Tacey Ann Rosolowski, PhD

[00:51:12]
So how has this therapy filtered out to other institutions? And what happened with the acceptance of this data? Was it a rocky road getting people to believe?

[00:51:23]

Eugenie Kleinerman, MD

[00:51:24]
Yes, it was a rocky road, yes. So the physician from New Jersey, Michael Horowitz, was at the time—I think we had talked about this before—in the Pediatric Oncology Group. There were two competing national cooperative groups: the Pediatric Oncology Group and the Children’s Cancer Study Group. So he was in the Pediatric Oncology Group.

So when he saw what happened to his patient, he said, “You know, Genie, this is the first glimpse of anything that we’ve had in osteosarcoma. We’re getting ready to write a national Phase 3 trial in newly diagnosed patients. I want you to come and present to the Bone Tumor Strategy Group. I want you to present the data.”

So I went and I presented the data, and I was essentially booed out of the room. At the time there was a new drug, Ifosfamide, that an investigator from St. Jude had been doing and showing that you got tumor shrinkage in a Phase 2 trial, so you actually had evidence that the tumor shrank with Ifosfamide. And I was not doing—

[00:52:45]

Tacey Ann Rosolowski, PhD

[00:52:45]
You weren’t looking at that.

[00:52:46]

Eugenie Kleinerman, MD

[00:52:46]
I wasn’t looking at that. Here’s an example. If anything’s effective, it’s going to shrink a tumor, but this isn’t going to shrink a tumor.

[00:52:54]
Chapter 10
B: MD Anderson Culture

*A Pioneering Attitude at MD Anderson: The Nature of Translational Research and The Physician-Scientist—a ‘Dying Breed’*

**Story Codes**
A: The Researcher  
A: Character, Values, Beliefs, Talents  
D: Understanding Cancer, the History of Science, Cancer Research  
B: Critical Perspectives on MD Anderson  
B: Growth and/or Change  
B: MD Anderson Culture  
B: Beyond the Institution

*Tacey Ann Rosolowski, PhD*

[00:52:54]  
Let me ask you why do you think you looked at problems so differently.

[00:53:01]

*Eugenie Kleinerman, MD*

[00:53:02]  
I think because I had a basic science training. I think that it is imperative that we preserve physician scientists who have a laboratory perspective. And, unfortunately, physician scientists are a dying breed because of the funding situation and the pressure on physicians to see patients. And if you want to go into laboratory, you have to get your salary on grants, and the NIH is drying up in terms of salary on grants. The NIH, I mean, there is a study section that looks at translational research and clinical trials, but it’s a very small number. You know, I was on that study section for four years, and I think we didn’t fund one single pediatric clinical trial, translational type of work. So I mean, if you’re doing basic research with pediatric cancer cells, that is not the same as doing translational research that’s going to end up in a clinical trial. It is not. And that’s where I have a lot of problem, because people say, “Oh, we are funding pediatric-focused research.” because they’re using leukemia cells, childhood leukemia cells. But that’s not going to get it to the patient.

[00:54:34]

*Tacey Ann Rosolowski, PhD*

[00:54:41]  
Is this a change in the conception of what translational is or part of the argument about what translational research is?
Eugenie Kleinerman, MD
[00:54:51]
Yes, I think there’s much more discussion today on what is really translational research, but I still don’t think we’ve got it right.
[00:55:06]

Tacey Ann Rosolowski, PhD
[00:55:08]
And your definition of and kind of your perspective on translational research, I mean, obviously it’s about clinical trials, but what else does it encompass?
[00:55:18]

Eugenie Kleinerman, MD
[00:55:20]
Translational research, to me, is like what Dr. Fidler did. He used an animal model to describe how therapy was going to work so that we knew the scientific parameters so that we then could design a trial based on what we learned in the laboratory, and the design of the trial would be unique based on the laboratory findings. For example, one of my faculty members is doing research on NK cell therapy, and he’s trying to find out what’s the best NK cell; what’s the most active NK cell; how do we isolate it; how do we augment it; what drugs can we use to make it more potent. This is not science that’s going to get published in Cell and Nature and win a Nobel Prize, but, boy, it can really make a difference in terms of how we use these therapies for patient.
[00:56:25]

Tacey Ann Rosolowski, PhD
[00:56:25]
Why wouldn’t this get published in Cell or Nature?
[00:56:28]

Eugenie Kleinerman, MD
[00:56:33]
That’s the viewpoint.
[00:56:35]

Tacey Ann Rosolowski, PhD
[00:56:35]
Because it’s—I mean, it sounds to me like this work—and it’s something that, you know, since I’m not a scientist, I might get this information coming in and I’m trying to process it and make sense of it, and it sounds to me that a lot of this work is about developing broad context, you know, what are the biological systems that are coming together to make an effect happen and
how can we design research which actually starts to reveal systems we didn’t even know about before. To me, that’s what I’ve been hearing from people. Is that [unclear]? [00:57:12]

*Eugenie Kleinerman, MD*

[00:57:12] Yes, yes, and that’s what would get published in *Cell* and *Nature*.

[00:57:15]

*Tacey Ann Rosolowski, PhD*

[00:57:16] Oh, okay.

[00:57:16]

*Eugenie Kleinerman, MD*

[00:57:16] But something like this is viewed as derivative.

[00:57:19]

*Tacey Ann Rosolowski, PhD*

[00:57:19] Interesting.

[00:57:20]

*Eugenie Kleinerman, MD*

[00:57:21] If somebody found the NK cell and all you’re doing is tweaking the system, I agree, it’s not Nobel Prize work. I agree. But if we’re going to make it—what’s your goal here? If your goal is to make an impact in patient treatment, then you’ve got to recognize that this is important research and you’ve got to have funding for it, and you need the physician perspective.

[00:57:50]

*Tacey Ann Rosolowski, PhD*

[00:57:53] So the goal being clinical impact.

[00:57:54]

*Eugenie Kleinerman, MD*

[00:57:55] Yes. Yes.
And that’s where the physician’s perspective comes in.

Correct. You know, can we give this to—I’m so sick of reading articles—and I read it all the time in Cell and Cancer Cell—“Here we’ve defined this pathway and this can be a new target for cancer therapy.” Okay. How are you going to get it to the metastasis? You know, we can cure the primary tumor really nice. The surgeons can cure the primary tumor. How are we going to get it to the metastasis? How are we going to be able to evaluate whether this is doing in the body what it’s doing in the tissue culture dish? How do we know it’s going to get taken up? All the things that we did, is it going to get taken up? Is it going to produce the change in the cell that you want? And how do you give it? What do you look for? Not just, “Here I have identified this pathway and this is controlled by this gene that is abnormally regulated in cancer cells.” Wonderful. Okay. Great.

What do we do about it?

What do we do about it? And you need the physician scientist there to say, “Okay, I understand how this is, but I also understand I’ve got a patient here. How am I going to design the clinical trial so I can assess whether this is effective?” Just like I did. How am I going to design a clinical trial that’s really going to be able to test whether activating the immune system has any impact on the tumor within the confines of doing a clinical trial? I can’t just go in and do multiple surgeries on a patient. I have ethics involved. I have informed consent. And I don’t think the basic scientists truly understand all of the intricacies of a clinical trial and what you have to do to make a clinical trial work. I think they’re very glib about, “This can be the next cure for cancer, the next treatment that will make a significant impact,” and they say these words with absolutely no understanding.
Tacey Ann Rosolowski, PhD
[01:00:06]
So this is kind of going back to the conversation that we had last time with the—I mean, I assume about the shift in perspective of the institution to a more basic science focus. Is that the concern, that now the support is for research that really isn’t taking into account the physician scientist perspective, disconnecting discovery from delivery, basically?
[01:00:28]

Eugenie Kleinerman, MD
[01:00:29]
Right. Right. Now, I think they say all the right things, and I may be wrong, but what I see from the landscape is that the physician scientist is still going to be required to bring in significant grant funding to cover the salary for the portion of the time they spend in the lab.
[01:00:52]

Tacey Ann Rosolowski, PhD
[01:00:55]
Now, is that—I mean, it seems to me—am I assuming correctly from the conversation we’ve had so far, that the emergence of that attitude at MD Anderson reflects an attitude that is controlling what publications appear in very high-impact journals, for example, so that it’s not a new thing unique to MD Anderson, it’s kind of part of the politics of the field?
[01:01:21]

Eugenie Kleinerman, MD
[01:01:21]
No, absolutely. It’s a national—it’s a national—I think it’s a national tragedy. Yes, I think so. I think so.
[01:01:31]

Tacey Ann Rosolowski, PhD
[01:01:32]
And what do you think has caused that?
[01:01:34]

Eugenie Kleinerman, MD
[01:01:35]
The decrease in the funding.
[01:01:36]

Tacey Ann Rosolowski, PhD
[01:01:36]
Decrease in funding. Wow.

Eugenie Kleinerman, MD

Yeah. I think the decrease in the NIH funding has caused it. I think that the change in healthcare reimbursement has changed that. I think I mentioned to you, when I first came here, we weren’t required to put any of our salary on grants. We had hard-money salary, and our job was to do research. And I understand why things have changed, sort of, but I think MD Anderson, that’s what made MD Anderson so great. They said, “You know, we don’t want to be like Harvard. We don’t want to be like Stanford and Scripps Institute. We don’t want to rely on external systems to validate the importance of the research that we do,” which is what you’re really saying when you say you’re a researcher, you have to get grant funding, outside peer-review funding, and particularly NIH funding. So what you’re saying is that you’re going to allow to be determined what research is done in this institution by the NIH and what they deem to be important. And while I did have, you know, twenty-something years of NIH funding, I also had the ability to have support, institutional support, to do the creative types of things that would never be funded by the NIH. And I think we’re losing that. I fear we’re losing that.

Tacey Ann Rosolowski, PhD

Well, I’m glad we’ve had that discussion, because I think it’s an important follow-up to the conversation we had last time about the culture of MD Anderson, and kind of sets it in a broader perspective of what’s going on in the field in general. It’s very concerning.

Eugenie Kleinerman, MD

It is concerning, and that’s why it upsets me, because I think that MD Anderson could take a lead and say, “You know what? We’re not going to do things like everybody else. We’re going to determine. We’re going to allow people to have the freedom to come up with the unique ideas that have made this institution great, that have put this institution in the forefront of clinical research.”
Tacey Ann Rosolowski, PhD
[01:04:27]
Would you mind if we just kind of close out your story with this particular drug?
[01:04:31]

Eugenie Kleinerman, MD
[01:04:31]
Sure.
[01:04:32]

Tacey Ann Rosolowski, PhD
[01:04:32]
Because you’re talking about the results that you received. So what’s been the fate of this therapy?
[01:04:38]

Eugenie Kleinerman, MD
[01:04:39]
Okay. So I went to the Pediatric Oncology Branch, and they said, “No, no, we’re going to do Ifosfamide,” and that’s when I came back very dejected and talked to Dr. Fidler.

He says, “You know, this is absurd.” If you—you met him, so you know him.
[01:04:56]
“This is ridiculous.” And so he talked to Dr. Krakoff, and Dr. Krakoff says, “Look, I’m going to invite all of the experts of osteosarcoma that I know—Jerry Rosen, Joe Simone from St. Jude’s, Rich O’Reilly from Memorial Sloan Kettering—and I want you to show them your pathology lesions, because that is the thing that has convinced me that this drug is effective.” So he paid for everybody to come here.

We had a meeting in his office. It turns out that Dr. Rich O’Reilly, who was chief of pediatrics at Memorial Sloan Kettering, couldn’t come, so he sent Dr. Paul Meyers, who was the clinician that took care of osteosarcoma patients, who was head of the Bone Tumor Strategy Group in the Children’s Cancer Study Group, the opposite one. He took a look. He came down, grudgingly, “Oh, you know, Rich told me I have to come down. All right, I have to spend a day.” He flew in in the morning, he was going to fly back. And he said to me, “Genie, this if fantastic. This is absolutely fantastic. I’m the head of the Bone Tumor Strategy Group. We’re having a meeting.” So this was probably about a year later, nine months to a year later. “We’re just getting ready to design a new protocol. I want you to come to present this.”

And I thought, “Oh, god, I can’t take this again. I mean, you know. I just really don’t want to be pounded like I was before.”

And I went and talked to my husband. He says, “You’ve got to go, Genie. You’ve just got to. Do you believe this or not?”

Okay. So I went, I presented the data. It was like I was in another world. Excitement, “Yes, we’ve got to do this.” It was like, is this the same data? (laughter) Why is the reaction so different? I have no idea.

So then Paul designed the Phase 3 trial, randomizing patients to receive chemotherapy alone or chemotherapy plus MTP. You know, there a lot of things I don’t know that you need in designing the trial because there still was an Ifosfamide group, and at that time then the NCI said both of the two pediatric groups have to merge. And so the Children’s Cancer Study Group won in terms of which protocol, and so to appease them, Paul built in an Ifosfamide arm, and so it ended up being a four-arm trial, which created problems down the road.

[01:07:36]
What problems did that create?

Okay. So at the time of the design of the trial, the way one did it—because what patients were, it was a double randomization. You either got randomized to receive three drugs or four drugs, and then the second randomization was did you receive MTP or not receive MTP. At the time, when there was a double randomization, it was done upfront. So that means a patient comes in, “Yes, I’ll be on the trial.” Okay, the computer is going to say are you assigned to three drugs or four drugs, and then randomize you again; are you going to get MTP or not MTP.

The problem with that is the way we look at prognostic signs in osteosarcoma is we give preoperative chemotherapy, then we resect the lesion and we look at it under the microscope. If there is less than 95 percent necrosis, those patients have a poor prognosis. They’re more likely to relapse. So you can see if in one group you have a higher percentage of poor prognostic people, that can throw your data off. We did not include in the trial what we call stratification, to make sure that the arms were balanced for poor prognostic. And in retrospect, there was a higher percentage of poor responders in the group of patients that got three drugs plus MTP, so that threw off the analysis when you compare three drugs to three drugs plus MTP. Now, four drugs and four drugs plus MTP, they were balanced for some reason, and there was a clear advantage to both disease-free survival and survival in the patients that got MTP. In the three drugs, there was only advantage in survival, not disease-free survive.

So the NCI says, “We don’t understand. How can you not have an effect on disease-free survival?” Well, to me, it’s easy, because disease-free survival depends on when you look, right? But survival, you can determine whether a patient is alive or dead, correct? You don’t need an MD degree.

But what you call relapse, if the patient, “I can’t come in this week. I can come in next week,” they come in next week or they come in earlier or—you know, what’s on the x-ray, maybe it’s a
lesion but maybe it’s the lesion like I did that if I didn’t look.  
[01:10:32]

_Tacey Ann Rosolowski, PhD_  
[01:10:32]  
[unclear], yeah.  
[01:10:32]

_Eugenie Kleinerman, MD_  
[01:10:33]  
And people don’t have the resources to do the analysis that I had to do. But the FDA couldn’t grasp that, so they said even though there was 700-plus patients randomized at the trial, it was the largest osteosarcoma trial ever done in the United States, they wouldn’t give approval. They said, “You have to do another trial.”

Well, the company said—now, I should also tell you, in the middle of the trial, the Phase 3 trial, Ciba-Geigy decided, “We’re not interested in this drug anymore. It’s not going to be a moneymaker.” And they stopped making it. So here we were in the middle of the trial, and no drug. I had opened a melanoma trial, because that’s what I promised Josh I would do, because he was—and so I had to make a decision, do I continue the melanoma trial or do I close that and transfer all the drugs? So I did that. So I closed the melanoma trial.  
[01:11:33]

_Tacey Ann Rosolowski, PhD_  
[01:11:33]  
Okay. And used the drug that was available.  
[01:11:34]

_Eugenie Kleinerman, MD_  
[01:11:34]  
And used the drug.  
[01:11:34]

_Tacey Ann Rosolowski, PhD_  
[01:11:35]  
Gotcha.  
[01:11:35]

_Eugenie Kleinerman, MD_  
[01:11:37]  
So we had a temporary hold on the trial. Then a small biotech company picked the drug up, and
they started manufacturing it so we could complete the trial. The trial was completed. That company went out of business, so we had a completed trial, but nobody to take it to the FDA.

*Tacey Ann Rosolowski, PhD*

[01:11:58]

Gosh. And you had a successful trial. (laughs)

[01:12:02]

*Eugenie Kleinerman, MD*

[01:12:05]

Several years later, a company, I guess, had bought the rights or whatever, the properties of this company that went bankrupt, and one of the PhD people who were looking at it went through the data and said, “Oh, my god. Here’s a Phase 3 trial that was completed, that showed increased in survival, improvement in survival, and nothing ever happened.” They had bought the company for something else, another drug, and she was just assessing what are the assets.

So she came to me and came to Dr. Meyers and said, “We’d like to move forward with this.”

“Really? Okay.” So they’re the ones that took it forward to the FDA.

[01:12:57]

*Tacey Ann Rosolowski, PhD*

[01:12:57]

And what is that company or group?

[01:12:58]

*Eugenie Kleinerman, MD*

[01:12:59]

That company was called IDM. It was a French company. That company is no more either. (laughs)

[01:13:06]

*Tacey Ann Rosolowski, PhD*

[01:13:07]

Interesting.

[01:13:07]

*Eugenie Kleinerman, MD*

[01:13:09]

So anyway, so we went to the FDA, and they said, “We don’t understand how you can not have an impact on disease-free and have an improvement in survival. You’ll have to do another trial.”
Well, IDM said, “You know, we can’t afford to do another trial. This is an expensive drug in an orphan disease. It’s going to take another four or five years. We’re not interested.”

So they had a fairly—so the guy who was the CEO at that time, of course, lost his job, and so the person who took over, the guy who took over, was very aggressive. He says, “Okay, we’re going to take it to the EMA.”

*Tacey Ann Rosolowski, PhD*

[01:13:58]

What’s the EMA?

[01:13:58]

*Eugenie Kleinerman, MD*

[01:13:59]

The European Medicine Association, so the FDA equivalent in Europe.

So, okay. So it was, I believe—I don’t [unclear] the first time. Okay. So the first time, so I flew to London to present the data with Dr. Meyers, and we presented it. And the EMA, the experience in the EMA is totally different than the FDA. In the FDA, there’s an advisory panel made up, like, of twelve people, and there’s the twelve people and the FDA picks them and whatever, and the FDA presents their data, their interpretation of the data, and the company presents their interpretation of the data, then the people vote.

The EMA, you walk in and it looks like the United Nations. You have circles of each country has two representatives, and in front of them is a computer. So they are reviewing the primary data that you’re talking about, each individual person. The FDA, you don’t get any data here. You just see what the FDA presents and you see what the company presents. Here, they’re looking at the data.

[01:15:18]

*Tacey Ann Rosolowski, PhD*

[01:15:18]

Wow.

[01:15:19]

*Eugenie Kleinerman, MD*

[01:15:19]

So they had a very favorable response, and they said, “But we want to come and we want to
validate the primary data in Los Angeles,” because that’s where the headquarters of COG was. So they sent—

[01:15:41]

**Tacey Ann Rosolowski, PhD**

[01:15:42]

COG? I’m sorry, that’s—

[01:15:43]

**Eugenie Kleinerman, MD**

[01:15:43]

Children’s Oncology Group.

[01:15:44]

**Tacey Ann Rosolowski, PhD**

[01:15:44]

Oh, okay.

[01:15:44]

**Eugenie Kleinerman, MD**

[01:15:45]

That was the merged group. So they sent their representatives to Los Angeles and went through the primary patient data, the charts. They looked at everything. They had their statisticians do everything. And what they said was, “You know, we noticed here that you have a higher percentage of poor-prognosis patients in the three arms. Why don’t you see if you can come up with a way—were these patients in any specific particular type—did they have any characteristics that are consistent?”

So we looked and we found that there was a higher percentage of poor-prognosis patients in the group that was above sixteen that got three drugs. That doesn’t mean it doesn’t—it’s just patients who were above the age, more of them got randomized to the three drugs plus MTP. So they said, “Okay, why don’t you analyze. Look at the patient distribution for all the patients that were under the age of sixteen.” So we looked, and the arms were perfectly balanced.

They said, “Okay. Do the disease-free in the long-term survival in that group.” And when we did it in that group, it showed an improvement in disease-free survival and survival in the patients that received MTP.

[01:17:11]
So the, quote, “repeat” of the study was very focused, is that—

It wasn’t—it was a reanalysis, a reanalysis of the data. So we did a subgroup analysis. And the FDA says, “We don’t accept any data from the subgroup analysis. If you didn’t put that in your aims, it’s not valid.”

You know, this is where I say, “Come on.”

Right. Interesting. Well, I had—because the European Union approved this drug in 2009.

Correct.

And the FDA has never approved it.

Correct. So the election was November 2008 that I had to fly—because they wanted us to come back and present to the whole body of EMA, because they wanted us to re-present and they wanted to reexamine all the data. So it was November 2008, and the reason I know that is because I had to vote absentee ballot for President Obama because I was going to be on a plane to London November whatever Election Day was, first Tuesday in November.

So I flew to London, and I had to be back. So I flew to London. I got there in the morning. I went to the legal offices that were supporting the company, because you have to hire a legal firm that has dealings with the EMA, so they can tell you what things you have to do. Flew. We rehearsed the presentation.
We went to the EMA. We presented all the data. Then you’re ushered back to a room, and within fifteen, thirty minutes, they called us back, and I thought, “Oh, god, it’s bad.”

And during the presentation, I could see people were just not interested. Because there was this one representative from the Netherlands who kept badgering about the data, who kept being negative, the same things that we heard at the FDA. And Dr. Meyers and I were looking at each other, saying, ‘Oh, this is not going well. This is not going well. This is not going well.” Nobody else was saying anything. They were writing.

So we went back and then they called us in and they said, “We’ve approved it.” So in retrospect, my conclusion was the reason nobody was saying anything is because they’d already made up their mind, and they weren’t going to argue with this guy, because what’s the point? They had already made up their mind. And they looked at the data on the computer and they saw everything. They said, “Okay, I’m going to approve it.”

So it was a very—I don’t remember what the vote is, but it was very heavily in favor. I think there were only a few—

_Tacey Ann Rosolowski, PhD_
[01:20:03]
And so this treatment is available, then, in Europe, and is it standard of care or—

[01:20:14]

_Eugenie Kleinerman, MD_
[01:20:14]
It is standard of care in the UK. So the data—in the UK, you know, they have nationalized health insurance, and so something can be approved, but the British government doesn’t necessarily have to pay for it, so it has to go through a second approval process by NICE, National Institute of Clinical Excellence. So they review all the data, and only if they approve it will the government pay for it. Well, it was re-reviewed by NICE, and they pay for it, so it was part of standard of care.

[01:20:43]

_Tacey Ann Rosolowski, PhD_
[01:20:43]
And just for the record, because this treatment has several names, it’s called MTP-PE?
Eugenie Kleinerman, MD
[01:20:52]
Right.
[01:20:54]

Tacey Ann Rosolowski, PhD
[01:20:54]
Yeah, in the European Union.
[01:20:55]

Eugenie Kleinerman, MD
[01:20:56]
Actually, it’s Mifamurtide or MEPACT. That’s the trade name. MEPACT, M-E-P-A-C-T. That’s the trade name.
[01:21:05]

Tacey Ann Rosolowski, PhD
[01:21:05]
All right. Wow. And so the fate in the U.S. of this is it’s not going to go anywhere because nobody’s going to have the money to do another trial?
[01:21:15]

Eugenie Kleinerman, MD
[01:21:16]
No. So Takeda is the company that bought IDM. So after it was approved, Takeda acquired IDM because they wanted to get into the oncology market, so they bought IDM, and they had no company in the United States that did oncology, so they bought Millenium, which is in Boston.

So Paul and I had been up to Millenium, and Millenium has tried to go back to the FDA, from what I understand, and the response is, “No, you have to do another trial.” Millennium’s decision, which I totally understand, is to do everything that the FDA wants us to do. They want more safety data, even though, as I told you, this drug was given to normal people when they were in accidents and actually, subsequently, normal volunteers. So the safety profile, we have twenty-five years of safety data, but they want more safety data, they want another trial, and it would cost the company close to $160 million, from what the company tells me, and they can’t, they just can’t—
[01:22:38]

Tacey Ann Rosolowski, PhD
[01:22:39]
[unclear] do it.

Eugenie Kleinerman, MD
[01:22:39]
How can they, for an orphan disease and the drug is now off patent. Not that anybody’s going to make it, because it’s very complicated because of this phosphatidylerine business, but nobody’s—you know, which I understand. I can’t fault the company for that.

Tacey Ann Rosolowski, PhD
[01:22:56]
Right. Sure.

Eugenie Kleinerman, MD
[01:22:57]
And they have asked can the FDA re-review the data, now that we have more survival data and the subset analysis, and the answer I’ve been told is, “No.”

Tacey Ann Rosolowski, PhD
[01:23:12]
What’s going on there?

Eugenie Kleinerman, MD
[01:23:14]
Again, this is my opinion. I have absolutely no data to support it. I think the woman who initially—Patricia Keegan is her name—who initially was the person responsible for the analysis of the data, analysis of the drug, and, you know, I’ve had contact with her. I actually was on an FDA panel for her section of the FDA. So it’s her group. They get a drug, it’s her responsibility then to shepherd the approval request through the procedural.

I think she’s never liked it. I did at one point push her, on the phone, so I think probably some of it is against me, because I was very pushy. She didn’t want to have it, “No, you can’t review it. You and Dr. Meyers never consulted the FDA in terms of the design of the trial. We don’t like the design of the trial.” And she’s right. Dr. Meyers and I were stupid in terms of that. We designed an academic trial. We never thought, knew that when you want to take a drug for approval, you need to get the blessing of the FDA before you design the trial, and they need to help you in setting up what the analysis—
Tacey Ann Rosolowski, PhD
[01:24:46]
[unclear] getting them what they need.

Eugenie Kleinerman, MD
[01:24:49]
Right, right. So they’re absolutely right, absolutely correct. We didn’t design it with their permission, with their okay. But what I say is this is a rare disease in kids where there’s no alternative treatment. Can’t you bend the rules a little bit? And they’re going to say no. So this is where I disagree with them. Not that they’re wrong and I’m right, or I’m wrong and they’re right. I think it’s just a difference of opinion. And I do think that with approval of the EMA and with NICE and now it being widely used in Europe and Mexico and Israel, you know, I think that sometimes one has to say the rules can be bent a little bit. But they’re saying, “We’re the FDA and we can’t. If we do it for you, we do it for other people,” which is true, but so what?

So at one point, I pushed her and said, “Fine. Then we just won’t. This drug’ll never get approved.” This was on a phone call.

And so she said, “Fine, fine. Go ahead, put it forth.” So I think I read into that she said, “Go ahead, put it forth for approval, and I’m going to do everything I can to make sure it doesn’t.” Now, I may be wrong, but that’s my perception.

Tacey Ann Rosolowski, PhD
[01:26:20]
So do you intend to follow up with that? Do you think you will present the drug for another—sort of go through another—

Eugenie Kleinerman, MD
[01:26:27]
I mean, I can’t. It’s got to be Millenium, and I think at this point, I think at this point they’ve received very strong signals that, “We don’t want to hear from you again.” And you also have to understand from their perspective they have other drugs that are coming down the pipeline. They don’t want to aggravate the FDA.
So I really think that we need patient advocacy and physician advocacy that’s going to go to the FDA. I think the pediatric oncology community needs to band together and say, “Listen, this is a drug that we want to have for our patients.”

Tacey Ann Rosolowski, PhD
[01:27:02]
Are patients going to other nations?
[01:27:05]

Eugenie Kleinerman, MD
[01:27:05]
Yes.
[01:27:05]

Tacey Ann Rosolowski, PhD
[01:27:05]
They are going to other nations to get this therapy.
[01:27:07]

Eugenie Kleinerman, MD
[01:27:07]
Yes. Recently I had a patient call me, or email me, and he’s going to go to Mexico to get the drug. And Dr. Meyers has a couple families that he sends to the UK. So, I mean, it’s sad because you have to have money to do that.
[01:27:33]

Tacey Ann Rosolowski, PhD
[01:27:34]
Absolutely.
[01:27:34]

Eugenie Kleinerman, MD
[01:27:36]
I think there are all sorts of creative ways that we could approach this. They could give it a conditional approval for five years. I mean, COG did want to do another trial, but the company would have had to provide the drug free, and the company said, “It’s an expensive drug. We can’t do it.”

So to me, from my understanding from what I hear, give a conditional approval so they can charge for the drug, and then let us do another trial. You want another trial? Fine. I don’t think
the company’s against doing another trial; they just can’t support it. They can’t give the drug free, and they can’t provide the support for the clinical trial. To me, that’d be, you know, a win-win and a good compromise.

[01:28:20]

*Tacey Ann Rosolowski, PhD*

[01:28:20]

Mm-hmm. Hmm. Well, this has been really interesting. (laughs) I really thank you for going into this. I mean, we’ve really hit on a lot of themes that are important and very much part of the reality of what it means to do research in this context.

[01:28:38]

*Eugenie Kleinerman, MD*

[01:28:38]

Exactly. Exactly. The rewards take a long time, so I think we also have to understand that people’s careers, if they’re going to be measured on a positive outcome of a clinical trial, it’s going to take years, and that we’re going to have to figure out some way to reward people and recognize their participation in clinical research, because you need a lot of Indians to get the work done, and it can’t always be the chief that gets the accolades. I couldn’t have done this, nothing, I couldn’t have done this without other physicians sending me the patients, without the support of the clinical research people that taught me how to do everything.

[01:29:29]

*Tacey Ann Rosolowski, PhD*

[01:29:35]

Yeah. You kept mentioning all these people along the way that helped make important pieces come into place.

[01:29:41]

*Eugenie Kleinerman, MD*

[01:29:41]

Right, right, right. So when Dr. Meyers and I get the accolades for moving this forward for this novel treatment, we’re the front people. Yeah, it was my idea, but it wouldn’t have been able to happen without this institution, all the supporting people, people who believed in me, the physicians who sent their patients, the COG that had the infrastructure to support the biostatistics. It would have never happened. And so all of those young physicians, old physicians, whatever, that participated, so they’re a middle author on a paper that has twenty authors. People say, “Eh, a twenty-author paper,” but that’s what it—you know, it really does take a village, particularly in pediatric oncology.

[01:30:34]
Interview Session: 02
Interview Date: May 29, 2014

_Tacey Ann Rosolowski, PhD_

[01:30:37] Interesting. Well, I’m aware that we’re a little bit over time, so I know you’re very, very busy, and I thank you for your time this morning.

[01:30:48]

_Eugenie Kleinerman, MD_

[01:30:49] My pleasure. I hope you—I mean, we’ve sort of strayed from MD Anderson, but I hope—

[01:30:53]

_Tacey Ann Rosolowski, PhD_

[01:30:53] No, no. Well, actually, I don’t think we really have. (laughs) I mean, I think this story has really shown in many ways, I mean, what the institution sort of enabled in important ways, and so it is very much part of the story. I mean, I always say that this project does double duty. It’s about careers, but it’s MD Anderson, but in a sense where do the two separate exactly, because, as you said, it really does take a village, and MD Anderson has been that, certainly, a village with a very particular mission and attitude.

[01:31:33]

_Eugenie Kleinerman, MD_

[01:31:35] Yes. Yes, yes, yes. Well, again, you know, I’m so glad you’re doing this.

[01:31:39]

_Tacey Ann Rosolowski, PhD_

[01:31:40] Thank you. Thank you. It’s a pleasure. Thank you for giving me the time this morning.

[01:31:43]

_Eugenie Kleinerman, MD_


[01:31:44]

_Tacey Ann Rosolowski, PhD_

[01:31:45] And I’m turning off the recorder at 11:36.

[01:31:48] (End of Audio Session Two)
Eugenie Kleinerman, MD

Interview Session 3 – June 4, 2014

Chapter 00C
Interview Identifier
[00:00:00]

Tacey Ann Rosolowski, PhD
[00:00:00]
Okay. So we are officially recording now, and the time is eight minutes after ten, and it is the fourth of June, 2014. I’m in the Main Building of the Division of Pediatrics. This is my third session with Dr. Eugenie Kleinerman.

Thanks so much for agreeing to see me again.
[00:00:20]

Eugenie Kleinerman, MD
[00:00:20]
A pleasure and honor.
[00:00:22]
Tacey Ann Rosolowski, PhD
[00:00:23]
(laughs) Well, it was really fun to hear the story of MEPACT last time, and we have several other—a few other research areas to cover today, so let’s talk about those. I guess the first one, the intro to the story as we were kind of strategizing before the recorder was on, is you talked about your investigations into the mechanisms of osteosarcoma metastasis, and you mentioned FAS expression. So maybe we could start with that and kind of unfold the story from there.
[00:00:59]

Eugenie Kleinerman, MD
[00:00:59]
Sure. Sure.
[00:00:59]

Tacey Ann Rosolowski, PhD
[00:01:00]
Great.
[00:01:01]

Eugenie Kleinerman, MD
[00:01:03]
The goal of my research has always been let us understand the disease, and then by understanding the biology of the disease, then we can come up with novel ways to treat it that are not chemotherapy, because, as we discussed two sessions ago, chemotherapy is great but we’ve made no progress in twenty-five years. That’s why I’ve started with MEPACT and why I’ve
continued. And my goal had been let us understand why is a bone cell growing in the lung. The majority of patients with osteosarcoma die of lung metastases. They have lung metastases and metastases nowhere else. I mean, in my thirty years, I’ve had maybe a couple patients that have brain metastases, one patient had a metastasis to the kidney, one in the pancreas, but it’s always the lung.

So what struck me is what is it about a bone cell that will allow it to grow in the lung or not grow in the lung. And in thinking about this and reading, I came across research on a death receptor protein called Fas, F-a-s, and this is a protein that is expressed on cells, and if it comes in contact with another cell, an immune cell—this is also part of the immune cell—an immune cell that expresses the ligand, so you have the receptor and then you have the complementary protein called the ligand. If you get interaction of Fas with the Fas ligand, it starts a signal transduction pathway that leads to cell death.

My dad was a pulmonary pathologist, so I had always had great interest in the lung, even though I didn’t want to go into pathology or pulmonary disease. So the lung is one of the few organs—there are only four organs in the body that express the ligand, Fas ligand. And evolutionarily why should this be? Well, as I said, there are four areas in the body: the anterior chamber of the eye, the lung, the GI tract, and the testes. And immune cells kill by invading into an organ and getting rid of bacteria or foreign substances.

Let’s think about corneal transplants. Normally in transplants, you have to have identical match, HLA match. You know that. With heart transplant, with kidney transplants, you get rejection if there’s not a match. But when we do corneal transplants, we can take any cornea from anybody and transplant it. Why is that? Why is there no rejection? Well, it turns out that there is constitutive Fas ligand expression in the anterior chamber of the eye. So even if you put a foreign piece of tissue in the anterior chamber, if the lymphocytes, as the immune cells come in, they express Fas, and so the Fas ligand in the tissue, the anterior chamber of the eye, or the testes, will kill the immune cells. So you do not get an inflammatory response.

Okay. From an evolutionary point of view, why would the testes? Well, it’s a very delicate organ. You don’t want to have inflammation, because otherwise it leads to sterility. In the gut we’ve got bacteria going all there. If you have chronic inflammatory response, you’re going to have Crohn’s disease or inflammatory bowel disease. And in the lung we’re always breathing in bacteria, viruses, particles. You don’t want a huge immune response in the lung. So I think that’s why these four organs are the only organs that constitutively express Fas, Fas ligands, so that they can quell an immune response that can be damaging to the host.

So it struck me that if a tumor cell was going to be able to grow in the lung, it probably should not express Fas, and so we cloned a cell, human osteosarcoma cells. We took a human cell line, and we found that when injected into the mouse, it would form a primary tumor but it wouldn’t
form lung metastases. And we did what Dr. Fidler did, is we injected it, and about ten months later, we were able to find one lung metastases. So we took that out, put it in the tissue culture dish, and did the same experiment seven times. So we took it out, and each time we harvested the lung metastases, it was a shorter and shorter time till we got metastases. So went from ten months to six months to four months to eight weeks.

And we took those cells and we looked at the expression of Fas, and what we found was that as the cells became more and more metastatic to the lung, the expression of Fas decreased, and we could take the cells that had low Fas expression and make them re-express Fas, and they would make metastases. We found that the gene for Fas had not been deleted, but it had been epigenetically down-regulated. But if we looked at lung metastases both from patients with osteosarcoma and in our animal models, we found that the lung metastases were Fas-negative. In our animal model, we identified several agents that we could treat the animal with that didn’t kill the tumor cell but caused up-regulation of Fas, and if we up-regulated Fas, the lung would take care and get rid of the tumor cell. And we knew it was the lung because there are animals that do not have Fas ligand, that have been genetically manipulated so there’s no or very little Fas ligand, and in those animals, when we treated them with these agents that up-regulated Fas, we didn’t get rid of the lung metastases.

So I think that was one of the first demonstrations that the tumor microenvironment can be harnessed as part of the therapy, that maybe we should think about therapies that target the lung microenvironment or any kind of tumor microenvironment and bring them into the equation.

_Tacey Ann Rosolowski, PhD_
[00:08:23]

I just want to—I mean, first, how cool. (laughs) And secondly, I wanted to mention, of course, the connection with Dr. Fidler’s work in the soil and seed theory, which he talks about in his interview.

_Eugenie Kleinerman, MD_
[00:08:40]

Yes.

_Tacey Ann Rosolowski, PhD_
[00:08:40]

So I just want to—and obviously your close work with him had really shaped—
Eugenie Kleinerman, MD

[00:08:45]
Oh, absolutely.

[00:08:45]
Tacey Ann Rosolowski, PhD

[00:08:46]
—your framing of this kind of connection and understanding of the context in which these body processes work. So it’s really pretty amazing. So what happened next? Or do you want to talk a little bit about that link with soil and seed theory?

[00:09:02]

Eugenie Kleinerman, MD

[00:09:03]
So I think what that demonstrated to me is that maybe this was a way to investigate new therapies that we could use to treat osteosarcoma that were not cytotoxic chemotherapies. So we began to look for agents that would up-regulate Fas expression on osteosarcoma cells. We also did a lot of basic work, you know, why is the gene being down-regulated, because clearly the gene is there. It’s not like it’s been deleted. It’s there. And what’s the mechanism? And that was another part of my research. And again, that’s also to try to understand the biology, and maybe that can uncover other ways that we can treat.

So we began to look for agents that up-regulated Fas, and we identified several. Interleukin 12 was one, and we showed very nicely that you could give Interleukin 12 to the animal and cause up-regulation of Fas and regression of the lung metastases. But then it became the question of if we’re going to use these agents, we’re giving an IV and we want to get it to the lung, we have to give such high doses when we give it IV, and the concentrations that we get in the lung are, of course, much smaller because it’s going through the circulation, and these are expensive proteins.

So again I reached back to my training with Dr. Snyderman when I was in medical school when I looked at the effect of influenza on the immune system and was infecting mice with influenza virus by giving it intranasally, and I said maybe we could investigate giving IL-12, the gene IL-12, to start making the protein in the lung doing intranasal delivery. And so we first started to look at that and found very nicely—and the reason we went to the gene therapy is because the goal of this therapy is to make the tumor cells start expressing Fas. So we want to get the protein to the tumor. I don’t care whether the tumor cell starts producing the protein or the lung microenvironment starts producing the protein. It makes no difference as long as the protein is produced and secreted in the lung and the tumor cells get exposed to it; Fas will be up-regulated.

Interestingly enough, lung cells, in addition to Fas ligand, they do express Fas. Why they don’t kill themselves, I don’t know, because you have— but anyway. So there was no danger in causing
up-regulation of Fas in the lung, because the lung cells already express Fas. So, clearly the defense mechanism was built in. So I thought, let’s deliver the gene to stimulate IL-12 production intranasally. And we showed that you could do it, that you got production of the protein and it resulted in up-regulation of Fas and regression of the tumor.

[Tacey Ann Rosolowski, PhD] [00:12:36]
Can I ask, for just time frame here, when did you begin this work on Fas and then when did you start thinking about this novel intranasal therapy?

[Eugenie Kleinerman, MD] [00:12:48]
Probably fifteen, twenty years ago.

[Tacey Ann Rosolowski, PhD] [00:12:54]
Okay. I’m always struck with how slow these discoveries emerge, how slowly they emerge.

[Eugenie Kleinerman, MD] [00:13:02]
Right.

[Tacey Ann Rosolowski, PhD] [00:13:03]
Yeah. (laughs)

[Eugenie Kleinerman, MD] [00:13:08]
Yeah, there’s no overnight wonders, no.

So, unfortunately, IL-12 was on the market, but the drug company had done a Phase 1 and there were severe side effects, and so they decided to stop manufacturing it. Welcome to my world yet again.

[00:13:30]
At the same time while we were investigated, we realized that intranasal delivery was not going to be a way we could go to the clinic because you waste so much. You don’t really get it deep into the lung, and a lot of these metastases are in the lung.

So, again, my training at the NIH was in allergy immunology, so asthma is something that allergy immunologists treat, and we treat asthma mostly by inhalation therapy. So I said, “Well,” to my lab group, “maybe we could think about aerosol delivery and just delivering of the agent through a breathing machine.” And that’s when we launched two investigating ways to give animals aerosol therapy, and I developed a collaboration with investigators over at the Baylor College of Medicine, who were also interested in aerosol therapy for other reasons. So we formed a collaboration, and we showed that in the animals, say, if you could give it, you got it into the lung, you got up-regulation of Fas and rejection of the lung nodules, and there was really no toxicity.

Once IL-12 went off the market, I said, “Okay. No more. I’m not looking for any agents that are not already approved and out there.” So that’s what we started to do, and we identified an agent called Gemcitabine, which is a cytotoxic chemotherapy, but it’s not used in osteosarcoma, and something called 9-Nitrocamptothecin, which is another chemotherapy agent that is not used because it is lipophilic and the injection has to be subcutaneous and it’s very painful, and so people didn’t use it. But it’s a perfect agent to use by aerosol, because it’s particulate like liposomal-MTP.

So we started investigating could we deliver Gemcitabine and could we deliver 9-Nitrocamptothecin by aerosol and get the same results that we got with IL-12, and the answer was yes, we could get up-regulation of Fas, and with Gemcitabine there was no effect in the animals that were deficient in Fas ligand. So even though this is a cytotoxic chemotherapy, clearly there’s not a whole lot of sensitivity in the osteosarcoma cells.

At the same time, there were other investigators in the Children’s Oncology Group, in the Mayo Clinic, who also had basic science partners who were looking at aerosol delivery of Interleukin-2, which is an immune stimulant, and one of the investigators at Mayo Clinic was actually a vet, and as we talked before, dogs get osteosarcoma, and so he showed that he could give aerosol therapy to the dog and that if he used aerosol IL-2, you got regression of the lung metastases. So this became a collaboration not so much in what agent, but in the concept of using aerosol
Tacey Ann Rosolowski, PhD

Who was this person?

Eugenie Kleinerman, MD

So the principal investigator of one of the studies was Carola Arndt, A-r-n-d-t, and the veterinarian was Chand Khanna, K-h-a-n-n-a, and he’s now at the NCI. So Carola’s clinical trials was with aerosol GM-CSF. So it’s a cytokine that stimulates the expansion of neutrophils and macrophages. So her concept was, well, if MTP works, we can’t get it here, maybe we can give a cytokine that will expand the microphage pool and that will lead to tumor regression.

The study wasn’t successful because I don’t think she designed it correctly, and she didn’t do anything to show that GM-CSF was getting to the lung, you know. So it was a Phase 1 study that showed no—no toxicity, but there was really no indication that it was going to work, so it was abandoned. As I said, I was afraid with a Phase 2 I’d better design it correctly, otherwise it will be abandoned.

Chand is a veterinarian, so he used the aerosol IL-2, but then he finished his—I guess his postdoctoral fellowship, he was a PhD and a vet, and then he moved to NCI. So that work sort of stopped. But we are now, here, getting ready to open an aerosol protocol with Gemcitabine based on the principles from the laboratory.

Tacey Ann Rosolowski, PhD

In humans?

Eugenie Kleinerman, MD

In humans, in children, yeah, in relapsed sarcoma patients.
Tacey Ann Rosolowski, PhD
[00:19:11]
Wow.
[00:19:12]

Eugenie Kleinerman, MD
[00:19:12]
So that’s sort of the story of how I took the basic science, understanding why cell metastasizes, what allows it to grow in the lung, and saying, okay, can we disrupt that symbiotic relationship between the tumor microenvironment and the tumor for the benefit of getting tumor regression? And, of course, the goal is can we use this in conjunction with a cytotoxic chemotherapy that we know works, give patients combination intravenous cytotoxic chemotherapy and then come in with some of these novel—either an immune-therapy like MEPACT or aerosol therapy aimed at altering the tumor microenvironment relationship.
[00:19:58]

Tacey Ann Rosolowski, PhD
[00:19:59]
Do you think—I mean, what I’ve been hearing as you told the MEPACT story and now as you’ve told this story with these agents that can be useful in aerosol therapies, a particular philosophy of translational research, you know, what is translational research about, and I’m curious of how you feel your philosophy is similar to or differs from other people at this institution, maybe when translational research was first formulated here at MD Anderson, and what it may look like now. So where—I guess I’m asking for kind of an overview about translational research and where your strong notion of what that means sits in that terrain.
[00:20:47]

Eugenie Kleinerman, MD
[00:20:48]
So, to me, translational research is taking the findings in the laboratory and moving it into the clinic by testing the hypothesis in a clinical trial that is designed with understanding of the biology. So that’s a mouthful to say. But I am very tired of reading basic science articles where—and I think we discussed this before—where they make a discovery and they say, “And this can lead to cures in cancer,” having absolutely no concept of how you’re going to test it, what are the controls that you’re going to build in to make sure that you’re delivering the agent.

Like with the MEPACT, we actually did technetium labels so we could show it got to the lung. We actually did biologic assays to show that it was doing what it did. So, to me, translational research is understanding the biology, having hypothesis, and then making sure you design the clinical trial knowing all of the parameters that are important and also building in measures to make sure that your therapy actually has a chance of doing what you want it to do.
And I think too often people just say, “Oh, here’s a new agent. Let’s throw it into the clinical trial.” I think we may have to get more specific in the types of patients, just like I did with the MEPACT. You just couldn’t have relapsed osteosarcoma. You had to have your lung metastases resected, and you had to have documentation, radiological documentation, that you were, quote, unquote, “disease-free” before you started the immune-therapy. And I think we’re going to have to start getting more specific in the patients that we put on clinical trials with these more specific agents. So that, to me, is what translational research is.

[Tacey Ann Rosolowski, PhD]

Mm-hmm. I mean, I’m struck. I mean, as you’ve told this story and then when I’ve heard stories about how clinical investigations were run, say, in [the Department of] Developmental Therapeutics, in the sixties and early seventies, I mean, the arena of knowledge that you’re moving in right now is so much more sophisticated that you can say, “All right, now we need to look at this more carefully, we need to create these kinds of parameters,” and I don’t think anyone had the ability to even think of parameters because the knowledge base simply didn’t exist—

[Eugenie Kleinerman, MD]

I agree.

[Tacey Ann Rosolowski, PhD]

—at the time.

[Eugenie Kleinerman, MD]

I agree.

[Tacey Ann Rosolowski, PhD]

I mean, it’s really a fascinating story. Do you—how would you describe—and, I mean, we don’t have to spend a whole lot of time on this, but I’m curious how you see your work in perspective with the work that was done, for example, in developmental therapeutics by Emil Frei and J
Freireich in those early years, who kind of defined what it was here at MD Anderson.

Eugenie Kleinerman, MD

Again, I think they had like a shotgun approach, and not that the hypothesis was bad, but it was just, okay, if we give—I mean, there was some understanding of basic science. There was. Let’s see. In observations, if we give one drug, it works but then it relapses, and if we give another drug, it works and then they relapsed. And if we do things sequentially, it doesn’t work, okay, well, let’s try everything together. So there was very good observation on their part on the patients and how they responded and thinking about how we could build on what we see as successful but not to the extent we wanted to be, but I don’t think there was a lot of understanding about how the drugs worked, why these three drugs together work when in sequence they don’t, is it because they’re different mechanism of reactions or whatever it is. But, you know, they were pioneers, and I think they showed that you’ve got patients that have no other therapeutic options, that it is ethical to try new therapies in that with them.

Tacey Ann Rosolowski, PhD

Thanks. Is there anything else that you wanted to say about the aerosol project at this point?

Eugenie Kleinerman, MD

No. I think it’s a concept that can be used for many different types of cancers, anything that metastasizes to the lung, because the advantages when you give aerosol therapy, you can give much lower concentrations because you’re delivering it directly to the tumor microenvironment, so your systemic levels are going to be lower. I think it can be used for immune-therapy because Interleukin 2 is something that augments the activity of T-cells. There’s a lot now about T-cell therapy and NK-cell therapy. IL-2 is a cytokine that allows these specific types of immune cells to expand and live longer.

For a long time, Dr. Rosenberg at the NCI is giving LAK cell therapy and systemic IL-2, and you have to give it high, and the patients had edema and a lot of toxic complications. Well, if you’re targeting lung metastases, you can give the cells and then use the aerosol method of delivery to concentrate the IL-2 in the lung, and we’ve shown in the lab that you get very little systemic spillover. You really don’t get any toxic systemic side effects, and you get much higher concentrations in the lung. So I think this is a principle that can be used, as I said, maybe in lung cancer if you have an agent. Why give it in the vein? Give it in the lung.
Tacey Ann Rosolowski, PhD
[00:27:17]
What about using it with children? Is it easier to use this kind of therapy with kids or—
[00:27:22]

Eugenie Kleinerman, MD
[00:27:22]
Oh, absolutely. I mean, we have done some studies with aerosol therapy here, and one of our
former faculty, Dr. Pete Anderson, who left about two years ago to be chief of pediatric
hematology oncology at the Charlotte’s Children’s Hospital—so you never like to lose an
innovative physician, translational physician, but when he’s going to run his own show, there’s
some pride in that.
[00:27:55]

Tacey Ann Rosolowski, PhD
[00:27:55]
Sure.
[00:27:56]

Eugenie Kleinerman, MD
[00:27:56]
So we’ve used aerosol therapy here, and the kids love it because they can treat themselves. We
have to train them, but they can treat themselves, and they can do it in the lounge, and we
actually had a setup. The setup, you plug it in, and we have—there’s a little gazebo across where
the Faculty Center is, and so we had one patient who sat out in the gazebo and gave herself the
aerosol therapy for an hour. So it can be done at home under the direction of a visiting nurse. So
I think it’s the way of the future.
[00:28:33]

Tacey Ann Rosolowski, PhD
[00:28:34]
Hmm. Wow. And it’s not—I mean, I’m thinking there’s the whole of idea of breathing something
in can be—can choke you, can feel really uncomfortable. I mean, what’s the experience of
inhaling these agents?
[00:28:47]

Eugenie Kleinerman, MD
[00:28:47]
Okay. So again, we’re building off the experience of patients with asthma. I mean, when I was
an intern, you got subQ epinephrine, IV theophylline, and IV steroids. Now I had a son who had
asthma, never went in the hospital. When he had an attack, we went to the doctor’s office and he
gave him albuterol, breathing it, breathing it in. And there are very sophisticated devices now to
give aerosol therapy, because they’re built for patients with asthma, and there are a lot of
asthmatics, both children and adult.

Now, we do follow pulmonary function tests, so we make sure that we’re not damaging the lung,
and we measure the O₂ levels. Again, there’s a very small device that we can monitor the child
from home, and if there are things that we don’t like, then we call them in for a full pulmonary
function test.

Tacey Ann Rosolowski, PhD
[00:29:52]
Now, when you say you monitor them from home, there’s a wireless connection that feeds the
info?
[00:29:56]

Eugenie Kleinerman, MD
[00:29:57]
Yes, yes. Exactly.
[00:29:59]

Tacey Ann Rosolowski, PhD
[00:29:59]
And sends the info back. Wow.
[00:29:58]

Eugenie Kleinerman, MD
[00:29:58]
Exactly. Either through the phone or through the computer.
[00:30:03]

Tacey Ann Rosolowski, PhD
[00:30:03]
Wow.
[00:30:03]
Eugenie Kleinerman, MD
[00:30:03]
They hook it up, and they breathe in, and then it sends the information to us.
[00:30:08]

Tacey Ann Rosolowski, PhD
[00:30:09]
Wow. That’s great.
[00:30:09]

Eugenie Kleinerman, MD
[00:30:09]
Yeah.
[00:30:09]

Tacey Ann Rosolowski, PhD
[00:30:09]
So it really enables just a lot of convenience, much more comfort, much more—I hate to use the word “patient compliance,” but [unclear].
[00:30:17]

Eugenie Kleinerman, MD
[00:30:17]
Sure, because, you know, you can take the therapy, go to school, take the therapy, come home, take the therapy, go to sleep, or—yes.
[00:30:26]

Tacey Ann Rosolowski, PhD
[00:30:26]
Right. I mean, a screaming child, “Oh, this hurts,” that interferes with the treatment. (laughs)
[00:30:29]

Eugenie Kleinerman, MD
[00:30:30]
Right. And I think it’s better for the family, too, because you have to remember that at MD Anderson, most of our relapsed patients come from all over the country, and so to chain them to the institution really disrupts the whole family, and that’s something that we’re very sensitive to here.
[00:30:50]
Tacey Ann Rosolowski, PhD

[00:30:55] Yeah, you mentioned that with the MEPACT trials too. Okay. Great. Well, thank you. What an interesting story.
Tacey Ann Rosolowski, PhD
[00:30:55]+

Now, I wanted to make sure that we had a chance to talk about the Mesenchymal stem cells, too, and I didn’t really have—that also, I guess, uses Interleukin-12. So maybe you could give me just the background [unclear].
[00:31:20]

Eugenie Kleinerman, MD
[00:31:20]
Okay. The other pediatric bone cancer that I’m interested in is Ewing’s sarcoma, very rare tumor, probably, I don’t know, two, three hundred cases a year. This is a tumor that has a genetic etiology. There’s two chromosomes that have combined, and they produce an abnormal protein that has been shown to be the etiology of the malignant phenotype.

So, again, my philosophy is let us understand the biology of Ewing’s sarcoma, and Ewing’s sarcoma is a very vascular tumor. And at this point in my career, there was a lot of interest in tumor vessel formation. Judah Folkman had made his observation about vascular endothelial growth factor, which is a protein that tumors produce that stimulate expansion of the tumor vascular network, because as the tumor grows, it needs to also grow a blood supply.
[00:32:24]

Tacey Ann Rosolowski, PhD
[00:32:24]
What year was this when you started working on Ewing’s?
[00:32:26]
Oh, I don’t know. Well, certainly probably twelve years ago, probably.

So, again, my thought was, okay, if the tumor, if Ewing’s tumors need vessels as they grow, if we could interfere with this vessel formation, maybe that is a way we could augment the activity of chemotherapy. So we began to study how these vessels formed, what are the signals, what are the proteins that the tumor produces. And at the same time, people had been starting to use anti-VEGF in the clinic and found that it didn’t cure patients, that the tumors were able to circumvent and still do that, and we found the same thing with Ewing’s sarcoma. We could block the EGF and yet the tumor would figure—it would stop growing, then all of a sudden it would take off.

And to make a long story short, what we found was that VEGF comes in several forms, and one of them is a soluble form and one of them is a membrane-bound form. Why would it produce a soluble form? And so what we found is the soluble form was going to the bone marrow and stimulating the migration of Mesenchymal stem cells to migrate into the tumor area, and these cells would then differentiate into endothelial cells and help make the vessels. So there not only was a local component, which is what Dr. Folkmann had shown, that there were the local endothelial cells. The tumor was stimulating the local endothelial cells. What we found with Ewing’s is that there was that, but there was also the stimulation of the bone marrow to send cells, you know, “I need help!”

“Okay. Emailing you or Fed Ex-ing you cells that can help you in your quest to grow, to grow the blood vessels.”

And what we found is that if we blocked the local, the VEGF, if we did not block the soluble one, this could rescue the tumor, but we also found a way—and we studied the signals, the molecular pathways that control this, and found the specific agent that could block this. That sort of stalled the tumor growth, so the tumor was there, but it never grew and it never metastasized. So it sort of turned this disease from a disease that metastasizes and kills to a chronic disease, and I like to think of it like diabetes. You never get rid of diabetes. You always have to take insulin.

Tacey Ann Rosolowski, PhD

Wow.
Eugenie Kleinerman, MD
[00:35:48] But if you take your insulin, you’re fine.
[00:35:50]
Tacey Ann Rosolowski, PhD
[00:35:50] So in this—
[00:35:50]

Eugenie Kleinerman, MD
[00:35:51] So in this, what we found is as long as we gave the animals this agent that interfered with the ability of the bone marrow to participate, the animals had a tumor, they were fine. So, again, the idea was can we use the biology to identify ways to interfere with the tumor. So that’s the Ewing’s story. And we studied the pathways. We’ve identified specific agents that can block it. We don’t have clinical trials yet to do it. I think it’s going to be tough, because it’s such a rare tumor, that I don’t think any pharmaceutical company is going to be interested. But the drug that we identified has already been produced, but it’s still a matter of how do you form a clinical trial, get enough patients, and get the company to give you the drug to do the trial.
[00:36:50]

Tacey Ann Rosolowski, PhD
[00:36:50] What is the drug?
[00:36:50]

Eugenie Kleinerman, MD
[00:36:51] It’s called AMG-100, I think it is, and it specifically blocks a pathway called NOTCH, and it blocks one of the specific receptors. It’s called DLL4. And I had a very creative graduate student who really did this work.
[00:37:13]

Tacey Ann Rosolowski, PhD
[00:37:14] And that person’s name is?
[00:37:16]

Eugenie Kleinerman, MD
Tacey Ann Rosolowski, PhD
[00:37:25]
An MD or—
[00:37:27]

Eugenie Kleinerman, MD
[00:37:27]
She’s a PhD. She’s presently doing a postdoc at the University of Pennsylvania, and actually she’s going to come back and be an instructor in pediatrics in January, so we can continue some of our vessel work.
[00:37:41]

Tacey Ann Rosolowski, PhD
[00:37:42]
Great. Wow. Amazing.
[00:37:45]

Eugenie Kleinerman, MD
[00:37:47]
So I think there are many ways you can come at a tumor. You can come from cytotoxic chemotherapy. You can come from an immune approach. You can come from saying we’re going to interfere with your ability to put down the building blocks that you need to grow. And that’s why I think funding for basic research and understanding tumor biology is so important. Not only the genetic pathways, but how does the tumor—and I’m sure Dr. Fidler told you this—how does the tumor grow in the microenvironment? What does it need? Does it need low oxygen, high oxygen, vessels, down-regulate proteins so it can sit in this environment that is foreign? I mean, bone cell in the lung. You don’t have bone cells in the lung. I think it’s critical.
[00:38:43]

Tacey Ann Rosolowski, PhD
[00:38:43]
Mm-hmm. Mm-hmm. Is there any other research that you would like to talk about?
[00:38:51]

Eugenie Kleinerman, MD
[00:38:53]
So the area that we’re getting into now, again, is we’re trying to understand how tumors become resistant, how tumor cells stimulate vessel expansion. So there’s a process called autophagy, a-u-t-o-p-h-a-g-y.
"Self-eating or—"

Eugenie Kleinerman, MD

Exactly. Exactly. And that was shown to be a really important defense mechanism for cardiac cells. When there’s a cardiac infarction or an ischemia attack, clearly oxygen doesn’t get to the cardiac cells and they’re going to die because they don’t get oxygen and nutrients. Well, it turns out that autophagy is a mechanism by which cardiac cells use to put themselves in sort of like a suspended animation, and so they self-eat to provide the amino acids to make the proteins that they need to sustain, and this allows the cell to survive for a small period of time, hopefully to get through that period of anoxia.

Tacey Ann Rosolowski, PhD

The body sure is clever. (laughs)

Eugenie Kleinerman, MD

Exactly. So one of my former fellows who was in my lab, she went to the Scripps Clinic in California, and even though she was a pediatric oncologist, she started doing research in cardiac. And she came and gave a lecture, because I said, “Come back. Tell me what you’re doing.” And it was in autophagy. And listening to her lecture, I thought, “Gee, I wonder if this is a mechanism that tumor cells can co-opt to put themselves in a state of suspended animation to get rid of the noxious effects of chemotherapy and radiation.”

So we’ve started to investigate autophagy, and we find that osteosarcoma cells, when they’re treated with Gemcitabine, for example, or other chemotherapy agents, you do stimulate autophagy. You get production of all the proteins that are linked to autophagy and you do get resistance. So again, if we could understand this, then maybe we could block this process and prevent the tumor cell. Now, it’s completely the opposite in cardiac. You want to help this process. But in tumor cells, you don’t want this going on. However, it’s not always true. Nothing is, you know, [unclear]. So in certain cells, yes, and with certain agents, when you block autophagy, you augment the activity. But with other tumors and with other agents, autophagy
seems to be part of the death pathway, and you can see that. If you eat yourself for a long period of time or at a high rate—

[Tacey Ann Rosolowski, PhD]
[00:42:14]
You run out.
[00:42:15]

[Eugenie Kleinerman, MD]
[00:42:15]
—you run out and you’re going to die. So we’re trying to understand what’s the linchpin, what’s the point of no return. Is it the speed at which autophagy is going? Is it the pathways that’s [unclear]? So that’s something that we’re trying to understand. And this is also important, it turns out, to immune cells, because if you trigger autophagy in immune cells, they die.
[00:42:46]

[Tacey Ann Rosolowski, PhD]
[00:42:48]
Oh, interesting. Huh.
[00:42:49]

[Eugenie Kleinerman, MD]
[00:42:50]
And so one of the ways tumors do have an anti-immune effect is they become hypoxic. The tumor becomes hypoxic from the chemotherapy. You get inflammatory cells that come in, but then the tumor cell somehow—we don’t understand how—induces autophagy in the immune cells and so they die. So that’s the latest thing we’re getting in, but, again, it’s from the point of view “Let’s understand normal processes and see if they are applicable in the tumor.”
[00:43:32]

[Tacey Ann Rosolowski, PhD]
[00:43:33]
Are there other areas that you plan to investigate? What are you looking ahead towards?
[00:43:38]

[Eugenie Kleinerman, MD]
[00:43:41]
I’m very interested in going further in this tumor vessel physiology, understanding—because tumor vessels are very leaky. So if you delivery chemotherapy, you don’t get a high concentration into the center of the tumor. If we could understand the biology and the mechanisms by which the tumor vessels are leaky—I’ve been recently reading about, for
example, multiple sclerosis. There’s been a protein on vessels that has been identified on endothelial cells in the brain, patients with multiple sclerosis. And in animal models, the high expression of this protein allows breakage in the blood-brain barrier. You know, normally when you give things in the blood, the brain is protected because of the blood-brain barrier. Well, apparently, the expression of this protein breaks down the blood-brain barrier and allows immune cells to get into the brain, and there is an increase in the animal model of the immune cells in the areas of the brain that are concomitant with multiple sclerosis.

So I’m thinking maybe this protein has relevance to why the tumor cells are leaky, and if we could understand that, then we could down-regulate it, cause the tumor vessels to be less leaky, and we get better delivery of whatever your target therapy, chemotherapy, immune cells, whatever, into the center of the tumor, which is usually very difficult to treat.

[00:45:15]

*Tacey Ann Rosolowski, PhD*

[00:45:15]
Interesting. Yeah. Yeah.

[00:45:16]

*Eugenie Kleinerman, MD*

[00:45:17]
But that’s like pie in the sky. (laughter) Hopefully, Keri and I can start addressing that next year.

[00:45:25]
Chapter 14
B: Building the Institution

Challenges to the Division of Pediatrics

Story Codes
A: The Administrator
B: MD Anderson History
A: Overview
C: Patients
B: Building/Transforming the Institution
C: Leadership
C: Understanding the Institution
B: Critical Perspectives on MD Anderson

Tacey Ann Rosolowski, PhD
[00:45:25]
Neat. Well, would you like to shift gears now—
[00:45:29]

Eugenie Kleinerman, MD
[00:45:30]
Sure.
[00:45:30]

Tacey Ann Rosolowski, PhD
[00:45:30]
—and talk about your administrative work?
[00:45:33]

Eugenie Kleinerman, MD
[00:45:33]
Yes.
[00:45:33]

Tacey Ann Rosolowski, PhD
[00:45:35]
Okay. Well, where would you like to start with that? I mean, certainly the key role is 2001 when you became division head, but I’m wondering did you want to talk at all about kind of an overview of treating children at MD Anderson and kind of what that means, or will that come out as you talk about your role as division head?
123
Eugenie Kleinerman, MD

Because they’re a big children’s hospital, their president was very aggressive in the market, liked to control things. It was a very well-run institution, a lot of philanthropy, a lot of money, and so he basically could buy talent and didn’t have to worry about clinical revenue offsetting expenses.

Tacey Ann Rosolowski, PhD

Now, are you talking both from the perspective of building a strong pediatric program and also market share?

Eugenie Kleinerman, MD

Market, yes, yes, yes, and all of the infrastructure that’s needed. So here we are, an adult hospital, and although from the time it opened, MD Anderson took care of children—and when we opened our new unit, I learned that the Ladies Auxiliary, which is the wives of men who were, I think, World War II or the foreign wars, they wanted to make a donation, but they wanted to make sure that MD Anderson had a place for children, so they donated $50,000 to make sure that there was a ward for children.

Tacey Ann Rosolowski, PhD

And this was in 1955, right, when the inpatient unit was established?

Eugenie Kleinerman, MD


Tacey Ann Rosolowski, PhD

Wow.
Eugenie Kleinerman, MD
[00:48:32]
So there was a unit, and I think Dr. Wat Sutow was the first chair of Pediatrics. He also was very well known in osteosarcoma. He was a survivor—I think he was a survivor of Hiroshima, and he was probably one of the pioneers that used combination chemotherapy in solid tumors for children. But the service was very, very small, and when I came here, there was no critical care area for children, children had to be sent across the street to Children’s Memorial Hermann or to Texas Children’s. You sort of had to beg the radiologists to do your studies if you had somebody who—there always was somebody that you could find, but it really was challenging from the standpoint that you were in an adult facility. From the standpoint of treating cancer, it was great, because everything’s focused on cancer. And when I recruit, that’s what I say. If you’re a physician, if you’re a cancer physician that treats children, there’s no better place here. If you’re a pediatrician who treats children with cancer, then you’re better off going to a children’s hospital.
[00:50:02]

Tacey Ann Rosolowski, PhD
[00:50:02]
So what are the special challenges that have to be met in setting up for comprehensive pediatric oncology care?
[00:50:12]

Eugenie Kleinerman, MD
[00:50:14]
So you have to have—clearly you need surgeons that have pediatric experience. We just don’t treat the patient; we treat the whole family. Now, you could argue in adults, yeah, they have a wife or they have children, but it’s not the same. These are children who are in a very vulnerable part of their life. We think it’s very important to make sure that they maintain their education and they don’t get left behind. You could say, “Oh, well, let them stop going to school for two years while they’re being treated.” Okay. So then you get cancer when you’re in third grade and you finish your cancer and you come back, and all your friends are in fifth grade and you go back to third grade? Not really good.

Since we cure such a high percentage, there are long-term effects of chemotherapy. We need to monitor them. We need to make sure that we look for the signs that we know: cardiac, bone density, things like that. Support services, and catheter sizes, just little things like that, trachs, you need pediatric trachs, you need pediatric crash carts, you need a different pain scale. When you talk to a patient in terms of explaining therapy, you know, it has to be different. You have to talk in a way that the child understands, as well as the family. So, emergency room, when your child is fever and you’re worried that it—and you come into and all we have is an adult emergency room, what happens? The adults say, “It’s a child. I can’t take care of it.” Well,
who’s going to take care of it? Well, call the pediatricians. Well, you know, but we’re in the ward. We can’t be everywhere until we get down to—so there are a lot of challenges, lot of challenges.

And the care was not as good as it should be, for those reasons, and it was trying to get the administration to listen. So at the time, I looked around and I said, “I’ve been here for, what, ’84, ’94, so, seventeen years. I know the culture. I’ve built relationships. People respect me. If I really want to make a contribution, I’d better step up to the plate.” I think a lot of people that came down were not interested in because of the challenges and because they had the thousand-pound gorilla across the street and I don’t want to fight with him. David Poplack was across the street. And probably they wanted resources. I mean, I don’t know. But it took two years. The search was for two years.

Tacey Ann Rosolowski, PhD
[00:53:29]
Wow. Okay.
[00:53:29]

Eugenie Kleinerman, MD
[00:53:30]
So I think—and I’m being realistic. I mean, I think I was the best person for the job, but I think the reason why I probably got it, because I wasn’t a clinician, really. I was viewed as a basic scientist. And so I think the perception of a lot of the faculty at the time was, “She’s a basic scientist. She’s not going to have any respect for what we do. She’s not going to fight for what we need. She’s not going to be our voice.”

Tacey Ann Rosolowski, PhD
[00:54:00]
Interesting. Yeah. So why do you think, in the end, that perception didn’t hold sway? What was it that people understood, came to understand about you that enabled you to get that, to step into that role?
[00:54:13]

Eugenie Kleinerman, MD
[00:54:13]
Well, one of the things I did was we had a retreat. I took a leadership course and I learned that—I always thought, “Oh, it’s my job to do.” I learned it’s not your job to do; it’s your job to facilitate other people doing, and guiding the ship and getting a consensus of where people want to go.
Tacey Ann Rosolowski, PhD
[00:54:42]
So what was this retreat?
[00:54:43]

Eugenie Kleinerman, MD
[00:54:44]
So it was a day-and-a-half retreat. I got an outside facilitator, and the question was what do we
want to be, what’s our vision, what’s our mission, what do we want to be known for.
[00:54:58]

Tacey Ann Rosolowski, PhD
[00:55:00]
And this was held in 2001?
[00:55:03]

Eugenie Kleinerman, MD
[00:55:06]
It may have been 2002. It may have been 2002.
[00:55:10]

Tacey Ann Rosolowski, PhD
[00:55:11]
Yeah, maybe it was, because I had you in 2002 you did the Faculty Leadership Academy. Oh, there it is; 2003 was the retreat to develop the strategic plans, right?
[00:55:22]

Eugenie Kleinerman, MD
[00:55:25]
Yeah. In the beginning, you know, there were just so many things. I mean, the fellowship
program was a mess. I think we had two applicants to our fellowship program.
[00:55:35]

Tacey Ann Rosolowski, PhD
[00:55:35]
Wow.
[00:55:36]

Eugenie Kleinerman, MD
[00:55:36]
And so we took both of them. There were silos. And the first thing I wanted to conquer was
hiring a pediatric intensive care person, so it took me a while, and that’s the format that I ran on, or whatever. When I first took the job, when I made my speech, I said, “I have a vision. I have a plan to get us there. It isn’t going to be easy. There are going to be times when you’re going to be really mad at me, but if you stick with me, when we get there we’ll have something that you’ll be proud of.”

**Tacey Ann Rosolowski, PhD**

So what was your vision?

**Eugenie Kleinerman, MD**

My vision was that we were going to be excellent in clinical care, in translational research, in clinical research. And what I immediately did was form committees. I knew the faculty was so desperate to get critical care, so I formed a committee. “Okay. You tell me what are the important things that you need for critical care, what are the issues.” I formed another committee, Fellowship Program. Clearly, our fellowship program was faltering. “You’re down there. Well, what do we want? Clinic, what are the things, what are the issues in the clinic? Tell me what they are.”

And so I think people said, “Hmm. She’s asking us, and she’s charging us with telling her what she wants.”

And so then I began to—so critical care, and I was told—I went to see Tom Feeley, and he said, “You know, I’ve tried to recruit a pediatric critical care person, and they will never come. Give it up.”

And I said, “Okay. How about if you give me the slot?”

He said, “Sure. Take the slot. Who cares? I mean, you’re never going to be able to do it.”

And so I took over in March, and by September I had two critical care physicians.

**Tacey Ann Rosolowski, PhD**

Wow.
Eugenie Kleinerman, MD
[00:57:36]
What I did was I went back to somebody that I had done my residency with, who had just started the critical care department at Children’s Hospital National Medical Center in D.C., and he had—I don’t know. There was some falling-out or something. Anyway, so he was no long there and he was in a community hospital, and he wasn’t happy. So I said, “Alan, would you consider?”

He said, “Are you kidding? No way I’m leaving. No, I’m not going to come to Houston.”

I said, “Okay, tell you what, Alan. Come down as my consultant. Come down, look over, tell me what you need, tell me what I need, what I should be looking for, because I don’t know. I’m not in critical.”

He came down. I took him through. It was March. The weather was gorgeous. I took him to play golf. He met Feeley, he met everybody, you know, all the faculty. And at the end of the visit, he said, “Um, I’d like to apply for the position.”
[00:58:32]

Tacey Ann Rosolowski, PhD
[00:58:32]
And Alan’s last name?
[00:58:32]

Eugenie Kleinerman, MD
[00:58:34]
Fields. I said, “Alan, you got it.” So he was here a few months later. That was March. He was here by September.
[00:58:45]

Tacey Ann Rosolowski, PhD
[00:58:46]
Wow. That’s amazing.
[00:58:47]

Eugenie Kleinerman, MD
[00:58:47]
And now we have four critical care faculty, and we’ve just built our own critical care unit on our floor, nine-bed pediatric critical care unit.
[00:58:53]
Wow. Wow. That's interesting.

Eugenie Kleinerman, MD
[00:58:55]
So I think when the faculty saw that I was able to recruit a pediatric critical care faculty and was building a critical care unit that nobody had been able to do before, I think I gained their trust.

Tacey Ann Rosolowski, PhD
[00:59:15]
Hmm. I’m curious, because you came in with a strong vision and were able to articulate that vision, and then in 2003 you did the retreat, which was refining that. So tell me about that retreat. I mean, was that retreat an important milestone in your early [unclear]?

Eugenie Kleinerman, MD
[00:59:32]
Oh, absolutely.

Tacey Ann Rosolowski, PhD
[00:59:33]
So tell me about that event.

Eugenie Kleinerman, MD
[00:59:36]
So, again, what I learned from that retreat was everybody was looking to me and saying, “You tell us what to do.”

And I was sitting there thinking, “I cannot believe that—no, I’m not going to tell you what to do. I want you to tell me where you want to go. Let’s have a dialogue.” But it was interesting. They wanted me to make every decision, and yet of course I knew if I made every decision, then they’d complain. So that was an eye-opening experience to say, “No. What do you think? What are our strengths? What do we need to focus on? We can’t do everything. What are we going to do first?” And I think it was the first time that the faculty had ever been asked and brought together. And we wrote a shared vision and what our five-year plan was and our goals were.
And the other thing I tried to do was look at the strength of each faculty member, particularly the more senior ones, and say what did they love to do, what did they do that’s excellent, and make that their job. For example, there was one sarcoma physician, and he clearly loved to teach. He wrote book chapter after book chapter and review article. So I said, “Bev, I’d like you to take over Tumor Board, and I really want you to make this an excellent educational experience when we review the cases, both from an historical point of view as well as how we’re going to treat the patient.” He loved it, and Tumor Board became a desirable conference because it not only was educational, but because it was a forum for people to discuss the tumor, you know, the cancer, and how we’re going to treat the case, whatever. And Pathology was there to talk about the pathology of the findings, and Radiology was there to—so.

And the other thing that I did was, so there was one physician, a leukemia physician, and he was clearly burnt out, burnt out and unstable when it came to—and he was doing some transplants with his leukemia patients, and he would fall apart. He clearly just—he’d been in the trenches too long, but he had a lot of knowledge and he was really good at doing procedures. You know, our leukemia patients have to have bone marrows and they have to have spinal taps as part—and so what I saw happening was that the leukemia physician would see the patient in clinic. They needed a bone marrow. Then they’d have to run down to the OR to do the bone marrow, because you have to put the child to sleep. And then the rest of their patients were sitting around, waiting. I said, “This is really not efficient.”

So I pulled him in and I said, “You know what? What I really need help in is trying to organize the clinic. Would you be willing to be the procedure doctor? You’d sit there and the children would come in, you do the spinal taps, you do the bone marrows, you would do all the procedures so we could make clinic more efficient.” He loved the idea, because this would make him feel like he was valuable and doing something.

Well, the people in the clinic were not real happy, because they said, “That cuts down on my billing.”

I said, “Okay, how about if I look at your billing as a section, not individuals, but as a section, so that when he does the procedures, that goes on your billings as a section. As long as your section meets the goals, I’m happy with that.”

They said, “Great.”

So again, I think they saw me as a problem solver to make things better in treating patients, that I wasn’t just focused on the lab and getting resources for the lab. Now, unfortunately, I can’t do that now because the new structure is they look at each physician and what their billings are or what their productivity is. So it’s going to make it much more difficult. I wanted to treat it as a section. I can’t do that. I think this is not visionary. I think this is not. But this may not be able to
be applied to other treatment areas, other multidisciplinary centers, but I say then let the multidisciplinary center govern themselves the way they want to do it. And that’s really—I see that fading. I see that fading.

[01:04:58]
Chapter 15
B: Building the Institution
about 17 minutes

*The MD Anderson Children’s Cancer Hospital; A Successful Training Program*

**Story Codes**
A: The Leader  
B: Beyond the Institution  
C: Leadership  
C: Collaborations  
B: Critical Perspectives on MD Anderson  
B: Education  
B: Building/Transforming the Institution  
B: Growth and/or Change

**Tacey Ann Rosolowski, PhD**
[01:04:59]
I wanted to ask you about some admin issues, because you mentioned a little earlier that it was kind of difficult getting executive leadership to understand that Pediatrics had really special needs. Now, when you took over, obviously the search for the new division head started in 1999, and that was just three years after John Mendelsohn came in. So what was that? That was a new environment, administrative environment that was part of—in which the division shift took shape. So tell me about that. Tell me about communicating with executive leadership at that phase and also, I mean, how developing Pediatrics also fit in with the plans to greatly enlarge the institution.

[01:05:48]

**Eugenie Kleinerman, MD**
[01:05:49]
So, yes. So, John, when he first came in, he did meet with all the divisions, and he came with a yellow pad and a pen, and he really listened. He didn’t do a lot of talking. He listened. What are the issues? So I said to the faculty, “You need to—.” You know, I brought them all together, and he sat there with a pen, and he did have a very—I felt very comfortable about telling him—now, my husband also was, I think—yes, he was vice president for research administration, so he also had a relationship with John, so that socially there were opportunities for me to have one-on-ones with John.

And John would listen and, of course, he came from Memorial Sloan Kettering that had a very strong pediatric program, and I think he understood the issues of critical care. He was the one who let me develop critical care. He understood that, and so he was very supportive and listened,
but I think the real—and I told him—I mean, he allowed me to have a cocktail party in his house and invite all of the local pediatricians. I said, “You know, John, they don’t know that pediatrics exists at MD Anderson. I’ve got to get out with the private pediatricians. Do you know a way?” And I don’t know whose idea it was, I don’t even remember, but I said, “If we send an invitation out from you to have a cocktail party in your house, the pediatricians are going to come.”

And he said, “Okay.” So we hosted a cocktail party in his house, and we had a lot of pediatricians, and he stood by. He let me take the show, but he stood there and clearly demonstrated his support. And the response was, “Gee, we didn’t know you had all this at MD Anderson.” So I think that really validated what I was telling him.

The other thing is that he allowed me to—okay. So the first thing, we have our Board of Visitors. He formed the advance team, which was younger people in the community that probably were going to be future members of the Board of Visitors, and these were people with children. So he and the Development Office said, “Why won’t we assign the advance team to work with Genie on developing pediatrics in terms of a reputation.”

Tacey Ann Rosolowski, PhD
[01:08:33]

Eugenie Kleinerman, MD
[01:08:33]
And it was that team that really amplified my voice and cornered him at cocktail parties and said, “You know, you have a wonderful faculty and you have wonderful resources. Nobody knows it’s here, because when you say ‘MD Anderson,’ there’s no indication there’s children. We need to have a name.”
[01:08:50]

Tacey Ann Rosolowski, PhD
[01:08:51] Who were these individuals on that advance team?
[01:08:53]

Eugenie Kleinerman, MD
[01:08:54] So Beth Lee was one. Angela Schroder. I’m blocking on—
[01:09:04]
Tacey Ann Rosolowski, PhD
[01:09:05]
That’s okay. I was just curious some of the folks. And did those people end up being on the Board of Visitors?
[01:09:09]

Eugenie Kleinerman, MD
[01:09:10]
I think some of them are, yes. Some of them are.

So what they said is, “You need to have a separate name.” So it was really their instigation and their pushing that was the birth of the Children’s Cancer Hospital, and in 2005, Dr. Mendelsohn went down to the Board of Regents and got us the designation of the Children’s Cancer Hospital.
[01:09:36]

Tacey Ann Rosolowski, PhD
[01:09:40]
Why did they say that? What was their reasoning that you needed a different name?
[01:09:45]

Eugenie Kleinerman, MD
[01:09:45]
Because when you say “MD Anderson,” people thought it was an adult facility. We did focus groups, and they say, “You say ‘MD Anderson,’ we think, you know, it’s a cancer place. It’s big, it’s cold. I want soft and fluffy. When you say ‘Texas Children’s,’ you think about playrooms and happy types of things and social workers and everything that we need that is in a children’s hospital.” We perceived that, okay, so there’s this one ward that you have children, but there’s no playroom, there’s no child-life workers, there’s no camps, there’s no fieldtrips, there’s nothing.

So we wanted to send a message that at MD Anderson there was a very special place that was a hospital within a hospital, where we had everything that a family could need and everything that was focused on the child and family, and they felt that having that designation made a statement that MD Anderson felt it was really important to treat children and that they were willing to put resources into it.

Then from there, he let me have an advisory board made up of members of the big Board of Visitors, and the big Board of Visitors was the ones that said, “Okay, you’ve got a great name, you’ve got great faculty, you’ve got [unclear]—you know, all of this. You need to have a physical plant.” And so they were the ones that really—I don’t want to say pushed, but pushed him to approve the renovation of what we now have as our new unit. So it all began with him.
[01:11:34]
Tacey Ann Rosolowski, PhD
[01:11:35]
So tell me about planning this, because the new inpatient—okay. Wait a minute. I’m trying to get the—so in 2005 you were approved to have the new identity for the pediatric—
[01:11:50]

Eugenie Kleinerman, MD
[01:11:50]
correct.
[01:11:50]

Tacey Ann Rosolowski, PhD
[01:11:50]
—the Children’s Cancer Hospital—
[01:11:51]

Eugenie Kleinerman, MD
[01:11:51]
correct. correct.
[01:11:51]

Tacey Ann Rosolowski, PhD
[01:11:52]
—the hospital within a hospital.
[01:11:53]

Eugenie Kleinerman, MD
[01:11:53]
correct.
[01:11:53]

Tacey Ann Rosolowski, PhD
[01:11:53]
And that involved a lot of renovating, creating that space.
[01:12:00]

Eugenie Kleinerman, MD
[01:12:00]
no.
[01:12:01]
Tacey Ann Rosolowski, PhD
[01:12:01]
Oh, it did not.
[01:12:01]

Eugenie Kleinerman, MD
[01:12:02]
There was no—it was just a name.
[01:12:03]

Tacey Ann Rosolowski, PhD
[01:12:03]
It was just a name.
[01:12:04]

Eugenie Kleinerman, MD
[01:12:04]
It was just a name.
[01:12:05]

Tacey Ann Rosolowski, PhD
[01:12:05]
So it was not until 2013, okay, that it actually—
[01:12:08]

Eugenie Kleinerman, MD
[01:12:08]
Correct.
[01:12:11]

Tacey Ann Rosolowski, PhD
[01:12:11]
So what did happen, in practical terms in 2005 when you got that designation? I mean, were there some reorganizations or—
[01:12:18]

Eugenie Kleinerman, MD
[01:12:18]
Okay. So we had the name. He allowed us to hire a firm so we could come up with a logo. So, again, we did focus groups on logos. Where are you going to put the Children’s Cancer Hospital?
We clearly want it linked to MD Anderson, but we want to make sure—so we did a lot of work on that.

At the same time, I still was building the faculty, recruiting people that shared my vision. I have to tell you, in the beginning a lot of people left, and there were times when I thought, “I don’t know who’s going to see the patients.”

Tacey Ann Rosolowski, PhD
[01:13:00]
So why were people leaving?
[01:13:01]

Eugenie Kleinerman, MD
[01:13:01]
They didn’t like me, I think. I don’t think they liked my vision. My vision was we’re not going to just be a department that does national cooperative group trials, COG trials. I want innovative research. People in the lab are going to have to demonstrate that they are productive. So there were a lot of people who didn’t share my vision, didn’t like me, and left. But that allowed me to recruit a very talented group of young physicians, and that’s what I did. Rather than—what I said is, “Okay, I’m losing a professor. Let me hire two assistant professors.” And I really went out. I pretty much—well, maybe 75 percent of the faculty now I recruited. I ate a lot of dinners out, spent a lot of time. My lab work suffered because I was out looking for these people, sending out announcements, talking to my colleagues, “Who do you have that’s young and upcoming?” and whatever, and recruiting people.

So I was recruiting, trying to get out in the community. Joined the Houston Pediatrics Society, went to the dinners, to the monthly dinners, so the private pediatricians got to know who I am. Went to some ERs, again, trying to reach out to the community in MD Anderson. My predecessor kept the division like this: insular.

Tacey Ann Rosolowski, PhD
[01:14:55]
And who was your predecessor?
[01:14:56]

Eugenie Kleinerman, MD
[01:14:56]
Archie Bleyer.
[01:14:57]
Tacey Ann Rosolowski, PhD
[01:14:58]
I’m sorry, the last name?
[01:14:59]

Eugenie Kleinerman, MD
[01:14:59]
Bleyer. He at the time became the principal investigator for the COG or the CCSG, and so he was spending his time away. And decisions at MD Anderson are made by committee, and if you don’t sit there, decisions are going to be made and you’re going to be left out, not because anybody’s trying to get you or mean; they just don’t think about children. So that’s one thing I tell my faculty. We have to be on every committee. It’s important. Everybody’s got to step up to the plate to do that. So I try to get my faculty involved in lots of committee work, so that the other physicians at MD Anderson started to know who we were. They didn’t know who we were. They knew a name, but there was no—it was really funny, even though I was in the lab, because of my interactions and lecturing, things like that, every time Pediatrics came up, I was always the one that was called because they knew me.
[01:16:19]

Tacey Ann Rosolowski, PhD
[01:16:19]
Right. They didn’t know anyone else.
[01:16:20]

Eugenie Kleinerman, MD
[01:16:20]
They didn’t know anybody else.
[01:16:21]

Tacey Ann Rosolowski, PhD
[01:16:21]
Yeah. Interesting. Interesting. So now that 75 percent—I mean, you’ve obviously made your mark on this division. I mean, you’ve hired these people.
[01:16:30]

Eugenie Kleinerman, MD
[01:16:30]
I like to think so. I like to think so, yes.
[01:16:32]
Well, with all of these hires, the very least—

Eugenie Kleinerman, MD

It’s not the same place.

Tacey Ann Rosolowski, PhD

Yeah, it’s not the same place. So what’s the reaction time in terms of getting things done? I mean, these are people who share your vision, one assumes, and it’s got a very different character. So what’s it like to put—has the vision changed? Is there a new vision now that is shared by these individuals?

Eugenie Kleinerman, MD

Is there a new vision? I don’t think so. I think our vision has always been to create the next generation of therapies for children with cancer, to train the next generation of pediatric oncology leaders both in clinical research and in basic research, to create a—I guess one of the new ones is family-centered care. We only took that on about five years ago. Let’s start thinking about treatment from the family perspective and let’s start thinking about clinical research and clinical trials from the family perspective and informed consent from the family perspective. So I think that’s a new aspect.

When I first came, I created a research training program for the clinical fellows. The American Academy of Pediatrics requires three years of fellowship; one is clinical, two are supposed to be research. When I came on, the few fellows, they were doing chart review. To me, that’s not research. So my vision—and I think now it’s still shared—what we need to do is train these clinical oncologists to understand what basic science is so that when they go out, they can read a basic science article and can know is this really a translatable hypothesis, how to set up a clinical trial, so they’ve really had work in the laboratory.

Well, when you have somebody who has never been in the lab and you say, “You’ve got to do two years of laboratory research,” they’re going to say, “Oh, my god. No way I’m coming here,” because they finished their residency and the fellowship. They feel at the top of the game clinically, and you’re going to throw them into the lab? They’re going to feel like the stupidest person there, stupider than the technicians.
So what I created—and, again, this is based on my experience at Duke. Remember we talked about the Virology Training Program?

Tacey Ann Rosolowski, PhD


[01:19:09]

Eugenie Kleinerman, MD

[01:19:10] So I created a twelve-week research training program for the clinical fellows, and I hired an assistant professor, and for those twelve weeks, that’s her job, and we created a course. We’d take them through and we’d teach them how to do tissue culture, how to extract proteins, western, look at the microscope, do animal work, and so they finish that twelve weeks and because they’ve had basically one-on-two or one-on-three teaching, they feel comfortable, then they can choose their lab. And I would say almost all of them have had a successful lab experience. I don’t expect them to publish in Nature and Cell or Cancer Research. Somebody, one of the fellows in my lab, published in an infectious disease journal. And it’s been a meaningful experience.

So again, I think that’s one. Now, because it’s out of my lab and I pay for it, it may disappear when I’m not here anymore, but, anyway, I think it has left a mark in the individuals during the past twelve years that have trained here.

[01:20:19]

Tacey Ann Rosolowski, PhD

[01:20:19] Wow. So twelve years it’s been in existence.

[01:20:21]

Eugenie Kleinerman, MD

[01:20:21] Uh-huh. Oh, that was one of the first things I did.

[01:20:24]

Tacey Ann Rosolowski, PhD

Well, we’re at eleven-thirty right now, and I know that you’ve got a busy day, so why don’t we close off the interview today—

Eugenie Kleinerman, MD
[01:20:34]
Okay.
[01:20:35]

Tacey Ann Rosolowski, PhD
[01:20:35]
—with the fellowship program. We do have another session scheduled so we—
[01:20:36]

Eugenie Kleinerman, MD
[01:20:36]
Okay. Okay.
[01:20:36]

Tacey Ann Rosolowski, PhD
[01:20:36]
—can tie up any loose ends at that time.
[01:20:41]

Eugenie Kleinerman, MD
[01:20:41]
Okay.
[01:20:41]

Tacey Ann Rosolowski, PhD
[01:20:42]
Well, thank you very much, Dr. Kleinerman, for your time today.
[01:20:44]

Eugenie Kleinerman, MD
[01:20:44]
Thank you very much. Thank you.
[01:20:45]
Tacey Ann Rosolowski, PhD

[01:20:45] And I’m turning off the recorder at eleven-thirty.

[01:20:47] (End of Audio Session Three)
Okay. So the counter is moving. We are officially recording, and today is June 19th, 2014. I’m in the office of Dr. Eugenie Kleinerman today for our fourth session together, our final session together. The time is 9:28, and I want to thank you again for taking the time for this interview, Dr. Kleinerman.

You’re most welcome. You’re most welcome.
Well, as I mentioned before we turned on the recorder, I just have some few categories of questions left to do, and I wanted to make sure to ask you some of the kind of final questions about your administrative roles of division head of Pediatrics. And one thing that struck me is I read somewhere in the background material that I was doing, that you were very interested in kind of the business development dimension of MD Anderson, and certainly you were involved with that in the new identity branding of Pediatrics in 2005. And so I wanted to ask you that general question. I mean, how do you think the development of Pediatrics has contributed or been part of the growth of MD Anderson, and vice versa?

Eugenie Kleinerman, MD

[00:01:19]

So—

[00:01:25]

Tacey Ann Rosolowski, PhD

[00:01:26]

And you can change the question if it’s not quite worded right. (laughs)

[00:01:28]

Eugenie Kleinerman, MD

[00:01:29]

No, no. So I think, as we’ve spoken about before, when I took over, there really was not a citywide, national, statewide, local awareness that MD Anderson took care of children. There was the perception this was an adult institution. So one of my personal goals was to change that perception, because I think also as we had discussed, I think one of the advantages of being a
pediatric unit in a Cancer Center is that everything’s focused on cancer. So new techniques in surgery that are developed and diagnostic imaging, interventional radiology, you have access to those types of things, and the battle is that people aren’t sensitive to the fact that children are not just little adults and you need to have special support systems, child life, although there was child life. But anyway, you needed to have a more age-appropriate environment.

And at the time, I really didn’t think anything about business or marketing or whatever, but as I began to go out into the community and realize what the issues were in order to address things, understanding that resources were going to need to be made, and at the time, David Callender was the chief medical officer and his motto was also, “Bring me a business plan. You want resources. How is that going to impact the institution? It’s just going to be a cost or are you going to be a cost center or are you going to be—?”

So, again, that was my introduction into if you’re going to be in charge of a division, you just can’t think about all the things you need; you have to think about using those resources to the maximum effect and how you’re going to bring resources into the institution. Why? Not necessarily money, but, you know, new clinical research or basic scientists that are doing novel things.

So that’s really when I started to think about, okay, how are we going to raise awareness, what things can we do with the resources that we have, what other things need to be done. So I just sort of felt my way and realized that I needed to have advice from community members. What’s the perception? It was the first time I realized it’s just not what my perceptions of what people think, but I need to ask them, “What do you think? What would make your decision in coming here versus Texas Children’s? What are the things that you worry about in coming here?”

So that’s when I began to focus not only on building the type of faculty and infrastructure that I thought was important, but also focusing on, okay, what’s perception? And perception doesn’t mean it’s real, but knowing that perception, what can we do to change that. And that was really the evolution of the advance team and their recommendation that we needed to change the name so that people understood that there was a separate unit that was focused on children, the branding, getting the logo.

[Tacey Ann Rosolowski, PhD]

[00:05:16]

Now, to what degree—because I know you opened this new unit in 2012 or 2013?
Interview Session: 04
Interview Date: June 18, 2014

[00:05:27]

Eugenie Kleinerman, MD
[00:05:28]
Thirteen.
[00:05:28]

Tacey Ann Rosolowski, PhD
[00:05:28]
So, ’13. To what degree did all of that work prepare the ground? And what’s the result been?
[00:05:34]

Eugenie Kleinerman, MD
[00:05:37]
So, you know, it was an evolution. We became the Children’s Cancer Hospital. The Board of Regents allowed us to have the designation. We got the logo. And then I had an advisory board, members of the Board of Visitors, who were very focused on children with cancer, and they said, “This unit is not commensurate with the rest of the institution. Yeah, it’s in the Alkek Hospital, but it really is not up to what a children’s hospital would have.” So again they amplified my voice, and that was the decision, that we needed a special unit for children. And so that evolved. I think that in the past year, I’ve spent a great deal of time educating not only people outside of the institution, but people within the institution what this unit is, what it meant. We asked our customers. We designed according to our customers.
[00:06:43]

Tacey Ann Rosolowski, PhD
[00:06:44]
What was—tell me about that process. What about the design?
[00:06:47]

Eugenie Kleinerman, MD
[00:06:48]
So we have four councils. We have our Family Advisory Council that’s made up of parents whose children are undergoing therapy and parents whose children have finished therapy. We have a Supportive Care Council who’s made up of parents whose children died in our unit, because we think it’s important to get their input.
[00:07:06]
Eugenie Kleinerman, MD
[00:07:07]
We have a Teen Council, and then we have something called IMPACT, which is young adults. So each council meets once a month, and so we engage them in the process of designing the unit, picking the colors, naming the pods, what types of things do you want on the unit, a kitchen, a laundry room, sleep rooms for parents whose children are in the Intensive Care Unit, having a locked unit, the furniture, everything. We ask them, “What’s important to you? What things matter to you?” For example, they told us that they have lots of questions during the day, the care team comes in, and they forget what the questions are. So we designed a board in the room that had “Questions for my Care Team,” and with a Magic Marker, so at ten o’clock in the morning, they write their question down. So in the evening when the care team comes in, they say, “Oh, these are the things that I’d like to know.” So, little things that you’d never think about from a medical perspective, because it really doesn’t impact the medical care, but it impacts the patient experience.

So I think we were probably the first unit that started to think about the patient experience and change the way we do things based on what patients and their families told us. I mean, everybody talks about the Cleveland Clinic being the leaders in this, but I think Children’s Hospitals actually were probably the first to do this, and we capitalized on what we knew from our colleagues at Children’s Hospital.
[00:08:58]

Tacey Ann Rosolowski, PhD
[00:08:59]
Remind me of the name of the unit.
[00:09:00]

Eugenie Kleinerman, MD
[00:09:03]
So the name of the unit is the Children’s Cancer Hospital at MD Anderson. Now, some of the pods, one of the pods is the George Foreman Unit, because Mr. Foreman donated a million-three, a million and three dollars, because he said anybody can give a million dollars, but only he gives a million-one,” or a million-three. I don’t remember what it is. So one of the units is the George Foreman Unit.
The Ambulatory Care area is the Johnson because the Johnson Family. Brenda Johnson, who was an ambassador to Bermuda, she’s actually a member of my advisory board, the Honorable Brenda Johnson. So her family gave money when it was in our outpatient clinic, when the Ambulatory Care Center was part of our clinic. So when we moved it up to the ninth floor, so that unit is named the Johnson Unit. But the name of the hospital is still open, so a donor has not come forward to name the hospital, so that’s still a possibility.

Tacey Ann Rosolowski, PhD
[00:10:28]
What do you feel is, aside from the naming, is still left to be done in the hospital? Is it a work in progress?
[00:10:35]

Eugenie Kleinerman, MD
[00:10:35]
It’s always a work in progress. It’s always a work in progress. You know, I had initially envisioned that we should have our clinic also in the same area, but they didn’t want to give up hospital space for clinic space, which I understand. What’s left? I think a great unmet need is adolescents and young adults. We do have one of the pods that’s dedicated to adolescent and young adults, but they are only the ones that are on our service. I think that there are a lot of patients in this age range, and the NIH defines it as fifteen to thirty-nine. Some people define it as fifteen to twenty-six or fifteen to thirty-six. But these are a group of patients, certainly in the late teens and through the twenties, that are certainly different than sixty-year-olds, fifty-year-olds that have many more needs. For example, fertility. I mean, a fifty-year-old woman is not going to worry about fertility when she’s getting her chemotherapy for breast cancer, but you’ve got a lot of young women that are getting breast cancer in their thirties, and so fertility is something that needs to be considered. These things need to be discussed, and I don’t think our adult colleagues are as in tuned to asking this. So, I mean, we have a team that, just because of our interest, formed where we look throughout the hospital and see where all the young adults are and then go and ask about fertility questions, for the men, sperm banking, things like that.

Tacey Ann Rosolowski, PhD
[00:12:28]
Interesting.
[00:12:29]

Eugenie Kleinerman, MD
[00:12:29]
But it’s not done on an organized basis. In 2004 and 2007, I had proposed an adolescent and
young adult unit or waiting area, and we did focus groups, and what we heard from the teens was that, “Why do I have an old person’s disease? I’m sitting in a waiting room with fifty-year-old, sixty-year-old men. I have testicular cancer. He has prostate cancer. He’s got a urine bag. The magazines are *Field & Stream* or *AARP*. None of these people are like me. What’s wrong with me?”

But the decision at the time of the institution was that these are usually patients who aren’t well insured because they’re in college or they’re between jobs or whatever. So I think the Affordable Care Act actually opens up an opportunity for us to reexamine this. I’m hoping the institution will reexamine it. So that’s sort of what I think the next step is. Okay, we’ve got children, we’ve got Family Advisory Councils, but we still have an unmet need in a very young group of patients.

[00:13:54]
Chapter 17
B: Building the Institution

Plans to Develop the Division of Pediatrics

Story Codes
B: Building/Transforming the Institution
B: Multi-disciplinary Approaches
B: Research, Care, and Education in Transition
C: Patients
C: Offering Care, Compassion, Help
C: Leadership
C: Mentoring

Tacey Ann Rosolowski, PhD
[00:13:54]
Interesting. Hmm. I wanted to ask you if you felt there were any other big milestones in the growth of the division since you took over. I mean, obviously, the Children’s Cancer Hospital is a huge one. Are there others that you would point to?
[00:14:12]

Eugenie Kleinerman, MD
[00:14:14]
Well, I don’t think our clinical research is where it should be. I’m trying to identify funds so that investigator-initiated clinical trials can be done, not relying on pharmaceutical companies or the NIH. The NIH, there’s no money there, and pharmaceutical companies routinely are not interested in kids because of the small market. And I think that’s one of the things that we are very good at at MD Anderson, and the young people that I hired are very translationally oriented and have a lot of good ideas that can be moved into the clinic. So I’ve started that, so I think that needs to improve.
[00:14:58]

Tacey Ann Rosolowski, PhD
[00:14:59]
Can I ask you a little bit of a follow-up question on that? Because I read somewhere that you have been trying to address the difficulty of getting children involved in clinical trials.
[00:15:10]

Eugenie Kleinerman, MD
[00:15:10]
Tacey Ann Rosolowski, PhD
[00:15:11]
Is that a related issue to the ones [unclear]?
[00:15:13]

Eugenie Kleinerman, MD
[00:15:13]
Yes, yes.
[00:15:14]

Tacey Ann Rosolowski, PhD
[00:15:14]
How so? Tell me about that.
[00:15:15]

Eugenie Kleinerman, MD
[00:15:16]
So, normally when pharmaceutical companies design trials with new agents, it’s for patients eighteen and above. We are learning that many of the pediatric solid tumors have molecular abnormalities or pathway abnormalities that are similar to some of the adult tumors. I mean, they’re not the same as the adult tumors, but the things that go awry, the pathways may have similarities. So that means that some of the agents that they are using in their Phase 1 trials may be applicable to our patient population. So again, that’s one of the advantages of MD Anderson. We have a very active, productive Phase 1 experimental—or Investigational Therapeutics is the department in the Division of Cancer Medicine. And pharmaceutical companies come because of the number of patients that MD Anderson has, and then through this partnership we have been able to lobby the pharmaceutical company to lower the age eligibility. So instead of making it eighteen, make it sixteen, make it fourteen, make it twelve.

So that was a great achievement, but the problem was I didn’t have—you know, you have your pediatric faculty that’s here and you have the adult faculty is here, and they’d be lowering the age range, but how does the communication get? So I recently hired a very experienced woman in clinical research to lead this effort. She’s got dual appointments in Cancer Medicine and Pediatrics, and so her job is to—she sits there in the Division of Cancer Medicine seeing what the agents are, seeing what the trials are, and comes over and says, “You know, here we have a patient. This patient could—.”
[00:17:12]
Tacey Ann Rosolowski, PhD
[00:17:13] Wow. And her name is?
[00:17:15]

Eugenie Kleinerman, MD
[00:17:15] Cindy Schwartz. She just joined us last September. She was actually chair of Pediatric Hem Onc at Hasbro Children’s Hospital in Rhode Island, a very experienced woman, clinical trials, internationally recognized for her work in Hodgkin’s disease, really defined the chemotherapy that was curative in children and adolescents with Hodgkin’s disease, wrote the first book on survivorship. So here’s a case of I don’t think that she was ever appreciated. She was at Hopkins for many years and really wasn’t appreciated. And this is confidential, so—
[00:18:05]

Tacey Ann Rosolowski, PhD
[00:18:05] I’ll pause the recorder.
[00:18:06]

[recorder is paused]

Tacey Ann Rosolowski, PhD
[00:00:00] Okay.
[00:00:03]

Eugenie Kleinerman, MD
[00:00:03] So I was fortunate. I mean, actually I tried to recruit her twelve years ago when she was at Hopkins, but anyway, so she’s here and it’s been a great asset. So, clinical research.

And the other thing is I don’t think our survivorship program is doing all that we can be doing. I think there’s great wealth, and so I’m hoping that Dr. Schwartz will also be able to mentor the faculty that are doing survivorship right now.
[00:00:32]

Tacey Ann Rosolowski, PhD
[00:00:32] Mm-hmm. And that’s a huge issue in the institution at large.
[00:00:35]
Eugenie Kleinerman, MD
[00:00:36]
It is a huge issue.
[00:00:36]

Tacey Ann Rosolowski, PhD
[00:00:37]
Certainly a testimony to the success of all the work that’s going on here and other places.
[00:00:41]

Eugenie Kleinerman, MD
[00:00:42]
Yes.
[00:00:42]

Tacey Ann Rosolowski, PhD
[00:00:42]
What do you feel are the big issues in survivorship for kids?
[00:00:46]

Eugenie Kleinerman, MD
[00:00:47]
Okay. So, you know, we cure these kids and then they go out, you know, school, whatever, and I’ll give you a great example. So I had a child on my MEPACT study and cured her of her pulmonary metastases, and she went on to college, and she was playing basketball and she dropped dead. She was cancer-free, but the chemotherapy that she had been given when she was initially diagnosed with osteosarcoma damaged her heart, and we know this is true with anthracyclines, Doxorubicin, Adriamycin. We know this is true. But not every child gets it. I mean, it’s a huge problem. So that’s just an example.

So you have these children that we’re curing, but they have comorbidities. They have cardiac problems. They have bone problems because they get osteoporosis. They have neurocognitive problems. And so they really need to be followed. You need to develop interventions. You know, if you can’t concentrate, are there things that we can teach you to do so that you’re not a failure in the classroom? We can’t just say, “Oh, our job is done. We’ve cured you. Goodbye.”

And the problem with that is that that isn’t sexy, and it does take resources to follow things neurocognitively and do interventions and teach all these things. Who’s going to pay for it? And so insurance companies have not really been enthusiastic about having these kids continue to be followed in a survivorship—or even adults, probably, in a Survivorship Clinic that’s in a major
Cancer Center, because we’re too expensive. And so they go out into the community, but these community doctors are not familiar with, “What do I need to look for?” So these are the challenges particularly in kids and adolescents, because they’re going to be living many, many more years than a fifty-five-year-old woman who develops breast cancer or a sixty-year-old woman who develops breast cancer, who’s already out of school. Yeah, there may be issues, but I don’t think the impact is as high. Maybe I’m prejudiced, but I don’t think the impact is as high. [00:03:18]

*Tacey Ann Rosolowski, PhD*
[00:03:18]
Yeah, I talked to Lewis Foxhall [Oral History Interview], you know, about the communication that they’re setting up with primary care physicians about care for patients after their cancer treatment and during, and I can just see that dovetailing right here.
[00:03:36]

*Eugenie Kleinerman, MD*
[00:03:36]
Right.
[00:03:37]

*Tacey Ann Rosolowski, PhD*
[00:03:37]
It’s so interesting.
[00:03:38]

*Eugenie Kleinerman, MD*
[00:03:38]
Right, right, right. But interestingly, we haven’t been a part of that. We should be a part of that.
[00:03:43]

*Tacey Ann Rosolowski, PhD*
[00:03:43]
No, that’s right. Yeah.
[00:03:45]

*Eugenie Kleinerman, MD*
[00:03:45]
We’re not a part of that. We should be a part of that. I mean, we’re seeing patients who are forty years old. We shouldn’t be seeing patients that are forty years old in our clinic. We should be partnering with the adults and having some transition, but there’s bonding that occurs.
And the other area that I hope I can impact before I retire is supportive care.
[00:04:12]

*Tacey Ann Rosolowski, PhD*

[00:04:13]
And what exactly does that mean?
[00:04:14]

*Eugenie Kleinerman, MD*

[00:04:14]
Okay. So we say palliative care, and that usually means when somebody’s at the end of their disease course and they’re going to die, but palliative care is much more than that. Palliative care is pain control. Palliative care is anxiety, all these things, and these things happen on early in the course of a child’s therapy. And so I think it’s very difficult for an oncologist and for a parent, when things aren’t working and you say, “Okay, now I’m going to refer you to the palliative care doctor or the supportive care doctor, so that we can manage pain at the end of life. There’s nothing to do,” and this sends a very bad message.

What if we introduced this concept of supportive care, pain control, right when the patient comes the first time and make the palliative care doctors part of the team? So in the beginning they work on, “Okay, I’m going to help you with your nausea and your pain and your—,” whatever the symptoms are, the symptoms that come from after surgery or chemotherapy, whatever. And so then if things don’t go well, this is a physician the family knows, and you sort of can easily transition. The primary oncologist trusts because there’s collaboration in the beginning, so they know the way each other works.

So we just hired a pediatric palliative care physician, and what I’m going to encourage people is to bring him in as part of the care team right from the beginning, bring him in as a consult right from the beginning.
[00:06:14]

*Tacey Ann Rosolowski, PhD*

[00:06:14]
And his name is?
[00:06:15]

*Eugenie Kleinerman, MD*

[00:06:15]
His name is Kevin Madden. He’s coming to us from—he’s just finishing his pediatric palliative care fellowship at Boston Children’s. He was at L.A. Children’s for many years. He was actually trained as a pediatric critical care physician, so he knows what happens at the critical care end
and clearly understands the things that need to be worked on as you transition families.

[Tacey Ann Rosolowski, PhD]
[00:06:43]

Now, it sounds like the supportive care initiative is very much part of the patients and family perspective that you’ve been advocating.

[Tacey Ann Rosolowski, PhD]
[00:06:44]

Then, it sounds like the supportive care initiative is very much part of the patients and family perspective that you’ve been advocating.

[Tacey Ann Rosolowski, PhD]
[00:06:55]

Will you tell me more about that, if it’s the right time to do that?

[Tacey Ann Rosolowski, PhD]
[00:06:55]

Oh. Well, I just—I mean, I guess I was assuming that you had finished talking about the supportive care, and so I kind of wanted more information about the move in Pediatrics in general to work towards care of the entire family as well as the patient, because I don’t think we’d really talked about what that meant.

[Tacey Ann Rosolowski, PhD]
[00:07:21]

No, that’s true, and again, so that’s what the Family Advisory Council is.

[Eugenie Kleinerman, MD]
[00:07:40]
Eugenie Kleinerman, MD
[00:07:46]
We listen to the needs of the families, because you never just treat a child, you treat the whole family, and while the adults say that, too, in our case I think it’s more concentrated. When a child gets sick in the family, it affects the mother, the father, and other children. Not to say that when a woman gets breast cancer and she has young children in the family, but it’s not the same. It just isn’t the same. So, yes, so we’ve been listening to our families, and several of our faculty are part of the Family Advisory Council, so they hear the things that the family’s concerned about. Every council is started off with a parent talking about a day in the life, so they give us a little ten- or fifteen-minute peek into what it’s like to live a day in the hospital or out of the hospital, but with a child with cancer, and I think we gain great insight.

Going back to the unit, when we were putting up the artwork, we decided we’d better ask our patients what they want on their walls, and so we hired an art therapist to come in and investigators. It was very interesting. Some of the things, you expected. “We don’t want the artwork too juvenile,” the teens would tell us. “We don’t want it too old.”

But one of the things that we heard is the children and even the teens did not like pictures of single animals. For example, they hated the picture of Nemo. Why? Because he was lost, he was alone—

Tacey Ann Rosolowski, PhD
[00:09:40]
Lonely, yeah.

Eugenie Kleinerman, MD
[00:09:40]
—and it made them sad.

Tacey Ann Rosolowski, PhD
[00:09:42]
Interesting.
Interview Session: 04  
Interview Date: June 18, 2014

**Eugenie Kleinerman, MD**  
[00:09:43]  
Never would I have ever thought of that.  
[00:09:44]

**Tacey Ann Rosolowski, PhD**  
[00:09:45]  
Interesting.  
[00:09:45]

**Eugenie Kleinerman, MD**  
[00:09:46]  
So when you go up to our unit, you will see it’s either groups of animals and it’s reflective of which pod, where you’re on, whether the meadow, the mountains, the rainforest, or the ocean, or it’s a mother and child.

So again, we’ve redesigned the way we do rounds. This was very difficult, because doctors want to sit down and have rounds and go through it very efficiently, and we heard from our families, “The resident comes in and tells us one thing. The fellow comes in and tells us another thing. The nurse tells us something. The rounding man comes, and either we’re in the bathroom—we want to know when rounds are and we want everybody together.”

So we have instituted rounds, they start at eight, they end at ten, it involves the senior attending, the fellow, the resident, the nurses, the mid-level, the pharmacist. And you can sit down and have rounds, but you have to go into every room and convey the plan. This is a very painful thing that we’re going through right now, a lot of resistance, particularly from older physicians like me, who are set in their ways. And so this is one of the unpopular things one has to do when they’re division head.  
[00:11:11]

**Tacey Ann Rosolowski, PhD**  
[00:11:11]  
Right, right. How is that changing the dynamic or the delivery of care, or what are some of the challenges that are coming from this new format of rounds?  
[00:11:25]

**Eugenie Kleinerman, MD**  
[00:11:28]  
Well, you’re engaging the family, you’re engaging the patient, you’re thinking from their perspective what they want. You’re putting a premium on communication, not just excellence of medical care. And I think that’s what we’re going towards in the United States, and I think that’s
going to be a very important measure of quality: patient satisfaction. It slows things down, but, you know, patients are becoming better consumers. And particularly for an institution like MD Anderson and the Children’s Cancer Hospital in particular, where our patients come from outside the local area, we’d better be outstanding in that area. Patient blogs better reflect that, because we are more expensive and patients have a choice, and they don’t think that the quality of the care in terms of not medical care, but delivery and relationships. Relationships are a very important part.

A lot of Children’s Hospitals have gone to a format where when the patient is admitted to the hospital, the—and it’s not only children’s hospitals;

[Redacted]

**Eugenie Kleinerman, MD**

[00:14:13]
So we are holding onto that primary care model and trying to adapt to the increasing pressures of, you know, see more patients and more efficiency, etc., and yet keeping to maintain that personal relationship because that’s what parents want, because they think, “If you know me and you care about me, I’m going to get better medical. If I’m part of your family, I’m going to get better medical care, but I want you to listen to me. I just don’t want you to tell me.” And as I said, that takes time. But that’s what we’re hearing from our families, and we try to adapt. But it’s tough. It’s tough.

[00:15:09]

**Tacey Ann Rosolowski, PhD**

[00:15:10]
Now, you said that kind of working with the supportive care model is something that you’d like to really set in place before you leave. Are there other initiatives in that area that you’d like to put in place in the near future?

[00:15:25]

**Eugenie Kleinerman, MD**

[00:15:26]
In supportive care?

[00:15:27]

**Tacey Ann Rosolowski, PhD**

[00:15:27]
Mm-hmm, and family-centered.

[00:15:28]
Eugenie Kleinerman, MD
[00:15:31]
You know, I’m not an expert in supportive care, so I’d like to support Kevin when he comes. I’d like to help him communicate with the faculty. I’d like to give what he requests teeth, encourage—not encourage, but sort of incentivize faculty to change the way they practice to bring him in. So that’s where I see my role.
[00:16:05]

Tacey Ann Rosolowski, PhD  
[00:16:06]
Mm-hmm. Hmm. Mm-hmm. Now, I’m curious because I had a conversation with Barbara Summer, and obviously nursing care is moving to a real focus on treatment of families and patients within families. I’m wondering as you’re doing this in pediatrics, nursing’s doing this, there are a lot of divisions within the institution that are doing it, is there communication between all of you? (laughs) Your reaction is—
[00:16:33]

Eugenie Kleinerman, MD  
[00:16:34]
You ask a really good question. I think that we could be engaged more. I mean, they have asked, supposedly, our director, Patty Wells, but I don’t think that she feels that her expertise—and she set up the Family Advisory Council and Family-Centered Care at Cincinnati Children’s. So we have somebody who’s a real expert. She was a consultant and then we hired her.

So this should be more of a partnership, but it’s like they’re doing their thing, and I think we’re way ahead of the game. But, you know, it takes—you have to be secure to say, “You know, these people are ahead of us. We’re not the experts.”
[00:17:24]

Tacey Ann Rosolowski, PhD  
[00:17:24]
Right, right.
[00:17:25]

Eugenie Kleinerman, MD  
[00:17:26]
But it’s, “Oh, yeah, yeah, yeah, yeah, we’ll—but you go. You’re great. You go ahead. We’ll do our thing.” So I don’t think that we’re being included as much. I don’t think we’re being included in terms of the institutional survivorship issue. I think it’s a very silent voice that we have. So I think still it is not where I’d like it to be in terms of really being enmeshed in the entire MD Anderson Cancer Center. I mean, we’ve made great progress over the last thirteen
years. And I suspect I’ll retire and it still won’t be done the way I think it should be done, but, you know, that’s okay.

*Tacey Ann Rosolowski, PhD*

[00:18:14]
Mm-hmm. Well, it sounds like you’ve made some strides, but that’s—yeah.

[00:18:19]

*Eugenie Kleinerman, MD*

[00:18:20]
Yeah.

[00:18:20]

*Tacey Ann Rosolowski, PhD*

[00:18:20]
But that was a systemic problem from the very beginning. These things change very slowly.

[00:18:25]

*Eugenie Kleinerman, MD*

[00:18:25]
Yes, yes.

[00:18:26]

*Tacey Ann Rosolowski, PhD*

[00:18:26]
Interesting. Interesting.

[00:18:27]

*Eugenie Kleinerman, MD*

[00:18:27]
Yes. It’s still very interesting to me that when anybody has either a referral for a pediatric patient or they want—they still call me. So, I mean, it’s very nice that I’m the face and I’m the voice of Pediatrics, but clearly it says to me, “You still don’t know my faculty.”

[00:18:47]

*Tacey Ann Rosolowski, PhD*

[00:18:48]
Yeah, yeah. Interesting.

[00:18:50]
Eugenie Kleinerman, MD
[00:18:51]
And I would hope one day that I would be sort of invisible.
[00:18:55]

Tacey Ann Rosolowski, PhD
[00:18:56]
Right, right.
[00:18:57]

Eugenie Kleinerman, MD
[00:18:58]
And they would pick up the phone and call Dr. Schwartz or they would call Dr. Witting
[phonetic] and they would just—
[00:19:03]

Tacey Ann Rosolowski, PhD
[00:19:03]
Yeah, or even just call Pediatrics and say, “Who can I talk to about x issue?” Because it’s the
face, it’s the unit itself that’s the source of information and expertise.
[00:19:16]

Eugenie Kleinerman, MD
[00:19:17]
Right.
[00:19:18]

Tacey Ann Rosolowski, PhD
[00:19:18]
Very interesting. Wow. Cultural change in an institution. (laughs)
[00:19:21]

Eugenie Kleinerman, MD
[00:19:21]
Yes, yes.
[00:19:23]

Tacey Ann Rosolowski, PhD
[00:19:23]
Glacial. (laughs)
[00:19:23]
Interview Session: 04
Interview Date: June 18, 2014

Eugenie Kleinerman, MD
[00:19:24]
I mean, I’m honored and I’m flattered that I’m always the one that gets called as the pediatric expert, because I sort of laugh, because I don’t know anything about some of these—I mean, I’m no longer the expert, because I’m doing administration, so I can’t possibly keep up in what’s going on in, you know, neuroblastoma.
[00:19:47]

Tacey Ann Rosolowski, PhD
[00:19:48]
Right, right. Anything else about the division and milestones in that sense?
[00:19:58]

Eugenie Kleinerman, MD
[00:20:06]
One other thing is I don’t think we are where I think we should be in terms of cell therapy and transplant. We have some creative investigators who have made strides in the laboratory, important discoveries, but it’s not been translated significantly enough, in my opinion. So I don’t think—I mean, the country recognizes Penn, they recognize—I think it’s UCLA, they recognize Dana Farber. I don’t think we’re getting the recognition for the creativity that we have, the possibilities that we have, and that’s because things have not moved as quickly as I think they should have moved. So, again, I’m trying to motivate more translation, clinical trial development with cell therapies. I can’t do everything. I can’t do everything.
[00:21:20]

Tacey Ann Rosolowski, PhD
[00:21:21]
Sure.
[00:21:21]

Eugenie Kleinerman, MD
[00:21:22]
I can only clear the pathways, get rid of the weeds. So in all these initiatives, AYA in cell therapy, I have learned it is not my job to do everything. It’s my job to enable others, and if they are not going to do it, then I have to accept the fact that it’s not going to get done. I can’t just do everything. And it’s not a failure on my part, although I still think it’s a failure, and if I were a better motivator, I could—
[00:21:56]
Tacey Ann Rosolowski, PhD
[00:21:57]
Sounds like that was a leadership lesson you had to learn. (laughs)
[00:22:01]

Eugenie Kleinerman, MD
[00:22:01]
It was absolutely a leadership lesson I had to learn. I had to learn. I don’t know if I told you the story, the first retreat that we had, people were saying, “Well, what do you want me to do? Well, what do you want?”

And it was like, “What do you want to do?” But they were conditioned to say, “Okay, this is the leader. The leader’s going to tell us what to do and then we have to do it,” rather than, “This collective, where do we want to be? What’s our vision? What do we want to be known at? What are our strengths? What are our weaknesses? How are we going to address our weaknesses? How are we going to maximize our strengths?”

[00:22:42]

Tacey Ann Rosolowski, PhD
[00:22:42]
How can we each contribute? Yeah.
[00:22:43]

Eugenie Kleinerman, MD
[00:22:43]
Mm-hmm, mm-hmm, and it’s still—it’s better, but it’s still a struggle, which is fascinating.
[00:22:49]
Chapter 18
B: Diversity Issues

Women at MD Anderson and Becoming a Leader

Story Codes
A: The Leader
A: The Mentor
B: Gender, Race, Ethnicity, Religion
C: Leadership
C: Mentoring
B: Critical Perspectives on MD Anderson
B: Gender, Race, Ethnicity, Religion
C: Women and Minorities at Work

Tacey Ann Rosolowski, PhD
[00:22:51]
Well, as you were describing this issue with needing more translational research in cell therapy and transplant, you know, the persona of the division is one with the development of the careers of the faculty who are working on this, so it’s a simultaneous development issue, you know, the individual equals the collective, in a sense. So, yeah, you can’t make a person’s career for him or her. (laughs)
[00:23:19]

Eugenie Kleinerman, MD
[00:23:19]
No, no, and it’s interesting. So we have a women faculty get-together every other month that’s led by Dr. Schwartz, and so she decided that she was going to assign everybody to read certain chapters in Sheryl Sandberg’s book, Lean In. So the chapter we discussed yesterday was “Are You My Mentor?” And one of the things that Sheryl says early in the book is she hates it when women come up to her and say, “Will you be my mentor?” What does that mean? And, you know, what is your responsibility as the mentee? You can’t just say, “Please mentor me. Help me.”

“Well, where do you want to go? What are the things—?”

So what we did yesterday was I actually put it out on the table. I said, “Okay, well, what other things do you think that you need help on in your career? Where are the weaknesses? You can’t just sit back and say, ‘Somebody’s going to notice that I’m great and give me the opportunity, or somebody’s going to notice that I am weak in this area and help me.’”
And so one of the women said, “Oh, you know, I’ve never thought about it, but I was just appointed section chief a year ago, and I’m struggling with how do I implement my role as the chief. How do I organize that? And I never thought I should come to you to ask for advice.”

I said, “Well—.” So I charged everybody, “Think about what are the things that are lacking. But if you don’t tell Dr. Schwartz and myself and the other senior members, how are we supposed to know?”

Tacey Ann Rosolowski, PhD

Right, right. Interesting.

Eugenie Kleinerman, MD

Very interesting.

Tacey Ann Rosolowski, PhD

Yeah.

Eugenie Kleinerman, MD

Whereas a man would just come into your office, and my young male faculty members do that. They come in and they say, “Genie, I need help with this. What do you think I should do with this?” Or, “Who can I contact with this?” Or, “I don’t know how to approach this.” And we sit down and we do it. And it wasn’t until yesterday I realized there are—I don’t think maybe there’s one faculty member who comes in and asks my advice or help or navigating, “What should I do? Who do you know? How should I approach this?”

Tacey Ann Rosolowski, PhD

What do you think that’s about? I mean, why aren’t women, even after all this time, doing it?
Well, we talked about that yesterday, and one of the young faculty members said, “Well, that’s because it’s hardwiring. We’re different, and we just like to accommodate.”

So I said to her, “You can’t use that as a crutch all your life.”

“Well, but it’s really hard.”

I said, “Yeah, it’s really hard, but, you know, you have to take some responsibility. Again, this is as the mentee or whoever, if you’re going to want to get ahead, you’re going to have to work on this.” And I think to a large part that’s right. We don’t want to—I think a lot of it’s conditioning. They were saying it’s hardwiring. I think it’s conditioning. Women, you don’t want to because you’ll be called a bitch or you’ll be called aggressive or hard or all the things that are—I mean, if you call a guy aggressive, that’s okay.

That’s okay, which is good.

Yeah. So we need to get less insulted if somebody says you’re tough. Yeah, okay.

Mm-hmm. It’s funny that this is still the same conversation happening as it was in the seventies and sixties. (laughs)
Well, it kind of leads to my next set of questions, which is about the whole issue of women at the institution and the fact that you are the first female division head. I wanted to ask you about the significance of that and also your role in women faculty issues since you’ve come to the institution, because it was in a key time, ’84.

Eugenie Kleinerman, MD
[00:27:26]
Yes, it was in a key time, and, fortunately, I had wonderful colleagues, Dr. Travis [Oral History Interview], of course, and she was very motivated and engaged me at the time, and we did little things like there was a doctors’ dining room at the time. I’m sure she must have told you the story. So we decided we were going to sit at the center table, so we did that. We thought about—we tried to bring up issues that we felt were important to young women, like stopping the tenure clock so that if we had a baby or—and we made it more general, so it was male or female, if you had a baby or an adoption or a sick parent or whatever, you could stop the tenure clock.

One of the things that I felt very strongly about doing that never materialized because UT said we can’t do it is, I was on tenure, and to be on a tenure track or tenured, you have to work 100 percent. Now, the way I managed it is I just cut out a lot of travel. I just didn’t go to national meetings so that I could work my full, you know, time, but tailor the hours so that I could get home for dinner or be there at breakfast or whatever.

And I realized, when I looked around, that many of my male colleagues were gone so much to these national meetings, that I was really there more than they were there. So I thought, why can’t someone, a faculty member, choose to be 80 percent, get 80 percent salary, 80 percent benefits, whatever, but stay on the tenure track? And the answer was no, which I think is absurd, because, again, if you look at the time put in, they were there less than I was. They were present because they’re off traveling. We have thirty days’ leave, so that’s six weeks. So you add it up, that’s probably about 20 percent. So you can be gone six weeks and still be 100 percent. So there will be your 80 percent. You have no external leave. I would say fine, give people—I don’t want to say just women, because there are single fathers now—give them the option to stay on tenure track. You still have to accomplish everything that you have to accomplish to get your promotion and renewal tenure, but you don’t have to be here 100 percent. You can be here. You can work four days a week.

Tacey Ann Rosolowski, PhD
[00:30:14]
Mm-hmm. Interesting. Yeah.
[00:30:18]
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Eugenie Kleinerman, MD
[00:30:18]
So that was—
[00:30:19]

Tacey Ann Rosolowski, PhD
[00:30:19]
This was a UT system issue?

Eugenie Kleinerman, MD
[00:30:20]
Yes. I think it was the Dark Ages that we have to be doing that. But anyway, so we tried to think of things that would support young women. We wanted to have a daycare facility. That was tried and apparently failed, but I don’t know why it failed. And I think if somebody really wanted to make it work, it could have worked.
[00:30:49]

Tacey Ann Rosolowski, PhD
[00:30:51]
It seems surprising that there isn’t one.
[00:30:52]

Eugenie Kleinerman, MD
[00:30:52]
Uh-huh. Right.
[00:30:55]

Tacey Ann Rosolowski, PhD
[00:30:56]
Given the levels of expertise here.
[00:30:57]

Eugenie Kleinerman, MD
[00:30:57]
Right. Right. So those are the things that I was involved in early on.
[00:31:02]
Tacey Ann Rosolowski, PhD
[00:31:02]
Now, how would you characterize changes or lack of changes from the mid-eighties when you came to today? What was the attitude or climate when you arrived?
[00:31:16]

Eugenie Kleinerman, MD
[00:31:20]
Well, one thing’s changed, I think that there are many more women faculty here, but I think when we analyze it, they’re mostly at the assistant professor level there’s a higher percentage. I think there’s more of us that talk about these issues so there’s more of a community where you can discuss things and commiserate, and so that in itself is therapeutic. It wasn’t there when I first came.
[00:31:55]

Tacey Ann Rosolowski, PhD
[00:32:00]
Have you seen cultural changes, you know, including communities of men vis-à-vis acceptance of women or support of women?
[00:32:08]

Eugenie Kleinerman, MD
[00:32:11]
I think there’s lip service to it. Some people are better than others. Dr. Fidler was always accepting. Don Podoloff, who was chief of Diagnostic Imaging when I became chair. But at the upper-institutional level, I mean, it’s been thirteen years and I’m the only woman division head.
[00:32:43]

Tacey Ann Rosolowski, PhD
[00:32:44]
Mm-hmm. And I do have to confess that when I saw that I thought, “Well, and it’s in Pediatrics.”
[00:32:49]

Eugenie Kleinerman, MD
[00:32:50]
And you’re absolutely right. I’m sorry, you’re absolutely right. It would never have happened. In fact, after I became division head and I sat on the search committee for a department chair in Medicine or a division head—maybe it was before, I don’t know—one of the men in Cancer Medicine said, “There is no woman that is qualified in this country to be head of the Division of Cancer Medicine.”
So I think there is more awareness and I think I hear that they try to get women division head—they try to recruit them. Again, I can’t comment on what the failure has been, but I think there are other indications. I don’t know why Dr. Travis is an associate vice president. She should be a vice president. She’s done more and shown her success. People call on her when they’re trying to start programs. She should be a vice president. We have no women faculty that are vice presidents. Women faculty. And it’s not only in the upper—it’s not only women. They’re all white men. It’s not good for such a diverse institution, and it’s not good in this day and age.

_Tacey Ann Rosolowski, PhD_

Yeah. I mean, it’s kind of interesting, when I was sitting in the reception area, I picked up _The Messenger_, and the front of the magazine was all white men, and then as you get back into the less important features, then you start getting, quote, “diversity.” And I thought, “Wow, that kind of says a lot.” (laughs)

_Eugenie Kleinerman, MD_

Right, because there’s a voice that you’re not getting.

_Tacey Ann Rosolowski, PhD_

Yeah. And what do you think that voice is?

_Eugenie Kleinerman, MD_

I—

_Tacey Ann Rosolowski, PhD_

Or the leadership perspective? Or what is it that women bring to the table?

_Eugenie Kleinerman, MD_

Well, I think, you know, a different way of looking at things, a more personal community interactive—I’m not finding the word I want. Give-and-take, working things out. Are we really
looking at this the right way? Is there something else we’re not hearing? Are you really sure that this is the right thing to do? Sorry. I mean, you know, I don’t know. I mean, I can only speak for myself of things that I would bring up. But it’s just a perspective of another point of view. So as I said, it’s not only women; we’ve no African Americans, we have no Vietnamese, we have no Hispanic.

[00:36:23]

_Tacey Ann Rosolowski, PhD_

[00:36:28]
How does MD Anderson compare with other institutions in this regard?

[00:36:32]

_Eugenie Kleinerman, MD_

[00:36:33]
I don’t know. I will tell you, in terms of women, I think at major hospitals there’s a lack of women on Board of Directors, and what’s shocking is it’s even at Children’s Hospitals, which you would think would be very proactive in terms of having women on your Board of Directors.

[00:36:55]

_Tacey Ann Rosolowski, PhD_

[00:36:57]
Very interesting.

[00:36:58]

_Eugenie Kleinerman, MD_

[00:36:58]
So I think we sort of reflect the culture of the country, still, and I think that was evident in Sheryl Sandberg’s book. And as my husband likes to say, “It’s going to take men recognizing this to really change it. Women can only do so much, but until we, as men, say we’re going to correct this, it isn’t going to change.”

[00:37:27]
Chapter 19
B: Critical Evaluation
Leadership, Leaders, and Concerns For MD Anderson

Story Codes
B: Growth and/or Change
B: Critical Perspectives on MD Anderson
B: Institutional Mission and Values
B: MD Anderson Culture
C: Portraits
B: Controversy

Tacey Ann Rosolowski, PhD
[00:37:27]
Yeah. Tell me a little bit about your own development as a leader, you know, how you want to do that. I mean, I know you’ve mentioned along the way some kind of key moments, but did you set out and say, “This is the kind of leader I want to be?” or was it an intentional process in any way?
[00:37:53]

Eugenie Kleinerman, MD
[00:37:53]
So, yeah, of course I wanted to be a leader that was liked, and I rapidly learned that success and liked, you know, wanting to be liked is a recipe for failure. So I wanted to be a leader that was liked, I wanted to be a leader that accomplished, I wanted to be a leader that was known for changing the Division of Pediatrics, the perception, the way things are done. I wanted to be a leader that brought the best cancer care to children. But I never viewed it as I want to be a leader so I will get famous. That wasn’t my motivation. I really had my success with MEPACT, and I said, “Okay.” Just like my dad told me, “You will see something. You’ll know you can do a better job of something you love with one hand tied behind your back, and you will do that.” But he also told me when you’re a leader, you have to be ready to bask in reflected glory, because it’s not longer about you, and you will never be given the credit, and you have to be okay with that. And he has been absolutely right.
[00:39:17]

Tacey Ann Rosolowski, PhD
[00:39:18]
Interesting.
[00:39:18]
Eugenie Kleinerman, MD

Absolutely right. I also learned you can’t make a decision based on what’s popular. You have to really—it’s important to get input, but in the end, you’ve got to make the decision. Just like the rounding, I mean, I was not popular for saying this [unclear] the way we’re going to go. As a leader, you’ve got to be ready to make a decision and implement a change, knowing that you’re going to be probably not liked intensely. But as long as you’re respected—so that’s what—I wanted to be respected.

Tacey Ann Rosolowski, PhD

And how do you go about identifying individuals within the division or in the institution at large that you feel could be leaders? What do you see in them? And then what do you do to cultivate that to kind of create a pipeline?

Eugenie Kleinerman, MD

Well, in terms of the institution, I’ve probably been very bad at that. I’ve tried to do it with my own faculty, recognize where their strengths are, and I’m pretty good. I have a pretty good sixth sense of where somebody’s strengths are and trying to guide them towards that. But at the same time, you have to balance what’s the institution value. And so even if they’re strong in education, you’ve got to be the one that says, “Look, I know you love education, and you and I think it’s real important, but if you’re going to be successful, you’ve got to cut back on this education and focus on this, because that’s how you’re going to be judged.”

So I have tried to recommend some of the men and women junior faculty for positions. One of my male junior faculty, when I couldn’t—I was on an NIH study section. When I couldn’t go, I recommended that he go. Now he has been asked to be a permanent member of that study section. So I try to figure out what the strengths of that individual, and then see where I can have influence in putting them into a situation where they have the opportunity to shine. So I don’t think—it just sort of happens.

Tacey Ann Rosolowski, PhD

Yeah, comes up on a case-by-case basis as opportunities arise.
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Eugenie Kleinerman, MD
[00:41:59]
Right.
[00:42:00]

Tacey Ann Rosolowski, PhD
[00:42:00]
Yeah, yeah. Thanks for your thoughts on that. Leadership is always an issue that comes up, you
know. I mean, either I ask the question directly, but it’s always sort of a theme in this because
I’m interviewing people who’ve really been active in developing the institution, and there’s no
training in how to be a leader. (laughs)
[00:42:21]

Eugenie Kleinerman, MD
[00:42:21]
No, there isn’t. And my father also said you learn more from negative examples. And I think our
president, unfortunately, is a real negative example. He came in and it wasn’t about—it was
about him. He wasn’t ready to bask in reflected glory. He didn’t get to know the institution and
what was critical to the people. He just assumed that he knew. And, you know, when people
don’t perceive that you have their interest, their passion, you don’t understand them, you know,
it’s tough to be a general leading your troops into battle.
[00:43:10]

Tacey Ann Rosolowski, PhD
[00:43:13]
Mm-hmm. Now, I know you’ve already spoken some about changes in the institutional culture.
I’m wondering if you have anything else you’d like to add about that, or your concerns for the
institution.
[00:43:22]

Eugenie Kleinerman, MD
[00:43:24]
Yeah. I’m very concerned about some of the decisions that are being made. When I first came,
we really didn’t—I don’t want to say didn’t care, but it wasn’t such a premium that we get a
stamp of approval from the NIH. Clinical trials were based on what we knew about patients, the
novel things, the good ideas that we have, vetting it here. We set the tone. We said what was
important. We didn’t let somebody else tell us the way we’re going to do something, how to do
it. And I think it swung—you know, you have to get a paper in Cell or Nature. You need to have
two or three RO1s, you know. You need—why?
When I came, we were not like a medical school. We were not the same. You know, having a Department of Biochemistry that was filled with National Academy members was not our goal. Our goal was to do basic science so that we could understand cancer, so that we could come up with new therapies, so we could cure the patients. And whether the biochemist was defining the mechanism of action and what pathways were targeted by the chemotherapy so that we could figure out or, you know, identifying a new enzyme that would get a paper in Nature, no. And many people came and left because they didn’t like that, which is fine. But I think now we’re moving. We have to have somebody with structural biology, we have to have—and it’s like we’ve lost our way. We’ve lost our focus.

And when I first came, individually you were judged on your contributions to the whole. Now it’s much more focused. In order to get a merit and you’re a research person, you have to have 40 percent of your salary on grants. If you have 39 percent but you’re a great teacher or you’ve served on numerous institutional boards and you really helped us define and—sorry, 40 percent, that’s the rule. I think when you’re a leader, you have to make some decisions that are a little gray, and you have to be willing to make those decisions and stand up to the criticism and say, “I made this decision because I’m your leader and I think this is important,” and not just say, “Well, everybody has to be a cookie cutter.” I’m sorry, cookie. Okay. At Duke they used to tell us—Duke Medical School—“We don’t make cookies; we make cookie cutters.” And that’s where I think MD Anderson was when I first came. We were turning out cookie cutters, and now we’re turning out cookies.

Tacey Ann Rosolowski, PhD
[00:46:41]
Those perfect things that are all the same. (laughs) Just to push your metaphor.
[00:46:45]

Eugenie Kleinerman, MD
[00:46:47]
Yes, and if you’re not the perfect cookie, then you’re going to get, you know, squirted and put into the dough again.
[00:46:52]

Tacey Ann Rosolowski, PhD
[00:46:53]
Right. Well, I’m reminded of—I think it was our first interview session, where you said you discovered at a certain point that you didn’t want to be cooking with other people’s recipes; you wanted to be making up the recipes. (laughs)
[00:47:03]
Eugenie Kleinerman, MD
[00:47:05]
And that’s what we did. We made up the recipes, whether in the laboratory or in the clinical research arena or taking care of patients or developing new—I mean, you know, we were the first to really have a big integrative medicine with the yoga and the—you know. I have a faculty who’s done a great job in designing a nutrition program, but she can’t get funded because it’s not sexy. But I think it’s important. And she can be the leader, but she’s not going to be a cookie, a perfect cookie. And there was always a place for that here, and I’m concerned that there won’t be. It still—but I’m concerned.
[00:47:52]

Tacey Ann Rosolowski, PhD
[00:47:52]
Mm-hmm. Right.
[00:47:54]

Eugenie Kleinerman, MD
[00:47:57]
And I’m concerned that there’s no voice on what we want to be. Do we want to be cookies or do we want to be cookie cutters? And I think there’s too much of a focus on—I understand you have to worry about money, but I think we’re losing a lot of our soul. Maybe older people say that all the time about the institution that they’ve grown up in, so, you know, it’s maybe just a Q.E.D.
[00:48:39]

Tacey Ann Rosolowski, PhD
[00:48:40]
Yeah. Change is really tough. (laughs) Yeah.
[00:48:44]

Eugenie Kleinerman, MD
[00:48:45]
Yeah, but if you have change in a thoughtful manner, slowly. I mean, Dr. LeMaistre told me once, he said, “Genie, MD Anderson is like a 747.”” Remember that was way back when. “You cannot make a quick right turn in a 747. You’ve got to gently turn the path.” It’s not like a little plane where you could go [demonstrates], although in Pediatrics we do have that nimbleness. We can make quick changes because we’re much smaller, and we have. That was when we decided to do family-centered care. We just did it.
[00:49:24]
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Tacey Ann Rosolowski, PhD

[00:49:24]  
Interesting. Yeah. Yeah. Just—I mean, you’ve spoken some about Dr. DePinho, obviously, but I wonder what’s your view of Dr. LeMaistre and also Dr. Mendelsohn? How were they to work with?

[00:49:39]  
Eugenie Kleinerman, MD

[00:49:41]  
Dr. LeMaistre was an amazing man. I’m sure I told you this. He made you feel like you were the only person in the room. He talked to you. I was a little assistant professor. He’d stop and talk to me, never felt he was looking over his shoulder for somebody better to talk. I really felt he was focused on me. In fact, I’m sure I—I believe I mentioned this. My son, we went to an event, and I took my son, who was maybe in middle school, and there was a party, and so Dr. LeMaistre was talking to him and walked away, and he came to me, he says, “I really want to go talk more with Dr. LeMaistre.”

[00:50:28]  
Tacey Ann Rosolowski, PhD

[00:50:28]  
Wow.

[00:50:29]  
Eugenie Kleinerman, MD

[00:50:30]  
So, you know, even a kid. I’d travel with him on Southwest Airlines when we would go for philanthropic events, and I’d see him take out the cocktail party list and memorize who’s the person, the wife, the children. He really had just a very personal touch, and you always got the feeling—whether it was true or not, this was the perception—that he really wanted the best for you. He was thinking about what was good for everybody. He was struggling with the decisions that he had to make in terms of the institution. And so you always felt when he made a decision that you didn’t like, you were confident that he considered all aspects.

[00:51:13]  
Tacey Ann Rosolowski, PhD

[00:51:15]  
Interesting.
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_Eugenie Kleinerman, MD_
[00:51:15] And so that made it a lot easier. “Okay, you know—.” And I can’t even remember some, but there was decisions he made, and you’d say, “Okay, well, he’s the leader. He must have good reasons, and I trust. I trust him.” So I learned a lot on how to deal with people as a leader from him.

Dr. Mendelsohn, when he initially came, he went around with a yellow pad, talking to everybody, listening. Not talking, listening, did a great deal of listening. I always felt it was very easy to talk to him and let him know what my concerns were. As I think I told you, he opened up his house. I said this is what he said, “Okay, we’ll have a party in my house.” So I did feel like there was a partnership. I didn’t agree with a lot of the decisions that he made, and I think towards the end of his term, he became distanced and not attached and was sort of making decisions that I didn’t feel that he was like he was in the first years, so I think he lost some perspective. But I think some of the decisions at the end that he made, he really felt were the right decisions.

[00:52:54]

_Tacey Ann Rosolowski, PhD_
[00:52:58] Are you thinking of something in particular? I’m just curious. Yeah, yeah. I’ve heard from others—

[00:53:05]

_Eugenie Kleinerman, MD_
[00:53:06] Well, I think, all this outreach, MD Anderson Spain and Orlando and all this and international stuff, I don’t understand the rationale, and the superficial explanations that have been given, I’m not confident of. So that’s one of the things. I felt like there were so many things that we need to fix here and yet now we’re diversifying and diluting. I don’t know that that’s the right decision. It may be. But I feel that he made the decision because he felt it was the best thing for MD Anderson, not for John Mendelsohn, but for MD Anderson.

[00:53:55]
Chapter 20
A: Personal Background

Privileged to Work at MD Anderson; An Active Life and Family

Story Codes
A: Character, Values, Beliefs, Talents
A: Personal Background
A: Career and Accomplishments
C: Funny Stories
C: Portraits
C: Personal Reflections, Memories of MD Anderson

Tacey Ann Rosolowski, PhD
[00:53:56]
Right, right. Is there anything else you want to say about presidents or MD Anderson as an institution at this point?
[00:54:05]

Eugenie Kleinerman, MD
[00:54:11]
No. It’s been a privilege for me to be here. I’ve learned a tremendous amount. I’ve got great colleagues. I think we take really good care of our patients, but I’m concerned that that edge is going to be lost. I think we do have to start focusing on the patient experience, I’m thinking about things like that, but that’s going to require leadership at the top to say this is going to take time and we’re going to have to make choices. And I think we have to start putting more resources into the clinical machinery and be more comfortable with the notion that we are not going to be like UT Southwestern, have all these Nobel laureates. I don’t think that should be the mission of MD Anderson.
[00:55:11]

Tacey Ann Rosolowski, PhD
[00:55:11]
Yeah. Is there anything else you’d like to say about how you’d like to be remembered or the legacy that you will be leaving the institution? I mean, you obviously have a number of more years of service, but you’re clearly working towards something here.
[00:55:27]

Eugenie Kleinerman, MD
[00:55:29]
I’d like to be known for transforming the Division of Pediatrics and making it a world-class
center for treating children with cancer. I’d like to be known for being one of the first developers of immunotherapy. Immunotherapy is real hot right now, and I think nobody remembers that, you know, way back when I did immunotherapy, so I’d like to be remembered for that. And I’d like to be remembered for training the next generation of pediatric oncology leaders.

Tacey Ann Rosolowski, PhD
[00:56:20]
Now, outside the walls of MD Anderson, is there anything you’d like to share about your life outside this—

Eugenie Kleinerman, MD
[00:56:28]
I’ve been extremely lucky. I have two wonderful sons, a wonderful husband, forty-two years almost, in August. I’ve just been very, very lucky, very lucky. Houston’s a great city.

Tacey Ann Rosolowski, PhD
[00:56:54]
Is there something you do that’s uniquely you or very surprising that you’d like to share? (laughter)

Eugenie Kleinerman, MD
[00:57:00]
Uniquely me? Well, I play golf. I’m not a great golfer, but I play golf, and I took up golf because my husband is a golfer. Well, he was a tennis player. Then when he injured, he couldn’t, so he had to go back and play golf. And my two sons were playing golf and he was playing golf, and they were gone on Sunday, and I said, “Okay, if I’m going to see my family, I’d better take up golf.” (laughter) So as painful as it was, I was determined I was going to play golf. So it was very hard to take it up as an adult, but I can play. (laughter) And now it’s very nice because my husband and I play golf every Sunday, so it’s very nice.

Tacey Ann Rosolowski, PhD
[00:57:45]
That’s cool.
[00:57:46]
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Eugenie Kleinerman, MD
[00:57:47]
I was an aerobics instructor.
[00:57:49]

Tacey Ann Rosolowski, PhD
[00:57:49]
Really?
[00:57:50]

Eugenie Kleinerman, MD
[00:57:50]
I was, right.
[00:57:51]

Tacey Ann Rosolowski, PhD
[00:57:51]
Huh. On top of everything else.
[00:57:54]

Eugenie Kleinerman, MD
[00:57:55]
Yeah. Well, that was before. I started that before I became division head, so it was about ten
years. And then I would body-pump, I don’t know, that’s a—
[00:58:02]

Tacey Ann Rosolowski, PhD
[00:58:02]
Oh, yeah.
[00:58:03]

Eugenie Kleinerman, MD
[00:58:03]
So I was a body-pump instructor, and I guess I stopped doing that about 2004, because I just
couldn’t fit in. You know, you’ve got to get there at class, whatever.
[00:58:14]

Tacey Ann Rosolowski, PhD
[00:58:15]
Sure. Yeah, yeah.
[00:58:15]
**Eugenie Kleinerman, MD**

[00:58:15]

So actually, okay, funny thing. So I told my husband, “I’ll take up golf, but then you have to take dancing lessons,” ballroom dancing lessons, because I love to dance. So he said, “Okay.”

[00:58:31]

**Tacey Ann Rosolowski, PhD**

[00:58:32]

All right!

[00:58:33]

**Eugenie Kleinerman, MD**

[00:58:33]

So while I was learning to play golf, we were also taking dancing lessons. Now, somehow that fell off the radar screen. (laughter) I’m still playing golf, but it’s my fault, I guess, because I had to book the lessons.

[00:58:45]

**Tacey Ann Rosolowski, PhD**

[00:58:51]

Well, it sounds like you’re very much a sports-minded, activity-minded person.

[00:58:54]

**Eugenie Kleinerman, MD**

[00:58:55]

I am. Oh, yeah. Oh, yeah. I love baseball, love baseball, so got my younger son involved in baseball, and that was something that I really enjoyed, going to practice as well. I used to go to practice, and I’d have my pile of grants, so I’d be reading grants. (laughter) Except when he was a pitcher, and then I was counting pitches, you know, because I didn’t trust the coaches.

[00:59:19]

**Tacey Ann Rosolowski, PhD**

[00:59:20]

(laughs) That’s really funny, reading grants at practice. That’s funny. (laughs)

[00:59:24]

**Eugenie Kleinerman, MD**

[00:59:25]

So that was something that’s very special that he and I had together.
Tacey Ann Rosolowski, PhD
[00:59:30]
That’s very cool.
[00:59:31]

Eugenie Kleinerman, MD
[00:59:31]
Yeah.
[00:59:32]

Tacey Ann Rosolowski, PhD
[00:59:32]
And your sons’ names, just for the record.
[00:59:33]

Eugenie Kleinerman, MD
[00:59:33]
So my oldest son is Richard, and my younger son, the baseball player, is Andrew. My older son is a violin player, so with him I was driving to violin lessons.
[00:59:44]

Tacey Ann Rosolowski, PhD
[00:59:46]
Okay. All right. Well, is there anything else you’d like to add?
[00:59:48]

Eugenie Kleinerman, MD
[00:59:49]
I don’t think so. I think you’ve pretty much covered everything.
[00:59:52]

Tacey Ann Rosolowski, PhD
[00:59:52]
Well, it’s been a real pleasure talking to you, Dr. Kleinerman. (laughter)
[00:59:55]

Eugenie Kleinerman, MD
[00:59:55]
Oh, thank you. Thank you. As my husband says, “Talking about my favorite subject: me.” (laughter) Which I don’t feel the same way, but—
[01:00:04]
Tacey Ann Rosolowski, PhD
[01:00:05]
Well, often people are very surprised about how much they have to say on even that subject. (laughs) But it’s been really, really a delight to talk to you.
[01:00:13]

Eugenie Kleinerman, MD
[01:00:13]
Thank you. Thank you very much. Thank you. good luck to you, and I can’t wait to see the final product.
[01:00:17]

Tacey Ann Rosolowski, PhD
[01:00:17]
Thanks. Well, I’m closing off the interview, and the time is 10:47, so thank you very much.
[01:00:28]

Eugenie Kleinerman, MD
[01:00:28]
Thank you.
[01:00:28] (End of Audio Session Four)