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Elizabeth L. Travis, PhD

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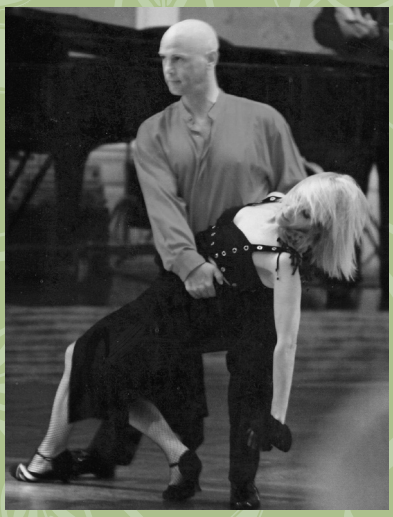
Elizabeth helped son Scott celebrate his graduation from Lamar High School in 2005.



Elizabeth and her dance partner William were a big hit at the River Oaks Country Club, where they danced the tango at a Spotlight performance in December 2006.

In October 2007, Elizabeth enjoyed the wedding of Jerry Hyde's daughter Sarah to John Williams. Flanking them at left were Elizabeth's son Scott and Jerry's son Jonathan, while siblings Anna and Stephen Hyde are at right.

(Scott Cramer Photography, Vail, Colorado)

As a young girl, I never imagined that I would one day be doing something that I love and get paid to do it. Growing up, my first loves were music and dance, and they still remain my passions, particularly dance. But as I went through school, I discovered that I also enjoyed studying and getting good grades. My father was an avid reader and I grew up in a home filled with books, so this love of learning was not too surprising. I was also highly competitive and a fierce spelling bee competitor in elementary school, a result of Sunday night Scrabble games with my family. Only straight A's were acceptable to my parents and me. The only class I managed to almost fail miserably was home economics — clearly an ominous sign for my domestic future!

I grew up in Wilmerding, Pennsylvania (population 5,000), one of those small, unremarkable mill towns 10 miles to the east of Pittsburgh. I am the older of only two daughters but was raised in a large Italian extended family with blurred boundaries between first and second cousins, aunts and uncles, and great aunts and uncles — we were all just family. I am a second-generation Italian-American (LaTorre is my maiden name) and proud of my heritage. I love being Italian! One of my goals is to speak the language fluently and spend at least three months a year in Italy when I retire.

My parents were born in this country, and both of them finished high school but neither went to college. My maternal grandfather built a small, successful family-run bar and grill in my hometown, and my maternal grandmother, a homemaker, also helped run the business. My father worked there full-time, and my mother, on weekends only. My father (now deceased) was a bartender (and a good one, since he was a good listener). My Mom always worked from home to supplement the family income. She was a seamstress with impeccable taste and made most of my sister's and my clothes. I credit her for my love of fashion! She did not work outside the home until I was 16. Although not a professional woman, she was the role model of a working mom for my sister and me. I had a happy childhood. Nevertheless, there were difficult times; money was not plentiful although my parents shielded us from their worries. They both were hard working (my mother, now 86, still works part time!), always striving to better the world of their family. Thus, my sister and I were taught a strong work ethic and to always "reach high."

I developed a love of problem solving in junior high school. One of my teachers during those years told my parents "Elizabeth should go to college!" Even though I was a straight-A student, my parents were a little surprised; they just had not thought about it. At that time, only three family members (my cousins) — all male — had graduated from college, although their sister had not. In fact, no *woman* in the family had attended college — I would be

the first! But from then on, my parents' goal was that both of their daughters be college graduates (which we both are), although neither they nor I had any idea what that entailed besides a lot of money.

Though small, my hometown of Wilmerding prided itself on the excellence of its public schools. In high school, I chose the college track and in Mr. Smith's 10th grade biology class fell in love with science. He was an unforgettable teacher whose enthusiasm and love of science was so infectious that many of my classmates eventually chose medicine, science or engineering as a career — a testament to the power of one teacher to make a difference in the lives of young people.

So I wanted to study science and be a scientist, although I had no clue what that meant! But I remained drawn to the world of dance. I had taken dancing lessons from the age of 5 and, although I loved it, in the end I chose science. My goal was to attend the University of Pennsylvania, but my parents were more comfortable sending me to the same school that my three cousins had attended, Indiana State Teacher's College (now Indiana University of Pennsylvania) in Indiana, Pennsylvania. Of course, I was going to be a teacher because "You can always get a job if something happens to your husband!" I was excited about college and approached it with enthusiasm mixed with a little apprehension, but the excitement won!

I knew that I did not want to teach and dreamed of "working in a lab," but I nevertheless attended this college and took every science course available. And it was during these years that two remarkable things happened. First, my cell biology professor encouraged me to consider graduate school, which was back then a "black hole" to me. Second, I enrolled in an elective course in radiation physics and biology in my junior year — and I was hooked! Fate further intervened when, through my father's personal physician (who unbeknownst to us was a faculty member at the University of Pittsburgh Graduate School of Public Health in the Department of Radiation Health), I was offered a summer job in the lab he shared with his collaborator, Joe Watson. My dream of working in a lab was finally a reality.

So began the path that led to my current positions at M. D. Anderson Cancer Center, though the course was anything but linear. I meandered down a "long and winding road" in which fate and calculated risk-taking played major roles. After graduating from Indiana State College, I was accepted into the University of Pittsburgh Graduate School of Public Health, working in the lab of Joe Watson. However, before I could complete my master's degree, I married another graduate student (thus the name Travis) who became an officer in the Navy and was stationed in Charleston, South Carolina. Leaving Pittsburgh with him did not allow me sufficient time to complete my master's thesis in radiation biology, so I reluctantly settled for a master's in education rather than get no degree. At that time, long-distance

marriages for professional reasons were unheard of. This was one of the few times in my life when I did what was expected of me. I realized that even if I were a teacher, my "primary" role would be wife and, probably, mother. I soon discovered that this was not the right road for me.

The first year I was in Charleston, I taught high school biology, just as my Dad had suggested, and found that I really enjoyed it. However, an opportunity to work in the Radiation Therapy department at the Medical University of South Carolina (MUSC) that summer took me down a different path. I just wanted to work in a lab again, but the department was looking for someone with a radiation biology background to set up a lab and design a course for the residents. I had no experience doing either of these things, but they offered me the job, and, despite my concerns that I was unqualified, I accepted. I assumed they were desperate, but I knew that I could only learn. Halfway through the summer, they offered me the position permanently, and I declined but immediately realized that I had forfeited a once-in a-lifetime opportunity. The next day, I sheepishly admitted to them that I would like to accept the position if it were still available. Taking this risk turned out to mark a pivotal point in my life and my career, and it is one of the major decisions that put me on the path to M. D. Anderson. The experiences, the opportunities, the people I met in the radiation oncology/biology world, the exposure to radiation as a treatment for cancer — all these were crucial to my career. During this time, I published my first major work, "Primer of Radiobiology," a textbook aimed at radiation technologists and radiology residents, for whom there was no appropriate text at that time.

To further sweeten the deal, I applied to the graduate school at MUSC for a Ph.D. in experimental pathology and studied with Rusty Harley, a pulmonary pathologist at MUSC. I considered returning to the University of Pittsburgh to study classical radiobiology with my former mentor, Joe Watson, but true to the meaning of the word "mentor," he sagely advised me that I would have more opportunities with a degree that married radiation biology with experimental pathology than I would have with a classical radiobiology degree, so I stayed at MUSC. The man had a crystal ball! Although the normal tissue complications of radiation therapy were well known, at that time there was increased interest in this area of radiobiology research, particularly for the so-called "late responding tissues," of which lung is one. The decision to pursue a Ph.D. in experimental pathology thus proved to be another pivotal career decision. Unfortunately, my marriage was a casualty of this period, so while pursuing my degree I continued to work, which prolonged the time to achieve my goal but allowed me to achieve it.

When I graduated from MUSC in 1976 with a Ph.D. in experimental pathology, I realized that this degree alone would not be sufficient to enable

me to secure independent funding for my research and, further, that without more training in this field, I would never be taken seriously as a radiation biologist/pathologist. So, I applied for postdoctoral positions in world-class radiobiology labs. My Dad had always taught me that "they can say yes or no, but, if you don't ask, you won't get anything." I had begun to train my sights on M. D. Anderson for my future, as it was the home of Rodney Withers, an M.D. (pathologist) and Ph.D. and the leading expert in normal tissue radiobiology.

I wrote to a world-famous radiation pathologist at the Hammersmith Hospital who, unfortunately for me, was retiring at that time but graciously forwarded my letter to Jack Fowler, the director of the Gray Laboratory. Much to my amazement and surprise, Jack made me an offer, sight unseen, to come to the Gray Lab for one to three years in a position as a lecturer at the University of London, a fancy title for a postdoc. My training in pulmonary pathology was key, as the Gray Lab had begun to focus on radiation damage in less-studied normal tissues. I immediately accepted this opportunity to study in this world-renowned laboratory in my field — undoubtedly the single most important decision I made personally and professionally. The opportunity to live in England (I had never been abroad) and study at the Gray Lab was a dream come true! Again, I was absolutely certain that if I did not accept this opportunity, I would regret it and always wonder "what if?" I knew absolutely no one at the lab or in England for that matter, but that was unimportant. I have always had a sense of adventure.

Jack Fowler is a remarkable man, a terrific scientist, and an exceptional mentor and advocate. Jack taught me how to ask questions. Whenever I went to his office with an idea, he would say "What's the question?" He taught me about scientific inquiry, how to design experiments, and how to write papers. I learned finally what a scientist did and really how to do it. I was also surrounded by some of the best minds in the field at the time. My main goal was to become known as an expert in normal tissue radiation damage, specifically, radiation-induced pulmonary fibrosis and pneumonitis. With the help of many talented people in that lab, I succeeded in becoming known as Liz "lungs" Travis.

It was during this time that I encountered the first serious challenge in my career. While at the Gray lab, I developed a novel assay for radiation-induced lung damage that then represented a paradigm shift and was viewed with skepticism, if not outright disbelief. The paper was initially rejected, but I did further experiments and the work was subsequently published. The assay in question is now a standard technique in studying pulmonary injury after many types of insults. This experience taught me to persevere and to "do what is necessary to publish your data." To wit, the experiment is not finished until the data are out the door.

I stayed at the Gray Lab for all three years, living sometimes in rather awful conditions but knowing deep in my heart that this was the right thing to do. It was the experience of a lifetime and one that I will always cherish, both professionally and personally. I made friendships during this time that are sustained to this day. This was truly the training that positioned me for my recruitment to M. D. Anderson.

From the Gray Lab, I accepted a position in the Radiation Oncology department at the National Cancer Institute (NCI) in Bethesda, Maryland, and, then, in 1982 I was recruited to M. D. Anderson, another dream come true for me. M. D. Anderson had a long and outstanding reputation in normal tissue radiobiology, and I was honored to come here. I joined the faculty as an associate professor on the tenure track, was tenured in 1985, and was promoted to professor in 1988 — a career trajectory that I ascribe to my years at the Gray Lab and the NCI. I wrote grants, published papers, and had a wonderful lab with great technicians, students, postdocs and fellows. I really loved what I was doing and where I was doing it. Mostly, it was great fun. I was the only woman faculty member in the department.

Although married briefly, I had no desire to do so again, but I began to wonder whether I would be happy without children. I actually had never imagined myself as a wife and mother, but after my sister had a son, my psyche started churning, weighing the pros and cons of whether to have a child. My epiphany was actually driven by science and occurred the morning after a site visit for our P01 grant, the second one where I presented my research. The site visit went well, but it made me realize that science alone, as much as I loved it, would not be enough for me in life. So I decided to have a child and knew, yet again, deep in my heart and soul that if I did not do this, I would forever regret it. And I know this even more now that my son, Scott Phillips, is 21.

So how did I, a single mother and a professor with a busy lab, manage my household and career and raise a child? First, I made a clear decision that my son was a priority. Moreover, I decided that I was not going to miss out on this wonderful experience, especially as everyone told me how fast children grow up, and they were right. Convenience to the institution guided my lifestyle. We lived within two miles of the medical center in a family-oriented neighborhood complete with programmed summer activities for kids. Schools, doctors and dentists were all in proximity. The other necessities and tasks of daily life, such as housecleaning, yard work, etc., I paid others to do. Bottom line? Get as much help as you can afford. I started with a live-in nanny who also cooked dinner, a real lifesaver.

I also realized that I would have to prioritize my work life. For example, I carefully chose which out-of-town conferences to attend and which institutional committee appointments to accept. I tried to have breakfast

and dinner with my son every day and considered early morning or late evening meetings to be decidedly family unfriendly. My office policy in my new position is "no meetings before 8 or after 5." I always tried to be home by 5 p.m., but the dinner hour got progressively later as Scott got older, and this is the only complaint he has ever vocalized about his working mom (though I am sure there are many more). As a survival tactic, he learned to cook and is a great cook, a highly desirable trait in a man! Because I am a night owl, I would work after he was in bed, but the hours between my arrival home and his bedtime were devoted to him. Still, he grew up with the impression that I worked too hard. I think one of my gifts to him is that he knows that I love what I do and that for me it was and is "not work." Scott is a rising senior at UT Austin in the McCombs Business School. He also loves what he is doing. My son is my legacy, and I would have been saddened to have missed the wonders of having and raising him. For me, it has been a thrilling, life-enhancing experience. Did I forfeit some career opportunities? Yes, but I always knew that I could not simultaneously grow a department and a child as a single mother. Knowing my priorities always made difficult decisions clearer, although not necessarily easier.

So I continued my journey here at M. D. Anderson, making this my scientific and professional home for my whole career. I have no regrets. During most of these years, my life was quite frankly centered on my son and my science, with the rest of my free time spent with friends and my family, with whom I am very close. My sister and her family and my mother live in Clearwater, Florida, and I still escape for a week each summer to visit them, sit in a cabana on the beach, eat grouper sandwiches, watch the water, and generally re-charge my batteries. I have discovered that there are certain things that are truly at your core; besides science, mine are lying on the beach, reading and dancing. I have learned to respect and to nurture this core.

When Scott left for college, I had time to resurrect my passion for dance, and I now take ballroom and Argentine tango lessons. Dancing feeds my heart and spirit and is also good for my body and a great stress reliever, although my competitive instinct and desire to do better rear their heads even in what is supposed to be just fun! I also was fortunate to meet a wonderful man, Jerry Hyde, who has nothing to do with science or medicine. We have merged our families — my son Scott and Jerry's four children! Now that all of the kids are out of the house, traveling is one of our favorite pastimes. Jerry has a wonderful sense of humor; at one event, he referred to himself as my "tenured" boyfriend, only to be reminded by my colleagues that our tenure is renewable!

At every phase of my career, I had mentors who were teachers, became friends and taught by example how to be a mentor. I have long appreciated

and will always be grateful to those individuals, all male, who guided and taught me during this journey and had faith in me that I myself did not have, starting with my 10th grade biology teacher, my first mentor. My mentors at the Gray Lab taught me another valuable lesson: how to balance work and life and still maintain highly successful careers. They never forfeited vacation days! I am not sure why this seems to be impossible to do now.

Since my graduate education took place between 1970 and 1976, it is also not surprising that none of my mentors were women. All of my male mentors were wonderful, but the lack of female mentors who successfully combined science and a family did not provide a model for this lifestyle. Fortunately, this is not the case today, as many outstanding women physicians and scientists are able to blend a successful career with marriage and children, although it is still not easy. I "grew up" in science when gender bias was alive and well. My first real encounter with this issue was in graduate school at the University of Pittsburgh School of Public Health. In the program of 20 graduate students, I was one of only two women. Not all of the professors agreed that women belonged in science, and one in particular made it quite clear to both of us that he thought teaching us was a waste of his time and that we were taking up space that should belong to male students. This was an astonishing attitude, since the field of radiation sciences included Marie Curie, the only woman ever to receive two Nobel prizes.

I also encountered salary bias in one position, but my department chair rectified this after I questioned why he had offered a new male employee with the same credentials and experience as I had more money than I was making. His reason? "He (the male employee) has a family to support." Fortunately, such justification is no longer acceptable or legal. I was very uncomfortable having this "difficult conversation" with my chairman, especially because I was very junior, but its successful outcome has helped me conduct other difficult conversations that inevitably occur throughout a career. I encourage (and mentor) women faculty to have these conversations when necessary.

It was not until I went to the Gray Lab that I really worked with other women in science. Unfortunately, this, too, was not always a pleasant experience and actually surprised me. But women also have gender bias issues, a well-known phenomenon in our world. Even so, it was still refreshing to be around these wonderfully successful women, who were professional role models for me. Except at the Gray Lab, I was the only woman professional in the departments where I worked. This was the case both at the NCI and in my department at M. D. Anderson at the time of my recruitment. Today, my scientific department, Experimental Radiation Oncology, has 50 percent women faculty. I think that lone women in departments tend to isolate themselves from their colleagues for a variety of reasons. I did this

to some extent because, as a single mother, I thought I did not have time for chatting, and I had to work fast and hard so I could leave by 5 o'clock with a minimum of guilt! That isolation proved to be a serious error in judgment and one that I urge busy women faculty not to repeat. When I needed supporters, there were none, and that was a painful experience.

My personal journey in science has in many ways been unconventional — full of twists and turns, good luck and calculated risk taking, coupled finally with determination about my goals and an awareness of how to obtain them. I am fortunate that my parents were always supportive throughout my wayward career, although occasionally skeptical of my choices. I have no pat answers for how to balance personal life and work or advice on the best time to have children. I had my child when I was a tenured professor, which allowed me more flexibility than as a graduate student, but having children past "prime time" in itself presents unique challenges and considerations. I can only suggest that you listen to your heart and your gut — in my experience, they have never let me down. Decide what's important and don't lose sight of it. But, mostly, love what you are doing.

Recently, I again followed my heart by accepting the position of Associate Vice President for Women Faculty Programs here at M. D. Anderson, a new endeavor that presents challenges different from those of running a research lab. My lab is still active and funded, but the scope of the work is reduced. My priority these days is to champion women faculty at the institution. I try to spend Fridays in the lab, as it remains my "roots," and I still derive pleasure and satisfaction from research. But I also feel that, for me, it is time to return a little of what this wonderful career has given me and to provide opportunities to help others achieve their full potential. I am fortunate and grateful for this new opportunity, in which my "day job" is once again something that I love doing and that I hope will make a difference in the lives of others.

Cheryl L. Walker, Ph.D.

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