



ORAL HISTORY PROJECT

**Ruth A.
Lawrence, MD**

**Interviewed by
Lori Feldman-Winter, MD**

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Rochester, New York

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Preface	i
About the Interviewer	ii
Interview of Ruth A. Lawrence, MD	1
Index of Interview	81
Curriculum Vita, Joan E. Hodgman, MD	83

PREFACE

Oral history has its roots in the sharing of stories which has occurred throughout the centuries. It is a primary source of historical data, gathering information from living individuals via recorded interviews. Outstanding pediatricians and other leaders in child health care are being interviewed as part of the Oral History Project at the Pediatric History Center of the American Academy of Pediatrics. Under the direction of the Historical Archives Advisory Committee, its purpose is to record and preserve the recollections of those who have made important contributions to the advancement of the health care of children through the collection of spoken memories and personal narrations.

This volume is the written record of one oral history interview. The reader is reminded that this is a verbatim transcript of spoken rather than written prose. It is intended to supplement other available sources of information about the individuals, organizations, institutions, and events that are discussed. The use of face-to-face interviews provides a unique opportunity to capture a firsthand, eyewitness account of events in an interactive session. Its importance lies less in the recitation of facts, names, and dates than in the interpretation of these by the speaker.

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ABOUT THE INTERVIEWER

Lori Feldman-Winter, MD, MPH, FAAP

Dr. Lori Feldman-Winter is a graduate of Washington University in St. Louis, Albert Einstein College of Medicine, and completed internship and residency at the Children's Hospital of Philadelphia (1989). She joined the University of Medicine and Dentistry of New Jersey and focused her clinical and academic interests in nutrition and adolescent medicine.

It was just after the US had signed onto the World Health Organization Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding that Dr. Feldman-Winter met Dr. Ruth Lawrence, one of the world's experts on breastfeeding medicine, who inspired her career in research and education related to breastfeeding and human lactation. She is currently Professor of Pediatrics at Cooper Medical School of Rowan University, and is Division Head of Adolescent Medicine.

Interview of Ruth A. Lawrence, MD, FAAP, FAACT

DR. WINTER: OK. Can you recite your name for me?

DR. LAWRENCE: Ruth Anderson Lawrence.

DR. WINTER: I just want to say thank you so much for participating, and it is my privilege to be part of this project. Really, I'm honored.

DR. LAWRENCE: Well, it sounds like fun, and it sounds very interesting. So, thank you for coming all the way to upstate New York.

DR. WINTER: It's my pleasure. It's great to be here. So, I'm just going to say for the record that I'm here conducting an oral history project for the American Academy of Pediatrics on Ruth Anderson Lawrence. Welcome, Dr. Lawrence.

Why don't we start from the beginning? If you could just describe for me where you were born and raised, and tell me a little bit about your family, your siblings, and your friends, and maybe even how they might have influenced you growing up?

DR. LAWRENCE: OK. You got all day? (Laughter)

DR. WINTER: Yes, we do. (Laughter)

DR. LAWRENCE: Well, actually I was born in Brooklyn. I never used to admit this, but I was born in Brooklyn. I was the second child of my mom and dad, and my father was a research electrical engineer in the 1920s. He invented some very important parts of the radio.

I don't remember anything about living in Brooklyn, of course, but my mother tells me that she stayed 2 weeks in the hospital. She almost bled to death when I was born. But she had plenty of milk, and she breastfed me and dozens of other babies. Every day, they would just keep bringing her babies whose mothers didn't have enough milk, and she would nurse them as well. So, she was very into breastfeeding and wouldn't have thought of doing anything else. But of course, in those days, babies were fed raw cow's milk, or evaporated milk and Karo syrup. I'm told I was breastfed.

We moved up to Westchester County, and I remember when I was about 3 years old living in this little bitty house on Sarles Lane. After we moved out, it was turned into a chicken coop. My mother's friend always asked me where I lived, and I would say, "Tharlth Lane" They thought that was pretty

funny, because I couldn't say "s." So, I was so happy when I moved and I had a different address.

It was my older sister, 2 years older than I, and my mother and dad. At that time, my mother was a homemaker, and my dad commuted into New York City every day on the train. Then we moved to a bigger house out in what was known as Pocanico Hills just north of Tarrytown. We rented a big English Tudor house from the Stillmans, and we lived on the Stillman estate. Now, the Stillmans were similar to the Rockefellers in terms of the impact, like Henry Ford. They were the big bankers, and the big, wealthy people. We lived out on Route 100, and all the rest of the estate was across the street. We lived on 100 acres, and had orchards and barns and all sorts of things. We were pretty isolated. My mother would drive my dad to the train every day, and he would take the train into New York. She'd go back and get him at night, and that was sort of the family routine.

I went to school at Pocanico Hills when I was 6 years old. They sat us 2 children to a seat, and the little boy I was seated with had a terrible, terrible cough. The next thing I know, I had pertussis. My mother took me out of school. She took my older sister out of school, because she was so angry that they allowed this child to come to school with this dreadful diagnosable disease. I can remember sitting in my bed and looking out the windows over the fields with the horses grazing, coughing myself to death. I still remember coughing and choking and gagging, and thinking that maybe my insides were going to come out.

Because the immunization had just become available, I had gotten one shot. So I didn't have it as bad a lot of other people did, and I was not hospitalized. My sister had gotten 2 shots I guess, and so she didn't get it at all. I was very sick. But we lived, you know, in the country.

My father, interestingly enough, had not been in World War I because he had very poor eyesight. He felt very inadequate, so he learned to shoot. We were out in the country, so he set up a rifle range up at the top of the hill, way, way out of the way to be safe and everything. And then he had a rifle range in the bottom floor of the barn for indoor shooting. He taught all the troopers and the local policemen how to shoot. So I knew how to shoot myself when I was 5 or 6 years old.

My father used to make his own bullets; I would help. I wonder why I didn't get lead poisoning, because he had this little thing he melted lead in, and, you know, he'd put the shot in the bottom of the shell and then pour lead in it. When lead splats on the ground, it makes a shape like a snowflake, only it's made of lead. My sister and I would pick [them] up and play with them all the time. I wonder what my lead level was.

So we were out in the country and didn't have many friends. There was nobody to be a friend with. And of course, my mother didn't let me go back to school when I got over the whooping cough. So I learned to read and write and do math at home. And then, of course, there's a New York state law, when you turn 7, you must go to school. So when I turned 7, we went to school in Briarcliff Manor and eventually moved to Briarcliff. But, my mother would drive us there. She'd come home, get us lunch, and drive us back. It was incredible, now that I think about it. But I got there, and they said I hadn't been in kindergarten, I hadn't been in first grade, [and] I hadn't been in second grade. But they figured I'd do well in third grade. So they put me in third grade, and they put my sister in fourth grade. And that's where I started my formal education: third grade.

We moved to Briarcliff. We left that beautiful countryside, and moved to the town of Briarcliff Manor, which had a wonderful school system. Everybody who went to school in Briarcliff got all the pencils and paper and equipment they needed. You didn't have to buy your own. The school provided it, because some philanthropist who lived in Briarcliff left money so that every child who ever went to school there would not have to struggle to buy pencils and, for some, books, which was quite interesting. Most of the people who lived in Briarcliff were very wealthy and owned big estates

Anyway, the Depression came along, and the industry that was driving the economy at that time was the car industry and the radio and electric industry. My father lost his job. And, in those days, there was no welfare. There were no food stamps. There was no safety net. What you didn't have, you didn't have. And so, I can remember the first thing my parents did. We were still on the Stillman estate in that big house, and we had a coal stove. My mother and dad started making caramels and selling them door to door. They would cook on the coal stove. You had to put coal in the stove and balance the heating and everything. It was a good way to make caramels, because then you kept control of the sugaring and stuff. Margaret and I would wrap each caramel separately with our dirty little fingers. (Laughter) Margaret, of course, is 2 years older, and she was so prim and priss and perfect. She thought I was a slob.

So they were making money selling caramels, running up a terrible bill for heavy cream with the dairy, who delivered milk and cream. Then, of course, we couldn't pay the rent. So we finally were dispossessed off the Stillman estate and that's when we moved to Briarcliff. My father had several jobs. He was a night watchman on a construction project and all sorts of awful things. And here was this brilliant mind, who had this incredible ability to create and invent things.

We finally moved to Briarcliff, and he was able to open a shop. He made radios and repaired radios and developed radios, and we actually had crude

television in our basement when I was a kid. He also had developed an “electric eye.” Now, you don’t think anything about an electric eye. You walk through a door, it opens, and you don’t think twice about it. When I was a kid, that was unheard of. My father fixed up an electric eye in our basement. When we walked through the beam, he knew we were coming, so we couldn’t sneak into my father’s research area without him knowing it. (Laughter)

We were exposed to that sort of advanced technology as my father struggled to make a living and make ends meet. Things seemed to be coming together. We went to Briarcliff schools, which were excellent. And then, I had a little brother. I was 5 years old when he was born. He, too, eventually went to school, and he, too, was breastfed by my mother. And, because there was a 5 year age difference, I had a certain amount of responsibility for him.

My father was in a very bad accident. We lost him, and my mother was widowed, with 4 children. My sister had been born, and wasn’t a year old. She was 10 years younger than I. And so, there was my mother in this big house with 4 children, a very young baby, no job, and a high school education. She had wanted to go to college, but my grandmother didn’t think nice girls went to college. So she was told she could go to teacher’s training school if she wanted, which of course now are all the SUNY [State University of New York] schools and places like that. Before she got married she joined the Army in World War I, and we had a picture of her in the *New York Times* rotogravure section, front page, carrying the American flag down Fifth Avenue. She said, they “fought the Battle of Broad Street,” which meant that they did all the clerical work for the Army on Broad Street, which intersects with Wall Street in New York City. So anyway, she had learned some skills like that, but here she was now, years later, with 4 children and the youngest being less than a year, and no job, no income, no insurance, nothing. No safety net. I mean today, we have all these things. You just run downtown and sign up. And there was no place to go. Catholic Charities had a little bit of help and would give you a voucher of \$10, or something like that, just for food.

By that time, I was 10 years old, and I knew how to cook and sew and to babysit, and I began babysitting for other people’s children. I often babysat for children who were older than me, because I was 2 grades ahead, and nobody knew how old I really was. So I would get hired, get 50 cents for sitting there all night and feeding children who were older than me. That’s how my sister and I pitched in to, you know, put a roof over our heads, by babysitting.

And then we were in 7th and 8th grade, and Margaret and I both knew how to sew. We made evening gowns for the faculty, because they always had to go and chaperone at high school dances. Chintz was very popular at that time. You know, the kind of brilliant patterns that you make curtains out of today.

Well, they made dresses out of them in those days, and we would make these beautiful evening gowns out of this gorgeous chintz. The faculty member would buy the fabric, the thread, and the zipper, and we would sew them together. And we got \$10, 10 whole dollars. Believe me, that paid a lot of rent. Between babysitting at night and occasionally cleaning house for a faculty member, I helped my mother make ends meet. I hated to clean other people's houses. Wasn't too happy about cleaning my own, either. [Laughter] Occasionally, I would clean houses.

Finally, my mother was teaching herself shorthand and typing and all of this and trying to learn to be a secretary, and she already was a very good tennis player. She had taught herself to play tennis when she was a teenager, and, when we were little children and doing all right, she was in all the local tennis tournaments and always won them. We had all sorts of tennis awards at home. So, she got a job as a tennis coach in a private school in the neighborhood and got a small salary for that. They didn't pay a lot, but it paid the rent.

And so, we children went to public school and we did pretty well on our New York State Regents exams. And finally, –when I was going to be a junior and my sister was going to be a senior, they offered us a scholarship to this private school, which we accepted. We went tuition-free, got lunches and whatever, and that meant that we all were in the same place as that's where my mother taught. Mother could pack up the car in the morning, and drive to school, with all her children. She knew where they were. Because otherwise, she'd been going out to the job, and we'd be home. I'd be taking care of the children, buying the groceries, trying to put food on the table, babysitting at night, and doing whatever. So this was really great.

DR. WINTER: It was a non-denominational, private school?

DR. LAWRENCE: Yes. It was Scarborough School. It was right on the Hudson River. It had a wonderful football team, and, oh my goodness, all those sort of things. My mother taught tennis, and, then in the winter, they wanted to teach badminton. Well, she didn't know anything about badminton, but Margaret and I were in high school. We knew how to play badminton. So, we taught my mother how to play badminton in our living room at home. She coached the [school] team, and her team beat our team, if you can believe it. She was a very good coach.

So anyway, that's how we stivered along while I was in high school. Scarborough was a wonderful school. I took courses I wouldn't have gotten in public school. One of them was journalism, and the faculty member who taught journalism was Ms. Hallick. I thought she was old, old, old. She was probably 60. But she had been a reporter for the *New York Times*. And she taught us journalism in *New York Times* style, which was perfect. You do

everything perfectly correctly, and opinion appears only on the editorial page, not throughout the paper and all of those sort of things.

DR. WINTER: That's how it used to be.

DR. LAWRENCE: Exactly.

DR. WINTER: Not the current *New York Times*. [Laughter]

DR. LAWRENCE: Well, so we had a wonderful experience. That was one of the best courses that I ever took. But I took Latin in high school, too, and I never appreciated the English language until I took Latin and learned that you actually conjugate and decline words. It helped you structure grammar and everything that you never quite understood in English because you were so used to saying it some way or other.

My mother, of course, was a perfect speller. I wasn't so good at spelling, but she could spell a word she never heard of perfectly. And things like grammar and punctuation, she knew to the letter. So she eventually became a secretary. She said, "You know, I can't play tennis with these children anymore. I can't coach tennis anymore unless I can play with them. And I've got to do something else." So, she became a secretary, took the government test, and became a GS-4. I took a similar test to work at Fort Dix after my internship, when Bob [Robert M. Lawrence] came home from Korea. I was GS-11. My poor, dear mother worked so hard and everything. She was a very good secretary, and that's how she supported herself the rest of her life.

But we children had to earn our own money, if we wanted to buy something. And we had to earn to help out. Babysitting and housecleaning were all girls could do. Girls couldn't even sell the *Saturday Evening Post* or have a paper route. It just was for boys in those days.

DR. WINTER: Did you have time for hobbies growing up?

DR. LAWRENCE: I wouldn't call them "hobbies." [Laughter] Well, I learned to swim; passed all the swimming tests and that sort of thing. I didn't learn to play tennis, because I'd be home babysitting the 2 younger children while my mother was teaching somebody else's children to play tennis. So, I never became terribly good in tennis, but I was very athletic in school. I was the one on the varsity basketball, field hockey, and whatever team. In track, I ran hurdles.

I didn't have much down time. We learned to sew; if we had a little time on our hands, we sewed. We gave Christmas gifts at Christmas time that we made ourselves. And I can remember knitting when I was about 7 or 8 years old. You could make a bed shawl. What you did was you knit a cuff and then

you purred and purred and purred until you got this sort of scarf-like thing to go over their shoulders, and then you made another cuff. So you put your hands in the two cuffs, and you had this little bed shawl. I made those for all my aunts. And we made doilies. My sister was very good at crocheting, and she made lacelike doilies. You go into her house and there would be doilies everywhere.

You probably don't remember -- but they used to sell 50 cigarettes in a metal tin. Just one layer of cigarettes. And they were always nice metal tins. They were gold-trimmed, and they said "Chesterfield" across the top, or "Lucky Strike," or something like that. And we would collect them, because people would throw them away. We figured out that an ordinary picture postcard fit right inside the gold band on the box. We collected picture postcards that people threw away, and we would glue them onto the top of the box and shellac them. And so here, now you have a gold-rimmed box with this beautiful picture on it. We sold them at Christmas time.

DR. WINTER: Wow, so you invented your own arts and crafts?

DR. LAWRENCE: Yes. Yes, we did that, and then we gave them for Christmas presents and did other things like that. I learned to cook and bake, and everything. We made everything from scratch. My mother was not a proponent of "easy do." I belonged to the Girl Scouts, learned how to tie all those knots, passed First Class, and went as high as I could go. A neighbor gave me her daughter's old uniform, so I'd have a uniform. But it'd been through the wash a few times. We have pictures of everybody -- of the troops standing there -- and here's me in this pale green uniform and everybody else in their bright uniforms.

DR. WINTER: When you sew, did you have a sewing machine?

DR. LAWRENCE: Yes. I had the Singer.

DR. WINTER: With the foot pedals?

DR. LAWRENCE: I learned to use a treadle in 8th grade in school. That was a requirement. But it had a knee thing. The little hook came down and you controlled with your knee. Now, they have foot pedals. You just put your foot on the pedal. But my father had given my mother a Singer sewing machine when they were married, and I learned on my mother's Singer, with the knee gadget. Fortunately, it was not a treadle. It was one step up. It was electric. And, so I knew how to sew. We made our own clothes.

My mother was incredible. She never let us know we were poor. She could always find somebody else that she thought was poorer than we. If somebody gave us a gift, my mother would take half of it and give it to a poor neighbor.

When we made our first communion and confirmation, we needed, of course, a dress to wear. And the Stillmans had given my mother yards and yards of white satin that they didn't need after a wedding or something. She made my sister and I each a little dress. And then she went to the nun, and she said, "You know, I have a little fabric left. Does somebody need a dress?" She ended up making half a dozen dresses for other children in the class. But that's what my mother always did. She always let us think we were not poor, that we were well-off, and that we could share. That was just how my mom was.

Of course, in those days, being a single mother isn't the role it is today, which is almost glorified. Being a single mother was terrible and you were ostracized. You didn't tend to have any social friends, because other women didn't want you stealing their husbands. And we got watched like hawks, because everybody thought, "Oh, she can't be watching her children," you know, and "Let's see what they're doing wrong."

My sister Margaret was very stricken by the loss of my father. I was too young to know the difference. I didn't have the same realization of what it really meant.

DR. WINTER: You were 10, and she was 12.

DR. LAWRENCE: Yes. And she was too sad to go to school or help at home for a long time.

DR. WINTER: He was in a car accident?

DR. LAWRENCE: Yes. She really -- now in retrospect -- was probably quite depressed. So, everything fell to my lot. She'd go out with her friends and that sort of thing, but I had to, you know, take care of Stephen and Betty, keep the house clean, keep food on the table, whatever, and do schoolwork. So, there wasn't much time to have a hobby. There was always something that had to be done.

DR. WINTER: Right.

DR. LAWRENCE: Although, I did take piano lessons. Margaret and I took piano lessons. But, we had to earn the money. It was 50 cents for a piano lesson. At the end of the year, Margaret was playing Beethoven. She just had a gift. She was very musically inclined. She just had the fingers for it. I was playing Chopsticks. So, then I played the violin. I was the first violinist in the high school orchestra, because I knew how to do it. You know, you can learn how to do it, but you've got to have talent. And I didn't. I could take it just so far. I could do what I was told. I could read the instructions. So I could play the first violin. The music was in front of me, but I wasn't a musician.

My mother was a pianist. She knew how to transcribe music. She became the church organist. Of course, they didn't pay organists in those days. You only got paid if you played for a wedding or a funeral. Otherwise, you played for free in the congregation and stuff. On Christmas Eve, she would be down at church from 10:00 pm until 2:00 am, playing the organ, and I'd be home trying to make Christmas for my kid brother and sister. But that was my heritage. I was not the musician.

My father's mother, my paternal grandmother, was a pianist. She was a pianist in Carnegie Hall, and my father and his brother grew up in a small apartment in the back of Carnegie Hall. My father was not musical either. Very talented electronically and everything like that, but he was not a musician. So Margaret played the piano all her life. She owned a piano, but when I went to college, I didn't play anymore. I mean, I wasn't at that level. And I certainly didn't bring my violin with me.

DR. WINTER: So, how did you end up going to Antioch College?

DR. LAWRENCE: Well, you know, I think if I hadn't had an opportunity to go to Scarborough School, I probably wouldn't have gone to college at all. Girls in public school in those days were not going to college. It was not a particular goal, unless you had a lot of money, and it was how much you could afford, not how good you were. But I went to this prep school, and the Dean of Students thought I had some potential and encouraged me to apply to different colleges, which I did. I was offered a 4-year scholarship to Radcliffe College, a 4-year scholarship to the College of New Rochelle, and a couple of other schools. But, the trouble was it was tuition-free, but it wasn't room-and-board free. I couldn't afford to go to Radcliffe. I couldn't afford to go to Boston and buy clothes at Peck & Peck in New York City, and that sort of thing. I just thought I probably couldn't afford it. And the Dean of Students, Miss Brown, had heard about Antioch and was very interested in Antioch. Of course, Antioch did not give out scholarships, and they did not have competitive sports teams. They had a very unique education system and a work-study program. So, it was very competitive, but I got into Antioch. The trouble was I had to pay my way, and I had to figure out how to do that.

So, I found a book in the library on grants and other awards, and it was interesting. It was a thousand pages long. There were many things that you could get grants or awards for if your grandfather had fought in the Revolution or if you belonged to the American Legion -- all of these things to which I did not belong. And then you would find foundations that gave scholarship money to students in college. I stumbled on the Leopold Schepp Foundation at 551 Fifth Avenue in New York City, and I wrote an application for tuition to go to Antioch. I had to write out a budget, which

included tuition, room and board, clothing, transportation, toothpaste, whatever.

DR. WINTER: It was your first grant?

DR. LAWRENCE: This was my first grant. Well, the first thing they told me was, "You can't live on that." I said, "Watch me," because I knew how to be frugal. I had been brought up "frugal." Anyway, they gave me my scholarship. They gave me the max they would give any one student, but, of course, it didn't cover everything. I found another foundation. Oh, I can't think of the name of it. It was in Maplewood, New Jersey. I applied there, and they gave me some money. And then Miss Brown, the Dean of Students, got an anonymous donor to pay the rest.

DR. WINTER: And do you not know who that donor is to this day?

DR. LAWRENCE: I don't know who it was.

So I had enough money for my budget. I managed all my own money. I paid my own tuition. I paid my rent. I lived in a co-op dorm. That's where I learned about co-ops, really. The co-op dorm was an old house that had single rooms, and your rent was to do housework in the dorm. You, of course, took care of yourself. You washed your own sheets. You made your own bed, too. You scrubbed your own floors, and that sort of thing. They had a co-op dining room that you could eat in, too, for a small fee. I actually had a job in the regular dining halls, behind the counter my first year, because I was too young to go off campus. I had just turned 17, and so I'd stay on campus. Well, the good thing about that was, I was on the steam table, 3 meals a day. I got to know everybody on campus. And everybody knew who I was. [Laughter] So, anyway, I worked in the dining halls and lived in a co-op, which kept the prices down.

DR. WINTER: And what did you think you were getting your college education toward? What were you hoping to be?

DR. LAWRENCE: I have no idea. I was a physics major, because I had enjoyed physics very much in high school, got a good grade, loved science, and so forth. So I said, 'well, I'll be a physics major.' Fifty percent of the students who went to Antioch wanted to be journalists. And they had wonderful jobs at the *Cleveland Plain Dealer* and other papers like that across the country, many of which don't exist anymore. So, I thought, 'well I can't follow the crowd. I'll be a science major. I'll be a physics major. I don't know what I'll do with it, but that's what I'll major in, at any rate.'

DR. WINTER: Which I would think would be unusual for a woman to choose physics.

DR. LAWRENCE: Oh yes. Quite unusual. [Laughter] So my first job was on campus in the dining halls, but they let me off campus for my second job, because, of course, I had turned 18. They sent me to Detroit. Now mind you, the war started my freshman year. The attack on Pearl Harbor happened on December 7, 1941. I was on campus. Of course, the men were just dragged off the campus, and we had several conscientious objectors, who, interestingly enough, were assigned to the experimental labs here at the U of R [University of Rochester] when I came here to medical school. They were the human guinea pigs, as conscientious objectors. They had been friends on campus before they were drafted. Well, so, I was sent to Detroit. Later I worked at Ciba [Pharmaceutical Co.], where I decided to change to studying medicine.

DR. WINTER: OK, so we are at the point where you have decided to go to the University of Rochester for medical school, and you have 2 cheerleaders here-- Dr. George Whipple and Dr. William Bradford -- but some naysayers as well. And, I assume there were probably other naysayers about women being in medical school, but maybe not. So, tell me about your medical school experience.

DR. LAWRENCE: I applied to 10 schools and University of Rochester responded. I was interviewed and accepted in 6 weeks.

One thing I forgot about, since I was coming to medical school, and that had been decided -- I thought I had better work hard and earn some money in the summer of 1945. And Dr. [Henry] Federighi who was the head of biology at Antioch said, "No, I have an experience for you." He said, "I want you to go to the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Maine." He said, "You can be a summer student. It costs \$100. But I have somebody that's going to put up the \$100, and I want you to spend the summer in Maine." The Jackson Labs were on Mount Desert Island, a premier resort in Maine, and were the first genetic labs in the country. And the Jackson Labs had 25 years of purebred mice strains. There were 10 students; we lived in tents in the woods outside the beautiful brick labs, and there was a little shack there where we ate our meals and spent our evenings. We could walk to the beach, lay under the stars. But we couldn't go up the mountain, because it was an outlook for the war effort. Of course, everything was still blacked out even though the war ended that summer on my birthday.

So, anyway, I learned what little was known about genetics. Chromosomes weren't known. Genes weren't known. But the researchers there knew that certain things were inherited, and they would take tumors from one mouse and put them in another mouse. And they would sew two mice together and see whether one mouse got the tumor that the other mouse had -- all sorts of incredible experiments. I worked on hamsters counting Peyer's patches. We had conferences, and the finest researchers in the genetic field were there

that summer. We got to sit in and listen to their talks and everything. It was an incredible summer, because, then in the evening, we could go to the beach and go swimming. I could have a good time, and we would lay on blankets under the stars and watch falling stars. I never had a summer like that, while also learning and not working.

It was interesting, there was a young man there, Bernie [Bernard] Zager. He went off to medical school in Michigan, and we wrote back and forth, and so forth. When Bob was called to Korea -- this was after medical school, after internship, after we got married, and he was called and flew the next day to Korea -- he ended up in San Francisco sitting on a duffel bag signing his last will and testament, and the guy on the next duffel bag was going to witness it. They traded back and forth. So, I got his last will and testament in the mail, and it's signed by Bernie Zager. I would know that signature anywhere. And, of course, by that time, Bob was in Korea, and I wrote to Bob and said, "Would you believe that the person who signed your last will and testament is a dear friend?" Bernie hadn't realized who Bob had married. You know, they didn't make that connection until they were in the MASH [Mobile Army Surgical Hospital] unit. They spent a year in the MASH together.

But anyway, the experience at Bar Harbor was incredible. When I came to medical school, I knew more about genetics than any of the faculty did, and more about experimental modeling and everything like that. So I had to throw that in. And more about counting stars. [Laughter]

DR. WINTER: Which is easy to do in Maine, because it's spectacular to see the skies of Maine. So how big was your class?

DR. LAWRENCE: My class was 70, really, and we dropped down to 69. We had an unusual number of women, as did many classes across the country, because of the war effort. We were the first class to enter after the war had ended, just weeks after it ended. But you know, we'd been selected during the war. So, we had 10 women in my class. The faculty was very kind. There were a few standouts, like the chair of the Department of Urology who didn't like women too much. But otherwise, they were kind. They didn't modify their language. A lot of the faculty had just gotten back from the war, and their language was pretty crude. But hey, whatever. But I never felt that they were out to get the women. I felt I had an even shot at it. There were many schools across the country where the women were really abused.

DR. WINTER: Yes.

DR. LAWRENCE: Not Rochester; I felt welcome here.

DR. WINTER: So, what was medical education like then? And was there any sort of inkling of awareness about the whole field of breastfeeding and human lactation?

DR. LAWRENCE: Oh, that was the furthest from anybody's mind. I mean, it wasn't until my internship and Edie [Edith B.] Jackson at Yale [University] that I really got introduced to that. But during medical school, we didn't see newborns. The attitude towards premies was, well, if they lived, they lived. So we didn't take a stint in the premie nursery or anything like that. We did pediatrics. We did, you know, the youngest, the middle-school-aged, the teens, and that sort of thing. And we were on every service. They really made medical students turn in profitable work, because we did the hard write-ups and the extensive write-ups, and so forth. And the upper echelon would cosign them. When we went to the OR [operating room] and we hung on retractors. We did all our own lab work. Oh, I forgot that. That's right. People don't do that anymore, do they?

DR. WINTER: Yes.

DR. LAWRENCE: We did the urine samples. We drew the blood. We counted the white counts. We did it with the blood smears. We did the whole 9 yards. We drew the blood for chemistries, but, in pediatrics, they had not gotten many chemistries down in small enough volumes so they could be done on children.

DR. WINTER: So, did you know what field you were moving toward, or did you have an open mind in medical school? Could it have been anything?

DR. LAWRENCE: Well, when I came, I had no idea. The only doctor I knew was Dr. Robinson, and he had a private practice in his home in a small town, Pleasantville, NY. That was my only introduction. Of course, I knew Vida Wentz (whom I met the summer I worked in Chicago). So I wasn't sure what I wanted to do with it. I would have liked to have done surgery, but that was out of the question. They didn't want women in the OR. And women couldn't even do OB/GYN [Obstetrics/Gynecology], because they didn't want you in their gynecology operating room. Now, our residencies are all women in OB [Obstetrics]. It's ridiculous. But, I was interested in adult medicine and the sort of scientific area.

A very good friend of Dr. [Ernst] Oppenheimer's was here in Rochester, and he was doing hormone research. We never talked about my Antioch College at Ciba Pharmaceutical Co. which changed my life and headed me to medical school. Dr Oppenheimer was my boss at Ciba. I went there twice, once in the library and the second time in the research laboratory. Dr. Oppenheimer had connected with Ciba because Ciba was making all the significant

hormones at that time. He became my sort of unofficial mentor and support person.

DR. WINTER: Was there a field of endocrinology at that time?

DR. LAWRENCE: Well, at that level, his name was Dr. [E. Henry] Keutmann, and he was studying the thyroid and that sort of thing. I developed infectious mononucleosis at the beginning of my second year. I never missed a day of school, but, boy, was I dragging. And then I kept dragging, and the medical student health service doctor sent me to Dr. Keutmann, who was already my mentor. Of course, there were no blood tests for thyroid then, and you had to do the metabolic test where you had to have a tube and a mask on your face, and ride a bicycle and stuff, and they figured out what your metabolic rate was. That's how they diagnosed me as hypothyroid, and I've been on thyroid medication ever since.

DR. WINTER: Wow.

DR. LAWRENCE: When I went to Yale for my house officership, of course J. P. Peters was there, on medicine. And, he was just developing the first thyroid test, T4. He told me I'd never have children, because I was metabolically too hypothyroid.

DR. WINTER: Wow.

DR. LAWRENCE: Boy, I proved him wrong.

So, I didn't have a good idea. Of course, in those days, your first year was anatomy, biochemistry, and physiology and stuff, and your second year was more advanced -- physiology, pathology, more into patient care -- but all basic science. Your third year, you went on the floors. In your fourth year, you went on the same floor, and the difference was that now you were in charge of the third-year students. Of course, it's very different now, but that's how they did it then.

I was sent to different hospitals during medical school. In my third year, I was sent to St. Mary's Hospital to do OB. Well the trouble was, I didn't have a car, so I had to walk. And these other hospitals were 3 and 4 miles away. And so, I got a lot of exercise walking. [Laughter] But they never had accommodations for women. I went to the Genesee Hospital, for instance. Well, they had lovely accommodations for male house officers and male medical students, but nothing for women.

[break]

DR. WINTER: We were talking about all your different rotations, and you were walking to St. Mary's and they didn't have accommodations for female students at some places.

DR. LAWRENCE: Genesee Hospital. There was no place for the women to stay. I had to sit up all night in a chair because there was no place to put a woman doctor. A friend of mine at St. Mary's Hospital got that sort of treatment. They had no scrub dresses for women doctors, and the nurses certainly wouldn't share theirs. And of course, women didn't wear pants in those days. So, she said, "That's OK." She took her dress off, threw it in a chair, and went in to the operating room in her slip.

DR. WINTER: [Laughter] Good for her.

DR. LAWRENCE: Oh, I had a couple of people in my class who spoke up every once in a while. I was not one of them. I was glad to be there.

DR. WINTER: Great. And so is this where you met Bob during medical school?

DR. LAWRENCE: Yes. We entered in the same class. First day of medical school, we were sitting in the amphitheater, which was later named after Dr. Whipple, and waiting for him to speak to us at 1:30 in the afternoon. The class was made up of a few civilians, and then half Army and half Navy, because all the guys were still in service. Bob came in with his best friend in his Army uniform, the 2 of them. They walked in the room, and I was sitting there with our little cluster of girls. I'm told by his best friend that he looked over, and he said, "George [Harris], you see the girl in the red dress? I'm going to marry her." And George, I have a picture. [Shows Dr Winter a picture of fellow residents at Yale and points out George.] That's the group of house officers from Yale. I am obvious as the only female. George went to Yale with me, quite by chance. Anyway, he was in our class. He was already married.

Bob and I were not allowed to be lab partners. Dr. Whipple would have had a stroke. We were never seen together by the faculty. People in the class who were married had to keep it secret, because Dr. Whipple thought, if you were married, you were too distracted to be a good student. And so, it was a kind of interesting approach.

We had our anatomy final in February. I had gone out with Bob once or twice. Then they advertised the fact that one of the big bands, Tommy Dorsey, was coming to town, and he asked me if I would go with him. It was something like a Tuesday night in February. I said, yes, I guess I could do that. I should study, but, yes, I could do that. Well, the day arrived, and it turned out the anatomy final was the next morning. And I said, "Oh, I can't

go. I've got to study." And Bob said to me, "If you don't know it now, you're not going to know it." I said, "OK, I'll make a deal with you. We'll take *Gray's Anatomy*." He said, "Sure, anything you want." So we lugged *Gray's Anatomy* to the concert. There was dancing, so you could get up and dance. I put the book down, and we danced the first part. And there was an intermission, and I said, "Oh my goodness, we've been here an hour-and-a-half, and we haven't looked at Gray's anatomy." So we sat down, and Bob said, "OK." We flipped the book open. It opened to the knee. We studied the knee, all the joints. We knew where they were, what the ligaments did, and so forth. Bob shut the book, the music started, and we were up dancing.

We never sat together in class; that was not a good thing to do. Next day in the exam, he was sitting way up in the front, and I was sitting way in the back. There were 4 questions on the exam, and one of them was, "Describe the ligaments and muscles of the knee." We were the only 2 in the class who got it anywhere near right. Years later, I found out that the faculty thought we'd cheated, and then they realized where we were sitting and that we couldn't have cheated. And of course, Bob wouldn't cheat. He would go to his grave rather than cheat. And I wouldn't cheat. , I've never cheated in my life. And, so anyway, that's my story about the knee.

DR. WINTER: I thought you were going to tell me, "And then he got down on his knee." [Laughter]

DR. LAWRENCE: No, no, no. Not yet. [Laughter]

DR. WINTER: [Laughter] Now that you know everything about the knee. [Laughter]

DR. LAWRENCE: Yes, so that's how we did very well in our anatomy class.

DR. WINTER: [Laughter] And so you dated throughout all of medical school?

DR. LAWRENCE: Yes, so now, I went out with other members of the class. Well we had 2 cadavers to a room, 4 people to a cadaver. The first dance, I actually was invited by one of the guys on the other cadaver. My own cadaver partners, one of them became a very dear sweet friend of mine who ultimately became a surgeon. He had had polio as a kid and wore a brace on his leg. So of course, he couldn't be in the Army. He couldn't be in the service, so he was one of the civilians. Just was the loveliest guy in the world, but he was already married. And then our other lab partner, I could have married him. He was a lovely, lovely guy, but things turned differently. There were a lot of wonderful men in my class. A lot of Catholics, which I

found good fortune, because most all the men I went out with were Catholics, which made life easier.

DR. WINTER: Made your mom happy.

DR. LAWRENCE: Yes, that's right. [Laughter] Yes.

DR. WINTER: And your mom liked Bob?

DR. LAWRENCE: Yes, yes. She did. And, of course I had some friends from college, and I had some friends from high school. It's interesting, my best friends from high school and college were also named "Bob." So, it was an omen of some sort. [Laughter]

DR. WINTER: So it was OK to have good friends that were males. I guess, you know -- being interested in physics and being in medicine -- it probably wasn't unusual to have friends who were male, because you were surrounded by so many men?

DR. LAWRENCE: Yes, maybe. I hadn't mentioned that every summer from the time I was 12 years old, I went to New Hampshire and worked for a family as a mother's helper. They had picked me instead of my sister for some reason. But anyway, their son, who was an only child, was actually 2 years older than I. But he had very severe bronchial asthma and was behind me in school. He was also a very lovely person. They would invite young teenagers up for 2 weeks in the summer, but they'd always invite a guy for me, too. That's where I met my high school Bob, Bob Bell. He was there for 2 weeks, and I wrote to him. He was ahead of me at school. So, he went to college, and we wrote back and forth. But you know what happens to those sort of things -- get new friends and everything. But, I worked for the Galagers every summer. In fact, Mrs. Galager died, and they had adopted a girl who was 5 or 7 years younger than their son. She'd been in several adoption homes and was pretty incorrigible. They adopted her in the summer, and I had to housebreak her that summer in New Hampshire.

DR. WINTER: That's when you learned adolescent medicine.

DR. LAWRENCE: Yes. She was kind of a brat, and, she just had to learn to live with people who were loving and caring, and supportive.

I'd cook the meals and straighten out the house, but, if they went to the movies, I went to the movies. If they went out to dinner, I went to dinner. I mean, I was one of the family. I was not a servant. And they were very, very dear friends all those years. He worked for the *Saturday Evening Post*. Who publishes the *Saturday Evening Post*? It's there in Philadelphia. I forget who the publisher was, but, anyway, he worked for that publishing firm.

So then I went to Antioch College. Their son Sheldon already went to Scarborough School. They'd always sent him to prep school since he was a child, particularly because of his illness. And I went to Antioch. I was the first Scarborough person to go to Antioch, and then Sheldon and his best friend a year after me came to Antioch. We were always good friends. He died several years ago. He was on a visit to Paris with his wife and died of pancreatitis in a Paris hospital. But anyway, so that family was very important to me, because it was the only father figure I ever knew. Father Galager was very kind and generous and thoughtful. It was nice to have a man in the family. Because you know, here my mother was with 3 girls and a brother, my poor brother, my dear poor, dear brother. [Laughter]

So anyway, back on track.

DR. WINTER: So you're in medical school and in your fourth year, deciding what you wanted to devote your medical career to.

DR. LAWRENCE: Well, I finally decided I would apply to pediatrics. It made the most sense, particularly because even though I wanted to work with my hands and I loved surgical things, it just didn't seem like it was a battle that was worth fighting. At that time, when you applied for residency, if you applied to 10 hospitals, you sent 10 applications, and you got 10 answers.

DR. WINTER: There was no match?

DR. LAWRENCE: No match. There was no such thing as a match. You were supposed to do it within a time frame, and all the answers came on the same day. And, if you had 10 applications, you got 10 answers.

DR. WINTER: And it was all in the same field?

DR. LAWRENCE: Oh, you could apply to all sorts of things. So, some people did some pediatrics, some family medicine, and whatever. In the class ahead of us, not a single woman got a job. They only had 3 or 4 women, but none of them got a job. We were scared skinny. So we all sent in 10 applications. Harvard did not take interns, so couldn't apply to Harvard. So, I applied to Yale. Of course, I applied to Rochester. I applied, I think, to Chicago. I applied to all the name programs. But then I applied to Grasslands Hospital, which was Westchester's county hospital. And, I applied to Bellevue Hospital. Bob and I, of course, wanted to be in the same place. We couldn't match; he wanted to be a surgeon. So, he applied all the same places, and they just had a catastrophe with his applications everywhere he went, including here. They made a secretarial error. Usually they would send out, if they had 6 jobs, 6 acceptances and 6 alternates. Well,

the secretary sent out 12 acceptances, which meant that the 2 men from our class, Jim [James] DeWeese and Bob, couldn't have the jobs unless enough people turned them down. So, he was really caught. They lost his application at Yale, and something else happened some other place.

So, I'm waiting, because I got accepted at everywhere I applied. And, I didn't answer, because I was waiting for Bob. And all of a sudden, George Whipple comes out looking for me. Everybody says, "The dean's looking for you." Well, it turned out that Dr. Grover [F.] Powers, the chairman of the department of pediatrics at Yale, called George Whipple to find out why Miss Anderson hadn't responded. They had decided for the first time to take a woman, and she hadn't answered. So George called me into his office, and standing towering over me, said, "Dr. Powers would like to speak to you." So I'm saying, "Dr. Powers, yes -- yes I'd love to come to New Haven. I'd be honored." Blah-blah-blah-blah-blah, put down the phone. Of course, meantime, the surgical residency opened up upstairs, and Bob was saying, "Oh thank you, Dr. Pearson, I'd be glad to stay in Rochester." [Laughter]

I'll show you Dr. Grover Powers, because this is a picture of my internship here. This is Dr. Grover Powers. And he was considered the "Prince of Pediatrics," the best pediatrician in the country. [Describing picture:] And, this is Bob [Robert E.] Cooke, the famous Bob Cooke. This is Arden Miller, who became president of the American Public Health Association. This is George Harris, who is Bob's best friend that went to New Haven with me, and William Nyhan of Lesch-Nyhan syndrome. We were interns together. This is Dan [Daniel Cady] Darrow who identified the importance of potassium, and this is Ed Curnen who discovered non-paralytic polio in the virus laboratory, discovered that polio was caused by virus. I mean, this was the most solid, incredible group of people you could find.

DR. WINTER: And that's you?

DR. LAWRENCE: And that's me. So, of course, I went to New Haven. They didn't pay you. They didn't pay you at Harvard, either. It was considered an honor. You could live on that glory the rest of your life. You got your room and board, and your uniform. Well, they didn't have uniforms for girls. So they had a tailor make my uniform, a nice little fitted jacket and an A-line skirt. I had 6 of them, and they were starched so much, if I fell down, they stood me up. They were lovely. In fact one of the faculty -- one of the psychologists in the child development unit -- said, "Could I borrow one of your jackets? I love your jackets, and I want a tailor to make me a jacket like you." Sure, why not. And anyway, we got all our meals, and they were dreadful. And lunch would be cream of mushrooms on toast and a bunch of grapes. They would always have a stack of bread on the table. And the guys would go through that stack of bread like there was no tomorrow, because they were so hungry.

DR. WINTER: And how many years of pediatric residencies have there been by now?

DR. LAWRENCE: You applied for a year. If you wanted to stay a second year, you applied again. You might go somewhere else. Now, one of the residents in that picture, Harry Chamberlain, had done a year somewhere else and did a second year at Yale. So sometimes, if you wanted to do a third year, then you applied again, and it was very much a pyramid system. So there weren't enough jobs. It was sort of like musical chairs, there weren't enough jobs for everybody. It wasn't like you got an internship and you were set for life.

DR. WINTER: And it was 3 years to be a pediatrician.

DR. LAWRENCE: That's when it finally started.

DR. WINTER: When did the residency in pediatrics begin there?

DR. LAWRENCE: Well, I don't know, because it wasn't residency when I had it.

DR. WINTER: It had been there for a while?

DR. LAWRENCE: I graduated in 1949, so probably in 1945, when the war ended. A lot of things changed when the war ended, and people came back from the war to residencies that they had to discontinue. A good friend of mine from New Haven was in the surgical hierarchy. She was about to become the chief resident in surgery, and the war ended. They kicked her out of the job, said she couldn't be a surgeon because all these men came back from war and wanted to be surgeons. So she became a radiologist -- brilliant radiologist -- but it was the only job she could get. So, women were not given a red carpet by any means.

DR. WINTER: And what was the training in pediatrics like then? So what did you actually do?

DR. LAWRENCE: Well, in many respects, not a lot different than it is today in terms of seeing patients and being responsible for patients, but you were at New Haven. They had a whole wing that was infectious disease. One floor was pediatric infectious disease. There were 6 interns my year, so one of us would be on the infectious disease ward, one of us would be on general medical pediatric ward, one would be in the outpatient department, and one would be in the emergency room. Actually, there were 2 on infectious disease, now that I think of it, 2 on general medical, and the rest rotated around and took turns. And believe me, you saw infectious disease. One night during my

internship, I admitted 13 deathly ill, sick children -- bulbar polio, tetanus, and vaccinia, because a vaccination had gone viral.

DR. WINTER: The smallpox, yes.

DR. LAWRENCE: All died. And it was interesting, when the child died, I was not on the ward. My co-intern was on the night the child with vaccinia died, and the parents refused a postmortem examination, which was very unusual in pediatrics in those days. And of course, it would have been so valuable, because here was a kid with a bad reaction from a vaccination. And the funeral director came and said to my colleague, "Well you know when we prepare a child's body for a funeral, we pretty much open them up. If you want me to snip any organs, I'll put them in preservative, and I'll give them to you." And so, he took a sample of every organ and everything, and we had all this information. We could never publish it. We learned a lot, but we could never say anything.

The diseases were very, very serious. We didn't give IV [intravenous] fluids, because the equipment wasn't small enough for children. While the bore of the needles we had was small on the inside, the outer bore was so big you couldn't get it in a baby's vessel. So, we kept babies alive with clyses. You took an 18-gauge needle, and pushed it into the thighs until the skin turned to look like orange peel. And, we'd put it in in the premie [premature] nursery, put it in over the scapula, so they had two little lumps in the back. We couldn't turn them over, because it would squish all the fluids out. But that's how they stayed alive.

We had a desperately ill family who had about 6 children, none of whom had survived. They could not tolerate any formula, and they just couldn't eat. They died of starvation. So, they had another baby, and I happened to be breastfeeding one of my children. So, I went in the closet every day and pumped. And we fed the baby human milk. The baby lived. We got the mother to pump and breastfeed the baby. It's the only baby they had that lived. But if I ever did that today, they'd shoot me.

DR. WINTER: So what do you think it was?

DR. LAWRENCE: Well, I don't know. We didn't have the sophistication to do that sort of biochemical analysis. It was one of the metabolic disorders of some sort.

DR. WINTER: Maybe it was PKU or something.

DR. LAWRENCE: No, I don't think so. Children with PKU don't die early. But other diseases, methylmalonic acid and things like that, you die in a week or 2. Of course, most of the time, these children die of sepsis.

DR. WINTER: So, in residency then, was there anything that crept in in terms of lactation other than your own experience?

DR. LAWRENCE: Well, you know, as interns, we had to be on the nursery at Yale. It was the only residency in the country where you had to spend time in newborns. And Dr. Edie Jackson ran the newborn service, and it was a rooming-in unit that Dr. Jackson had developed. So, as an intern, you had to see the babies in the rooming-in unit. You had to see the mothers, most of whom were breastfeeding.

DR. WINTER: How unusual for the 1950s to have a rooming-in unit.

DR. LAWRENCE: Well, she started it. She started rooming-in in this country. She started rooming-in before Baby-Friendly [Baby-Friendly Hospital Initiative] and UNICEF [United Nations Children's Fund] had ever even heard of it. It was started in Yale-New Haven Hospital in the 1940s.

DR. WINTER: Wow, interesting.

DR. LAWRENCE: Of course, Baby-Friendly takes credit for everything. They had nothing to do with it. And so, many years later, 40 years later, they suddenly come up with this brilliant idea.

So, that was part of your internship. You could not stay in New Haven as a resident and do a second year unless you spent a year with newborns, in a rooming-in unit. In the follow-up clinic, you made house calls on everybody. When these breastfeeding mothers went home, you made a house call to see how they were doing. During my internship year, I was on the newborn service. I had to make house calls, and we had a car, a little Chevy. We wore white uniforms and carried a black bag, and we'd go into the house and see the mother and the baby. So, I go into this house, and I knew it wasn't in the best part of town, right in the inner city sort of thing. I go in the house, and it turned out this mother lived on the third floor. I walked up the stairs to the third floor. I saw the mother. I saw the baby. She was doing great and so forth. I came down, walked across the street, and got in my car. There was a crowd of men around. I didn't think too much about it, so I got in the car and was driving to my next call. I noticed there was a car behind me, and he kept following me no matter where I went. I finally pulled up in front of the next house, which was in a nicer section of New Haven, to make my call, and this gentleman pulls up behind me, gets out of his car, and comes up and raps on the window. He said, "Young lady, if you were my child, I would spank you. What were you doing in that building on Howard Street? Do you know where you were?" I said, "Yes, I was at 210 Howard Street." He said, "No, no, no. Do you know where you were?" It turned out it was a house of ill repute, and she was one of the ladies of the night. And I had been in that

building. And those guys who were hanging around were just hanging out, working the customers over. So, he gave me a talking-to like you wouldn't believe. He put the fear of God in me. I was so shaken up, I drove back to the hospital, and I went to see my friend George. I asked, "What am I going to do?" He went to Dr. Powers and told him what had happened. So, the one thing they did do was put the name of the hospital on the car door.

DR. WINTER: No escort, just legitimacy? [Laughter]

DR. LAWRENCE: And so that was one of my experiences making house calls for Yale-New Haven Hospital. Of course, there'd never been a problem before. And I thought, "Well that's funny, because the public health nurses go everywhere." God bless them, I don't know how they do the job they do. But they wear a uniform and, of course, I had a uniform. It was a different type than what public health nurses wore, but nonetheless. So, that's how you spent your second year in New Haven, and then, if you came back a third year, you worked with Grover Powers and with the research labs. You worked with all sorts of people. We had a hematologist. We had cardiologists. And so, you did more the higher-level residency stuff.

DR. WINTER: And so, how did your marriage to Bob and the start of your family overlap with the end of medical school and your residency?

DR. LAWRENCE: Well, we got engaged between sophomore and junior year, in 1947. But, we decided that we would not get married until our internship was over, because, the way internships were in those days, there was no way you could pay attention to any other person. You paid attention to your job. And, the few people who were married, you know, struggled with it. I was on call one night with Arden Miller. He was married. He was a third-year resident. He was a chief resident. He was a prince. He was married. His wife, Helen, often came and stayed with him when he was on. So, as I say, Arden and I were on call one night together, and the operators kind of got to know the house staff pretty well. Anyway, she calls Arden's room about a case that both Arden and I were going to have to see. And Helen answers the phone, and the operator says, "Oh, well, Dr. Anderson, I need you anyway." Well, Helen wasn't too excited about that. [Laughter]

So while we planned to be married Bob was in Rochester and I was in New Haven. We were going to be married on the 8th of July. Bob had obtained this very interesting experience in Japan, and we both were going to go after our internships. We were going to get married, drive across the country, and take a boat to Japan. So, our rings actually say the 8th of July. Of course, you did your internship right up through June 30. There was none of this business of quitting on the June 14 and the Mickey Mouse kind of stuff around now. And, you started bright and early the next morning at your new job on July 1. So, I worked right through June 30, as did Bob. And, he had

bought a car. He bought a car, and, because he was paid \$15 a month, he used to send me postage stamps so I could write him. So he was driving home to Teaneck, and we were going to be married the following Saturday, July 8, and then go off and honeymoon across the country in this new car he bought.

So, he gets a call. He'd already put 8 years in the Army, and done his time. But, they called back most of the guys in my class when the Korean War broke. They called him up, and they said, "You shall be in San Francisco on the 5th of July." [Bob said,] "But Captain, but Captain..." They said, "You will be in San Francisco on the 5th of July." So he called me up, and he asked, "Should we get married or not?" I said, "Yes, let's get married." So we got married on the 4th of July, which was a Tuesday.

DR. WINTER: [Laughter] Not what your rings say.

DR. LAWRENCE: Right. And so, I lived in Hyde Park, NY, you know, where the Roosevelts lived. Small town, everything was small town. Of course, in those days stores were not open on Sundays. Nothing was open on Sunday, but we managed to find the town clerk. Of course, his offices were closed, but he signed the document, our marriage license. The neighbors clipped some flowers out of their gardens, and so we had white flowers on the altar. The florist drove to Albany and got an orchid for me, so he had a white orchid on my prayer book, which he wrapped in white ribbons. I was going to make my wedding dress out of some silk my brother had sent from Japan. I couldn't afford a wedding dress. And George Harris's wife, Barbara, knew this. She had been married a couple years before and had a very expensive, gorgeous wedding dress. Would you believe, it fit like a glove? She sent it to me to wear, and so I wore her wedding dress. So that was taken care of. My sister worked at the Vanderbilt estate as a waitress, and that's where we were going to have our little reception. So, they managed to gimmick that around to have it on Tuesday, instead of Saturday. My brother was going to come home from the Air Force and give me away. Unfortunately, he had not left Iwo Jima yet. So, my grandfather gave me away. We were married in this little church, which was in Hyde Park. It was very nice. Bob's brother Don was our best man, and my sister Betty was my maid of honor. She was 16 years old, and I'd already made her dress for her. That was done, so we didn't have any scramble there. And so we got married on Tuesday, and we drove to New York and stayed at the Waldorf Astoria for one night. And the next morning, we had to go out to Governors Island, and get Bob's orders. Then that evening, I took him to LaGuardia Airport and put him on a plane.

He went to Korea, and I saw him 18 months later. He was in the first MASH, about which all the stories are told. And he watched every single episode of the MASH television series. He said, "Yup, it really happened." He got so much surgical experience. Unbelievable surgical experience, just as you could get snippets of if you ever watched all the MASH programs. And he came

home, and he said, “You know, we could sew those guys up, but we lost some of them because there was nobody at the head of the table keeping them alive.” They had no anesthesiologist. And, there’s one episode where you see “Hot Lips” [Major Margaret Houlihan] with a kind of tea strainer full of cotton, pouring ether. And “Hot Lips” passes out, because the ether was all over the place. They had nobody monitoring the patient. They did what they could, but they had no anesthesiologist. And Bob said, “I’m going to be an anesthesiologist.” He was the first resident in anesthesia at Rochester. Because they’d saved a slot in surgery, they made him do another year of surgery. He’s one of the few anesthesiologists who is an accomplished surgeon. And then he became the first anesthesiology resident, and they had faculty, but no other residents. So, he was on call every other night for three years. He alternated with the nurse anesthetists in terms of coverage. But he turned out to be a very good anesthesiologist. He was a master at vocal anesthesia.

DR. WINTER: Which is?

DR. LAWRENCE: Well, he could talk a patient down. And he taught all his anesthesia students how you talk them down. You use less medicine that way. Don’t try to knock out somebody who’s terribly distressed. Talk them down. He could do that. And he was so good with children. He didn’t like to do pediatrics, but he was so good. [Laughter] And, so that’s how he became an anesthesiologist.

DR. WINTER: Wow. So, you were apart then, for the first part of your marriage, when you were still here?

DR. LAWRENCE: Yes.

DR. WINTER: For residency?

DR. LAWRENCE: Well, what was I going to do? I was planning to go to Japan. I had no job. So, Strong Memorial Hospital offered me a job. Yale offered me a job. And, I thought about coming back here where I’d been for so many years, but people had moved on. My friends were at Yale. So, I went back to Yale, and they didn’t have a job on pediatrics. The only guy who had been called to Korea was on medicine. His name was Boaz Harris. And he got called, and they gave me his slot. So, I had 6 months of internal medicine. I was the first Med-Peds [Internal Medicine and Pediatrics] resident that there ever was.

DR. WINTER: Yes, there you go.

DR. LAWRENCE: Now, people fight for those slots. [Laughter] Well, as it turned out, I also had our first baby while Bob was gone, as luck would have

it. That is one of the reasons why we hadn't gotten married, you know, during internship. So, I had our first baby in the rooming-in unit in New Haven.

I went through all the rooming-in things, the preparation, the exercises, *Childbirth Without Fear*, and breastfeeding. And I was in the rooming-in unit, and Grover Powers had always presented any families who had babies - - guys who were married and had babies -- always presented the baby with a sterling silver juice cup with their name and birth date on it. So, I'm in the hospital with my newborn baby, Rob, who I'm breastfeeding, and everybody is on alert because Grover Powers is coming with his entourage. And he marches into the unit and presents me with a sterling silver cup with Rob's name on it. And, so Rob is one of Grover Powers' babies.

I learned how to breastfeed, believe me. While I was there, the rooming-in unit was set up with 4 beds and a breakfast table. You know, a little unit, and there were 2 of them. So there were 8 slots in rooming-in.

The woman opposite me was having her sixth baby, and she'd never breastfed before. But they encouraged her to do this, and so she breastfed the baby. Of course, Sally Provence and all of those developmental people were studying all of these children doing developmental testing on them, and seeing whether rooming-in made any difference. So, this baby was part of the study, and so they brought the mother back with the baby in about a year. He was way ahead on the developmental scales compared to her other 5 children. This was in the days when Grand Rounds meant a patient was brought in, the mother was brought in, and you interviewed them in the amphitheater. So, they say to this mother, "Well, little Henry, he's doing so well. He scored so well. He's exceeded the scores of your other children. To what do you attribute this? You know, you've had rooming-in. You've breastfed. You've done all these things. What do you think?" She said, "Eh, he has a different father."

DR. WINTER: So, how were you able to be a resident and have a new baby at the same time?

DR. LAWRENCE: Well, that was another new experiment.

DR. WINTER: Yes. [Laughter]

DR. LAWRENCE: And I was the first woman there. I was the first one to get married, and I was the first one to have a baby. I was really paving the way. Well, in that case, it turned out Rob was born on March 31, so I needed to come back and start my residency again on July 1. It's the only time I ever took that much time. After that, I took 3 days. I had to plan ahead and figure out, how am I going to get him a sitter? What am I going to do? Well it

turned out that one of the men on medicine with me had married a nurse whom I knew, and they had a baby at the same time, Sharon. And they lived in the Quonset huts out by the Yale Bowl, and, of course, she was looking for some way to earn some money. So, she agreed to take care of Rob during the day when I was at the hospital. So, of course, Bob had left me the car that he'd bought, so I had a car. I lived in an apartment across the street from the hospital, so I could run back to the hospital at night if I got called. I would drive Rob out to Jean's [McNair] house, and the 2 of them would play in the same playpen and everything like that together. And I did wean him, because I hadn't figured out pumping, or anything like that, I mean.

DR. WINTER: Yes, what did people do? There were no pumps, really?

DR. LAWRENCE: Oh that's new. That's so new. I could manually express milk. I would never have thought of putting one of those electric pumps on. When I collected milk for patients in the unit, I just manually expressed it.

DR. WINTER: Just manually expressed.

DR. LAWRENCE: Anyway, but I did wean him. Oh, it was so sad. My mother helped me wean him, and he didn't want to be weaned. But anyway, so he's the only one of my children who was breastfed for only 4 months. All the rest of my children were breastfed for 18 months. But anyway, Jean McNair took care of my baby, and I was Edie Jackson's chief resident. So, I ran the newborn unit, and once in a while, I got called in at night. I'd have to just pick Rob up, take him into the hospital, plunk him down in an empty crib, take care of the patient I'd come to see, and then pick him up and take him back home. Of course, Bob was in Korea. I mean, I was on my own. It worked OK; I don't think Rob was too deprived. I mean, as the first child that had to be babysat.

Then Bob was coming home from Korea that fall, and I didn't know when. He actually got home in October, so I had done the residency from July to October. I actually was short a few months of residency, but Dr. Jackson knew I would leave when Bob came home. She was OK with that. She knew. He got assigned to Fort Dix, because he had to finish out 2 full years. And so we moved to Fort Dix with our baby.

DR. WINTER: In New Jersey? Fort Dix in New Jersey?

DR. LAWRENCE: Well, Bob lived in New Jersey. He graduated from Teaneck High. He was born in Alaska, and his father was an MIT [Massachusetts Institute of Technology] graduate in mining engineering. And that's why he went to Alaska. They [Bob's parents] were married in Alaska, had 2 children in Alaska, and then came back to the States, because Alaska was a territory at the time. They went to Nevada, and Bob's father taught at

the Mackay School of Mines there. And then they went a few other places to the School of Mines, and he was on the faculty. And then they moved to New Jersey, because he got a job with the ASA [American Standards Association], which is the organization that has gotten everything in this country standardized, like railroad tracks. If you build a railroad track, it's got to conform to certain measurements, so a train from anywhere can run on them. Windows are standardized, so if you buy screens, they fit. And so, he worked for the ASA in New York, and they lived in Teaneck, NJ. And Bob went to 7th and 8th grade, and high school in Teaneck. And so, going to Fort Dix, New Jersey, was a bummer. [Laughter]

DR. WINTER: So, what did you do?

DR. LAWRENCE: So, I went along and applied for a job. I thought I'd work part-time, because we needed the money, for God sakes. And, I got a job as a consultant. Several of the guys had been drafted from Yale, and they were down in Fort Dix, also. They were running the pediatric clinic. There were no pediatric jobs for me. But I had my time on medicine, so I was the highest-ranking internist there. They made me a consultant in the clinic. I saw all of the congressional investigations; I saw all the prisoners of war. I saw all the retired generals. An unimaginable experience. Such incredible stuff.

When they brought the prisoners of war down, of course, they brought them down with the guard. You're doing this physical on this 18-year-old kid with another 18-year-old standing there with a rifle cocked, in case the patient tries to make a getaway. It wasn't anything I learned in medical school. [Laughter]

DR. WINTER: No, I'm sure you were happy to go back to pediatrics.

DR. LAWRENCE: Yes. So anyway, while Bob was there, I worked as a consultant at Fort Dix, which certainly helped the bankroll. And then when Bob was discharged we came back to Rochester, and he started his residency back on July 1 of 1952. He did a year of surgery, and then he did 3 years of anesthesia. He finished in 1955.

DR. WINTER: And that's how you ended up coming back to Rochester then at that point?

DR. LAWRENCE: Yes, we came back to Rochester because he wanted to come back to Rochester and finish. He knew the people, and so we were going to go where he wanted to go. I went along, and I've been here ever since. He was offered many good jobs, and I said to him, "You know, I go where you go." And I'd hold my breath, while he'd go and interview and think about it, and he always came back to Rochester.

He got very interested in respiratory therapy, and I became a consultant to the respiratory therapy group, because they had nothing on pediatrics, NICUs [Neonatal Intensive Care Units], or – MICUs [Medical Intensive Care Units]. And so, they were here, they were given the respiratory therapist exams, and they had no pediatrics in it. So I became a consultant, and I used to go to the meetings, because one my children were grown and so it wasn't as big a problem.

DR. WINTER: So the rest of your children were born when you came back to Rochester then?

DR. LAWRENCE: When I came back to Rochester, I was short a few months to sit my boards. But I needed to earn money, because they were only paying \$15 dollars a month. So, when we first came back, I worked for the Red Cross, screening blood donors. And then I was invited to work for the Department of Health, and [Albert] David Kaiser, a very well-known pediatrician, was the health director. He's the one who wrote the book on tonsillectomies and got people to stop doing all the tonsillectomies. Many years later, I won the Rochester Academy of Medicine's Kaiser Medal, which is named after David Kaiser.

But, the State of New York had the idea that every kid, every year, got an annual physical from their physician. And the hypothesis by Dr. Alfred Yankauer was this: there's a better way to find out if a child in school has a problem. Screening tests, hearing tests, orthopedic tests, things like that. Annual physicals are not how you diagnose problems in children in school. That was the hypothesis. So, we followed 1,500 children in school, in scattered schools, starting with first grade and then second grade. The same children. And 1,500 of them, for 4 years, every year, you know, high-level schools, inner-city schools, whatever. But 1,500 children. And a nurse who had a child Rob's age worked with me. I had a portable examining table and whatever I could carry in a black bag, and I went from school to school and scheduled children. Parents came in, and I interviewed them. We got a good history and so forth to try and decide the value of annual physicals. We wrote many articles in the *American Journal of Public Health*. So, I was well published. [Laughter] At the end of 4 years, we showed that that wasn't how you picked up disease; you picked it up with screening tests and by following absenteeism, and that kind of thing, not with annual physicals. Well of course, the local pediatricians weren't too happy with me, because it was kind of a gravy train. You put a stethoscope on a kid, called it a physical, and sent the bill. So anyway, we showed that it made more sense to have a kindergarten exam, a 4th grade exam, an exam upon entry into high school, and any athletic exams that a student needed. We showed that that was the way to pick up problems with children in school.

I presented this work at the American Public Health Association meetings years ago. They always met in Atlantic City. And as I say, Dr. Yankauer published this work. He was an accomplished public health professional. And then he got invited to do this world tour. So he left for a year, and he left me in charge. Then I began writing the papers, doing the follow-up, and all of this sort of thing. So, the final thing was, if the private physician said, “Well, maybe you don’t learn anything from annual physicals, but the children learn something. It’s important for them to know the value of a physical exam.” So they went, and they interviewed all these children that I had been seeing for years and asked them, “Do you brush your teeth? Do you take care of your health? Do you do this? Do you do that?” And they also interviewed an equal number of children that I’d never seen. The answers were no different between the two groups except for one question, the last question on the screening exam, which was, “Have you ever seen a woman doctor?” And the children in my study said, “Yes.”

DR. WINTER: So you were a role model.

DR. LAWRENCE: [Laughter] I was just involved by chance; it was not planned. But, that’s how the health department made its point, that annual physicals were not the way to go.

DR. WINTER: And yet, for how many years did they continue to do school physicals, in the school?

DR. LAWRENCE: Well, other states changed the law right away. New York took a long time. [Laughter]

DR. WINTER: New Jersey is still taking some time.

DR. LAWRENCE: Do they still do it? It was well documented in the literature.

DR. WINTER: Not in that environment.

DR. LAWRENCE: So, then they asked me, would I do it for another 4 years and go all the way through high school? I said, “No.” I really wanted to go back to newborns and premie care, and Dr. Bradford let me work in the hospital. I ran the premie nursery, and then the poison center came along. I was on the faculty. Well, originally, I wasn’t paid anything. But then, they realized that, if they didn’t pay me, they’d have to pay a tremendous sum for malpractice insurance as an independent practitioner. It was cheaper to pay me something, and it would only cost \$100 a year to cover my malpractice. So they gave me the \$100. I got \$100 a year to run the premie nursery and the well baby clinic. So then Dr. Bradford let me participate and do a residency on a part-time basis. Dr. Bradford was great. So I did that at

the same time, completed my residency requirements and sat my Boards [American Board of Pediatrics].

Then, poison control centers were started in 1954, and the one here was the second-oldest. I think I told you that. The State of New York wanted a poison center here, so they funded the poison center. I don't know if you know Charlie Lobeck. He was an endocrinologist. He left here and eventually became chair and associate dean at the University of Wisconsin. He has since retired, but he was here as a junior faculty member. They asked him if he'd like to be the medical director of the poison center, because it carried a \$1,000 a year stipend. He thought, "I'm only getting \$7,000 a year. I could use another thousand." So he agreed. And then he found out what universities do when they get another source of money. They don't give you extra money, they just put it in the coffers. And, he didn't get a nickel more. He was not very happy.

So, a year later or so, he had this opportunity to go Wisconsin and he decided to go. That wasn't why he went to Wisconsin. But anyway, he was going to go to Wisconsin, so they said to him, "Well, you've got to find somebody to run the poison center." He thought, "Oh, I do, do I?" Well, he looked around, and he said, "I've got to find somebody that they can't take the money from." And, that's how I became the director of the poison center, because I was the only one who wasn't being paid. I was being paid \$100 a year, and they'd have to give me the other \$900. So, I said, "But Chuck, I don't know anything about poisoning." He said, "It's OK. I didn't either when I started." There was no field. There was no toxicology. In your internship, you learned about aspirin poisoning and hydrocarbons, and that was about the size of it. So, I grew with the field. At that time, a book called *Clinical Toxicology of Commercial Products: Acute Poisoning (Home & Farm)* was being written here in Rochester out in the back wing by a woman who decided to start finding out information about commercial products, like what's the difference between Handy Andy and Mr. Clean or what's the difference between Tide and Oxydol? She called all these companies up, got all this material, and documented it in this book. It's an incredible book, and it became a best seller. They sold so many copies it made the *New York Times* Best Seller List. Had no plot at all.

So, Rochester was on the map from the standpoint of clinical toxicology, and I had the job. Well, what did I have to do? I had to be available 24/7. Well, that was OK, I had to be available by telephone, not in person.

DR. WINTER: You had children, so that was probably natural. [Laughter]

DR. LAWRENCE: Well you know, that was not hard to do, because I could be home. I could be anywhere. I had the first portable phone. It was bigger than my purse and heavier than my purse, like this. It was a regular phone

like this, with this huge battery. [Laughter] But otherwise, prior to that, I would just step into a phone booth. And if I didn't have change, I'd just click the thing until I got an operator and say, "This is Dr. Lawrence, I need..." "No trouble, Dr. Lawrence, what do you want?"

DR. WINTER: Nice.

DR. LAWRENCE: Connect me anywhere.

DR. WINTER: Very nice. That's when they had operators. [Laughter] Real operators, real people.

DR. LAWRENCE: Yes, they had operators, and they knew who I was. I did a lot of product toxicology in those days, teaching parents and people about preventing poisoning.

DR. WINTER: So when did Ithaca come on the scene, you know, the concept of making children vomit --

DR. LAWRENCE: Well, that was the standard therapy in the early days, induce emesis with ipecac. We don't do that anymore. In fact, in campaigns on poison prevention, we gave away free bottles of ipecac. And, I was taught that ipecac is good for 2 emergencies in pediatrics. Poisoning, and do you know the other one?

DR. WINTER: No.

DR. LAWRENCE: Croup. It is the best expectorant, and, if you ever read the labels on really good cough expectorant medications, they have ipecac in them. Just a drop or 2, not a tablespoon to make you vomit. Just a drop or 2. I had children, my boys in particular, who had terrible croup. My Tim, who's now a psychiatrist, had a tracheotomy one night. His croup was so bad. I mean, I had steam running all over the house. And you know, great for your hair. I would buy big bottles of ipecac and put it in little dropper bottles. And Tim got so -- when he was 2, 3, or 4 years old -- he could take his own ipecac. He'd just take the dropper and take a drop or 2, and cut his spasm of coughing.

DR. WINTER: So it would cut the spasm?

DR. LAWRENCE: Yes, and loosen the secretions that you're trying to get up. So, it's really an expectorant.

DR. WINTER: Because I thought croup was this dry feeling?

DR. LAWRENCE: No, no, it isn't really. But real croup, it's magic. Ipecac.

DR. WINTER: Where does the shower and --

DR. LAWRENCE: Oh yes. In New Haven, we had a hot room and a cold room. And, you'd go in there, and there'd be hot steam. And then you'd graduate from hot steam to cold vapors and stuff. Whole rooms, that's how you treated it, and children were hospitalized for it.

DR. WINTER: Yes, still.

DR. LAWRENCE: And, that's where I learned the value of ipecac. And I still think it's worthwhile.

DR. WINTER: If you can get it, but you probably can't get it anymore?

DR. LAWRENCE: No, I haven't tried. Because I still have a pint bottle. [Laughter] And nobody at home to use it. But Tim, Tim almost had a second trach, he was so bad. Kathy was 6 weeks old, and she got bronchiolitis, or something. I was home, just breastfeeding her, and Bob grabbed Tim, put him in the car, and drove hell-bent for Strong. Tim stopped breathing, and Bob resuscitated him. He'd drive and puff, drive and puff, and got him to the hospital. I called on the phone, so they had the ENT [ear, nose and throat] guy there, and they did a quick trach. And, Tim has a big scar on his neck. He tells his friends he got mugged.

DR. WINTER: (Laughter) By his dad, right?

DR. LAWRENCE: Yes. So, the other boys also had very severe croup, but none of them had trachs, except Tim.

DR. WINTER: So how many boys and how many girls do you have?

DR. LAWRENCE: I had 5 boys.

DR. WINTER: Five boys.

DR. LAWRENCE: Four girls.

DR. WINTER: And 4 girls.

DR. LAWRENCE: We lost one son, John, who died of malignant melanoma, now, let's see, 5 years ago. That was terrible. There may be a little treatment for malignant melanoma now, but there wasn't then. He tried everything. He gave himself shots every day, and he was dean of students at the Prep for Prep school in New York City. And, when he had the biopsy, the doctor emailed him and said, "You've got 4-stage malignant melanoma."

Talk about bedside manner. Of course, he called his sister up, Barbara. My daughter Barb is a hematologist/oncologist. So, she had to tell him what it meant. So, he finally moved home. He came back to Rochester, taught at Allendale Columbia School and survived for 5 years. But then, it got everywhere, and he said, "You know, take my liver. Take my lungs. Don't take my brain." He was so afraid of being a vegetable. He wrote that book sitting over there, but never got a chance to publish it before he died. But, he'd been working with our daughter Kath, who has a PhD in communications and rhetoric. And so, she knew most about it. So, we tried to get it published.

DR. WINTER: And he wasn't married?

DR. LAWRENCE: No, he was the only one who wasn't married. He had all these girlfriends at his funeral. These girls came out of the woodwork.

DR. WINTER: He's very handsome.

DR. LAWRENCE: And, yes, he knew really lovely girls.

DR. WINTER: He was number -- number what?

DR. LAWRENCE: He was number 8.

DR. WINTER: Number 8.

DR. LAWRENCE: Yes.

DR. WINTER: So the youngest is?

DR. LAWRENCE: Is Chopper, Stephen Lawrence.

DR. WINTER: Stephen.

DR. LAWRENCE: Stephen. It's his given name.

DR. WINTER: Chopper? [Laughter]

DR. LAWRENCE: Chopper's his nickname, and he cannot shake it.

DR. WINTER: Where does it come from?

DR. LAWRENCE: Well, when he was about 2 years old, he had a little plastic cart thing that was called a "chopper." And, he used to scoot around with it, and his older brothers and sisters would call him Chopper. As a grown man, he'd teach at school, and he walked into a class, and said, "I'm

Stephen Lawrence. You can call me Mr. Lawrence.” And, the children would say, “Aren’t you Chopper? Can we call you Mr. Chopper?” [Laughter]

DR. WINTER: So, there are how many doctors?

DR. LAWRENCE: The 3 oldest.

DR. WINTER: Three oldest went into medicine.

DR. LAWRENCE: Rob, and then Barbara second, and then Tim is the psychiatrist.

DR. WINTER: Psychiatrist.

DR. LAWRENCE: Barb and Rob became pediatricians. [Coughs] Tim went to Yale. Well, he went to Yale undergrad, I beg your pardon. Both Rob and he graduated from Cornell Medical College in New York. And then he did his psychiatry residency in several hospitals in New York. Rob, of course, went to Bellevue.

I obviously have been talking too much.

BREAK

DR. WINTER: So, we were talking about your children. There are 3 physicians, and the others sound like they’re educators.

DR. LAWRENCE: Yes, partly. It went, boy, girl, boy, girl, all the way down, and then I had 2 girls and 2 boys. So Kathy’s number 4. Kathy has a PhD in communication and rhetoric. We used to call her “Sarah Bernhardt” when she was a kid. She could dramatize anything, including the mashed potatoes at dinner. And, she was something else. She was in all the school plays and that sort of thing. And, very smart, very articulate. A couple of years ago, just after Bob died, I was going to Spain because they were introducing the Spanish edition of my textbook. I didn’t want to go, and so she came with me. Of course, she had college Spanish. She went to get a PhD, you have to take some language or other, and she’d taken Spanish. So, she could kibitz a little bit with all the audience. She had a great time, because she talked in Spanish. She is very outgoing, talks to everybody, and went to all these programs. They wanted me to sign the book, so she kind of set it up and talked to all the people as they stood in line. It was great having her.

So, we’re coming home, and we’re changing planes in Paris. She said, “We’re going to Paris, and we’re not going to go to downtown Paris?” I said, “Oh, sorry.” So, we took a day to spend in Paris, and I had some frequent flier miles for Hilton, so I called up Hilton, and I said, “Do you have a hotel in

Paris?" "Yes, we do, we have 2. One's by the Eiffel Tower." I said, "I'll take it." So, we got this gorgeous room on coupons, as it were, right by the Eiffel Tower. And, we took that tour bus that Bob and I had taken years before. It's wonderful, you know, you jump off the bus, go into the Louvre, and get back on the next bus and keep going. So, we spent 24 hours in Paris. Had a wonderful time.

That's my daughter, Kath. She's a tenured professor at SUNY Cortland. She teaches communication, and she teaches speech and other forms of communication. She has won every teaching award they have at SUNY Cortland, and, I could see why she would, you know. She's very empathetic with students, but demanding, if they want to do well. That's what she does. She's terrible; she spends money like it was hanging on trees. But every family has got to have one. So, that's Kathy. She, of course, graduated from St. Thomas More School, [Our Lady of] Mercy High School, and she decided she'd go to Antioch like her mom. I drove her out there and dropped her off, and was shocked to see the dorms. They were co-ed dorms then, which was OK. But, they were pouring water down the corridor and slipping and sliding on the water, and just doing childish things. I left her there. She had taken a trunk and her worldly possessions. The first few days, they did evaluations, so they could guide you into what your curriculum would be. She called up and said, "Mom, I'm not going to take underwater basket weaving." I'm really concerned. Didn't hear any more from her. She showed up at the front door with all her worldly goods. She'd come home by bus.

DR. WINTER: Oh no, didn't make it.

DR. LAWRENCE: If she stayed another day, she would owe a semester tuition. So, she'd figured out that wasn't the place for her.

DR. WINTER: It wasn't meant for her.

DR. LAWRENCE: She came home. She didn't want anybody to know she was home. Her sister, Barb was at Boston College. She packed a suitcase, just a suitcase, not a trunk. Took a little bus to Boston, stayed with her sister.

She was too late to matriculate, but she'd already been accepted to Boston College previously and chosen Antioch. And so, she was going to start in the January semester. So, she got a job, got a room locally, and lived in Boston. She graduated from Boston College in 3 ½ years. Never missed a step. That's where she got into communications, wonderful communications.

DR. WINTER: Yes, good school in communications.

DR. LAWRENCE: That's when she thought about law school. She took a summer job with a local law firm, to go to court, and she said, "You know,

the law's the law." She couldn't make up anything. She couldn't write all this great rhetoric. She couldn't read her poem.

DR. WINTER: She had to seek the truth. [Laughter]

DR. LAWRENCE: She decided it was not going to be for her, and so she went to Indiana [University] and got her PhD. And then, she taught at St. John's University in New York and then got this job at Cortland.

Do you want to know about the next one?

DR. WINTER: Yes, the next one is a boy --

DR. LAWRENCE: David. David looks the most like Bob. He's big and broad-shouldered, has red-blond, almost red hair -- not red hair. But, he looks like his dad.

DR. WINTER: Was Bob a redhead?

DR. LAWRENCE: Yes.

DR. WINTER: Oh, I didn't know that.

DR. LAWRENCE: Well, when you knew him, he was gray. [Laughter] But he had red hair, red mustache.

David went to California, stayed 18 years in California. He actually has 2 master's degrees, and one of them is an MBA [Master of Business Administration]. He was a vice president of Nissan, worked for Nissan Automotive, and he was sent to Japan to study how they did things in Japan to make them so economical. And, he was working his way up the corporate ladder. And then, when the big dip came, he lost his job. He came home. He came home 2 months before Bob died, so he was here, which was good. He has 2 children who have gone to the local schools and loved it here in Rochester. They were so far behind in the California schools, which are terrible.

DR. WINTER: Yes, yes.

DR. LAWRENCE: The California school system is so busy making sure you learn Spanish instead of learning everything else. So, his children are very bright and they caught up. The Brighton Central School District's a very good school district. He got another job here. He was doing very well. The next wave, he lost his job. He has been struggling to get a good job ever since. He's the wrong age. He's overqualified. No matter where he goes, they tell him he's overqualified. Because he's 50. So, he decided to get in the

school bus business, because there was a managing job open. He applied for it, and they said, “OK. The guy is stepping down in March. You can start, and you can learn how to drive a school bus, all the rules, regulations, and so forth.” Which he did. The guy came up to retire, retired for a few months, didn’t like it, and came back and took his job back.

DR. WINTER: Oh, didn’t like retirement.

DR. LAWRENCE: So, David’s driving a school bus. Here he is, with 2 master’s degrees, smart as a whip. Can’t get a job.

DR. WINTER: That’s frustrating.

DR. LAWRENCE: But, I’m proud of him to be able to go and drive a school bus and keep busy.

DR. WINTER: Yes, yes. And, does his wife work?

DR. LAWRENCE: She’s on disability. She worked for Nissan, also. So, she’s not working currently, but, when I did the 7th edition of my book, David and she both put it on computer for me. She did all my tables and stuff. So, now I’m going to the 8th edition, and David’s going to do it for me. They’re going to help.

DR. WINTER: Oh, nice. Have you started the 8th edition?

DR. LAWRENCE: Well, we signed the contract last week. [Laughter] But, it’s got to be done by the first of December, my part does. Rob’s part has to be done by the first of February. That’s all a mess.

DR. WINTER: What changes the most from year to year in your textbook?

DR. LAWRENCE: I think the clinical approach, what we know about it, and the application. You know, anatomy moves slowly. The basic scientists are learning details. So, we know some more details.

DR. WINTER: About the immunology and molecular immunology?

DR. LAWRENCE: Yes. Well, we’re adding a chapter of epigenetics. I think it’s very important, for the epigenetic effect of human milk is going to be the winner, I think.

DR. WINTER: Yes.

DR. LAWRENCE: So Rob's going to do the immunology and infectious disease, and I do the rest. But it's going to take a while. [Laughter] It takes a lot of work. It's amazing.

DR. WINTER: There's also all this science coming out about the genome and the microgenome that they're starting to recognize -- beyond even the epigenetics, just the microgenome of small nucleotide fragments that actually have biological function. So, that's a whole other chapter. [Laughter]

DR. LAWRENCE: Yes. It's just amazing, because, that's how we started talking to Mary Ann Liebert years ago about the [*Breastfeeding Medicine*] journal. Audrey [Naylor] knew I'd been trying to get a journal started. That's how we went down to see Mary Ann Liebert. What a gal she is.

DR. WINTER: So Karla [Shepard Rubinger] knew Mary Ann Liebert?

DR. LAWRENCE: Karla worked with Mary Ann Liebert.

DR. WINTER: Mary Ann Liebert and Audrey knew Karla.

DR. LAWRENCE: Audrey knew Karla. Karla had worked with Audrey in California and Wellstart International years ago. Audrey had kept in touch with Karla.

DR. WINTER: But ended up in New Rochelle, NY?

DR. LAWRENCE: Yes. So, Audrey took me to New Rochelle, and I met with Karla, Mary Ann Liebert, and Vicki Cohn, senior editor. She said to me, "What's to say about breastfeeding?" I thought for a minute, and I ran through the chapters in my book in my head. And I said, "Anatomy, physiology, and biochemistry." And, I went, "Right?" She said, "I got it, I got it."

DR. WINTER: [Laughter]

DR. LAWRENCE: Well, she bankrolled the journal, and she bankrolled the ABM [Academy of Breastfeeding Medicine]. And, there are so many people who don't realize it and have no thanks to give.

DR. WINTER: To Mary Ann Liebert or to Karla?

DR. LAWRENCE: Both of them. But Mary Ann Liebert, we couldn't have made that group -- well, we were with the same group as ILCA [International Lactation Consultant Association]. They bankrupted us. They got us in trouble with the federal government. They were awful.

DR. WINTER: Sage Publications? Aren't they with Sage?

DR. LAWRENCE: No, it was a group in Carolina.

DR. WINTER: I thought that's who the ILCA journal was with.

DR. LAWRENCE: Sage published the *Journal of Human Lactation*. The organization of ILCA was with a management firm. ABM was with them for a while at the urging of Miriam Labbok, but the firm was terrible. It was a bad decision. So, Mary Ann Liebert rescued us. She bankrolled us. And, I think the way they get treated sometimes is pretty bad.

DR. WINTER: So, who first started publishing the book?

DR. LAWRENCE: Mosby. And, do you know Diony Young? She was the editor of *Birth*. She lives right down here in Geneseo, NY. Her husband's the chair of the department of geology, and she had been the editor for Klaus' and Kennell's book *Bonding*. Diony was a lay advocate for childbirth change. Very vocal, she's up here in all our hospitals. You know, she was the burr under the saddle, sort of thing. I met her at a lot of meetings about childbirth, got to know her, and liked her quite well. Then, I found out that she had done the work with [Marshall] Klaus and [John] Kennell. I was thinking about writing the book. I thought, "I know all this stuff. It'll be easy. I'll just snap it off. We really need a book on this subject." So, I asked Diony how to do it. She said, "Well, what you do is you write a proposal, create a table of contents, maybe give them a sample chapter, and send it in." OK, so I did that. Mosby said, "Fine, wonderful." And, they gave me a contract. So, I wrote the 20-odd chapters, and, in the middle of them typesetting it, they got in touch and said, "We have an idea. We want you to change the title. We'll pay for all the costs to change the title. It won't cost you anything. We want you to call it *Breastfeeding: A Guide for Doctors and Nurses*." I said, "No way, under no circumstances." I said, "You want to kill the idea, that's the way to do it." I said, "We don't need a book like that. We need to get doctors to pay attention to breastfeeding." So, I won my battle and kept the title. So, they were so mad at me that the division in nursing at Mosby went around to find somebody to write a competitive book against my book. And, they asked Jan Riordan.

DR. WINTER: Oh, and that's when the Riordan's book came out?
[Laughter]

DR. LAWRENCE: And, Jan wrote a book that paralleled mine. She took my illustrations and format. It never sold.

DR. WINTER: That's not the Riordan and [Kathleen] Auerbach book that was published?

DR. LAWRENCE: Yes. Oh yes. Yes, yes, yes.

DR. WINTER: So that came after.

DR. LAWRENCE: But, the first issue was published by Mosby, by the Division of Nursing, and it was, *Breast Feeding: A Guide for Nurses*. It never sold. So, to recover from that, went to the publishing firm in Boston, Jones and Bartlett Publishers, and they published the book. And, of course, she's been publishing it ever since.

DR. WINTER: Right, right.

DR. LAWRENCE: But, that's how she got the idea, and that's how it happened.

DR. WINTER: It's fascinating to see, you know, how all these things come about. And so, you were faculty here at the time of the first book?

DR. LAWRENCE: Yes. I had been on the faculty since I came home, back from Yale. So, I've sort of grown up with the department, because, besides running the poison center, I ran the nursery. I developed the first NICU. We put the first baby that was ever put on a ventilator on a ventilator right here in Rochester, right down the hall here on the 4th floor.

DR. WINTER: At the same time as Maria Delivoria-Papadopoulos?

DR. LAWRENCE: Oh, before that. What happened was, a doctor here in town that we all knew and loved, his wife had a baby. It was a premie. Not real small -- probably 34-weeker, something like that -- and was struggling to breathe. The anesthesia department was bagging the baby, trying to keep it alive. They took turns bagging it around the clock, sat in the recovery room all night bagging the baby.

DR. WINTER: As the belly was growing, right? [Laughter]

DR. LAWRENCE: [Laughter] Well that's what people did. That's how they kept babies alive, bag them. Even after we started ventilating them on ventilating units, they still bagged them, including the one at Montefiore. So, the anesthesiologists, including my husband, got an adult ventilator and jerry-rigged it down to the volume that would be safe for the baby, and they put this baby on the ventilator. And, he lived. He's a wonderful graduate of Harvard and a wonderful gentleman, the first survivor of ventilation. We got flooded with requests to ventilate other babies, but Bob [Robert] Haggerty, who was our chair, said, "No, I remember the iron lungs. They weren't any good. No, you cannot put any more babies on ventilators." So, one of the

anesthesiologists took the idea, and he was going to California. He took it with him, and that's how California started ventilating babies. So, he had that snatched. However, the article is written in *JAMA* -- not published until 1962 -- on the first baby. We presented it, James Kendig and I. Jim Kendig loved history. We presented a demonstration of that and had a poster at the PAS [Pediatric Academic Societies] Annual Meeting years ago. But, we did put the first baby on a ventilator.

DR. WINTER: Well, it's too bad that by the 1960s, the Kennedys didn't seem to know that.

DR. LAWRENCE: Oh. Well, James Drorbaugh, who was taking care of the baby, had been here in Rochester. We tried to convince them to do something, because, you know, that baby was a big premie.

DR. WINTER: Thirty-four-weeker, I thought.

DR. LAWRENCE: Should have survived. Medicine is an interesting business, and a lot of politics. A lot of politics.

DR. WINTER: And so tied to the people and personalities that intersect in different generations.

DR. LAWRENCE: Yes, oh yes. Very interesting. To think our own chair wouldn't let us do what we knew was right.

DR. WINTER: Yes. So, how do you think things have changed at Yale from the time that you were there, when they had a mother baby unit and breastfeeding was the norm -- sort of through the 1980s and 1990s until today?

DR. LAWRENCE: I haven't been back to Yale, except to give grand rounds. I don't know what they're doing now. But of course, they have a new hospital, and all the old guard is gone. And, one of the nurses who was from here went to Yale -- oh, in the 1990s maybe -- and became head nurse in obstetrics and was in charge of the unit. She was disposed of. They didn't want to emphasize those things anymore.

DR. WINTER: Oh. So, it went by the wayside.

DR. LAWRENCE: As far as I know. But, I have no way of telling.

DR. WINTER: -- so they started separating the moms and babies.

DR. LAWRENCE: Yes. Although Joseph Warshaw was chair there. He's a Rochester grad, too, and had been trained in our NICU here, when I was in

charge. He knew the value of human milk, whether he forgot or not, I don't know.

DR. WINTER: So, what do you think the thought process was when hospitals changed from this mother-baby unit design to then separating babies to be boarded together in these nurseries? In addition to what the formula industry might have done in constructing these nurseries?

DR. LAWRENCE: Well, I had Rob, of course, in New Haven. But, when I had my children here, newborns were under the aegis of the nursing department. And, characteristically, they put nurses who didn't have people skills in nurseries, because it didn't matter that they didn't have people skills for the babies. I can remember in the good old days, when we were developing our NICU, we used to sit around and talk about the witch who was running the nursery -- [Laughter] -- who didn't like parents and never allowed parents in and all of that sort of stuff. We fought that hammer and tongs for so many years. We couldn't get permission to let babies' parents be with their babies.

DR. WINTER: You think that was nursing-led?

DR. LAWRENCE: Oh, yes, that's who objected.

DR. WINTER: Yes, it's really how they perceived their work -- to be with just these babies.

DR. LAWRENCE: And then, when we moved into this hospital -- I still call it the "new hospital." We've been in it for 40 years. [Laughter] But, we moved from the old building. There were accommodations there. But the new, younger crop of nurses were different. They wanted to be in perinatal care, and they cared about the mothers and the babies. And so, we've had a birth center atmosphere for years since we moved into the new hospital. So now, the only thing we have except our sick mother unit is the birth center. But you know, it's Ann Dozier and the likes of Ann Dozier that helped move toward that direction. Because, you can't do it without the nurses.

DR. WINTER: Right, they have to be on board with the change.

DR. LAWRENCE: In our NICU we have no trouble with parents. They sleep beside their babies, and everything like that. But it's a new kind of nurse, very different from the nurse that used to run a NICU years ago.

DR. WINTER: They were in control of everything that happened to the baby.

DR. LAWRENCE: Yes, and they did not want parents in. In the infant ward, nurses thought that the babies got too upset, so the parents were only allowed to see their babies on Sundays.

DR. WINTER: [Laughter]

DR. LAWRENCE: Oh yes.

DR. WINTER: And, there were all these concepts that somehow it would risk the introduction of infections, the more people that would come in.

DR. LAWRENCE: Well, I don't think it was the infection thing. It was they just didn't want the parents messing around, didn't want them in the way. I don't think it was infection. I remember all the units had ultraviolet lights shining on ceilings to keep infection down, but I don't think it was infection. I mean, we used to wear gowns.

DR. WINTER: Full scrub outfits, yes.

DR. LAWRENCE: Yes. Now, you walk in in your street clothes.

DR. WINTER: Exactly. So, I think there was that sort of shift away from sterility, as the NICU as ultra-sterile, to current understanding of that.

DR. LAWRENCE: Exactly.

DR. WINTER: So, you had the unique experience as a resident getting exposure to what was a state-of-the-art newborn experience and more proactive breastfeeding experience. What was your awareness about how other pediatricians were being trained in the country? Did you understand that there were many pediatricians that didn't have the same sort of experience as you?

DR. LAWRENCE: Oh, well, that was quite evident when I was at Yale. When I came back here, I tried to bring many of those thoughts with me and got a lot of support and cooperation over time from Dr. Bradford. And then, Bob Haggerty was very supportive of other things we wanted to do. He just thought ventilators were an iron lung.

Before we moved and when we built the new hospital, I got to design all the things. I wanted to design something that would be as flexible as possible, because we were on the move in the NICU, and things were changing all the time. So, my challenge was to get as much space for each baby, as many electric outlets, and as much oxygen and suction as possible at each individual station, so we could renovate the nursery without tearing the building down. I think we accomplished that, because there were so many changes. You couldn't predict them, so you wanted to be able to support a

baby anywhere that it became convenient to put a baby. And so, I had no trouble with that. The administration was worried about cost per square foot, but the department of pediatrics was supportive of all those concepts. We had a very avant-garde nursery. We had room for parents, and all sorts of support things like that.

The unit in the new building, which will be open within a year, is incredible. You know, it's interesting to watch. When I took over the premie nursery years ago in the old hospital it was a lot of little cubicles. The hospital wouldn't renovate. They wouldn't tear them down. So, one night, Bob and I came in at midnight, tore the cubicles down with our bare hands, and stacked them in the halls.

DR. WINTER: [Laughter] Just to open the space.

DR. LAWRENCE: Yes. So then, we went to "open space." We've been an open space unit for a long time. Our new building back to little spaces. Bigger little spaces, but separate spaces.

DR. WINTER: So, what's the philosophy behind that, having the separate spaces?

DR. LAWRENCE: I don't know. I'm not sure, because our current people who were running the nursery went around the country and looked at other new nurseries. They went down and saw Karen Hendricks-Munoz. They went to Texas. They went to California. Everybody had separate spaces for their babies and the parent, sort of a family unit.

DR. WINTER: To accommodate the family and private space.

DR. LAWRENCE: It takes a lot more nurses.

DR. WINTER: Yes, to be able to see and keep surveillance, I would think. Yes. So, how did this sort of philosophy of newborn care filter down to the medical students here at Rochester or at Yale? What was the students' experience?

DR. LAWRENCE: Oh, I'm not sure where they are. They don't spend a lot of time in the nursery. Now, they only get 5 weeks on pediatrics in their 3rd year. And, they can choose where they spend it. How many would want to spend it in an NICU?

DR. WINTER: Really?

DR. LAWRENCE: Why would you do that, spend time with little newborns? But, they love the bells and whistles. So, I'm not sure how much of that you capture as a medical student.

DR. WINTER: Do you get time with them, with the medical students?

DR. LAWRENCE: I don't anymore, because there are too many neonatologists. We have full-time staff in our normal newborn nursery. I'm in charge of the normal newborn nursery, but I don't see babies anymore. So, it depends on who's doing the newborn care. I mean newborn care has become a career now. Cynthia Howard does that out at RGH [Rochester General Hospital], and she has 2 or 3 colleagues. We have 2 or 3 people downstairs just doing newborn care.

DR. WINTER: So, if you're a medical student, and you're here at the University of Rochester, and you go through all 4 years, what do you think you know about breastfeeding by the end?

DR. LAWRENCE: Well, years ago, I used to speak to them as first-year students in their nutrition class, but they don't have a nutrition class anymore. I speak to them in their second-year class. I used to have 2 hours; now, I have an hour. And, I introduce them to breastfeeding, what are the compelling reasons and who says so, how does the breast prepare, and how the baby latches on. I don't tell them everything about managing breastfeeding. I only have an hour. So, my opening words are, "Breastfeeding is not a disease. It's the physiologic completion of the reproductive cycle," and take it from there. You have to send in your slides ahead of time, and every student gets a laptop, so the slides are all loaded on the laptop.

DR. WINTER: And posted.

DR. LAWRENCE: So, they sit there in the amphitheater with their laptop in front of them. They could be playing solitaire. Personally, I get very good vibes, you know. They can criticize anybody they want, and I've seen some brutal criticisms of some people. And so, I fare very well. But then, I'm sure it's not 100% of the students who may come. If it is only half of them, you don't know what the other half are doing.

DR. WINTER: Yes. So, how do we inspire medical students to get interested in this field of breastfeeding and human lactation, both from the scientific perspective, if they choose a career in academia, or from the clinical perspective to truly devote their clinical energies in helping people?

DR. LAWRENCE: Well, when I go through the litany of the compelling reasons to breastfeed, I do point out that whether you're a neurosurgeon an

orthopedic surgeon, or an epidemiologist this impacts the individual, but that's the best I can do. I think probably in this case as far as breastfeeding is concerned, we make more friends amongst students who see themselves being parents at some point. But I've had graduates of this school who see me at national meetings and say, "I never forgot your lecture."

DR. WINTER: It seems to me that I've always been impressed that the students from this school, even if they don't know a lot about breastfeeding, they understand and appreciate the value. So somehow it filters down. Maybe it filters throughout the rest of the faculty.

DR. LAWRENCE: Well, I hope so. Absolutely. It's not a one-man job. It's a team sport. [Laughter]

DR. WINTER: Yes, it's a team sport. [Laughter]

DR. LAWRENCE: You've got to have other faculty using the opportunity. And I think that happens. I go to morning report. We're not having it this month, because the new interns are here. The old ones are going. But I love to go to morning report, because it's all sorts of cases. I never know when it's an opportunity to put in 2 cents about human milk or something about toxicology, either one. I'm always glad to be there and trying.

DR. WINTER: And the faculty's receptive to that input?

DR. LAWRENCE: That's the format of morning report. Morning report, a case is presented, and we sit at 4 different tables with house officers, medical students, and a couple of faculty. They decide what other questions you would want to ask? What are your beginning diagnoses? What's your workup going to be? That sort of thing. So, the faculty member is not the first speaker, but can be the "summer upper" or add another thought in that format. It's very different than the average lecture.

DR. WINTER: So, how do you think we ought to be educating the doctors for tomorrow?

DR. LAWRENCE: Well, I don't think we should drift too far from the patient. I think schools do best where the student is involved with the patient care. I think by comparison the schools in Mexico, where there are 10 and 15 students on a patient, I don't think that's as effective. You have to do it yourself to really learn these skills. You can watch people forever, but you've got to do it yourself and you've got to have a format that allows that to happen. And, I know the internet is amazing -- seeing all these movies and so forth -- but, you've still got to do it yourself.

One of my grandsons goes to McQuaid Jesuit High School. That's where all my boys went, but he's the first grandson to go there. It was grandparent's day, so we were to come and sit in on the class. I got to sit in on his American History class, and the teacher didn't say too much, just flashed pictures up on the board of the 1920s, I think it was. Just kept flashing pictures, flashing pictures, and flashing pictures. No discussion. No -- "Well, why did World War I start? Who were the players? How did they settle peace?" I asked my grandson afterward, "What do you know about that? Why do you think World War I started and was followed shortly by World War II?" He said, "I don't know." All he'd seen were all these doughboys, jumping in and out of trenches, posing guns, and doing all this crazy stuff. They'd seen pictures and pictures for half an hour, and they couldn't tell a thing about what had happened. I thought, you can't just learn that way. You have to talk about it. You have to understand why.

That probably goes for medicine as well. If you don't understand why does a bacteria do such damage? What is the best treatment for that? If you don't understand why, it's not going to work. You can read all the recipes. And, of course, we're writing protocols left and right. Well, let me see the protocol for that. Let's see, 1, 2, 3. Where's the thinking? You've got to learn to think.

So, I think a format that allows that to happen allows discussion, allows challenge, and allows you to look at the patients yourself. And of course, here we use a lot of professional models.

DR. WINTER: Simulation.

DR. LAWRENCE: **Yes.**

DR. WINTER: It's very popular now in medical education to use simulation. And they have OSCEs [Objective Structured Clinical Examinations], so that's part of their evaluation, the assessment process.

DR. LAWRENCE: **Yes. Which is nice. We had tag exams, where they'd show you pieces of anatomy and ask you what they were.**

DR. WINTER: Yes, I remember. [Laughter]

DR. LAWRENCE: **[Laughter] So, there have been a lot of improvements, but I think we have to be careful to not move too far from the patient.**

DR. WINTER: So thinking back to what it was that Dr. Oppenheimer recognized in you when he encouraged you to be a doctor, how do you think we can identify the people today that should be doctors and encourage them to be doctors? How do we choose them?

DR. LAWRENCE: I don't know. [Laughter]

DR. WINTER: [Laughter]

DR. LAWRENCE: I don't know, because, at that time, I was working in the library. I was writing stuff for them. I was thinking things out, and looking for answers. Maybe he thought I understood the concepts or something. I don't know. Or, I could read something and gain some information from it. I was startled, because, of course, I hadn't thought about it myself. Those days, nobody thought about it for a woman. It was not one of your choices.

DR. WINTER: Yes. But we always wonder when we're selecting students, are we selecting the right students? You know, how do we determine who's really in it for the right reasons? Who's going to really be someone to change the course of medicine in a direction that's really necessary and valuable?

DR. LAWRENCE: Oh yes. Well, we put a lot of weight on the interview for medical school.

DR. WINTER: Do you still interview prospective medical students?

DR. LAWRENCE: I interview medical students. I interview residents. I do all of that sort of thing. But, we have so many people doing the bedside teaching that, I don't do it anymore. I loved it. I loved to do it.

DR. WINTER: The bedside teaching? In the nursery?

DR. LAWRENCE: Yes. Eventually mainly in the nursery, because the way you teach toxicology is very different. It's all phone calls and consultations. It's toxic reactions, just like that.

DR. WINTER: But, I would imagine some of that curriculum gets into the emergency medicine rotation.

DR. LAWRENCE: Yes, although our toxicologist that we have full-time spends a lot of time with numerous hospitalized patients and drug overdoses, there are so many.

DR. WINTER: Yes, with adolescents, it's a big issue.

DR. LAWRENCE: We don't see the 2-year-old with accidental aspirin overdose anymore. We've educated families so much, and we have safety caps and everything. But, what's out of control is intentional ingestions, experimentation, using the stuff. I can't understand why anybody would do that.

DR. WINTER: So, when you did the research for the first book, what was your biggest surprise when you were trying to develop each of the chapters that you envisioned?

DR. LAWRENCE: In my textbook?

DR. WINTER: In your textbook, yes.

DR. LAWRENCE: Well, I don't know. That's hard to say. What's been a great help is a lot of the work that Peter Hartmann has done in his group Australia. I went to Australia, maybe 15 years ago. I lost track of time. I'd been invited by Australian ILCA [International Lactation Consultant Association] to speak at their annual meeting, and I went to Australia, just south of Brisbane. It was like being in Miami Beach; all the hotels were pink and yellow and green. But I thought, "While I'm in Australia, I'll pop over and see Peter Hartmann. My dear friend, Peter Hartmann." Well of course, Australia's bigger than the United States. Popping over and seeing Peter Hartmann was a long trip. Well worth it.

I spoke to a number of groups in Western Australia. They put me up on the campus of the university and so forth, but the best experience I had was going to Peter's lab and meeting all his graduate students. They all made presentations about their research. He showed me the devices that he had used to measure the --

DR. WINTER: With the modeling.

DR. LAWRENCE: Yes, how he had done all those tests and everything like that. Very, very valuable. Bob always went with me. It was so energizing to see them discussing this, hear them asking questions and talking about what made physiologic sense, and that sort of thing. Really, very fine level. And of course, Peter had originally started with bovine like everybody else in the research field. So, that was worth the trip all the way around the globe. Unfortunately, I had what they called a "boomerang ticket." You have to come back the way you came. So, because Peter said to me, "Why don't you go to Singapore and go home, it's shorter?" I said, "Well, I've got to get on my little boomerang and go back to Brisbane, and back through California, and go home that way." But, it was well worth the trip. I admire how those Australians come back and forth to this country like it was going down the street. And, Wendy [Brodribb] is our president. How does she do that?

DR. WINTER: I know. It's remarkable.

DR. LAWRENCE: I can tell you, one trip to Australia was enough.

DR. WINTER: It's exhausting.

DR. LAWRENCE: Yes, very. I don't know how they can take that chunk of time. And then to get your brain in gear. It's hard enough going to Europe.

DR. WINTER: Yes, it's such a commitment to do that. So, just understanding the physiology of lactation.

DR. LAWRENCE: Yes, that is something I've been interested in and trying to understand what actually happens. Niles Newton did that initial work on oxytocin and letdown reflex, and so forth; she was so brilliant in her time. And of course, all those experiments were done on herself and with her own babies she was breastfeeding. She was such a delightful person, but very insightful. And, she took that work from the bovine literature. And I think it is probably time to still try and do that. That's what I want to do with the sour milk thing. I'm just tapping the literature right now on sour cow's milk. [Laughter]

DR. WINTER: Right, understanding what it is that makes it sour.

DR. LAWRENCE: It has been a challenge for dairy, and I wish I could ask Mary Frances. Did you know Mary Frances Picciano?

DR. WINTER: No.

DR. LAWRENCE: Oh, she was a colleague of Margit Hamosh's, and she was at Penn [Pennsylvania] State [University], she and her husband. Her husband had another name [John Milner], but he's the one who put me up for membership in the American Society for Nutrition, which is a great honor to belong to. Both of them died. She died a year ago, and he died a few months ago. But, they were working on the physiology of human milk at Penn State, and then they moved to Washington, DC. Margit Hamosh, of course, was working more on composition. But, that's why the International Society for Research in Human Milk and Lactation [ISRHML] meetings are so important. Did you go to Trieste, Italy?

DR. WINTER: I did not go to Trieste, but I'm going to be going to the next meeting, which is in the US.

DR. LAWRENCE: Well unfortunately, they wanted to have a lot of people pay money to come, I guess. And so, they brought a lot of lactation consultants who didn't have a clue about what was going on. You know, the main thing you get from a meeting like that is talking to people afterward. You couldn't get through the crowd to find a scientist to talk to. So, I was able to get Prolacta to give a chunk of money so that maybe they wouldn't have to try encourage, nonscientists to come. You know, people who are not

at the educational level to take fully participate. I mean, they're supportive of breastfeeding, and that's fine. But it's very different than somebody who has some appreciation for physiology. I don't know.

DR. WINTER: I guess that's the question. How do you inspire these young trainees, young medical students, and residents to choose an academic career in human milk and lactation?

DR. LAWRENCE: Well, I don't think you have to have an academic career necessarily. I think that going through medical school, you get a background. You get a background in anatomy, physiology, biochemistry, and so forth, so that you have that background to understand disease processes. And then, you choose an area of disease processes that you'd like, and, of course, unfortunately, medicine today is about disease and not about health, as we say. But, I think you have a background for that. And, a lot of people who are very supportive of breastfeeding are not physicians. They have no background, except they breastfed a baby. And that's nice. It's nice. But some very good people have never breastfed babies, all the guys we know. Nowhere else in medicine do you have to have experienced it to be good at it. I mean, how many surgeons have had their appendix out?

DR. WINTER: Exactly.

DR. LAWRENCE: How many brain surgeons have had their frontal lobes out? So, that kind of thinking, "Well, I did it, I breastfed my children, therefore I am an expert." That is not good thinking.

DR. WINTER: Yes, it's probably one of the areas where having experienced it could probably lead to misinformation and incorrect hypotheses.

DR. LAWRENCE: It shows you one way. Closes your mind up tight as a trap. What we've been trying to do is get scientific information into the pool and that sort of thing, and to try and investigate the old wives' tales. And, as you know, things catch on and take on a life of their own based on absolutely no data. So, I think it's worth trying to get some data on some of those questions and try to understand.

DR. WINTER: Like the tongue-tie?

DR. LAWRENCE: Yes.

DR. WINTER: Well, there is currently an AHRQ [Agency for Health Care Research and Quality] review that's being conducted by the Vanderbilt Technical Expert Panel --

DR. LAWRENCE: Oh really?

DR. WINTER: -- looking at the evidence. So, that's one of the things that we suggested from the section. So, I wrote the proposal, and ARHQ funded it. It was one of the sidebar conversations at the USBC [United States Breastfeeding Committee], and I asked David Meyers if that would be something he'd be interested in, and he said, "Yes."

DR. LAWRENCE: Well, he's a good thinker. He was at the first summit. We were talking about breastfeeding, how good it is, and so forth, and, finally, David got up and said the discussion is over.

DR. WINTER: Yes, I remember that. [Laughter]

DR. LAWRENCE: Stop it.

DR. WINTER: Right.

DR. LAWRENCE: He was on the executive committee when Audrey was president of the USBC, and he had a meeting up in Lake Champlain for a couple of days. He was one of the executive committee and came to the meeting. Carol Kolar was there, and Audrey. Trying to think of who else. It was very interesting to me, on a very high plane. But Audrey's a stickler for high planes.

DR. WINTER: She's been back on email lately.

DR. LAWRENCE: I noticed that. I hope that's a good sign.

DR. WINTER: I was very encouraged.

DR. LAWRENCE: Yes, because she didn't come to the summit.

DR. WINTER: The travel is probably hard. She said it's hard for her physically to get around.

DR. LAWRENCE: Yes, oh yes. Well, that's a problem. She said she's coming to USBC. That's what she says.

DR. WINTER: That's great. Oh, that's exciting! Will you be there?

DR. LAWRENCE: Well, her excuse for not coming to the summit was she didn't have the money, and then she went around and made a \$5,000 gift to ABM. Well, that's Audrey. [Laughter] I don't challenge her. I just try and keep in touch.

DR. WINTER: Yes. I was encouraged to see her. So, we can take a break. It's 6:00 pm, I think --

DR. LAWRENCE: Oh, is it?

DR. WINTER: Yes, we've been talking for a long time.

BREAK IN RECORDING

DR. WINTER: OK, welcome to day 2. [Laughter]

DR. LAWRENCE: OK, thank you.

DR. WINTER: Thank you for coming back. So today, we're going to focus a little bit more on issues relating to breastfeeding and human lactation. And, what do you think it was that was the turning point that allowed you to focus your career so much on breastfeeding and human lactation?

DR. LAWRENCE: Well, if you'd asked me when I was in medical school, I would have said, "I don't think so." [Laughter] I think it was in the 1970s when a lot of my friends were having babies and asking for help, and people started asking me for help because they had a patient in their practice and they didn't know what to do, and that sort of thing.

I worked on the project of the value of annual physicals in school for 4 years, seeing the same 1200 children from first through fourth grade. At that time, I'd finished my school research, and I was here at the medical school full time. I was running the well-baby clinic, and I was running the premie nursery. That's what it was called in those days. The state of New York said that you couldn't have a premie nursery unless you had a doctor in charge of it, because there were no doctors in charge of premie nurseries. The RGH actually became a funded premie nursery, and a private practitioner in town ran it. So then, the university had to assign somebody, and Dr. Bradford said, "Well, why don't you do that?" And so, I started running the premie nursery, and then we were planning what was then the new hospital. I had to design the NICU in the new hospital.

I was always very interested in the nutrition part of it, which was very hard to carry out because we didn't have small needles. We couldn't do IVs. We did all clyses, pushed glucose water into the tissues and saline into the tissues, and that sort of thing, and that's the best we could do, except to feed them by mouth. And so, the big skill in the premie nursery in those days with our nursing staff was their ability to feed a small baby, and that's how I was helping postpartum women unofficially. And so, in about 1975, I thought, "You know, if I wrote a book, people could stop calling me up." I had a little file case -- well, I think that's it right over there. The few articles that existed,

I put in the file case, and so I had a reference file. People would ask me a question. They'd say, "Well, who said so?" or, "What's the evidence?" And, I've have to try and find an article, of which there were very few, except those written by Niles Newton.

And so, I had gotten to know Diony Young, and then I got to know Marshall [Klaus] and John Kennell. John Kennell is a Rochester graduate. He was a couple of years ahead of me. In fact, when I was a third-year student, he was my resident on the infant ward. He showed me how to do an LP [lumbar puncture] on a baby. Of course, we did subdural taps all the time, and he showed me all those procedures. So, I remembered John very fondly, in that capacity. I got to know Marshall Klaus, because we wanted to kind of humanize our service, and Marshall and John had just written the bonding book. So, I went out to Cleveland, and met Marshall Klaus and John Kennell, and, of course, it became a lasting friendship.

Elizabeth McAnarney and I were studying adolescent mothering. Dr. McAnarney had come here to do her adolescent training and did the studies on adolescent childbirth. You know, she showed the best time to have a baby, physiologically, is when you're 18 years old. And so, we got to talking, because the outcome of the adolescent pregnancy was never very good. The children never did well, and so forth, and I said to Lissa, "Well it's obviously not biologic, so what is it? How are these adolescents handling this baby?" And, we videotaped adolescent mothers with their babies. We had a cadre. Our final intense study group was 54 adolescents, ranging in age from 13 to 18, with their babies. We had videotape of how the different age groups handled their babies, and it was very interesting. The 13-year-old looked at it kind of like a doll, kind of poked and picked at it, held it up to see whether the eyes blinked like a doll's eyes and that sort of thing, and then set the baby down and ignored it. The 18-year-old took the baby, put it in her arms, and sang a song. We have all these videotapes still, in fact. We made a master videotape of the 4 different kinds of mothering styles among adolescents. Then, when we saw them at 6 months and 1 year, the younger the adolescent, the more aggressive and competitive they were with their baby, whereas the 18-year-old had many mothering instincts and actions.

We worked with some psychologists on the campus. We were doing all this thing about adolescent mothering. I spoke at more adolescent meetings than I did neonatal meetings. That kind of led into this whole business of the breastfeeding. I thought, putting this all on paper will be simple. I mean, I have it right here, right? And so, I talked to Diony, and she told me how to approach [C. V.] Mosby [Inc.], which I did. I sent them a model chapter, a table of contents, and a letter of request, and they gave me a contract. And, they gave me an editor, and a deadline. One of my first editors was Ellen Baker Geisel. I believe she was married to Dr. Seuss's son. So, an interesting little connection there. Great lady, still keep in touch with her. But, it was

harder to write than I thought. So, I took over my dining room, and I had my references in small boxes around. And, after I got the children fed into bed at night, I would sit down and try to write some chapters. My mother had moved to town. My mother had retired. She was in her late 70s, but she had trained herself to type, take shorthand, and be a perfect secretary. She typed my manuscript. My dear, beloved mother typed my manuscript. And, I got one of the secretaries here to do some of the tables and the bibliography outside of work.

We sent the manuscript in, and the first edition got published at the end of 1979 and dated 1980. So, I was in it with both feet. And, it's interesting I talked to Dana Raphael, Margaret Mead's understudy who was at Brown with me, at a meeting. I told you that little story. [Laughter] Dr. [William] Oh was famous for taking people out to these wonderful Chinese dinners that he'd planned, but we girls were not invited to the dinner for all the speakers. We went out and had dinner together, and Dana said to me, "Don't worry. Someday, people will know your work. Just stick with it." We often spoke together on programs, and I kept in touch with her. She lived in Philly. I've lost track of her, because she became interested in other anthropologic issues. She'd been interested in childbirth. She wrote a book, *The Tender Gift: Breastfeeding*, and subjects like that. She made me very aware of the cultural aspects of this. And so, I just kept plugging along. Next thing I knew it was time to write the second edition.

DR. WINTER: Next edition. And so, how did you advertise that this book was now available?

DR. LAWRENCE: Well, that's what Mosby did. Elsevier doesn't bother. But Mosby promoted it, as they promote other textbooks. And of course, the first edition, which was up there, is the little thin, green one. So I didn't worry about that. I didn't worry particularly about whether it sold, or didn't sell. And, it sold very well. It was, in terms of number of books, the best seller for Mosby, because a large number of people were interested, not just physicians. And, it was inexpensive. They always have wanted to keep the price down, so that it would be available for their wider group of people. And my purpose was not to make a bundle of bucks, my purpose was to spread the knowledge and to make people aware, and to put some science behind it. Nestle [Food Company] was struggling and putting out stuff, and I wanted to set the record straight and put out the real science. We had a local group of interested people, not doctors, but interested women. And, we had our support group. And then the [La Leche] League [International] sprang up, and they joined the League. Our local group put my name up to be on their advisory board. And, they said I didn't know anything about breastfeeding. And so, Marianne Neifert and I were blackballed by the League until about 1990. And, Audrey as well.

DR. WINTER: Do you think they were threatened because you were physicians?

DR. LAWRENCE: I don't know. I don't know why they thought I didn't know enough, because several of the women who started the League are married to physicians. And they had physician consultants. They had Larry [Lawrence M.] Gartner. They just didn't think I was qualified to be a consultant to the League until much later in life.

DR. WINTER: Did the book find its way into medical school or residency programs? Was it something that was used here at the University of Rochester?

DR. LAWRENCE: Oh, I don't think in the same sense that most textbooks are. But you know, the kind of textbooks the medical students look for, the textbook of OB, the textbook of medicine, *Harrison's Principles of Internal Medicine*. Breastfeeding, in and of itself, had not been accepted. Now, of course, students don't buy textbooks, and, if it's not online, they don't want to hear about it. [Laughter]

DR. WINTER: So, is that the plan -- to have the book online?

DR. LAWRENCE: Oh, it is online.

DR. WINTER: Oh, OK.

DR. LAWRENCE: Yes, sixth edition is online. You buy the book and there's a key inside, and you can access the book online. Of course, people can pass the code around, and a lot of people use the same code. But there again, my purpose is to spread knowledge and information. So fine. [Laughter]

DR. WINTER: And, I suspect that the medical students buy the textbooks that have the information that will be present on their Boards, and so --

DR. LAWRENCE: Yes. I'm glad you brought that up, because that is something we work toward. We had the first Surgeon General's workshop in Rochester in 1984. C. Everett Koop was Surgeon General, and he had been looking at the urgent public health issues. One of them was smoking. And of course, C. Everett did a lot about smoking. But, he also noticed that our breastfeeding rates were extremely low, and he decided that that was an issue he'd like to put under the microscope a little bit. So, we got Elizabeth Brannon, and I don't know if you ever knew Liz Brannon. She was an RD [Registered Dietician] in the US Department of Health and Human Services, women's health. Wonderful gal. So, she became one of the staff members that were going to pursue that. And my book, I guess, came to C. Everett's attention, so he thought maybe I might make a good person to carry out this

workshop concept he had in mind. So he chose the U of R, because I was from the U of R. But of course, you couldn't have a woman run a program like that. So, they asked the chairman of OB here to do it with me.

DR. WINTER: Who was that?

DR. LAWRENCE: Henry Thiede. Henry was a wonderful guy. He introduced midwives here in Rochester. He was a graduate here. He'd done his residency in OB over at the Genesee Hospital, been down in Mississippi with midwifery. He didn't know much about breastfeeding, and that was not his focus of his lifelong career. But anyway, he was a man. So, we were invited to Washington to talk about this workshop. And, I was running CME [Continuing Medical Education] programs here with our CME office, so I brought the head of our CME office to Washington with me, and we planned this whole thing. It was all here in Rochester, and we decided to use all of the resources of the campus. We didn't have a big enough auditorium here at the hospital, so we used the Strong auditorium on the campus. So, we were partly on the campus. We had a reception and dinner at the art gallery downtown, which is owned by the university. We had a quartet of Eastman [School of Music] students playing music. We really wowed C. Everett. He was so impressed with all of the U of R stuff that came up and with what we were able to do. The day of the conference, of course, I was scheduled to be the moderator, and I made the opening remarks. Dr. Thiede didn't show up. He never came to the conference. But C. Everett was pleased with what we did; we became fast friends. He got really involved with breastfeeding, of course. You must have known him; he was from Philadelphia.

DR. WINTER: At CHOP [Children's Hospital of Philadelphia].

DR. LAWRENCE: And so, he came to the meeting in his gorgeous white uniform with his sword at his side, a public health general who has got to slash those dragons. [Laughter] Oh, I loved him. You've seen the book that was published. The artwork was done by a local artist, and everything was Rochester-made, as it were. It was by invitation only, and we picked people. This was C. Everett. He said, "I don't want hangers-on. I don't want people just because they like the idea of something. I want people who are going to contribute and go someplace with this." So, if you got an invitation, and you couldn't come, you couldn't send your best friend, or whatever. Well, Derrick [B.] Jelliffe wouldn't come unless he brought his wife. So we let him bring his wife, Doris Haire. Did you ever hear of Doris Haire? A very wealthy woman, who was a layperson with no medical background at all, a layperson who was into childbirth issues and was very militant about trying to get obstetricians to stop using so much anesthesia and to humanize childbirth. She had a lot of good points, but she used her money. She was not invited, because she had nothing to contribute. She came anyway, and she forced her way into the meetings. She was absolutely obnoxious. C. Everett

was about to take a sword out of his sheath, because there were a lot of very militant women trying to bring childbirth back to a natural form. Diony was one of them; she just wasn't quite so militant. And, she didn't have as much money as Doris Haire. Doris Haire just died a few weeks ago. At the *Birth* journal, there's a lot of discussion on email about whether they should have a tribute to Doris Haire or not. People are saying most people don't know who Doris Haire was. But anyway, she was sort of a thorn in our side.

DR. WINTER: Do you think that that was part of the feminist movement that led to sort of this --

DR. LAWRENCE: Well, not so much feminist, but there was a real childbirth movement. And these women weren't "feminist" in the sense that you think about. They were just trying to get childbirth to be more human. It was a very appropriate thing, and Diony was very effective in the community and very helpful. She was very knowledgeable, and had a very different approach.

Anyway, we had the first conference here, in June 11-12, 1984. Dr. Koop said, "Every time we do a government thing, the report doesn't come out for 2 years." He brought 2 official government editors with him, who were here taking notes. Everybody had to submit their papers, and everything had to be written up. Somehow, he found out when my birthday was, which is August 15. He said, "Dr. Lawrence, I'm going to have that book on your desk by your birthday." It was sent by special mail, a copy signed, "Happy Birthday -- Chick," which was his nickname. He meant it. He said, "It's not going to mean a thing unless we get it out there." By the time you get them out 2 and 3 years later, you know, everything has changed -- everything's gone by. He said, "We're going to get it out there."

The only thing was, there was no data on breastfeeding available anywhere except from Ross Laboratories. They had done the studies year after year, and they had an epidemiologist/statistician, Gilbert Martinez. He was the only commercial person. We had to invite him, he was the expert. He didn't sell Similac at the meeting. He did his professional work on statistics, how mothers fed their babies. He did some presentation here. So, Dr. Koop asked Gil and I to come to Washington every 6 months and report to him. And so, I got used to flying to Washington, jumping on the Metro, and going out to wherever his office was. Gil and I would meet with him for an hour or 2 and report to him on how breastfeeding was going, whether we would have an impact, and whether any of the things were being implemented. We did that until he was removed from office. Because the Surgeon General goes out with the president.

DR. WINTER: So, was there any thought back then at the Surgeon General's Conference that somehow the boards and the medical societies and the

authors of the questions for the national boards in training physicians, that that should be integrated somehow?

DR. LAWRENCE: Yes, oh yes. That was one of our major challenges. In fact, the following year we had another conference in Washington, and Paul Lambiase, who was the head of our CME here -- Dr. Koop tried to recruit him to Washington to run his programs, because he saw what a marvelous job he did. But anyway, Paul and I put together a conference in Washington to which were invited the heads of pediatrics, family practice, and OB, and the heads of not only their training, but their exam boards -- the American Board of Pediatrics, and so forth. The purpose was to say that it's got to be part of the training, and it's got to be part of the testing or nobody will pay attention. And, we kept track, as did Dr. Koop, of how many breastfeeding questions were on each of the boards for years, and, gradually, we got more, and more, and more. I got people who take the exam and they would keep track of the breastfeeding questions. Of course now, it's a random selection of questions on the computer, so one person may get a lot and somebody else may get none. But at least they know they're apt to be there.

DR. WINTER: And do you think the early questions were derived from what was in your book?

DR. LAWRENCE: I don't know. I have never looked at that question. I have no idea. Of course, it was a resource out there, but the American Board of Pediatrics was friends of ours, as it were. Their practitioner on the American Board for years was Frank Disney, who was my children's pediatrician here in Rochester. He, of course, knew I was going to breastfeed, and he accepted that that was fine. They gained weight. He knew relatively little about it, but he was not obstructive. And, his partner Burtis Breese's daughter was on our faculty, Caroline Hall. She was chairman of the AAP [American Academy of Pediatrics] Committee on Infectious Diseases. She just died about a year ago. But sometimes, I'd take my children in, and they were seen by Dr. Breese instead of Dr. Disney. And they'd always wrote the weight on, and the length on the instructions they gave me. And, you know they had carrots or something like that in the instructions. So, I saw Dr. Breese one day with my newborn. He brought out some stuff, folded it up, gave it to me, and I took the children out and packed them in the car. Got them in their car seats, and, so before I started the motor, I opened the note, and the note said, "If you don't know what to do, I can't help you." [Laughter] I just roared. [Laughter] Because you know, Dr. Disney used to say, "Start cottage cheese." I wasn't going to start cottage cheese, I was breastfeeding. [Laughter] Anyway, so I kept the note from Dr. Breese.

DR. WINTER: That's great. So, fast forward to today. What do you see as the major controversies within the field today, in breastfeeding and human lactation?

DR. LAWRENCE: Well, I think one of the problems from a public standpoint, is some of the promotion of breastfeeding is seen as very aggressive and very pejorative, which it's not intended to be. Before the formula companies became so aggressive and the biggest lobby in Washington, they were doing a great thing. They were looking to design something for children who could not receive their mother's milk. And, we still need that. It's good that we've improved on bovine milk. But, it's become a business. It's become aggressive and assertive and disconcerting, and all sorts of things like that. So, that's still a problem. I think formula companies should make their contribution -- do the real research they do. I mean, take PKU [phenylketonuria] disease. Well actually, the amount of phenylalanine in human milk is very low. So, mild cases of PKU disease can be breastfed exclusively, but, for serious cases, they can't be exclusively breastfed. You need something that is totally phenylalanine free. There are other metabolic diseases of a similar ilk. Of course, the composition of human milk is much more physiologic, so that you can usually have a little human milk, but you may not be able to have exclusive human milk. So, for whatever reason there may be, there are women who cannot produce enough milk for their babies, and we need good nourishment for those infants.

We used to have this wonderful balance with the industry. As I say, some of my best friends were detail men [Laughter]. I still consider Dewey Sehring of Ross Laboratories one of my best friends, and he opened a lot of doors for me. He introduced me to Audrey Naylor, because he'd heard about her in California and was aware of what she was doing. He got us together at a pediatric meeting. Audrey wouldn't admit that, of course, but it's the truth. [Laughter] But you know, I didn't travel a lot. I couldn't get to meetings. I didn't go anywhere I couldn't be back the same day. I could fly out of Rochester early in the morning, get the children off to school, all the lunches made. My sitter would come a little early, I'd run to the airport and jump on the plane. I'd go to Chicago or New York, Washington or Boston, and be back the same day. Be back in time to put supper on the table. Otherwise, I couldn't go. So, I didn't go to all these places, but Dewey would introduce me to people and that sort of thing. So, I felt he was a good friend, and he was very supportive of breastfeeding. All of his daughters breastfed their children, and he asked me to help them, which I did. And so, they weren't the enemy. It wasn't a "we-they" thing, the clash that we have today, where they're under suspicion at all times, and we never know what they're going to do next.

DR. WINTER: So what do you think changed that put them in this position of being the enemy?

DR. LAWRENCE: Well, I think as the rates of breastfeeding rose, Baby-Friendly came along and said you can't be giving out freebies and that sort of

their one entrée. I remember when my daughter, Kath, who was actually in New York at the time teaching at St. John's University, had her first baby, and she was breastfeeding. She delivered at Columbia, and Harold Fox, who was an obstetrician from here, delivered her actually. She breastfed, because she knew that's what she should do. When the baby was about 6 weeks old, she got a carton of Brand-X in the mail. She called me and she said, "Am I supposed to start this?" I thought, I can't believe my own daughter needed to ask that question. And, she had someone to ask. Most women don't and think, "Oh, I guess I'm supposed to start this." The formula companies had access to the birth certificates. They're public information, birth certificates are. And, they are printed in the local papers in many small cities, telling you who was born in which hospital in the month of May and that kind of thing. So, they knew who gave birth, and they would send free samples. Even though it was being stamped out in the hospitals, nobody was stopping them from sending them in the US mail. So, as more and more mothers breastfed, it became more a problem of selling the product.

DR. WINTER: So what do you think about the relationship between the industry and the AAP?

DR. LAWRENCE: Well, that's a real struggle, and we all know that the building was built with formula money. And Bob Haggerty was President of the American Academy of Pediatrics at that time. He was my chief. And nobody thought anything about it. It was so commonplace that, you know, what's the big deal? The formula men were all over the building, all of them competing. And in Rochester, I was able to convince everybody that they should have every brand available. It wasn't until RGH [Rochester General Hospital] broke away and became Baby-Friendly that they rocked the boat and committed themselves to Mead Johnson [Nutrition], which destroyed the whole commitment to human milk. Here, human milk is the house formula. Mother's milk is the house formula. We don't have any brand. At RGH, the house formula is Mead Johnson, and they're Baby-Friendly. So the companies have ways of beating the system. And, that's what it's become, how to beat the system and how to get your product sold. It's all about salesmanship now. It's not about education. It's not about promoting good nutrition. It's about selling a product.

DR. WINTER: So, how does the AAP save face in that the relationship really has been so strong since the inception of the organization? How does the AAP then develop that kind of moral authority around breastfeeding?

DR. LAWRENCE: Well, first of all, I think they have to decide that's where they're going. You know, when the breastfeeding group was started some years ago, Nancy Powers was on the group, and we got chastened by the executive director. And, Nancy started to cry for some reason or other.

And, he said, “Oh, you people are just a bunch of crybabies,” yada yada yada.

DR. WINTER: It was because of the book that then had the cover altered.

DR. LAWRENCE: Well yes, that was part of the discussion. Ross Labs paid the Academy to have their logo on the breastfeeding book the Section [on Breastfeeding] had written. That was so incredibly terrible.

DR. WINTER: Painful.

DR. LAWRENCE: I mean, how could they possibly have thought that? And apparently, the decision was made by the marketing department, not by the Board. A lot of the Board didn't see it as an issue because they didn't understand it. But, we had an advocate on the Board. I don't know if you remember Ed [Edward N.] Bailey. He was on the Board for years. He's from Massachusetts. He was trained right here in Rochester, NY. He was our chief resident. So, Ed knew what was important. He was very helpful in getting the section established, because he would always explain it to the Board and convince people of the value of breastfeeding. So, at some point, your term is up, and he's not on the board anymore. So I don't know if we have any advocates on the Board.

DR. WINTER: We do.

DR. LAWRENCE: But, I think more people have come to that point now. But, we can thank Ed Bailey for trying to explain to the Board what the issues were. I think it hadn't dawned on a lot of people. I think pediatricians are much more sensitive to these issues than other fields, but it's interesting here in this hospital. We accept no freebies for anybody, for anything, not just the formula. We don't have drug samples and things like that. So, all of the detail people and all of the drug companies have had to back off.

DR. WINTER: So, do you also pay for formula?

DR. LAWRENCE: We don't pay for formula, no. We don't because of the NICU and the special formulas. They've told me our formulas would be \$200,000 a year. It's very different than RGH; it's a few bucks. But, that's one of the major drawbacks. And, I tried to get Baby-Friendly to exclude the NICU. Of course, nobody on Baby-Friendly knows anything about it anyway. It's unfortunate. I mean, we have a lot of very supportive people for breastfeeding, but they don't know anything about hospital management. They don't know anything about NICUs. They don't know anything about intensive care and stuff, but they do know about human milk. We'll get there someday, because we're getting human milk in the NICU. And, we have --

DR. WINTER: Have less reliance on the special formulas. You'll have a lower amount of usage for the special formulas if mother's milk is available, and donor milk becomes more available.

DR. LAWRENCE: But, that, of course, is very expensive. [Laughter]

DR. WINTER: Yes, that's true.

DR. LAWRENCE: It's interesting that, you know, I can't believe I argue with neonatologists, and they say, "Well, donor milk is so expensive. Prolacta, their product is so expensive." I say, "Well, how much does a case of NEC [necrotizing enterocolitis] cost you?"

DR. WINTER: One case of NEC, exactly.

DR. LAWRENCE: You know, it's such an obvious argument.

DR. WINTER: It's an investment. And that's just the dollars and cents, notwithstanding the health and well-being.

DR. LAWRENCE: You wouldn't think that way if a child had meningitis, and there was a very expensive antibiotic that would work. You'd give it in a heartbeat.

DR. WINTER: Yes, you wouldn't think twice. Exactly, that's so true.

DR. LAWRENCE: But, it's hard to get rid of the free formula idea.

DR. WINTER: Yes. So, I'm going to ask you about another controversy I know that's come up a lot within the AAP, and that's about the issue of breastfeeding and bed-sharing, and the recommendations from the SIDS [sudden infant death syndrome] prevention group. Now, even the term SIDS has become more complex, because there's other conditions that result in infant death, such as SUPC [sudden unexpected postnatal collapse], SUIDs [sudden unexpected infant deaths], and many other sorts of related neonatal deaths that occur. And very often, the finger is being pointed at bed-sharing, breastfeeding, and even the 10 steps, with skin-to-skin and rooming-in. I just wondered what your thoughts were on all those issues.

DR. LAWRENCE: Well, I was invited to that meeting about a month ago, which was at the NIH [National Institutes of Health] and hosted by the SIDS committee. There were about 8 of us breastfeeding advocates there, including Marsha Walker, Linda Smith, Joan Meek, and members of the committee presented papers on breastfeeding and SIDS, showing that the original work from New Zealand, on which the Back to Sleep campaign was based, showed that it was breastfeeding, and sleeping on your back that made a difference.

And they chose only to promote the Back to Sleep part. John Brooks, a member of the AAP task force, was actually here in Rochester at the time, and I said, "John, why don't you promote breastfeeding?" He said, "Oh, we don't want to muddy the water. We just want to get children on their back." So, they ignored the breastfeeding piece.

The committee members presented these little papers that showed that there really wasn't any correlation to co-sleeping. It did show that breastfeeding was an advantage and that sort of thing. But, we were not asked to speak. We were not asked to present any papers. But, we were allowed to discuss it. We had a breakout group, which was interesting, and that's where I got that crocheted breast. The meeting was conducted by a professional group of meeting conductors, and it was very nice and very cordial. And everybody was very polite. So, in the discussion part, they were going around and around, saying it was all about co-sleeping. So finally, I said, "Well, what figures do you have on the measurement of oxygen saturation of all infants before discharge?" And they said, "What?" The committee didn't know anything about this. Of course, it's been a regulation. It's done in 26 states. It's mandatory in New York State. You cannot let a baby go home from the hospital unless you've done the oxygen saturation test.

DR. WINTER: Yes. We were the first state, New Jersey, I have to say.

DR. LAWRENCE: Really? OK, all right.

DR. WINTER: For critical congenital heart disease. Yes, yes.

DR. LAWRENCE: Do you know the impact of that test on SIDS?

DR. WINTER: Well, we had impact within a month. We had a save, but no. [Laughter]

DR. LAWRENCE: OK, well, that's my point. And, Joan Meek said, "Oh, I think we do it in Florida, but it's not mandatory." I said, "Well, I don't know what the outcome is across New York State, which has a huge birthrate. I don't know what the outcome is, but you need to know that." And, I said, "Cardiac disease is probably one of the causes of sudden infant death, and you can't always prove it, unless they have an anatomical thing you can find on post." I said, "I want to tell you a Rochester story," which I did. And, the story is about a local pediatrician 20 years ago who had a perfectly healthy, beautiful, breastfed baby boy, and the pediatrician came home from work one day, about 4:00 pm in the afternoon, went to pick the baby up, and he was stone cold dead, lying on his back, breastfed, stone cold dead. And, they never could figure out what happened, and we said among ourselves here in the community, "How could we lose a breastfed baby who was doing all the right things?" Well, the pediatrician came to me about 6 months ago, and he

said, “Ruth, I have something to tell you. My grown-up child had a near-death experience. They worked him up. He has QT syndrome.” He said, “We worked up the whole family.” And, he had a daughter who actually was a medical student here and is now a pediatrician. He said, “She has it, and I have it. I am now wearing a monitor and taking medication.” I said to the committee, “Until you figure out what causes sudden infant death, I don’t think it’s time to remove something that’s so important to breastfeeding like co-sleeping.” Nobody said a word.

DR. WINTER: And, I don’t think the pulse ox would pick up for long QT, because it’s not a cyanotic condition.

DR. LAWRENCE: Yes, well, that’s the trouble. We don’t know. The point was, we don’t know these things, and we can’t prove it on post. Most SIDS posts are done by coroners, not by pediatric pathologists. Of course, there’s a great correlation with prematurity, with all of the neglect problems, the compromised parent issues. So, that’s where we are. But, here’s a parameter that they could look at, and they didn’t even know about it. I couldn’t believe this committee not knowing about it. So, I’ve got to figure out whether the New York State Department of Health can look at what’s happened.

DR. WINTER: If they’re tracking the critical values.

DR. LAWRENCE: Yes, and whether there’s any correlation to SIDS. Between Highland Hospital and here, our first 5,000 births, they had 4 babies they had to refer to cardiology -- none of which had any diagnosable disease.

DR. WINTER: We had one within a month that was critical.

DR. LAWRENCE: And of course, that’s the point.

DR. WINTER: Identify. Early identification and stratification of your recommendations.

DR. LAWRENCE: That would have been one out of how many births, you think?

DR. WINTER: Oh, it was within the first month of the law in New Jersey, so --

DR. LAWRENCE: Really.

DR. WINTER: -- we have about 100,000 a year. So maybe, you know, roughly 10,000.

DR. LAWRENCE: Well, that's great to know. Thank you very much.
[Laughter]

DR. WINTER: [Laughter]

DR. LAWRENCE: I've been sort of harping on it. You should be putting your energy into early detection and not blaming it on a scapegoat.

DR. WINTER: Very true.

DR. LAWRENCE: I wrote my editorial for the issue of *Breastfeeding Medicine* that will come out in July/August on this meeting and this issue.

DR. WINTER: Yes. So, another controversy, another unanswered question is the relationship of breastfeeding to food allergies, and all of the, again, anecdotal experience and advice around dietary modifications in the mother, and whether or not breastfeeding in and of itself can either modify food allergies or may be responsible in some cases to the development of food allergies.

DR. LAWRENCE: As a cause.

DR. WINTER: Correct. Because of exposure to antigen.

DR. LAWRENCE: Well, I think the biggest exposure is in utero, and early Japanese work, now 50 years ago, that showed that. So usually, the diet isn't that much different in breastfeeding, unless the mother's withheld something or other now like chocolate. But, I don't know any chocolate allergies myself. [Laughter] Chocolate is therapeutic. But, that's a very interesting question. I personally am allergic to peanuts, and my mother was. So, we never had peanut butter. But I must have made 100,000 peanut butter sandwiches for my children, and none of my children are allergic to peanuts. My youngest son's wife loves peanut butter, and she ate her weight in peanut butter during her pregnancy with her first child, Riley. And she breastfed. Oh, Riley did so well. Riley's such a sweetheart. And then, when Riley got to be almost 1 year old, she wanted some peanut butter. She saw her mother eating peanut butter, and Sheila gave her a little spoonful of peanut butter. Riley had an allergic reaction. They had to rush her to the hospital. What's to say?

DR. WINTER: We don't know.

DR. LAWRENCE: We don't know, and Sheila ate it during her pregnancy, of course. So she had to hide her peanut butter in her house. She cannot feed it to her children, because Riley's so sensitive. She is one of these children in school, you know, nobody eats peanut butter in her presence and that sort of thing. So, I don't think it was especially the breastfeeding. I don't know what it is. I don't understand peanut allergy. I just know I don't eat peanuts, and I

don't go to Chinese restaurants, because they put peanuts in everything and cook everything in peanut oil.

DR. WINTER: So, do you think it may have something to do with the exclusivity of breastfeeding or the timing of the introduction of complementary foods, or what it is that's introduced in what order, or exposure?

DR. LAWRENCE: Actually, when you think about it, when you're on formula, every single drop of formula is just like the last drop for months and months and months. There's no variety, and many allergists feel that variety is important and that early introduction is important, and that sort of thing. So, I would be inclined to take the side of the fact that it's much more physiologic to breastfeed, and, if there's a known family allergy of some sort, we know that. We see breastfed babies who have a terrible bout of diarrhea or something like that. We look back on mother's diet, and, you know, we take her off something. And, she goes back to breastfeeding and all is well. But, I don't think we know enough about food allergies in particular, because data comes out all the time saying you really ought to introduce these things early and not wait. And, if they're introduced early, the infant isn't allergic to them. You have other families where they have a problem.

Also, you have milk allergy or milk intolerance. I think there's a difference between allergy and intolerance. Milk intolerance has to do with enzymes. And, you know, America is a very unusual country. We eat so many dairy products. Ice cream, milk, yogurt, cheese. Other countries don't do that. So, I think to suggest that breastfeeding contributes has no backing. There are no studies that support that. It's an obvious thing to test, of course, but I'm sure there are people who say, "Well, it's just the makings of the formula." [Laughter] But, I think that we try and focus on that for the few children who have enzyme deficiencies and that sort of thing. Most of the time, they do better with human milk. As an example, PKU.

DR. WINTER: With a mother and with regard to the fact that breastfeeding reduces the risk of breast cancer, particularly pre-menopausal, what do you suspect might be the mechanism behind that protection?

DR. LAWRENCE: Well, my natural reaction would be, it's not nice to fool Mother Nature. And, breastfeeding is the physiologic completion of the reproductive cycle. When you thwart the breast in its normal function, it may contribute to pathology. That would be my theory. Of course, there are young people who do get breast cancer before their childbearing years or before they've had any children. You know, college girls and things like that. So, cancer, of course, is a very complex thing, but I think in terms of statistics. If you look at those studies of the Chinese women in the fishing villages along the coast, if they get breast cancer, they only get it in one breast, because, they'd only breastfeed on one breast when they were out in

the fishing boats. And I think most of the women breastfed on the left side, and they never got left-sided breast cancer.

DR. WINTER: So interesting.

DR. LAWRENCE: Just a very interesting study. Quite a long time ago, but it makes you wonder about this and about the relationship.

DR. WINTER: So, I know we've talked a little bit in sidebar about maternity care practices, and I just thought it would be important to capture your feelings about the Baby-Friendly hospital initiative and the changes that are taking place across the country in trying to improve maternity care practices in hospitals in an attempt to increase breastfeeding rates.

DR. LAWRENCE: Right. And, I don't know that they've affected obstetrical behaviors tremendously, but that was a campaign that's been going on for a long time.

DR. WINTER: Birth practices.

DR. LAWRENCE: I think Baby-Friendly is a lovely idea. I think it's a beautiful concept. I think it's having an effect. But, when you look at their less than 200 hospitals -- and there are thousands of hospitals -- and when you look at what hospitals do become Baby-Friendly, God bless Harlem. But, in general, they tend to be small hospitals. They tend to be birth centers, which attract very health-conscious people. They don't tend to particularly cater to the uninitiated and uninformed, and the indigent and that sort of thing. But, you have to start somewhere, so that's fine. And, I think that it needs to be careful not to overextend itself and claim expertise in fields about which they have no expertise -- like premie care or giving instructions on how to make formula. You know, there should be rules to belong to this club involved in those areas. We're working very hard on premie nutrition, and we have some groups that are doing wonderful work, like Prolacta, like Medolac. So, I think it is fine. Do I think it's going to take over the world, and everybody's going to be Baby-Friendly? I don't think so. That's why we're working with the Joint Commission. That's why we're saying that any hospital that is approved to deliver babies must support breastfeeding, and that following the 10 steps is a good guide. The 10 steps were actually kind of started by Edie Jackson back in 1945. They were adapted, if you will, by UNICEF and WHO [World Health Organization]. But, they weren't dreamt up there. I mean, rooming-in and things like that, keeping the baby with you, putting the baby right to breast, were not new. I did these in 1951 at Yale. That's how it was. That is what I was taught.

So, if it's good, it should be available to every mother in every obstetrical unit, and probably the only way to do that is to have some way of certifying

that it happens. That is why I think that the ultimate success will come from it being a requirement if you're going to deliver babies.

DR. WINTER: And, do you think that 10 steps are encompassing, or do you think there are other steps? The 11th and 12th steps.

DR. LAWRENCE: Unfortunately, the Baby-Friendly thing is involved with this baby for 48 -- maybe 72 -- hours. There's no safety net. Yes, there should be a step number 11 and step number 12. We have to take some of that money and create a safety net. We need to have a support system in the community. That's what the league did years ago. And of course, the league, because it was a mother-to-mother program, was a peer support program. These women who started the league were all college graduates. They couldn't go into the inner city and say, "Now look, honey, you really got to do this." That's why we're working on peer support. That's why Mocha Moms and all of those programs --

DR. WINTER: Rose [Reaching Our Sisters Everywhere].

DR. LAWRENCE: -- Rose. Good old Kim [Kimarie Bugg]. [Laughter] But, I was working with Kim down in Atlanta years ago, when her husband first became a neonatologist. I would go to Atlanta all the time.

DR. WINTER: So, that's part of what Step 10 is supposed to be about, but I agree with you. I think that, in addition to referring to community support groups, we need a step that addresses building the network of safety net.

DR. LAWRENCE: Well, my exposure, there's no network to refer to. I'm unaware of RGH doing anything with the 10th step.

DR. WINTER: The 10th step, yes, yes. And, where are the pediatricians in that safety net? How do pediatricians become part of the safety net?

DR. LAWRENCE: Well, they need to be part of it, because, with babies going home in 48 hours, they need to be seen within 7 days. They need to be in the pediatrician's office, so the pediatrician is very important.

DR. WINTER: So many hospitals that are working on the 10 steps and that have really done a nice job in supporting mothers to breastfeed have actually started their own mother-baby clinics to fill the gap, if you will to provide the continued support.

DR. LAWRENCE: Well, in the original model for Edie Jackson back in the 1940s, the house staff went out and made house calls. Making a recently-delivered mother drag her newborn to the hospital is ridiculous. We made house calls. It was part of the system. It's the part that's been ignored. So,

when somebody says, “We’ll bring them in for a bilirubin,” I think, “Oh, that poor dear mother. She’s got to get herself up, and she’s got to get dressed. She’s got to dress that baby, and she’s got to drag herself to the hospital on the bus. You know, how can we ask her to do that?” We started a program here years ago testing early discharge, and I feel sort of guilty about that, because early discharge took off, and our follow-up system was left in the dust. We engaged the public health nurses, and every baby sent home in 48 hours was seen by a public health nurse the next day. The bilirubins were drawn by the public health nurse. She carried a scale. She weighed the baby. She counseled on breastfeeding. It’s written up in the literature. But, it never caught on. What caught on was sending them home early.

DR. WINTER: And then, Ian Paul repeated that study at Penn State and had positive results, but financing that, I guess, is one of the challenges.

DR. LAWRENCE: Well, that was paid for by Blue Cross Blue Shield. We set it up so it was paid for by our local Blue Cross Blue Shield. But, we did that 25 years ago, at least. I don’t know; I lost track of time. [Laughter]

DR. WINTER: So, where do you think the field of breastfeeding and human lactation is going in the future?

DR. LAWRENCE: Well, that’s interesting. I’ve sort of asked myself that question. [Laughter] And, I don’t know the answer. Will it peter out? Will we come complete circle and go back to bottle feeding? It’s hard to say. I don’t think we’ll ever go back to anesthetizing mothers completely during delivery, forceful deliveries, and invasive obstetrics. I would like to think that, if it became a natural process to then put the baby to breast, you don’t need to give the mother oxytocin. You put the baby to the breast. It clamps down the uterus. This is what I teach my medical students. If you’re ever in a situation with an emergency delivery in the back of the ambulance, put the baby to the breast. Because Mother Nature had a great plan, and it’s not nice to fool Mother Nature.

I don’t know if you remember the margarine ads years ago that said, “It’s not nice to fool Mother Nature.” Well, it’s true. And, we should take our leadership from Mother Nature and what she intended and what she prepared. Now obviously, there were obstetrical catastrophes, and all sorts of problems, possibly because we interfered with some of the normal process. In the past, women didn’t have obstetricians. Women delivered these children. They passed down the knowledge. Every young girl grew up in a family constellation with older sisters having babies, or aunts and cousins and whatever. But people knew about that. Now, a young woman doesn’t know anything about it and is unprepared unless somebody from outside the family teaches her. So, I hope it will continue, because it’s a natural process. But, industry has a strange way of changing lives, and it may be a problem of

constant vigilance. And now, we're trying to get physicians knowledgeable about it so they will protect breastfeeding, and, maybe, we will succeed at that. And so, that means obstetricians and pediatricians. It means ACOG [American Congress of Obstetricians and Gynecologists], and AAP, and AAFP [American Academy of Family Physicians] need to protect the whole process of pregnancy, childbirth, and childrearing. So, I hope people will hear the call.

DR. WINTER: And then, looking into the future, these newer fields -- such as epigenetics and understanding the implications of the genome technology -- maybe will shed light in some new ways.

DR. LAWRENCE: Well exactly. That's what we're hoping. But it's in such an early stage. It's hard to predict, although I think it makes such sense.

DR. WINTER: So, in a more general way, do you think children are better off today than they were 50 years ago, and do you think they'll be better off 50 years from now?

DR. LAWRENCE: Well, I don't know. It's hard to know what instant communication and Internet and things like that will mean. I mean, here are little 2-year-olds who diddle with computers and stuff like that. I don't know what effect that will have. Fifty years ago, my children were babies. [Laughter] And, I felt we did a pretty good job. [Laughter] On the other hand, there's some question about whether children are overscheduled -- parents running here, running there, with 2-, 3-, and 4-year-olds. 6-year-olds are on ball teams. What happened to the backyard? [Laughter]

DR. WINTER: And just playing?

DR. LAWRENCE: Yes. Everything is so prescribed, and going to school earlier and earlier. Now, they say, if you keep your child at home and don't put them in daycare by the age of 1 year, that they're not getting enough stimulation. Well, I don't know about that. But then, I guess if you have only one child and there are no siblings, then maybe daycare is the place to go. I didn't have that problem. It was very interesting when my children were growing up. Our house was always full of children. Mostly, they were only children who missed other children and missed the family atmosphere. When my children were teenagers, there was always some child living at my house who couldn't make it at home. I can't tell you how many times. And, children who are now grown adults who come back and say, "Thank you. What you did for me saved my life." So, there's something about the family constellation that should not be replaced, however you put it together. It delights me that all my grandchildren interact so well with each other. They're so fond of each other, look forward to seeing each other, and support each other in big cities like New York. [Laughter] And, things like that. I'm

not sure there's anything we've invented that will replace the value of a good family.

DR. WINTER: That's not just having family, but really spending time and telling stories. So, I think that that's the value of this whole experience -- being able to share stories that shed light on what we're doing today and into the future.

DR. LAWRENCE: Right, right. Oh, absolutely. And, the other thing is knowing somebody cares. And, whenever they're in a very difficult situation, socially speaking, somebody there cares. It may not be a blood relative, but somebody cares. That's critical to humankind. I don't care how many computers you buy. It doesn't replace the human need for human interaction, support, caring.

DR. WINTER: And, I think that has implications for medicine, and the field of pediatrics, and the way the health care system is evolving, knowing as you knew as a child that you had your general practitioner -- as rarely as you might have seen him -- that cared enough to support you in your endeavors. So, how do you think we can maintain that sense of caring and continue to carry that message going forward with people going into pediatrics?

DR. LAWRENCE: Well, I think that's a very important question. I think, first of all, people who tend to choose pediatrics tend to be slightly different, and they tend to be more caring and more concerned about social issues. Even though they may be very skilled in technology and may become pediatric cardiac surgeons, or intensivists, or anything like that, they all have that commitment to children, and they all have that compassion. So many people say, "Oh, I couldn't do pediatrics. I just couldn't relate to children." And, I think there are adults who have trouble relating to children, but I think people who choose pediatrics at whatever level have that compassion.

I'm impressed when I see our intensivists or I see our cardiologists. It's very interesting. My daughter Barb's youngest child, Mikey, when he was 18 months old, got a viral myocarditis or what's diagnosed as a viral myocarditis. He was air-evacuated to Pittsburgh for a heart transplant, which he didn't need, fortunately. But, anyway, I remember being in the intensive care unit, and Mikey -- this itty bitty baby -- is gasping for breath in this oxygen tent in the PICU [pediatric intensive care unit], right down the hall here. Our cardiologist, Jim Manning, went in, pulled up the chair beside the bed, right on the level with Mikey, and said, "Mikey, this is Grandpa Jim." And, he put his hand on him, and got his pulse, and did everything like that. This guy was a rock-solid cardiologist who could argue with the best of them. But, when he talked to children, he was Grandpa Jim. That's what I think pediatricians do. I think, if they go into pediatrics, it doesn't matter how complicated and intense their skills are, they have that compassion and that ability to connect with the child. Parents, another question. [Laughter]

But, yes, I always remember hearing that cardiologist that I was scared stiff of saying, “Mikey, it’s Grandpa Jim.” I thought, “This is how you take care of children.” So, I think pediatrics will do OK, because of the people who go into it and stick with it, no matter how complicated and electronic it becomes. [Laughter]

DR. WINTER: So, any final thoughts? This has been a little bit of a marathon. I thank you again for indulging me with all my questions. Anything else you want to share?

DR. LAWRENCE: Well, it’s interesting. As I say, if somebody told me this is where I’d go when I was in medical school, I would have doubted it completely. In fact, I didn’t think I’d spend time with babies, because we’d walk right by the premie nursery and not even look in. And actually, in my day, the obstetrician saw the babies in the hospital, and they weren’t seen by pediatrics until they were 6 weeks old. That was the custom. So pediatricians didn’t know a lot about newborns, and obstetricians just kind of filled in. It’s a field that’s grown within my own lifetime.

But I think breastfeeding is very important. It’s not just what’s for lunch. It was Mother Nature’s plan to protect the child, to facilitate the best growth possible. When you consider that the brain is going to double in size in the first year of life, wouldn’t you like to give the best building blocks possible for that brain growth? So, it isn’t surprising that children who were breastfed do better developmentally. There’s a lot of studies in different species on their placentas and the protective layers of the placenta. The human placenta is least protective, so that the human infant is born more vulnerable to infection at birth. It needs its mother’s milk, and it needs it for longer. So, infection protection, all of these things are so critical to have good nutrition. And, it’s not just about how many carbs and that sort of thing. It’s the nature of them, the biochemistry of them, that makes a difference. So, I think we still have a lot to learn about that. And, as I said to Mary Ann Liebert, there’s the anatomy, the biochemistry, the physiology. I think that’s still true. While we may have all the answers in another 50 years, we don’t have them now. And, I think it’s just not nice to fool Mother Nature.

DR. WINTER: Very good. Thank you so much.

END OF AUDIO FILE

Index

A

Academy of Breastfeeding Medicine, 42, 43, 57
American Academy of Pediatrics, 65, 67, 69,
77
American Board of Pediatrics, 33, 61, 64
American Society for Nutrition, 55
Anderson, Betty, 26
Anderson, Margaret, 3, 5, 8, 9
Antioch College, 9, 10, 11, 14, 19, 38, 39
Auerbach, Kathleen, 44

B

Baby-Friendly Hospital Initiative, 23, 66, 67,
68, 74, 75
Back to Sleep, 69
Bailey, Edward N., 68
Bell, Bob, 18
Boston College, 39
Bradford, William, 11, 33, 48, 58
Brannon, Elizabeth, 62
breast cancer, 73, 74
Breese, Burtis, 65
Briarcliff Manor, 3
Brodribb, Wendy, 54
Brooklyn, New York, 1
Brooks, John, 69
Brown, Miss, 9, 10
Bugg, Kimarie, 75

C

C. V. Mosby, Inc., 43, 44, 59, 60
Chamberlain, Harry, 21
Ciba Pharmaceutical Co., 11, 14
Cooke, Robert E., 20
Curnen, Ed, 20

D

Darrow, Daniel Cady, 20
Delivoria-Papadopoulou, Maria, 44
Disney, Frank, 65
Dozier, Ann, 47
Drorbaugh, James, 45

F

Federighi, Henry, 11
food allergies, 72, 73
Fort Dix, 6, 29, 30
Fox, Harold, 66

G

Galager Family, 18, 19
Galager, Sheldon, 19
Gartner, Lawrence M., 61
Geisel, Ellen Baker, 59
Genesee Hospital, 15, 62

H

Haggerty, Robert, 45, 48, 67
Haire, Doris, 63
Hall, Caroline, 65
Hamosh, Margit, 55
Harris, Barbara, 26
Harris, Boaz, 27
Harris, George, 16, 20, 24, 26
Hartmann, Peter, 53, 54
Hendricks-Munoz, Karen, 49
Highland Hospital, 71

I

International Lactation Consultant
Association, 42, 43, 53
International Society for Research in Human
Milk and Lactation, 55

J

Jackson, Edith B., 13, 23, 29, 75, 76
Jelliffe, Derrick B., 63
Joint Commission, 74

K

Kaiser, Albert David, 31
Kendig, James, 45
Kennell, John, 43, 59
Keutmann, E. Henry, 14
Klaus, Marshall, 43, 59
Kolar, Carol, 57
Koop, C. Everett, 61, 62, 63, 64
Korean Conflict, 6, 12, 25, 26, 27, 29

L

La Leche League International, 60, 61
Labbok, Miriam, 43
Lambiase, Paul, 64
Lawrence, Barbara, 36, 37, 39, 79
Lawrence, David, 40, 41
Lawrence, Don, 26
Lawrence, John, 36
Lawrence, Kathy, 35, 36, 38, 66

Lawrence, Riley, 72
Lawrence, Rob [son], 28, 29, 37, 41, 46
Lawrence, Robert M. [spouse], 6, 12, 16, 17,
18, 19, 20, 24, 25, 26, 27, 28, 29, 30, 35, 38,
40, 54
Lawrence, Sheila, 73
Lawrence, Stephen, 37
Lawrence, Tim, 34, 35, 37
Leopold Schepp Foundation, 10
Liebert, Mary Ann, 41, 42, 43, 80
Lobeck, Charlie, 33

M

Manning, Jim, 79
Martinez, Gilbert, 64
McAnarney, Elizabeth, 59
McNair, Jean, 29
Mead Johnson Nutrition, 67
Meek, Joan, 69, 70
Meyers, David, 56
milk intolerance, 73
Miller, Arden, 20, 25
Miller, Helen, 25
Milner, John, 55
Mobile Army Surgical Hospital, 12, 13, 26
Mocha Moms, 75

N

Naylor, Audrey, 41, 42, 57, 61, 66
Neifert, Marianne, 61
neonatal intensive care unit, 44, 46, 47, 48, 49,
58, 68
Nestle Food Company, 60
Newton, Niles, 54, 58
Nyhan, William, 20

O

Oh, William, 60
Oppenheimer, Ernst, 14, 52

P

Paul, Ian, 64, 76
pertussis, 2
Peters, J. P., 15
Picciano, Mary Frances, 55
poison control center, 33
Powers, Grover F., 20, 24, 27, 28
Powers, Nancy, 67
Provence, Sally, 28

R

Raphael, Dana, 60
Reaching Our Sisters Everywhere, 75
Riordan, Jan, 44
Robinson, Dr., 14
Rochester General Hospital, 49, 58, 67, 68, 75
Roscoe B. Jackson Memorial Laboratory, 12
Ross Laboratories, 64, 66, 67
Rubinger, KarlaShepard, 42

S

Scarborough School, 5, 6, 9, 19
Sehring, Dewey, 66
Smith, Linda, 69
St. Mary's Hospital, 15
Strong Memorial Hospital, 27, 35
sudden infant death syndrome, 69, 70, 71

T

Tarrytown, New York, 2
Thiede, Henry, 62

U

UNICEF, 23, 75
United States Breastfeeding Committee, 56, 57
University of Rochester, 11, 13, 14, 19, 20, 25,
26, 30, 31, 33, 34, 40, 44, 45, 46, 49, 59, 61,
62, 66, 67, 68, 70

V

ventilator, 44, 45

W

Walker, Marsha, 69
Warshaw, Joseph, 46
Wentz, Vida, 14
Whipple, George, 11, 16, 20

Y

Yale University, 13, 15, 16, 19, 20, 21, 23, 24,
27, 28, 30, 37, 44, 45, 46, 48, 49, 75
Yankauer, Alfred, 31, 32
Young, Diony, 43, 59, 63

Z

Zager, Bernard, 12

CURRICULUM VITAE

Ruth A. Lawrence

BUSINESS ADDRESS

Department of Pediatrics
University of Rochester
School of Medicine and Dentistry
601 Elmwood Avenue, Box 777
Rochester, New York 14642

CITIZENSHIP

United States of America

EDUCATION

<u>INSTITUTION AND LOCATION</u>	<u>DEGREE</u>	<u>YEAR</u>
Antioch College, Summa Cum Laude Distinction - Biology	B.S.	1945
University of Rochester School of Medicine	M.D.	1949

PROFESSIONAL TRAINING AND EXPERIENCE

1949-50	Intern and Resident in Pediatrics, Yale University School of Medicine, Grace New Haven Community Hospital
1950-51	Assistant Resident in Medicine, Grace New Haven Community Hospital
1951	Fellowship, Rooming-In Project, Edith M. Jackson, M.D., Pediatrics, Yale New Haven Hospital, Research Project Collation of Test Scores to Developmental Achievements
7/51-10/51	Chief Resident, Newborn Service, Yale New Haven Hospital
1/52-7/52	Consultant in Medicine, United States Army, Fort Dix, New Jersey
7/52-7/58	Research Pediatrician, Monroe County Health Department, Rochester, New York
1952-60	Clinical Instructor in Pediatrics, University of Rochester
1957-58	Associate Resident and Instructor in Pediatrics, University of Rochester
1958-	Medical Director of Finger Lakes Regional Poison Control Center
1960-64	Senior Instructor in Pediatrics, University of Rochester
1960-73	Chief of Nursery Service, Strong Memorial Hospital
1960-91	Chief, Department of Pediatrics, The Highland Hospital
1964-70	Assistant Professor of Pediatrics, University of Rochester
1970-85	Associate Professor of Pediatrics, University of Rochester
1975-85	Associate Professor of Obstetrics and Gynecology, University of Rochester

Lawrence, Ruth A.

- 1982 Highlight results of Genesee Regional Poison Prevention Project, 1982 International Congress of Clinical Toxicology. Snowmass, CO.
- 1983 Genesee Region Poison Prevention Project; Phase II. 1984 American Academy of Clinical Toxicology and the American Association of Poison Control Centers International Meeting, San Diego, CA.
- 1984 Cultural Values, demographics, and biomedical knowledge: choices in infant feeding. American Anthropologic Association, 83rd Annual Meeting, Denver, CO.
- 1984 Review of Surgeon General's Workshop in Breastfeeding and Human Lactation *for* the American Public Health Association Meetings, San Diego, CA.
- 1985- Professor of Pediatrics and Professor of Obstetrics and Gynecology, University of Rochester
- 1985- Founder/Medical Director, Breastfeeding and Human Lactation Study Center, University of Rochester
- 1986 Contemporary issues in maternal and child Health and nutrition: an interprofessional conference, Vancouver, British Columbia, Canada. Proceedings published, Medical Education Services (Canada) Inc.
- 1994 Babies may know best . . . but their parents may not: your role in teaching proper feeding techniques, American Academy of Pediatrics Annual Meeting, Controversies in the 1990's: Infant Feeding - Where Do We Go from Here? Denver, Colorado.
- 2005 -2009 Anatomy and Physiology of the Breast in course on Breastfeeding for Physicians at Academy of Breastfeeding Medicine Annual Meeting.
- 2006-Present Expert Consultant to WHO, regarding breastfeeding issues.
- 2007-2012 Epidemiology of Breastfeeding Lecture, Department of Community & Preventive Medicine, University of Rochester.
- 2008 Health Outcomes and the WIC Program Script, Albany, New York.
- 2009 Lactation and Breastfeeding, Reproductive Diseases, Disease Processes and Therapeutics, University of Rochester
- 2009 25th Anniversary Surgeon General's Workshop Summit on Breastfeeding, Sponsored by Kellogg Foundation(Cynthia Howard co-chaired)
- 2009 Grand Rounds Breastfeeding Especially for Prematures, Erie PA
- 2009 Medical Society Meeting, The Physicians Role in Successful Breastfeeding, Erie PA.
- 2009 Human Teratogens: Are they a problem for breastfeeding?, Human Teratogens Course, Mass General Hospital, Boston. MA.
- 2009 Breastfeeding on the State and National Fronts, The Finger Lakes Region Perinatal Forum, Canandaigua, NY.
- 2009 Growing up Catholic, John Henry Newman-Community, University of Rochester.
- 2009 Drugs in Breastmilk and Their Significance, Toxicology 530, University of Rochester.
- 2010 Time Management, Faculty Colloquium, University of Rochester
- 2010 Conference Children's Environmental Health, Environmental Toxins and Breastfeeding, Syracuse, NY
- 2010 Second Annual Summit on Breastfeeding, Washington, D.C., Sponsored by Kellogg Foundation

Lawrence, Ruth A.

- 2010 Time Management, Faculty Seminars, University of Rochester
- 2010 School of Public Health Albany National Broadcast for World Breastfeeding Week, Albany, NY.
- 2010 Neonatal Resuscitation Program (NRP) Provider, University of Rochester
- 2010 Bernstein Memorial Breastfeeding Symposium, Brooklyn, New York.
- 2010 School of Public Health Albany National Broadcast for World Breastfeeding week, Albany, NY.
- 2010 Lactation and Breastfeeding, Reproductive Diseases, Disease Processes and Therapeutics, University of Rochester.
- 2011 Lactation and Breastfeeding, Reproductive Diseases, Disease Processes and Therapeutics, University of Rochester.
- 2011 Breastfeeding Conference: Optimal Nutrition for the Infant and Young Child, The Breastfeeding Training Days, WIC, Caldwell County Health Department, Lenoir, NC.
- 2011 Breastfeeding Special Interest Conference (BFESIG), National Association of Pediatric Nurse Practitioners (NAPNAP), Baltimore, MD
- 2011 Vaccine to Protect Children from Anthrax, National Biodefense Science Board, Washington, DC.
- 2011 The Key to Life & Work Balance: Time Management, Pathfinder Protégé Gathering, University of Rochester.
- 2011 3rd Annual Summit on Breastfeeding, Washington, D. C., Chair of event, Sponsored by Kellogg Foundation.
- 2011 Breastfeeding Training Days, WIC, Caldwell County Health Department, Lenoir, NC.
- 2011 Breastfeeding Special Interest Conference (BFESIG), National Association of Pediatric Nurse Practitioners (NAPNAP), Baltimore, MD.
- 2011 Breastfeeding Conference: Optimal Nutrition for the Infant and Young Child, The California Chapter 4 AAP, Fountain Valley, California.
- 2011 22nd Annual Conference on Breastfeeding, Emory University School of Medicine, Atlanta, GA.
- 2011 School of Public Health Albany National Broadcast for World Breastfeeding Week, Albany, NY.
- 2011 Delaware Breastfeeding Symposium, Babies Were Born to Breastfed, The Breastfeeding Coalition of Delaware, Nemours & Christiana Care Hospital, Newark, Delaware.
- 2011 Science STARS, East High School, Rochester, New York.
- 2011 Nutrition Roundtable Panel Discussion, Health in Early Childhood: the First Thousand Days and Preparing for School, Bipartisan Policy Center, Washington, D.C.
- 2012 Lactation and Breastfeeding, Reproductive Diseases, Disease Processes and Therapeutics, University of Rochester.
- 2012 4th Annual Summit of Breastfeeding, Washington, D.C., Chair of Event, Sponsored by Kellogg Foundation.
- 2012 Pediatrics Grand Rounds Lecture, Connecticut Children's Hospital, Hartford, Connecticut.
- 2012 Women in Medicine, Women in Pediatrics, Central New York Pediatric Club,

- Canandaigua, NY.
- 2012 The Effect of Immediate Postpartum Depo-Provera on Early Breastfeeding Cessation, PhD Defense in Epidemiology, University of Rochester.
- 2012 Epidemiology of Breastfeeding, Department of Community & Preventive Medicine, University of Rochester.
- 2012 Drugs in Breastmilk and Their Significance, Reproductive & Developmental Toxicology, Toxicology 350, University of Rochester.
- 2012 The Key to Life & Work Balance: Time Management, Pathfinder Protégé Gathering, University of Rochester.

HONORS AND AWARDS

- 1941-49 Leopold Schepp Foundation Scholarship
- 1945 Research Fellowship - Jackson Memorial Research Labs Cancer and Genetics
- 1945-49 Buswell Scholarship
- 1947 National Highest Place-National Board Examination Part I
- 1949 National Highest Place-National Board Examination Part II
- 1949 Alpha Omega Alpha
- 1949 Secretary to Zeta Chapter AOA
- 1960 Honorary Fellowship in American School Health Association
- 1968 Woman of the Year, Girl Scouts of Monroe County
- 1970- Who's Who in Women, 1st Edition + Subsequent Editions
- 1972- Who's Who in the East + Subsequent Edition
- 1973 Outstanding Contribution - World's Who's Who of Women
- 1977-78 Outstanding Faculty Teaching Award, Department of Pediatrics
- 1977-78 Faculty Service Award, Department of Pediatrics
- 1979 Gold Medal Award: University of Rochester Alumni Association Citation
- 1979 Academy of Medicine Citation for Service to the Community
- 1979 Hettie Shumway Award for Community Service
- 1979- Who's Who in America, + Subsequent Editions
- 1980- Honorary Fellowship in American Academy of Clinical Toxicology
- 1982 William Keeler Award for Safety - Rochester Safety Council
- 1984 Citation for Civic Contribution - Rochester Safety Council
- 1987 Career Achievement Award - Girl Scouts of the Genesee Valley
- 1989 Rochester Diocesan Award for Women - St. Bernard's Institute
- 1991- Honorary Member, Department of Pediatrics, the Genesee Hospital
- 1991 Recipient, Albert David Kaiser Medal presented by the Rochester Academy of Medicine
- 1992 Recipient, George Washington Goler Award presented by the Board of the New York State Public Health Association, Genesee Region
- 1992 Recipient, Citation for Outstanding Service, 75th Anniversary of the Health Association
- 1993 Recipient, Big Brothers/Big Sisters Award for leaders in the community who have made a significant impact on the quality of life for families and children in Monroe County
- 1995 Commendation: University of Rochester, Committee on the Status of Women, for

Lawrence, Ruth A.

- outstanding leadership, commitment, and the pursuit of excellence for women in medicine, 1958-1995.
- 1995 Recipient, La Leche League International Award of Achievement
- 1995 Recipient:
The AACT Recognition Award
The AAPCC Lifetime Achievement Award
The NYSAPCC Recognition Service Award
Presented by the American Academy of Clinical Toxicology, the American Association of Poison Control Centers, and the New York State Association of Poison Centers, respectively
- 1996 Recipient, Civic Health Care Award of the Greater Rochester Metro Chamber of Commerce
- 1996 Recipient, Faculty Service Award, Department of Pediatrics, University of Rochester School of Medicine and Dentistry
- 1997 Recipient, Special Recognition Award from Best Start and USDA, presented at the launching of USDA Breastfeeding Campaign, Washington, D. C.
- 1998 Recipient, Second Annual Susan B. Anthony Women's Leadership University Center Lifetime Achievement Award
- 1998 Recipient, the Jordan Health Center Special Recognition Award
- 1999 Recipient, Healthy Children 2000 Lifetime Achievement Award
- 1999 Recipient, Association of American Medical Colleges Humanism in Medicine Award
- 2001 Recipient, Edward Mott Moore Award, Monroe County Medical Society
- 2001 Recipient, the Healthy Start Rochester Community Consortium, Community Unity for Healthier Babies Recognition Award for Commitment to Maternal and Child Health for Rochester, New York
- 2001-2002 Recipient, Best Doctors List
- 2002 Life-time Achievement Award, American Academy of Clinical Toxicology
- 2002 Member, Honorary Committee, Promoting the Best from the Beginning chaired by Mrs. Laura Bush, Healthy Mothers, Healthy Babies
- 2002 Recipient, Great Minds of the 21st Century
- 2002-2003 Recipient, America's Top Pediatricians, Consumers' Research Council of America
- 2003 Recipient, The 2003 Health Children Lifetime Achievement Award
- 2003 Fellow, Academy of Breastfeeding Medicine
- 2003 Recipient, Leading Breastfeeding National Advocacy Award, Leading Lady®
- 2004-2010 Honor, Finger Lakes Regional Poison & Drug Information Center renamed to Ruth A. Lawrence Poison and Drug Information Center
- 2004-2005 Who's Who in Medicine and Health Care, 5th Edition
- 2005 Life Time Achievement Award, Girl Scouts of Genesee Valley
- 2006 Health Leadership Award, March of Dimes
- 2006 Life Time Achievement Award (1st), Academy of Breastfeeding Medicine
- 2007 Perinatal Award- Perinatal Network of Monroe County. Community Champion, *June 13, 2007*
- 2008 Recipient, Athena Award - Celebrating Women of Distinction.
- 2009 Doctor of Divinity (Honorary), St. Bernard's School of Theology and Ministry
- 2009 Recipient, Dr. Richard Bayley Award, Richmond University Medical Center,

Lawrence, Ruth A.

- 2009 Recipient, Martha May Elliott Award, American Public Health Association
2010 Recipient, Anthony L. Jordan Recognition Award, Anthony L. Jordan Health Center
2010 Distinguished Alumna Professor Award, University of Rochester School of Medicine
2014 Recipient, Northumberland Trust Chair in Pediatrics, University of Rochester School of Medicine

MEDICAL LICENSURE

New York

BOARD CERTIFICATION

1960 - American Board of Pediatrics

MAJOR RESEARCH INTEREST

Mothering Behaviors in Primiparas
Vitamin D in the Breastfed Infant
Breastfeeding - Management and Understanding of Motivation to Breastfeed

MAJOR MEDICAL PRACTICE

Neonatology
Clinical Toxicology

MEMBERSHIP IN PROFESSIONAL SOCIETIES AND BOARDS

- 1960-85 Past President and Member, Executive Board, Safety Council of Rochester and Monroe County
1960- Member, American Academy of Pediatrics
1962- Member, American Association of Poison Control Centers
1970-81 Past President and Member, Executive Board, Health Association of Rochester and Monroe County
1972-80 Chair, Committee of the Fetus and Newborn, Academy of Pediatrics, District II, Chapter I
1972-76 Member, National Committee "Toward Improving the Outcome of Pregnancy"
1974-96 Past President and Member, Board of Life Line
1974-79 Chair, Finger Lakes Regional Perinatal Task Force
1975-83 Member, Board of Trustees, Empire Nine (Regional EMS Finger Lakes)
1976-79 Advisory Committee on New York State Health Code, Department of Health, Bureau of Maternal and Child Health
1977-87 Member, Medical Advisory Committee to Tel-Med-Monroe County
1977-80 Member, Ad Hoc Consultant Group on Regionalization of Perinatal Care in the State of New York (formerly Governor's Task Force)
1978-00 Member, American Medical Women's Association, Inc.
1978-79 Consultant on Childhood Accidents, Robert Wood Johnson Foundation
1978-80 Member, Advisory Committee to Bureau of Maternal and Child Health, State of New York, Department of Health
1978-81 Member, Long Range Planning Committee of the American Association of Poison Control Centers
1979-82 Member, Board of Trustees, Rochester Academy of Medicine
1979-83 Consultant to Joseph P. Kennedy, Jr. Foundation for Adolescent Pregnancy and Sex Education

Lawrence, Ruth A.

- 1980-83 Board of Consultants, International Childbirth Education Association
1980-83 Chair, Sub-Committee, Drugs in Breast Milk, Perinatal Section of the Academy of Pediatrics
1980-85 Advisory Board, Rural Infant Care Program, Robert Wood Johnson Foundation. Consultant to Duke University Project and Ohio State University Project
1980-85 Consultant to HEW-EMS Uniform Record for Poison Control Centers
1980-89 Member, New York State Department of Health Advisory Council on Poison Prevention/Control
1981-83 Member, Committee on Accreditation, AAPCC
1981-87 Vice-Chair, Advisory Council on Poison Control Regionalization, NYS DOH
1982-85 University of Rochester's Medical School Alumni Council
1982-86 Board of Trustees, American Academy of Clinical Toxicology
1982-95 Chair, Committee on Honorary Fellowships, American Academy of Clinical Toxicology
1983-84 Chair, Surgeon General's Workshop on Breastfeeding and Human Lactation. Chair, National Planning Committee
1983-85 President, Alumni Council, University of Rochester School of Medicine
1983-90 Member, Prenatal/Perinatal New York State Advisory Council (reappointment)
1984 Participant, 85th Ross Conference on Pediatric Research. Hyperbilirubinemia in the Newborn, Levine RL and Maisels J (Eds), Columbus, Ohio
1984 Participant, 15th Ross Roundtable on Critical Approaches to Common Pediatric Problems, Columbus, Ohio, 1983
1984-85 Consultant to New York State Health Department on Adolescent Depression and Suicide Crisis Phone Service Management
1984-86 Editorial Board, Dialogues in Infant Nutrition, Health Learning Systems, Inc., Editor Jack Filer, M.D.
1984-1985- Consultant to Surgeon General's Office on Breastfeeding and Human Lactation Study Section for NIH on Lactation
1985-95 Scientific Review Committee for the American Academy of Clinical Toxicology
1986- American Pediatric Society
1987 Consultant, Workshop on Risk Assessment in Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, Arkansas
1987-89 Chair of Advisory Council of Poison Prevention and Control, State of New York, Department of Health
1987-90 Member, Advisory Council on Poison Prevention and Control, State of New York, Department of Health
1987-90 Member, Board of Trustees, International Society for Research on Human Milk and Lactation
1987- Consultant, Bureau of Maternal and Child Health and Resources Development, Department of Health
1988-89 Chair, "Milk Club", Pediatric Academic Societies (PAS)
1988-89 National Committee on Improving Breastfeeding Promotion Strategies in the WIC Program, Washington, D.C.
1988-89 Food and Drug Administration, Drugs and Lactation Suppression, Washington, D.C.
1988-90 Subcommittee on Nutrition During Lactation, Institute of Medicine, National Academy of Sciences, Washington, D.C.

Lawrence, Ruth A.

- 1988-91 Maternal and Child Health Division of HEW for SPRANS Grants on Human Lactation and Breastfeeding
- 1989 Consultant, Field Seminar, Future Directions in Infant Development Research, Cornell University, Ithaca, New York
- 1989-95 Board of Trustees, American Academy of Clinical Toxicology
- 1989- Board of Trustees, Monroe Community Hospital, University of Rochester Representative
- 1989-98 Consultant, Perinatal/Pediatric Respiratory Care Examination Committee of the National Board for Respiratory Care, Inc.
- 1990-91 Chair, Board of Trustees, Monroe Community Hospital
- 1991-00 Advisory Board of Human Milk Banking Association of North America, Inc.
- 1991-01 Board of Trustees, St. Bernard's Institute
- 1992 Chair, Presidential Search Committee, St. Bernard's Institute
- 1992- Consultant, Breastfeeding Advisory Group, State of New York Department of Health, Albany, New York
- 1993-00 Consultant, Advisory Committee of the Antenatal Nursing Training Project, Columbia University Schools of Nursing and Public Health
- 1994-97 Consultant, International Childbirth Education Association
- 1994- Founding Board Member, Academy of Breastfeeding Medicine
- 1994-96 Secretary/Treasurer, Academy of Breastfeeding Medicine
- 1995-97 Secretary/Treasurer, International Society for Human Milk and Lactation
- 1995- Medical Director, The Institute of Human Lactation at the School of Public Health, University of New York at Albany
- 1995-98 Adjunct Professor, University at Albany, State University of New York, School of Public Health, Department of Health Policy & Management
- 1996-1997 President, Academy of Breastfeeding Medicine
- 1996- Member, American Institute of Nutrition, a constituent society of the Federation of American Societies for Experimental Biology
- 1996-00 Consultant, Columbia University School of Public Health, Workshop on Breastfeeding
- 1996- Consultant, Community Nutrition Institute, Washington, D.C.
- 1996- Consultant, The National Alliance of Breastfeeding Advocates
- 1996-02 Member, Work Group on Breastfeeding of the American Academy of Pediatrics
- 1997-2005 Consultant, Advisory Committee for Best Start
- 1997-2000 Member, Expert Work Group for the BFHI Feasibility Study, Healthy Mothers, Healthy Babies
- 1997-2010 Member, United States Breastfeeding Committee (USBC) representing the American Academy of Pediatrics
- 1998-03 Official Observer for AAP to the Board, International Board of Lactation Consultant Examiners
- 1999- Honorary Member, Sigma Delta Epsilon, Graduate Women in Science
- 2000- Member, United States Breastfeeding Committee.
- 2000- Member of the Executive Committee of New York State Breastfeeding Coalition
- 2001-03 President, New York State Poison Centers
- 2002-2006 Member, Executive Committee, Section on Breastfeeding, American Academy of Pediatrics

Lawrence, Ruth A.

- 2002-2007 Vice-President and Member of Executive Committee, United States Breastfeeding Committee
- 2003- Member, Food and Drug Administration Advisory Panel
- 2003- 2010 Honorary Board Member, Girl Scouts of Genesee Valley
- 2004-2011 Member, Board of Directors, Our Lady of Mercy High School
- 2005- 2009 Member, Board of Directors, March of Dimes
- 2006-2011 Immediate Past Chair, Executive Committee, Section on Breastfeeding, American Academy of Pediatrics
- 2006- Member, Medical Nutrition Council of the American Society for Nutrition
- 2007- Consultant, Federal Food and Drug Administration Advisory Council
- 2008-2010 Chair Fellowship and Awards Committee Academy of Breastfeeding Medicine
- 2008- Expert Roster, European Union Project Prevention of Obesity in Europe (EURO-PREVOB)
- 2009-2014 Chair, Summit on Breastfeeding I, II, III, IV, V, VI Washington, D.C.
- 2010 Consultant/Reviewer for the Thrasher Research Fund, Cincinnati Children's Hospital Medical Center
- 2011-Present Consultant, General and Plastic Surgery Devices Panel, Medical Devices Advisory Committee, and Center for Devices and Radiological Health, Department of Health and Human Services, Food and Drug Administration.
- 2012-2014 Member, Executive Committee, Section on Breastfeeding, American Academy of Pediatrics
- 2012-Present Member, Anthony Jordan Health Foundation Board
- 2014-Present Member, Healthy Baby Network (formerly known as Perinatal Network of Monroe County)

EDITORIAL BOARDS

- Editor-in-Chief for *Breastfeeding Medicine* (Founding Editor) (2005-)
- Editorial Board for *Birth* (1986 -)
- Editorial Board for *Today's Women* (1980-1990)
- Editorial Board for the *Journal of Clinical Toxicology* (1985-1998)
- Editorial Board for *ABM News & Views* (1995-2005)
- Editorial Board of *Micromedex Inc. – Poisonsdex* (1990-2000)

EDITORIAL ACTIVITIES

- Journal Review for *Pediatrics*
- Journal Review for the *Journal of Pediatrics*
- Journal Review for the *American Journal of Diseases of Children*
- Journal Review for *American Journal of Obstetrics/Gynecology*
- Journal Review for *Veterinary & Human Toxicology*
- C.V. Mosby Company - Medical Division (Publishers)
- Journal Review for *The American Journal of Perinatology*
- Journal Review for *Behavioral and Developmental Pediatrics*
- Journal Review for the *Journal of Adolescent Health Care*
- Journal Review for the *Journal of Pediatric Gastroenterology and Nutrition*

Journal Review for *Red Book*
Journal Review for *Social Science & Medicine*
Journal Review for *New England Journal of Medicine*
Journal Review for *American Journal of the Medical Sciences*
Journal Review for *Archives of Pediatrics & Adolescent Medicine*
Journal Review for *Journal of Clinical Toxicology*
Journal Review for *Western Journal of Medicine*
Journal Review for *Monts, Montanans on a New Trac for Science*
Journal Review for *Nutrition Research*
Journal Review for *American Journal of Epidemiology*
Journal Review for *Journal of Evidence-based Health Care*
Journal Review for *Medical Science Monitor*
Journal Review for *Canadian Task Force on Preventive Health Care*

BIBLIOGRAPHY

Original Articles

Yankauer A, Lawrence RA. A study of periodic school medical examinations: I. Methodology and initial findings. *Am J Publ Health* 45:71-78, 1955.

Yankauer A, Lawrence RA. A study of periodic school medical examinations: II. The annual increment of new "defects". *Am J Publ Health* 46:1553-1562, 1956.

Yankauer A, Lawrence RA, Ballou L. A study of periodic school medical examinations: III. The remediability of certain categories of "defects". *Am J Publ Health* 47:1421-1429, 1957.

Yankauer A, Wendt GR, Eichler H, Fry CL, Lawrence RA. A study of periodic school medical examinations: IV. Education aspects. *Am J Publ Health* 51:1532-1540, 1961.

Lawrence RA. Experiences of New York State four year evaluation study. *J Sch Health* 29:378, 1959.

Lawrence RA, Hawley EE. A comparative study of the acceptance and tolerance of orange juice and "commercial instant breakfast drink" by 114 infants. *Am J Nutr* 10:137-141, 1962.

Glaser J, Lawrence RA, Harrison A, Ball MR. Poi--Its use as a food for normal, allergic and potentially allergic children. *Ann Allergy* 4:633, 1966.

Creasman WT, Lawrence RA, Thiede HA. Fetal complications of amniocentesis. *JAMA* 204:949-952, 1968.

Lawrence RA, Haggerty RJ. Household agents and their potential toxicity. *Modern Treatment* 8:511-527, 1971 (also published in Spanish and Italian).

Borgstedt AD, Lawrence RA, Sokol RJ, Rosen MG, Steinbrecher M. Abnormal electrical activity

Lawrence, Ruth A.

of the fetal brain and seizures in the infant. *Am J Dis Child* 127:477-483, 1974.

Klein M, Kopelman A, Lawrence RA. Hyperglycemia and sickness. *Pediatrics* (letter to editor) 54:516-517, 1974.

Borgstedt AD, Lawrence RA, Leo P, Heriot JT, Bachelder L. Estimation of gestational age in high risk infants. *IRCS Medical Science* 3:64, 1975.

Lawrence RA. Acetaminophen toxicity. Bulletin of Supplementary Material. *Clin Toxicol Comm Prod* 3:19, 1976.

Borgstedt AD, Heriot JT, Rosen MG, Lawrence RA, Sokol RJ. Fetal electroencephalography and one-minute and five-minute Apgar scores. *J Am Med Wom Assoc* 33:220-222, 1978.

McAnarney ER, Lawrence RA, Aten MJ, Iker HP. Discrimination of age on the basis of facial cues. *Pediatr Res* 14:429, 1980.

Merritt TA, Lawrence RA, Naeye R. The infants of adolescent mothers. *Pediatr Ann* 9:100-110, 1980.

McAnarney ER, Lawrence RA, Aten MJ, Goodfellow C, Iker HP. Discrimination of the age of adolescents on the basis of facial cues. *J Adol Health Care* 1:213-216, 1980.

Lawrence RA. Successful breastfeeding (marginal comment). *Am J Dis Child* 135:595-596, 1981.

Lawrence RA, Merritt TA. Infants of adolescent mothers: perinatal, neonatal and infancy outcome. *Semin Perinatol* 5:19-32, 1981.

Lawrence RA, McAnarney ER, Aten MJ, Iker HP, Baldwin C, Baldwin A. Aggressive behaviors in young mothers. *Pediatr Res* 15:443, 1981.

Lawrence RA. Practices and attitudes toward breastfeeding among medical professionals. *Pediatrics* 70:912-920, 1982.

Fisher L, VanBuren J, Nitzkin JL, Lawrence RA, Sinacore J. Highlight results of Genesee Regional Poison Prevention Project. *Vet Hum Toxicol* 24:112 (Suppl), 1982.

Amado A, Lawrence RA, Roghmann K. Perinatal home care--report on a Blue Cross and home care effort. *Caring* II:27-30, 1983.

Lawrence RA. Infant Nutrition. *Pediatrics in Review* 5:133-140, 1983.

Foye H, Liptak G, Frodi A, Keller B, Berko J, Lawrence R, McAnarney E. Infants of low socioeconomic status adolescent mothers: predicting secure attachment at one year of age. *Am J Dis Child* 137:542, 1983.

Lawrence, Ruth A.

Lawrence RA, Kluess PW, Oppenheimer BG. The Life Line Poison Control Center: A cost effective analysis. *Vet Hum Toxicol* 25:61, 1983.

Lawrence RA, Oppenheimer BG. Suicide attempts by poisoning reported to the poison control center of a multicrisis telephone service. *Vet Hum Toxicol* 25:61, 1983.

McAnarney ER, Lawrence RA, Aten MJ, Iker HP. Adolescent mothers and their infants. *Pediatrics* 73:358-362, 1984.

McAnarney ER, Ricciuti HN, Lawrence RA, Anderson JP. Assessing adolescents and their nine month olds in the laboratory. *Pediatr Res* 18:98, 1984.

McAnarney ER, Lawrence RA, Polley J and Szilagyi M. Adolescent mothers and their young children. *Pediatr Res* 19:112, 1984.

McAnarney ER, Ricciuti HN, Lawrence RA, Anderson JP. Assessing adolescents and their 9 month olds in the laboratory. *Ped Res* 18:98, 1984.

Frodi A, Keller B, Foye H, Liptak G, Bridges L, Grolnick W, Berko J, McAnarney E, Lawrence R. Determinants of attachment and mastering motivation in infants born to adolescent mothers. *Infant Mental Health* 5:15-23, 1984.

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