

OREGON HEALTH SCIENCES UNIVERSITY HISTORY PROGRAM

ORAL HISTORY PROJECT

INTERVIEW

WITH

*S. Gorham Babson, M.D.*

Interview conducted June 23, 1999

by

Heather Rosenwinkel

## SUMMARY

Dr. S. Gorham Babson opens the interview with the story of his father's move from New York to Hood River, Oregon in 1907, and a description of his own life as a young boy growing up on an apple orchard. He discusses his early education, his undergraduate years at Reed College and the University of Oregon, and his entrance to the University of Oregon Medical School in 1932. In reviewing his years of residency at Babies Hospital in New York, and Stanford-Lane Hospital in San Francisco, he describes some of the unusual cases he saw, and the types of treatments that were available in those early years of pediatrics.

Dr. Babson touches on the effect of the Great Depression on his own education, and on the medical profession as a whole. He recounts his brief military service during World War II; the week he was scheduled to arrive at Ft. Dix for training, he came down with a cough and fever, later diagnosed as tuberculosis. He spent four months confined to a bed in the tuberculosis hospital on the university campus, and was discharged from the military soon after.

In 1940, Dr. Babson opened a private practice in Portland; he describes the early years of house calls and the types of cases he typically encountered. In the beginning, few antibiotics or vaccines had been developed, and the work of the pediatrician was mostly in preventive medicine. While in private practice, Dr. Babson maintained a position at the UOMS first as a clinical associate, an unsalaried doctor who made rounds with the residents, and then as a volunteer faculty member.

In January of 1950, Dr. Babson received a call from Shirley Thompson, Superintendent of Doernbecher Children's Hospital, who asked him to assist Nurse Betty Weible in establishing a premature infant nursery at the hospital. This nursery became a regional center for neonatal care, and Dr. Babson describes the systems of transport that were developed to bring premature infants to Doernbecher from around the state. He reflects on the kinds of cases he saw in the nursery, and on developments in medical treatments for premature infants during the fifties.

Dr. Babson describes the development, in the 1960's, of the Neonatal Intensive Care Unit at Doernbecher, and the first use of helicopters to transport critical infants to the hospital, in 1972. Innovations in infant care and medical technology during the sixties and seventies are discussed; some of those developed by staff members at the NICU, such as Kit Johnson's Resusci-Kit, are highlighted.

Throughout his reminiscences, Dr. Babson reflects on the emergence of neonatology as a specialty within pediatrics, and on the vital role of the nurse in premature infant care. The growing importance of collaboration between perinatologists, neonatologists, and pediatric nurses in the development of neonatal care is reflected in the title changes made for various editions of Dr. Babson's classic textbook, *Primer on Prematurity and High-Risk Pregnancy*. Dr. Babson also touches on research areas of personal interest, such as twin studies and fetal nail growth as a measure of maturity.

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Interview with S. Gorham Babson, M.D.  
Interviewed by Heather Rosenwinkel  
June 23, 1999  
Site: History of Medicine Room  
Begin Tape 1, Side 1

ROSENWINKEL: Dr. Sydney Gorham Babson and I are sitting in the History of Medicine Room at Oregon Health Sciences University, in the Old Library, and this is Wednesday, June 23, 1999, and we're just about ready to start our interview.

Well, the first thing I'd like to know is a little bit about your family background, like where you were born and where you were raised.

BABSON: I was born in Portland, Oregon, January 5, 1912. My family were early pioneers in the upper Hood River Valley, arriving in 1907. There was no hospital in Hood River, no birthing room, no midwife, and, being from the East, my mother thought she should go to Portland to have an obstetrician. So I didn't arrive at Hood River until ten days after birth. I was told later the trip was by train because there was no Columbia River Highway at that time. I spent the first night in the Hood River Hotel, then a wooden structure. The next morning they reported four feet of snow covered the valley, and, being the middle of January, my father had to hire a four-horse team to pull a sled the twenty miles up through the valley to our home at Avalon Orchard, ten miles below Mt. Hood.

ROSENWINKEL: So your father was an orchardist, then, or a farmer? Or what exactly did he do?

BABSON: He was one of the educated Easterners that came to the valley to raise apples, which had become popular in the world, particularly those from Hood River. And when his father died at fifty-six years of age, my dad resigned from his work with the firm in New York. He was the middle of five boys, who was picked to be the supporter of my grandfather in business, and his father's early death released him from this responsibility. He resigned from the firm and took two years to find a place to grow apples, winding up in the Hood River Valley.

ROSENWINKEL: That's quite a difference, going from a business firm in the East to becoming an orchardist or apple grower in the Hood River Valley. And he was happy with that decision?

BABSON: Never regretted it. He was an escapist from the city, wanted to go almost any place where the land had been "untouched by human hands." He bought half a homestead of forested land, which had to be cleared. His father had left each son \$25,000 at his death; that amount in those days was sufficient to buy the eighty acres and help with

clearing the land and planting the young trees.

ROSENWINKEL: So, here you are, growing up in the Hood River Valley on an orchard, and what were your teenage years like?

BABSON: I was a farm boy with no playmates of my age, except if you call my brother, two and a half years older, a playmate, and I helped my dad in the orchard. Our first school was Valley Crest, for my brother and me, and we had the privilege of going to school with the homesteaders' children whose parents had built Valley Crest School, a one-room school with one teacher for their children through the first eight grades.

ROSENWINKEL: So this was elementary school you're talking about?

BABSON: Yes, but we were later transferred to Parkdale Elementary with one teacher for two grades.

ROSENWINKEL: So where did you go after that, then?

BABSON: I finished Parkdale High later. There were ten in my class with seven girls. And at the age of sixteen I graduated and couldn't wait to leave Parkdale at that time.

ROSENWINKEL: So you decided somehow to get out of Parkdale. Where did you decide to go after Parkdale?

BABSON: College. Reed College for two years, then University of Oregon...

ROSENWINKEL: In Eugene.

BABSON: ...then the Medical School in Portland.

ROSENWINKEL: What we're always interested in is how you became interested in medicine, what your motivations were for going into medicine, because you're—as you say, you're a farm boy, and it's a long way from being a farm boy to going into medicine.

BABSON: My parents were educated Easterners, and anyone coming from the eastern seaboard were “New Yorkers” in the Hood River Valley, because there were many of such Easterners wanting to leave the city. This fact meant I was stimulated by books and reading; an urge to travel later; and the expectancy of getting a complete education. How I got into medicine I don't know, except I always had a wish to take care of children. I seemed to be more comfortable in their presence.

ROSENWINKEL: From a very early age?

BABSON: Before college.

ROSENWINKEL: Did you have younger brothers and sisters that you took care of, or relatives maybe?

BABSON: I had an older brother and a younger sister.

ROSENWINKEL: And were you the caretaker for your younger sister, for example?

BABSON: No. She was three and a half years younger, and I wish I'd been a better brother to her than I was.

ROSENWINKEL: (Laughing) Well, we have you at the University of Oregon. What kind of curriculum did you study that pertained to medicine?

BABSON: I took premedics, of course, which I'd done at Reed. I won't tell you why I had to go to Oregon from Reed, but if it's interesting, or superfluous, it could be cut out by you people. But the professor of chemistry, Dr. Scott, after two years, said, "You know, Babson, I like you, but not in my organic chemistry class," which it was necessary to take for premedics. So I had to seek another place to go.

Dr. Scott wished to have only the brightest in his chemistry program. I didn't meet his qualifications. It may have been to his credit that I received straight A's in organic chemistry at Oregon.

ROSENWINKEL: So you ended up at the University of Oregon, then.

BABSON: I was admitted to the Medical School in Portland. It's possible that they liked the idea of having one from the farm (laughter).

ROSENWINKEL: So we have you wanting to look after children from an early age, and in 1932 you came up to the University of Oregon Medical School, then?

BABSON: 1932, yes.

ROSENWINKEL: And tell me a little bit about the four years you were here, your medical education here.

BABSON: I couldn't afford a car, and drove up with Paul Vogt, who was a student in my class from The Dalles. He drove me for two years without thought of payment, for a reason I don't know. I still see him now; he is retired in The Dalles, and try to pay him back by playing golf with him occasionally.

But the main street up through the campus in those days was uncrowded; parking was available for students right on—what's the name of the street?

ROSENWINKEL: Sam Jackson Park Road?

BABSON: Yes. And we had the Doernbecher Hospital recently built, the County Hospital, and, of course, the Medical School for our complex overlooking the city of Portland.

ROSENWINKEL: So did you have any favorite classes, particularly, when you were here?

BABSON: I know I studied very hard. I wasn't as bright as Paul Vogt, who had a little better training than I had, at Stanford, perhaps because he took more premedical courses such as bacteriology and a few others. But I kept on for four years and applied for an internship at Multnomah County Hospital, under the wing of Dr. Dillehunt, the dean, who encouraged me to pursue my interest in pediatrics.

ROSENWINKEL: So he was your main inspirer?

BABSON: Not so much in pediatrics as Dr. Bilderback, who was, of course, chairman of the department at that time, an unpaid department head.

After enjoying Doernbecher tremendously I was more convinced that pediatrics was the field of choice, and I applied to go to Columbia Presbyterian Medical Center in New York.

ROSENWINKEL: Now, I was looking at your biography in one of the sources I looked at and found you had spent four years of medical school and then one year of internship here, and then suddenly we have you going from Oregon to New York City. And I wondered, as I was looking at the materials, why you went to Columbia Presbyterian, to the Babies Hospital there?

BABSON: A better question is: how did they let me in?

ROSENWINKEL: Oh, I thought it would be the other way around (laughter).

BABSON: I was given the names of the four best pediatric training centers in the country by the single pediatric resident at Doernbecher. One of the names was the great hospital in New York, and I only applied there, and got a needed letter from Dr. Bilderback. I was almost surprised to have been admitted when I entered there, because the pediatric hospital was twelve stories, and it was the largest and newest medical center in the world, and I was appalled at this great place and me, having started off playing with the homesteaders'

children, getting into such a wonderful environment.

It didn't occur to me how this had happened, because I was not a leading student at the University of Oregon Medical School. One day, looking out the window from the ninth floor of the Babies Hospital, I saw a tennis match, and, interestingly enough, one of the four that was playing was Dr. Bill Bilderback from Portland, whose partner was Dr. Rustin McIntosh, chief of the Babies Hospital. It suddenly dawned on me that he was a tennis friend of Rustin McIntosh, the chairman of pediatrics in Columbia University whose book, *Holt and McIntosh on Pediatric Care*, was the leading textbook on pediatrics for over twenty years. Dr. Emmett Holt was chairman of Harriett Lane Children's Hospital of Johns Hopkins University.

So after a year and a half at the Babies Hospital--prestigious enough not to have to pay any salary--to finish my training, I applied to two hospitals on the other side of the country, San Francisco.

ROSENWINKEL: Let's stop you there for just a minute and ask what kind of training you got at Babies Hospital. What did they put you through?

BABSON: Coming from a medical school with one paid faculty in the clinical years at Oregon, to New York Babies Hospital, where there were fifteen or twenty full-time professors in pediatrics alone, I, obviously, absorbed some of this wonderful training; and when I applied to Stanford and University of California in San Francisco, they both accepted me, a "difficult art" from Portland, Oregon (laughter).

ROSENWINKEL: And what kind of training did you get at Stanford?

BABSON: I was a senior resident and this was a much smaller school, because at that time it was Stanford Lane Hospital in the city. It subsequently has moved out to Palo Alto, where the medical school is a distinguished center. There were a great many able people at Stanford, but there were only two or three full-time pediatric professors.

ROSENWINKEL: Do you remember one or two outstanding cases that you saw at Stanford that remain in your mind till now?

BABSON: Interesting cases. Yes, of course.

ROSENWINKEL: Just tell us about one.

BABSON: I happened to find a child that was spilling sugar. I thought, Ah! We have diabetes. And, interestingly enough, his blood sugar was normal. He turned out to have one of the rare cases of renal glycosuria, where they spilled sugar below eighty milligrams percent in the blood.

ROSENWINKEL: And what could you do for such a patient?

BABSON: Limit his sugar intake to that amount that he needed, or let's say, to make up for the loss; and from my memory, it's a family trait, rare, that has no treatment. This case report was my first article published in *The Journal of Pediatrics* (1940).

ROSENWINKEL: So this was an outstanding case in your memory because it was so distinctive?

BABSON: Yes.

ROSENWINKEL: What other kinds of diseases did you see? We're in the late thirties now...

BABSON: Yes. We were now seeing hyperbilirubinemia from sensitivity to the Rh factor in the mother, and we did not know yet about the breakthroughs of giving them Rh negative blood rather than the mother's Rh+ blood that had the antibody that was destroying these infant's red cells.

ROSENWINKEL: Because RhoGAM didn't come along until later.

BABSON: It was in the works, but we hadn't got it yet.

ROSENWINKEL: So we have you seeing hyperbilirubinemia, and did you see any other diseases that were common for that period, that stand out in your mind?

BABSON: Yes. We had cases of malabsorption—they called it celiac disease then—which were very puzzling. We had had few cases of rheumatic fever compared to New York. New York's population allowed that, because the Babies Hospital had one ward of that disease alone. Aspirin was the treatment of choice: one grain per pound per day, given in four divided doses.

ROSENWINKEL: So you'd see all kinds of respiratory problems and polio, for example, and a whole gamut of childhood diseases?

BABSON: Actually, polio cases had been more numerous when I was an intern at Doernbecher, but that would indicate an epidemic year.

ROSENWINKEL: One of the things I read about Doernbecher, just to go back a little bit, was that in the summers, I think they had special polio wards.

BABSON: Yes.

ROSENWINKEL: Could you describe a little bit about what you saw at Doernbecher in connection with polio, during your internship or maybe as a medical student?

BABSON: This was the hot packet era, to allay the spasms of the muscles. Good nursing was all there was for it. Until the development of the polio vaccine, there was really no treatment.

ROSENWINKEL: So you had children becoming paralyzed, then, permanently?

BABSON: Yes.

ROSENWINKEL: Or dying, I suppose.

BABSON: Yes. Tragic, terrible.

ROSENWINKEL: Were there other killer diseases or semi-killer diseases like this, besides the polio, that you saw during your internship or your residency?

BABSON: I spent a few days at the—I don't want to call it the pest house, but it was a very small infectious disease hospital for children, past 82<sup>nd</sup> Street in Portland, where severe whooping cough cases were sent, this being very contagious, more so than polio. Again, there had been no vaccine yet. On my admission to pediatrics, there was no preventive treatment for anything except possibly smallpox and maybe diphtheria. Even the antibiotics hadn't been developed, even the sulfa drugs.

ROSENWINKEL: So what you could offer children was nursing care?

BABSON: Yes.

ROSENWINKEL: And that was about it?

BABSON: That's right.

ROSENWINKEL: That was pretty hard to take.

BABSON: Pretty hard.

ROSENWINKEL: And things didn't change, then, until the advent of antibiotics in the forties?

BABSON: Things in pediatrics reached a new level. A mastoid operation, which was common in my early days, had vanished by the time I got in my last year at the Babies

Hospital, where sulfa drugs for ear infections prevented a mastoid infection.

ROSENWINKEL: So it just revolutionized the care of children.

BABSON: Absolutely.

ROSENWINKEL: And were there other advances that were happening in the late thirties, early forties that you recall?

BABSON: Yes. Penicillin had come in, and we now had something for many cases of meningitis, certainly pneumococcus pneumonia. And I don't think at the time we appreciated what a wonderful era it was. A complete change from the thirties.

ROSENWINKEL: And we're talking about, now, the advent of World War II and all the changes that happened in the forties?

BABSON: Yes.

ROSENWINKEL: At the end of your Stanford residency was there such a thing as board certification in pediatrics?

BABSON: Yes. When I started practice, I was already pointing to take my boards in pediatrics, which I did.

[End of Tape 1, Side 1/Begin Side 2]

ROSENWINKEL: Dr. Babson is describing taking his boards in pediatrics. Just continue, thank you.

BABSON: I flew down to Los Angeles, where they were giving boards that year. I think it was 1942, only two years after I had started my practice in Portland, Oregon. We were quizzed by professors in the area, sometimes some tough questions, some answers we didn't know, but I fortunately passed it, and the little placard was hung on my office wall.

ROSENWINKEL: Very proudly, I would say.

One thing we have asked other interviewees is the effect of the Depression on medical training and on financing of medical training. How did that affect you or your family, especially your going to medical school?

BABSON: It was a very depressive effect on doctors' business and the medical support they could give to people who needed it and presumably couldn't afford it. But for people in training who could afford the \$200 tuition a year in the Oregon Medical School,

now OHSU, the expenses weren't great, and although internships and residencies paid very little, we were happy to realize that we were training for what we wanted to do.

ROSENWINKEL: So your family was able to finance your medical training, then?

BABSON: My father had--the only failure in raising fruit was in 1933, where a box of wrapped and packed and sorted extra-fancy apples was lower than the cost of the production. Thirty-nine cents a box was all we could get from such fruit. And this didn't prevent me from finishing school because my father had built up a little reserve already, and such a year or two were not restrictive of one's future, as far as I was concerned.

ROSENWINKEL: So you were more fortunate than most people, then, because some people had a very hard time getting trained at that time period.

BABSON: Right. My father at the start of the year was able to give me a check for \$600 for the school year, including the tuition and boarding. And Nu Sigma Nu fraternity, in which I lived, charged the students—I think it was thirty dollars a month. It included a put-up meal and board and room.

ROSENWINKEL: That was very good.

BABSON: So we got by. It was tough to not have a car, which I later had, my junior year.

ROSENWINKEL: Let's talk a little bit about military service during World War II. Did that affect you at all?

BABSON: Yes. When I started practice in late 1940, I was withheld from service because of the tremendous need for builders of ships for the World War, and this meant keeping me in practice for approximately two years. Finally I was called in as a captain, but the week I was due to arrive in Fort Dix in New Jersey I developed a cough and fever; and my doctor wouldn't allow me to go and canceled the appointment, the trip on the train. It turned out that it was more of a bronchitis, but they discovered a small lesion in my lung which was probably tuberculous and sent me to the tuberculosis hospital on the campus, where I stayed for four months.

ROSENWINKEL: And what kind of care could they offer you?

BABSON: Bed rest.

ROSENWINKEL: That's all?

BABSON: That's all.

ROSENWINKEL: There were no drugs at that time?

BABSON: No drugs.

ROSENWINKEL: So you literally stayed in bed for four months?

BABSON: That's all there was.

ROSENWINKEL: And did they ever put you on the roof or put you out in a sunlit area?

BABSON: No, never was, but there was a window, and my wife would bring my two daughters up to the window to wave to me through the window.

ROSENWINKEL: So was this the end of your military service, then?

BABSON: After I had bought a uniform and the necessary equipment, they canceled my appointment because they didn't want someone with my history and presumed difficulty, which wasn't bad because I had no fever after the first week; and I gradually got well enough to resume practice in six months. I'd forgotten about all this till you brought it up, but I don't know that it's important, except that I had to have many examinations and many x-rays, and I got tired of being x-rayed. But they finally discharged me completely, and I was only stuck with the uniform, which I sold for half price to someone that could fit it (laughter).

ROSENWINKEL: What do you think are your personal characteristics that made you want to go into pediatrics? What is there about yourself that made you want to be a pediatrician?

BABSON: I think I'm blessed with enthusiasm and love of children, and I have persistence, apparently, so if you have relatively well-to-do parents, there should be no problem. I got started and wanted to finish the course.

ROSENWINKEL: You certainly did (laughter).

Well, let's put you next in the second part of your life. You said that you've divided your life into thirds. The first third was all the medical training, the second third was private practice and professional life, and the third part was after retirement.

BABSON: No, that was the fourth. The third part was a professor of pediatrics at OHSU.

ROSENWINKEL: Well, we're still at the second part, so let's hear a little bit about the

second part, and this is when you're in private practice in Portland as a pediatrician, and this is from about 1940 to the fifties, I think.

BABSON: Yes.

ROSENWINKEL: So we have you starting off as a pediatrician, and where exactly was your office located?

BABSON: I had a one-room office for the first few months, but that was a disaster, so I moved into the Medical Arts Building into the place of a pediatrician who had been called into the service, which helped me in picking up some of his patients. I was very slow in getting newborns, but I was referred patients with various problems in the pediatric age group, but that's not what kept the pediatricians busy, as it did later. That's the newborn; the obstetricians' nurses stopped doing the pediatrics for the care of newborn. That means giving them shots and supervising the baby for a year. This all changed with the war, and we were suddenly in a group that became necessary for the average mother. So things worked well, but those first couple of years required many house calls for survival.

ROSENWINKEL: I'd forgotten that doctors used to make house calls, because it's very rare now.

BABSON: I got very busy making house calls for both exchanges, whoever they were.

ROSENWINKEL: You mean phone exchanges?

BABSON: Yes. The medical exchange and the doctors' exchange and another exchange that was advertised. But I accepted calls from any of them, even though a lot of them had no pay. But the chances are that most of them did, and I was willing to spend many hours making house calls from Vancouver, Washington, to Oregon City.

ROSENWINKEL: That is a huge territory.

BABSON: Because at that time there were only six or seven pediatricians in this whole area. Some of the older pediatricians asked me to make house calls on their patients, and although these patients paid, exchange calls often didn't; but I was able to average four dollars out of a five-dollar call. If you worked hard enough and made as many as a hundred house calls a month, as I did, you were surviving and your family could live in a decent neighborhood, even though your wife might not afford a car. My wife certainly had nothing to drive since I used it all day and often into the evening.

ROSENWINKEL: So you had an office base, and, then, there would be a receptionist in your office who would take calls coming in? Is that how it worked? And then you'd do the

house calls for that day?

BABSON: Later, yes. You had to have a receptionist. And I had a job the second year in the public schools all morning and only saw patients in the office in the afternoon, because it was slow building. It took time. It was still not an excessive market yet, but it developed that way after two or three years.

ROSENWINKEL: So did you still have to make the house calls after the first, say, few years?

BABSON: I never refused a house call. After eight years I built a small clinic building with Dr. Goss. One advantage was to meet and see sick infants and children there. This allowed us to do blood counts, or anything that was needed from an office standpoint, and prevented us from having to take sometimes an hour and a half to see the child in his house.

ROSENWINKEL: So it was a great improvement, then, from the earlier years?

BABSON: Oh, wonderful. Right.

ROSENWINKEL: Did you still keep the job seeing the school children as well?

BABSON: Only for two years. I got busier. In fact, I got too busy, and I believe by 1945 I had more newborns than I could really take care of.

ROSENWINKEL: Because when you say you are a pediatrician, I think of anything from newborns up to about the age of thirteen or fourteen. Is that correct?

BABSON: Yes, although I am embarrassed to say I discouraged new patients over the age of two.

ROSENWINKEL: So you wanted to specialize, then, within your own area.

BABSON: I seemed to lean that way.

ROSENWINKEL: From the beginning, or did this develop over time?

BABSON: It seemed to develop.

ROSENWINKEL: Let's talk about the patients you saw. These are newborn babies, and everything up to the age of two. Again, what kind of diseases are you dealing with now?

BABSON: Well, we were in preventive medicine, primarily, although we had to take care of fevers that were a common problem. The doctor on call for the four of us in our group

would sometimes see on a weekend as many as five or six children with temperatures of 104 degrees or more. Most of them were not seriously sick, but if there was a likely infection, we would start a sulfa drug and later a penicillin shot. Hospitalization was infrequent. For lesser fevers we would prescribe, over the phone, aspirin, at that time, and if the child would respond by jumping out of bed and start running around, we would not worry about meningitis or dangerous infection.

ROSENWINKEL: And penicillin came in during World War II?

BABSON: Yes. A couple of years after sulfa.

ROSENWINKEL: And what else did you see? I'm always interested in the diseases you saw and the cases you encountered.

BABSON: We occasionally had a case of bacterial meningitis, and you probably have read about that type of meningitis that causes hemorrhages in the skin, which rapidly extends, and if we had one hemorrhage starting, we had them rushed to our office and would give them intravenous sulfa—this was before even penicillin—to control the infection before sending them to the hospital where they might wait around maybe for two or three hours before receiving treatment. So we were aware of these dangers. I can remember Dr. Smith, who was expert at giving intravenous injections in the external carotid of the neck of the infant before hospital admission.

ROSENWINKEL: Is this Dr....

BABSON: Lendon Smith.

ROSENWINKEL: So you continue in private practice for quite a while?

BABSON: Yes, yes, and I enjoyed it thoroughly. I loved the young mothers with their beautifully clothed children. A clean type of practice, where most calls could have been handled by a good trained nurse in pediatrics.

ROSENWINKEL: Did you have any charity patients at all in your private practice?

BABSON: Yes, yes, I had children of students in the Medical School. We would take care of their families free, and I even remember taking care of clinical psychologists' children without charge. And certainly the children of the clergy. We never sent a bill to the parents. And for the poor, if they apparently had no money after the second bill, it was easier to put it off the list than to send it to a bill collector.

ROSENWINKEL: If you don't have the money, you just don't have it.

BABSON: There was no insurance coverage in those days, and no book-work from that standpoint.

ROSENWINKEL: Did you have any relationship with the University of Oregon Medical School at this time, when you were in private practice?

BABSON: Yes. Dr. Bilderback had me and several other junior pediatricians make rounds with the residents. We were clinical associates and of course received no salary.

ROSENWINKEL: So you were doing a training function then?

BABSON: Oh, yes.

ROSENWINKEL: So you would have medical students and residents?

BABSON: Yes, we made rounds for a month at a time where we would work with the residents, interns, and the students. At first we were given summer appointments when the school was closed. It was mostly house officers.

ROSENWINKEL: This would be the residents and interns, then.

BABSON: Yes.

ROSENWINKEL: So you would come up maybe one day or week or on a regular schedule?

BABSON: No. If we were on for a month, we would come every morning for an hour.

ROSENWINKEL: And then you'd go back to your practice downtown.

BABSON: Right.

ROSENWINKEL: Was this very satisfying for you?

BABSON: Oh, very.

ROSENWINKEL: What did you gain from it?

BABSON: Anyone has a satisfaction from sharing his knowledge with others. I look back on it with great joy. But it didn't compare with the fun I had later when I was asked by Shirley Thompson to help Miss Weible start a preemie nursery.

ROSENWINKEL: Well, let me get into that in just a minute. I have a couple of other

things I wanted to ask you about private practice first.

When you came up here as a—I think they call them volunteer faculty now.

BABSON: The what?

ROSENWINKEL: Volunteer faculty.

BABSON: Yes. I was such a volunteer faculty.

ROSENWINKEL: And you were in the old Doernbecher Hospital?

BABSON: Yes.

ROSENWINKEL: What are your memories of that building?

BABSON: We had been there as students, and now we were leading rounds. It was delightful. There was no parking problem, as I mentioned (laughter), and it was just part of a day's work at that time.

We also made rounds at the nurseries in town, or if we had a sick child not at Doernbecher we would have to see that child.

ROSENWINKEL: So you had staff privileges, then, at other hospitals around town?

BABSON: Oh, St. Vincent's, Emanuel, Good Samaritan, even though they didn't have the best pediatric opportunities for treatment.

ROSENWINKEL: Were the children put in a separate children's ward, or what kind of accommodation did you have for, say, babies or young children at these other hospitals, or even here?

BABSON: Oh. It wasn't quite as programmed as Doernbecher was. Most of our patients were newborns seen in the newborn nursery. Good Samaritan and Emanuel had wards for sick children.

ROSENWINKEL: So each hospital had its own newborn unit.

BABSON: Yes. We would see the baby and the mother. And I remember very well at Emanuel always having one to three preemies, but they were kept separated in a small room off the nursery.

ROSENWINKEL: Was this the era in the late forties and fifties where you had the

preemies, or the babies, in one section and the mother was here and the baby was transported to the mother? Is that how this worked?

BABSON: The normal babies were taken in to the mother often for breastfeeding every four hours.

[End of Tape 1, Side 2/Begin Tape 2, Side 1]

BABSON: I was very fortunate in having a good relationship with the nursery nurses; that occurred with other pediatricians too. If a baby delivered by an obstetrician or generalist was very small, couldn't nurse, but seemed to be going to live, they would decide together with the nurse that maybe a pediatrician should be called, often reluctantly, but that's what was done. The physicians in the 1940s had great confidence in the nursery supervisors, as they were more skilled in premature care than the older pediatricians. And often the nursery nurse would select Dr. Babson or Dr. Goodnight—and I think we had most of the premature practice in those days—to take it over. And, of course, if it was very immature, we would have to spend some time and thought with this infant.

ROSEWINKEL: Let's continue with these reminiscences when Shirley Thompson, who was the superintendent of Doernbecher in '54, she came in '54, and then she was known for her...

BABSON: No, she came in '45 or '44. I've got her life history, if you want it.

ROSEWINKEL: Thank you. Not right now, but maybe later.

So I gather in the fifties that she had connections with you, and you were asked to establish the first complete premature unit in the Northwest at Doernbecher, is that correct?

BABSON: Yes. In 1950, January. I remember it well. I got a call in my downtown office from Shirley Thompson, R.N., Superintendent of Doernbecher Hospital. I can't tell you how exciting that call was. She asked me to help her nurse, who had been sent to Los Angeles County Hospital with its huge nursery, to learn about premature care, and she wanted someone to be the medical adviser. She apparently had an okay from Dr. Bilderback to call me.

People often ask me why she called me. First, we had a good relationship. I had been her Santa Claus for Doernbecher for several years. And I think many knew that I was pretty capable at Emanuel Hospital, which had the largest newborn population in the city. So she called me, to ask if I would help Betty Weible plan for a proper nursery to replace the tonsil ward. There had been one room for an incubator or two on the fifth floor of Doernbecher, but there was no attempt to accept babies from outside the County Hospital.

The twelve-bed tonsil and adenoid ward had been an anathema to Shirley Thompson. The tonsillectomized child was returned to his bed often bleeding, semiconscious, and smelling of ether. This could be adjacent to the next victim who was already fearful. This innovative nurse got the approval of Dean Baird and Dr. Bilderback to change it to a preemie nursery.

The approval was proper because the training of residents and interns in tonsillectomy was no longer thought a routine, or even desirable, operation since the days of antibiotics. So the room was vacated, the incubators were brought in, ten of them, and they started to move the smaller babies in from the County Hospital and were open for business for being a receiving hospital for other preemies born in the city.

And since Shirley had asked me to help Betty, I got on the ball and made several trips of investigation, particularly to New York, where I had had my early training in the Babies Hospital. The first preemie was admitted in January or February 1950, and I have a record of all these babies and their weights, and the increased numbers that occurred each year. After three months we were accepting preemies from all hospitals in Portland. In a year we were sending our nurse with her carrying incubator, to Salem, Eugene, and other hospitals in Oregon. We were getting busy, and I had to go up a number of times a week to help the resident in charge of the nursery.

ROSENWINKEL: Now, how many beds did you have at this point?

BABSON: There were ten or twelve.

ROSENWINKEL: And you have your patients coming from the Portland area and around the state, the major places around the state.

BABSON: Yes.

ROSENWINKEL: And you have a nurse with a van or a car going to get these babies.

BABSON: Right. And the carrying incubator is still around, which had an oxygen bottle underneath and a tube and a funnel for providing oxygen for the baby if it needed it. And, of course, warmth, hot water bottles.

ROSENWINKEL: This may seem a very elementary question, but what did you consider a preemie? What was the birth weight of a preemie that would have to have this specialized care at a preemie nursery?

BABSON: It wasn't so much the birth weight as the maturity. If it couldn't suck, obviously it needed special care. If it had been apneic or cyanotic at birth, it might need better watching. It was clear that many babies needed special nursing care and gavage feedings for

providing fluid and calories.

ROSENWINKEL: And the moms came along with the babies, too?

BABSON: No. The mother stayed in the delivery hospital. In those days she usually was kept as long as a week.

ROSENWINKEL: Quite different from today.

BABSON: Yes. But since we were the only preemie center in Oregon picking up the infant outside of the hospital, we had to do a better job. We found that a nurse bringing a baby up from Salem often was a poor idea. What if it needed intubation? What if it needed special medicine? Sometimes they would die along the way. Right away we realized we had to get organized. We had to get a van for bringing them; we had to get a modern incubator that fitted in the van as well. The first one happened to be given by the Portland, Oregon, dealers, a Chevrolet van and that's what we used for several years. Not only did a neonatal nurse go, but a pediatric resident went also. And later, when we established a fellowship program, the fellow went.

ROSENWINKEL: So it was wonderful training for these people, as well as salvaging the babies as well.

BABSON: Right. But by 1960 we were overwhelmed by our success.

ROSENWINKEL: Well, I have a couple of other things before you go into that.

I'm still in the fifties and wondered, were you part-time as a medical adviser to the preemie unit?

BABSON: Yes. There was no one else doing it with Miss Weible.

ROSENWINKEL: So it was Betty Weible and yourself.

BABSON: Right.

ROSENWINKEL: Plus either a fellow or a resident, somebody like that?

BABSON: No. This was before the fellowship program. This was still in the fifties, and I was still downtown in full practice.

ROSENWINKEL: So you had full practice downtown in addition to these duties in the newborn nursery.

BABSON: Yes. We had good residents and nurses, but we were expanding into the need for better facilities and equipment.

ROSENWINKEL: And so, generally, in the fifties, then, you were moving to a neonatal intensive care unit eventually; and your experience in that decade between 1950 and the sixties was eventually cumulated so that you had special techniques, I suppose, for dealing with these babies, and you had developed some equipment and so forth. Is that right?

BABSON: It was a gradual process.

ROSENWINKEL: Let's just talk about that a little bit. For example, who was the staff here during the fifties on the newborn unit in the preemie nursery?

BABSON: As far as I remember, I'm the only one, if I was away the senior pediatric resident made the decision.

ROSENWINKEL: You were the only one.

BABSON: Yes.

ROSENWINKEL: Until the late fifties or early sixties. Okay. And what kind of equipment did you have to help these babies?

BABSON: In the fifties we were giving half glucose and half saline under the skin by injection for dehydration. We were still in the dark ages of preemie care, I'm sorry to say. We didn't really get moving with great facility until 1965 when a few drops of blood could be used for microanalysis of acid-base level and glucose content.

ROSENWINKEL: So in the fifties you still had basic incubators, very basic kinds of beds for these babies.

BABSON: Yes.

ROSENWINKEL: And very basic equipment, like oxygen and some kind of device for warmth for the babies. What was your salvage rate, would you say, during these years?

BABSON: We saved over 500 infants under 1500 grams (3 pounds, 5 ounces) in the first fifteen years.

We lost a lot of the smaller babies, and in the early fifties was the time when retrolental fibroplasia developed from the abuse of oxygen. We found that we were losing three or four babies a year to blindness. Dr. Bilderback was very disturbed about what we were doing, and wondered whether it was worth it. When the studies came out that oxygen

should be kept at a level of no more than that necessary to keep the baby pink, the incidence of RLF was sharply reduced.

ROSENWINKEL: Was there someone here who solved that problem, or was this solved nationwide?

BABSON: Nationwide. It was all over. The new efficient Gordon-Armstrong incubator provided continuous flow of oxygen into its closed glass space. The armholes for the nurses to provide care for the infants could be closed after entry. New recommendations urged that the incubator oxygen concentration be kept under 40 percent.

ROSENWINKEL: It was almost like a microenvironment.

BABSON: Right.

ROSENWINKEL: What kind of relationship did you have with Dr. Bilderback during this time period?

BABSON: Gosh, I never made rounds with him in the nursery. I never saw him in it.

ROSENWINKEL: Because that was your specialty and he had other interests?

BABSON: Yes. He was the chief. I didn't give any lectures. He and Lendon Smith's father, L. Howard Smith, gave all the lectures, and they were great. But I don't remember giving a talk on the premature in those ten years before joining the full-time faculty.

ROSENWINKEL: So you were sort of doing your own thing over here?

BABSON: Yes. Betty and I were doing the best we knew. Of course, Betty stayed only two years and was replaced by Lois Hart, R.N.

ROSENWINKEL: So another nurse then came to replace her and work with you?

BABSON: Yes. Lois Hart was the second head nurse and continued after we'd moved into the new hospital in '56.

ROSENWINKEL: Did Dean Charles Holman get involved with the newborn nursery at all, or in supporting financially the program?

BABSON: He was supportive, particularly to Shirley Thompson, and Shirley made a lot of the decisions on what was needed.

ROSENWINKEL: And she was an innovator, I gather?

BABSON: Absolutely. She was a great leader, and she saw that we got what we needed.

ROSEWINKEL: I'm going to stop the tape for a minute, here [tape stopped].

We have Dr. Babson as the medical adviser in the premature nursery in the fifties, and, then, in the sixties there were all kinds of developments in premature care.

So, let's start off and ask what led up to the development of the NICU, which is the Neonatal Intensive Care Unit, at University Hospital South and at Doernbecher Hospital, the new one that was housed in the upper floors of University Hospital South. So how did things develop?

BABSON: After I moved up full time?

ROSEWINKEL: Yes.

BABSON: When I moved up full time it was a great opportunity for me, especially since I'd been in private practice so long. The first thing I did was to stop seeing private patients so I could learn more about the duty of giving the best medical care, and how to write articles and lead discussions. One that has had a large practice can't easily do it. I stopped all phone calls from private patients other than emergencies.

ROSEWINKEL: From downtown, you mean.

BABSON: From downtown.

ROSEWINKEL: And you moved full-time up here?

BABSON: I sent a difficult letter that I would see no more patients. That was a tough decision, especially when I had to take a reduction in income, but I guess I was persistent in making a sharp break.

ROSEWINKEL: Who asked you to become a full-time faculty member up here?

BABSON: I think Dr. Richard Sleeter, who was temporary head of the department when Dr. Hill died. He was influenced by my joining him in following prematures at the CCD (Crippled Children's Division)--of which he had long been the director-- that had graduated from our newborn nursery. We were looking at some of the problems that they had and were very keen on knowing what might have happened and what could be done to prevent them. He found out that I was willing to give up a big practice to come full time into the child development study, where I would be free to spend at least fifty percent of my time on the

premature nursery development. His encouragement was great, and right away we planned to expand. We eventually were able to get a carrying van for bringing the baby in the incubator, and the nurse, from the delivering hospital to the Doernbecher Premature Center.

ROSEWINKEL: So you're developing, now, a transport system of some kind?

BABSON: Yes.

ROSEWINKEL: How did that develop?

BABSON: It was obvious that we had been only accepting babies that had stabilized in their referring hospital. It suddenly became clear to us that we needed to get there sooner. This happened to such an extent that we would send our nurse, resident, and later fellow, to the delivering hospital as an emergency. And we developed the system of putting tiny scalp veins in the head of the infant to supply immediate fluids and glucose, which they often were short of. This development assumed such great importance that we trained all our nurses to be able to do the scalp vein insertions themselves, which, with their small fingers and interest, was much better than depending upon a young intern who may not have such skills.

[End of Tape 2, Side 1/Begin Side 2]

ROSEWINKEL: You were talking about the transport system that was developed in the early sixties, with specially-trained pediatric nurses.

BABSON: By 1967 we had come upon a large sum of money that had been given to Doernbecher that was going to be used by the administration for the general hospital good. One of my friends on the business side of the hospital tipped me off on the money, and I went to see Dean Charlie Holman, a classmate, and said, "Charlie, how about using some of this for building us a new neonatal center?" We received \$80,000 of the gift for fixing up the infectious disease ward of the University Hospital into a big premature center, and by 1967 we had twenty-four intensive care beds.

The demand for our special care was so great out of the Portland area that we had to shorten the time, by getting air support for moving nurses and doctors to the referring hospital and bringing the infant back. This was obtained by the use of Huey helicopters provided by the National Air Guard. No insurance program existed at that time for supplying funds for any transport. The Air Guard was most agreeable to this effort any time, day or night. And by 1974, we increased the air transport from zero to one-third of all admissions to the unit. These admissions were from the coast, eastern Oregon, and southern Washington.

ROSEWINKEL: That's an impressive record.

BABSON: And by that time Dr. Olmsted had suggested we start training fellows to

learn how to take care of these babies in other hospitals, and Dr. Gerda Benda was our first fellow, in 1966 or thereabouts. She was later director of the Neonatal Center.

By now it was important for us to train all our nurses in not only intravenous placement of needles but in being able to intubate and offer tracheal suction as well as providing oxygen. So our nursery transport, along with the specialized team of doctors or residents would often go to the hospital before the baby was delivered.

ROSEWINKEL: So that baby had been identified as a possible problem?

BABSON: Yes, because it was too late for the mother to be transferred to OHSU, which had now become a maternal center for risk situations. And, actually, a perinatal professorship was developed, which included all of us that were adept at understanding the fetus as well as the neonate in distress.

ROSEWINKEL: So you have a collaboration now between obstetricians and neonatologists.

BABSON: Absolutely.

ROSEWINKEL: So the way this would work, then, a receptionist would receive a phone call from another hospital in another town in Oregon saying that there was a baby in distress.

BABSON: The fellow or the resident would handle it.

ROSEWINKEL: And then they would activate the Air National Guard helicopter?

BABSON: Yes.

ROSEWINKEL: They would fly down to, say, Medford or over the Cascades to La Grande...

BABSON: Right.

ROSEWINKEL: ...with a team and bring back the distressed baby.

BABSON: We did our best to have a heliport up at the OHSU, and I got no cooperation from the surgeons, whom I thought would want trauma cases brought in as emergencies. So, I only thought of infants in distress at birth, for now we were accepting larger newborns as well as preemies.

So we went ahead and used the heliport at PGE's airport. We had a grand opening

there about 1971 where the governor, Tom McCall, came up, and with Dean Holman, we all went down there to the PGE airport across the Willamette River, where they opened its use for helicopters for the service of our unit. We were the only transport available for the Medical School. We were way ahead of all the other groups.

ROSENWINKEL: Nationally?

BABSON: No. Well, I don't know. Certainly in the Northwest. We were almost driven, because of the need, and we had some brilliant inventions of providing oxygen to babies. Some of our residents wrote articles on it.

ROSENWINKEL: Tell me a little bit about Kit Johnson, Dr. Johnson, and his invention of the Resusci-Kit. Would you tell me a little bit about that?

BABSON: He was one of our alert residents who realized that we could do better, and his apparatus for providing oxygen was very useful. He won the Aesculapius Award for this development. But our success in developing special skills in our neonatal nurses got around the Northwest, and even units as far as Vancouver, B.C., sent their nurses down to learn from our nurses how to give special intensive care, such as replacing scalp vein needles. In fact, Katie Simpson, our assistant head nurse for years under Helen Katagiri, developed a system where she would take cats, anesthetize them, and teach doctors and nurses in the community how to intubate them so they could do it for small prematures.

ROSENWINKEL: That's marvelous.

BABSON: That was never reported.

ROSENWINKEL: No, I haven't seen any reference to that in the reading I've done. So you're saying you had some marvelous people who were very much aware of premature problems.

BABSON: Oh, they were terrific. Katie and Kit and so many of them were working as a team to help propel this business of resuscitation and transport and care.

ROSENWINKEL: About '94, something called PANDA came into being. Could you tell me a little bit about PANDA?

BABSON: Well, I can't remember now what the letters stood for. It was after my time. I'm sorry; my brain is not as good as it could be. But it demonstrated the strong combination of nurse-physician skills working together.

ROSENWINKEL: So a team approach, then.

BABSON: A team approach. That's the important thing. For working with infants was a combination effort, and the nurse was just as important, if not more so, than the doctor.

ROSENWINKEL: Because the nurse would be monitoring all the time and the doctor might come in and go out.

BABSON: Absolutely. That was one of my successes, I think, in developing the unit.

ROSENWINKEL: Now, what I found most interesting was the various editions of the book you wrote on prematurity. When you published this in '66, which was shortly after you became full time, it was called the *Primer on Prematurity and High-risk Pregnancy*, and then several editions—I think it was about five or six editions later, in 1986...

BABSON: No, the next one. The final one, the fifth, was published in 1986 with Dr. Pernoll, the lead writer.

ROSENWINKEL: The next one, yes. Well, you changed the title on the second edition; and then, in the eighties, it changed in its title to *A Team Approach*. So what I saw in that was an evolution from you and Dr. Ralph Benson, being two authors, to then a number of people collaborating on this book. So, how did the evolution of your book on prematurity parallel developments in the field of neonatology?

BABSON: That's very interesting. Our first edition in 1966, *Primer on Prematurity and High Risk Pregnancy*, was a little simplistic. In 1970, we changed the name to indicate its perinatal coverage. Suddenly, we were aware of the entry into the perinatal age, with *Diagnosis and Management of the Fetus and Neonate at Risk: A Guide for Team Care* for our title in 1970. It was the first book on perinatal medicine, believe it or not.

ROSENWINKEL: Nationwide? Well, that's a tribute to both of you.

BABSON: Yes. And interestingly enough, it went through five editions and was translated into four languages, which pleased me. My partner, Ralph Benson, was an able writer with better use of the English language than I.

ROSENWINKEL: How did the book come about?

BABSON: I was the instigator. Although there were fine books on the premature infant and excellent obstetric texts, the fetus in distress, regardless of size, required a more intensive approach. Fetal monitoring, scans of fetal growth, and amniotic fluid studies had become the new approach to the high-risk pregnancy.

ROSENWINKEL: I looked through the first edition of your book, and I got the feeling that a nurse or a physician could look at your descriptions of various situations and

could follow the steps that you prescribed.

BABSON: The first edition was incomplete. Nineteen sixty-six was a long time ago.

ROSENWINKEL: Well, when did this team approach come in?

BABSON: Oh, I can remember the team approach really came with Martin Pernoll. He took over from Ralph Benson. Ralph was very helpful in working with me, but Pernoll grasped the fact that intensive care of the fetus at risk was the new game in town for obstetricians. And when Ralph was starting to retire, Martin Pernoll became the co-obstetrician.

ROSENWINKEL: So it was definitely a marriage between a neonatologist and an obstetrician that produced a good result.

BABSON: Right. It became more of a perinatal book when Dr. Pernoll joined us, for he was the first professor of perinatal medicine at Oregon. He was a brilliant resident and professor and later became obstetric chief at Tulane.

ROSENWINKEL: At what point in time did Gerda Benda, Dr. Gerda Benda, join your team?

BABSON: Well, I added her name for the third edition. But she gave a lot of solid support, and she didn't ask to be an author. We added Katie Simpson in the last edition to recognize the importance of the neonatal nurse.

ROSENWINKEL: And the book obviously got a good reception in the neonatology world, among physicians and nurses?

BABSON: The book received good reviews in journals such as *The New England Journal of Medicine*.

ROSENWINKEL: Well, you were a pioneer.

Let's get back for a minute to the establishment of the NICU. This is in, let's say, the late sixties, early seventies. What improvements in equipment did you see?

BABSON: Particularly the improvement in respiratory support of the very immature infant.

ROSENWINKEL: So ventilators, for example, or respirators?

BABSON: Respirators. The first ones were faulty. The development of the apnea

monitor was a real contribution, the first one ever for preemies.

ROSENWINKEL: Were these invented locally?

BABSON: Yes. You heard about Parks? If you listen to PBS, many of the programs in the evening were saying, “This is funded by the Parks Foundation.”

ROSENWINKEL: Yes.

BABSON: And Loren Parks, an electronic expert, was the man I got over here to our center to develop the first preemie heart rate monitor. For when the heart rate fell below eighty, from its normal rate in the immature infant of 120 per minute, the infant would turn cyanotic or blue. Continued cyanosis could endanger cerebral development. We found the low point of the monitor’s buzzer would sound if set at eighty per minute in tone, for a nurse to stimulate the infant to breathe, which immediately picked up the heart rate. The monitor picked up the heart rate from small needle electrodes placed in the skin over the heart. This simple device was used on all immature infants and prompt attention to the buzzer prevented the need for heroic resuscitation. The potential danger of recurrent apnea on brain development was markedly reduced.

ROSENWINKEL: So his help was with this particular item—the heart rate monitor.

BABSON: Yes, we used them on all weak, small infants in the early 1960s to detect extended apnea. The sound of the buzzer included a slowing of the heart that was followed by cyanosis and the likelihood of insufficient oxygen to the brain. The stimulation of the infant was necessary to start breathing again, and the use of the oxygen mask if necessary.

By 1968, the neonatal care center opened with fifteen (later twenty-four) intensive care beds. We then had complete electronic monitoring of heart and respiration. In addition, finger stick blood allowed us to follow the baby’s glucose level and acid-base status (Ph). Intravenous alimentation could maintain calorie and fluid requirements of any infant. In the space of ten years, basic care for small preemies developed into sophisticated care for neonates, whether they had suffered birth asphyxia, intrauterine starvation, or congenital anomalies requiring surgical correction.

ROSENWINKEL: Neonatal care at its best.

BABSON: Yes.

ROSENWINKEL: Let’s talk a little bit about the staff in the NICU. I gather there was a nurse by the name of Helen Katagiri.

BABSON: She was there for many years.

ROSENWINKEL: And what was her role in the development of the NICU and in patient care?

BABSON: She was very cooperative and allowed the nurses to do things that were somewhat restricted before, like putting scalp needles in place. She went along with the freedom that we had in neonatal nursing development.

ROSENWINKEL: So you were really in a pioneer unit, in the sense that, people had a lot of freedom, within limits, of course, to develop the technology, perhaps, or to do better baby care or whatever was needed in the NICU, is that right?

BABSON: Darn right. I think we encouraged many of these developments. I never thought so much about the importance of preventing prolonged apnea, as I see now. When we would find it, and the baby was blue, we thought, "We saved this baby", or did we, you see? Stimulated, it would cry or move. Or we could intubate him. But if you had to intubate him, he already has suffered. This prevented the need for intubation; stimulation would be enough.

ROSENWINKEL: What other major advances do you think happened in these years, locally here? You talked about resuscitation; you talked about the development of the transport system; you talked about intubation techniques. Were there any other advances that you can recall?

BABSON: We once sent a team down to Lakeview to be present at the delivery of a known premature infant to then bring it up here. The risk pregnancy had started labor. That's great.

ROSENWINKEL: So that would have been an excellent thing. You were leading the state, and maybe the region, or maybe the nation, in these techniques and sending trained personnel out to other places.

BABSON: I'm sure everybody did this or appreciated it.

ROSENWINKEL: Can you tell us a little bit about your interest in twins?

BABSON: The only article I ever had accepted in *The New England Journal of Medicine* was on identical twins of significant different birth weights, to find out what was the effect of under-growth on the smaller twin.

[End of Tape 2, Side 2/Begin Tape 3, Side 1]

BABSON: I have long been interested in the fact that identical twins often were

significantly different in size at birth but the same gestational age. So we had a built-in study to determine what fetal starvation would do to development. I collected babies, twins, born in the Portland area, particularly at Emanuel, which used to deliver four and a half thousand babies a year, to find out what happened to those babies. And those are the ones, if we had proof of their single-egg background, that we could get them in and do IQs on them to find out if there were significant differences. We studied a dozen or so pairs that were thirty percent or more different in birth weight, and we found, happily, that, unless there was some significant problem other than twinning, that the difference in size didn't make significant difference in their intellectual acuity. However, I later have studied, for twenty years, a set of twins in which one weighed two pounds and a few ounces and one weighed five pounds and a half ounces. That is almost a three times difference in size. The little one did remarkably well, but we found when he went to school his ability for figures were not nearly as good as his brother. So if the smaller is under-grown enough, it does make a difference.

ROSENWINKEL: So you're saying an individual with low birth weight might have intellectual problems later?

BABSON: Well, this is well known for the small baby of twenty-six weeks or less, but I was interested in comparing babies of the same maturity. But there are many factors to be considered. If the small baby was born last, he would be more subject to asphyxia, so that there's an extra factor in there.

ROSENWINKEL: So there are several variables you have to look at.

I was looking at the articles you published in the sixties and seventies, and I saw some themes, some research themes, and one was about head growth and intellectual performance. That was one article.

BABSON: Yes.

ROSENWINKEL: Was that a research interest you pursued in other than twins?

BABSON: I spread my interest out too much. I worked also on hyperalimentation, as you know, which was very important. I'd have loved to call Emanuel, where they had the ten-ounce baby recently. And the other twin—I assume it was identical—was two pounds, considerably larger, suggesting that then ten-ounce baby was under-grown rather than just immature for size. I always was sorry I hadn't published my suspicions that if we could measure the growth of the nail as it extended beyond the skin, we could have a good measurement of gestational age. And I wanted to know whether the nail on the little twin was as long as its co-twin. We once published data, a long time back, that a post-mature has terrifically long nails, and I think I could have spent more time on measuring the length of nails in relation to birth weight as well as maturity.

The last study after retirement I tried to do was on relation of SIDS, Sudden Infant Death Syndrome, and sudden development of low atmospheric pressure. The reason I figured this must be true was because Oregon, Washington, and Idaho have twice the incidence of SIDS of other parts of the country, and they suffered from sudden Northwest storms. I worked on this for five years, and it was a reverse relationship. In other words, I had the dates and times and air pressures of all these babies for two years, and SIDS was slightly less frequent with the air pressure falling--meaning that the air pressure had no relation to SIDS, Sudden Infant Death Syndrome.

ROSEWINKEL: Well, one of your other interests, or your research interests, has been in the alimentation of infants, I guess over at least a fifteen- or twenty-year period. So what kind of studies did you do on whey or on soy or other substances?

BABSON: All I can say is that there are many interests I have had, and one is smarter if he sticks to one or two things rather than all over the area, from twins to—but I'm sorry that I couldn't stay concentrated on maybe just twins.

ROSEWINKEL: That was your major interest?

BABSON: It started that way.

ROSEWINKEL: It sounds as if it's continued that way, too.

With the NICU did you see any different kinds of diseases in the sixties and seventies than you did earlier? Did you see a change in the kind of baby you got?

BABSON: All I can say is, we had—I guess this is a sign of good nursing care—no severe epidemic of diarrhea of the newborn, which has been very common in many nurseries.

ROSEWINKEL: And that meant that the nurses were giving excellent care to the infants?

BABSON: I would say they were following very good nursing procedures, a credit to their training.

ROSEWINKEL: Did you see a difference in the kind of baby you received in the nursery in that they were smaller in the later years—were you saving smaller babies in the later years, as opposed to earlier years?

BABSON: We're saving many more immature. The only statement I can make is that, any infant under twenty-six weeks has a strong tendency to have lost a lot of potential, and this becomes a problem of how hard one must work on the real immature for survival, like this ten-ounce one. You can't just throw it away, but there's a question of how long should

one have intubation for automatic breathing.

ROSENWINKEL: So you're saying the technology has helped with this, but there are still a lot of incipient problems.

BABSON: We've created a serious problem of increased survival of the very immature who might not cope well in this competitive world.

ROSENWINKEL: I remember going to the NICU in the seventies, and I saw some volunteers sitting there in rocking chairs. Could you tell us why rocking chairs are so important in NICU?

BABSON: Certain rhythm in the chair brings relaxation to the nurse, and probably the infant.

ROSENWINKEL: When I think of an infant, they are often isolated in an incubator of some kind. How important is touching them to their development?

BABSON: That's very difficult to study, but it's hard to believe that a three-months' early infant—that's thirteen weeks—could be improved by touching the first three or four weeks of life, but I can't answer that problem.

ROSENWINKEL: Are there any other techniques that you taught the nurses or they taught you that improved infant survival?

BABSON: Well, we certainly know full-term babies respond to increased attention, whatever it is, and will do better. But whether if they're two months early or one month, I have no idea. I would just be speculating.

ROSENWINKEL: What kind of relationship did the NICU have with the Crippled Children's Division in the time you were there?

BABSON: Well, we appreciated their support and help with follow-up over the years, and Dr. Benda has continued with the follow-up clinics in the CCD. I think she gave a review about that in her recent lecture at the neonatal conference. I, unfortunately, could not go.

ROSENWINKEL: And during the time you were the head of the NICU did you have relationships with other Portland hospitals?

BABSON: I remember with one of our nurses, Lois Hart, she was the second in charge after Betty Weible. When we were getting so much blindness and were just about ready to throw in the sponge, we went around with the oxygen analyzer to check on Portland's nurseries. This was long before I'd become full time. We went over to Portland

Adventist Nursery, and here was a three-pound preemie, immature enough to get RLF. The air in its incubator measured sixty percent oxygen. They had not heard of the problem of oxygen and blindness, and it discourages one to find that. But we changed their policy of giving oxygen by monitoring the oxygen levels used. All nurseries caring for premature infants were encouraged to have analyses after that.

ROSENWINKEL: So the NICU here, then, became a training center for other medical students?

BABSON: Of course. This development came later, and more at the resident or fellow level. After 1965, most of the fellows we trained are way up in the category of professors. We have a man in Australia that's the leading expert in that country. Our man that went to Tennessee—what's the name of the Harvard of the South down there?

ROSENWINKEL: Vanderbilt.

BABSON: Vanderbilt. He's the chief there and an able man. He wrote two or three articles when he was with me in our center.

ROSENWINKEL: So you're saying that your training program has been very successful for physicians?

BABSON: Oh, I hope so.

ROSENWINKEL: And what about the nurses? We can't forget them.

BABSON: I didn't have a special course for nurses. The nursing department handled that except what they learned on medical rounds. Helen Katagiri often would allow visiting nurses from other hospitals to learn techniques of good neonatal care.

ROSENWINKEL: Did you have nursing students rotating through your unit?

BABSON: Certainly from our nursing program at OHSU. Except for those that came to visit us in groups, I don't recall a nurse coming from the other hospitals and staying for a month or two. That may have happened.

ROSENWINKEL: What other training programs did you have in the NICU in the seventies?

BABSON: Well, other than training residents and fellows and having medical students as observers, we didn't have any set program. They learned from observation and participation.

ROSENWINKEL: What role did the Doernbecher Foundation play in financing various activities in the NICU?

BABSON: I don't know that we ever directly received funds from the Foundation. We never failed to have needed equipment or supplies from the administration. Our expansion in 1966 and again in 1972 was funded from administration sources.

ROSENWINKEL: Speaking of the financial end of this, it's very expensive to keep preemies for long periods of time.

BABSON: A thousand dollars a day, they say.

ROSENWINKEL: Where did that funding come from?

BABSON: I am sorry to not know. Occasionally, minor support from insurance, but many mothers of preemies were in their teenage years with no husband and no money. That was supported by the school and its regular support from the legislature, Oregon State Legislature, for the school. I'm not the right one to talk to about that. I don't know.

ROSENWINKEL: When a baby got to the point where it could go home, did the parents express their gratitude in some way?

BABSON: We used to have annual get-togethers of former patients, and, of course, those that came would naturally be very supportive of such a thing. I've run into, many times, people that were overwhelmed by what we did for them, particularly if the baby turned out well.

ROSENWINKEL: So that must have been very gratifying to meet these babies who grew up into teenagers and adults.

BABSON: Oh, yes, it's a great excitement, yes.

ROSENWINKEL: When you were doing your training programs for the residents, because that's what you said, those were the personnel you were training, right?

BABSON: They went through the system, yes. All of the residents went through. They had to do everything that we'd been doing.

ROSENWINKEL: Did you have many minority people pass through your program?

BABSON: We had a black girl, and she was a regular pediatric resident. And I tried to stimulate her into being a fellow, but we have never done that.

ROSENWINKEL: And did you find that a lot of the fellows or residents that came through were women, as opposed to men?

BABSON: They are now, but they weren't then. Most of the fellows who developed the Emanuel NICU, which were trained here, were males.

ROSENWINKEL: So do you think now that it's more men or women who are attracted to neonatology?

BABSON: I don't know, but I know there are more women in pediatrics than men. And whether they're attracted to neonatology, I don't know, but it's a good question, and I can't answer it.

ROSENWINKEL: If a young person came to you and said they were interested in pediatrics or neonatology, what advice would you give them?

BABSON: Neonatology was unknown in my early days. It developed not till the sixties. It was preemie care before.

ROSENWINKEL: Okay, preemie care, then. If a young person, a young medical student, came to you now and said, I might like to go into pediatrics, or, I might like to go into neonatology, i.e., preemie care, what advice would you give them?

BABSON: Oh, gosh. One would first have to be exposed to neonatal care as one of the specialties in pediatrics, as well as cardiology. They'll be exposed to it; let's see what stimulates them to make them want to specialize. We have more pediatric cardiologists than we can use, and maybe neonatologists now.

ROSENWINKEL: You think so? Nationwide?

BABSON: Maybe. Yes, they're moving into cities that shouldn't have neonatologists. You see, the hospitals may not have sufficient deliveries to justify the specialty.

ROSENWINKEL: Looking back over your career in preemie care, what are the greatest changes you've seen from then to now?

BABSON: They have been tremendous, perhaps more than in any other specialty. Dr. Gerda Benda has been through the same.

ROSENWINKEL: She's been through the revolution, and so have you.

BABSON: Remember, there was nothing to start with. When we gave them injections of fluid under their skin, it was the only way we could give them fluids. That's terrible.

ROSEWINKEL: Okay, so that's one major change: the techniques for caring for the preemies. And has the technology itself, the development of the technology been one of the major things?

BABSON: Oh, yes, yes: intravenous alimentation, blood monitoring, respiratory support, and for the fetus, fetal monitoring and X-ray development of the fetus.

ROSEWINKEL: Did you get involved with the role of computers at all?

BABSON: No.

ROSEWINKEL: That was after your time.

BABSON: I'm sorry to say I'm computer ignorant.

ROSEWINKEL: What made you decide to retire in '77?

BABSON: I was retired. It was the thing to do, like Dr. Ralph Benson. Nearest your sixty-fifth birthday, your salary stopped. It had nothing to do with asking you.

ROSEWINKEL: Oh, so it was part of the system, then. So what did you do after that, then? Did you keep your hand in the field?

BABSON: I kept my office. Finally, it was Gaines Hall, as you know. I kept working in an isolated area. But no problem there. Everybody has a different way of handling it.

ROSEWINKEL: But did you write a textbook after you retired? Did you update your textbook?

BABSON: The fourth one was after I retired. It came out in 1980. I worked on that over several vacations. But the last one in 1985, I gave the major authorship to Dr. Martin Pernoll, or Dr. Benda.

ROSEWINKEL: And you sort of were the assistant.

BABSON: My name is in it, but I didn't do much of the work.

ROSEWINKEL: Did you consult on the side at all, or get involved in patient care?

BABSON: No, because the time was getting late. See, when I was responsible for the edition that came out in '80, I had been relieved from active care for three years, so the next one would be too far ahead for me to have kept up.

ROSENWINKEL: So what you're saying is you did do some writing after you retired, then?

BABSON: I have helped with a few articles but I now read more of general medical interest.

[End of Tape 3, Side 1/Begin Side 2]

BABSON: I like to be around occasionally on meetings, but I'm now much more interested in raising pears.

ROSENWINKEL: So I have only one more thing to ask. Of all the things you've done in your career, this whole sweep of time, what's the thing you've done that you're the proudest of doing?

BABSON: Making the nurse an equal part of the team approach to perinatal medicine. When we discuss whether to stop the respirator or continue intensive care, the nurse is there as well as the doctor on the case and the parent, making the decision three ways, Shall we keep it going or not? She's very valuable.

ROSENWINKEL: We have talked for a long time, nearly three hours.

BABSON: I know. I'm embarrassed.

ROSENWINKEL: No, that's fine. That's exactly what I wanted to hear. You've told some wonderful stories. Did you have anything else you wanted to add?

BABSON: (laughing) No. I'm talked out. I'm getting hoarse.

ROSENWINKEL: Well, I'll ask you one final thing, and that is, what's it like being a pear farmer in Hood River?

BABSON: As Dr. Dick Olmsted put it, instead of neonatology, he's gone into pear-atology (laughter). Sort of a play on pears.

ROSENWINKEL: And I hope you grow good pears.

BABSON: (laughing) Sure.

ROSENWINKEL: Well, thank you so much for this interview. It's really been a pleasure.

BABSON: Well, thank you for being so patient with my often inadequate answers.

[End of interview]

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