Interview with Jerome B. Posner, MD
American Academy of Neurology
Oral History Project

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Doctor Posner's Office
Memorial Sloan Kettering Cancer Center
October 13, 2014

Lisa M. DeAngelis MD and
Lauren E. Klaffke, Interviewers

Jerome B. Poster	- JBP
Lisa DeAngelis	- LD
Lauren Klaffke	- LK

LK: This is Lauren Klaffke. It's October 13, 2014. I'm here today with Doctor Lisa DeAngelis and Doctor Jerome Posner at Memorial Sloan Kettering Cancer Center. Doctor DeAngelis and I are interviewing Doctor Posner for the American Academy of Neurology Oral History Project.

Doctor Posner was born in Cincinnati, Ohio. He completed his Bachelor of Science [degree] in 1951 and his medical degree in 1955 at the University of Washington. He served as an intern at King County Hospital in Seattle, and assistant resident in neurology at University of Washington affiliated hospitals, and a special fellow of the National Institutes of Health [NIH] at the Department of Biochemistry at the University of Washington. He completed his military service at Ireland Army Hospital in Fort Knox, Kentucky, while also serving as an instructor at the University of Kentucky-Louisville School of Medicine. In 1967, he began his tenure at the Memorial Sloan Kettering Cancer Center. He is a professor of Neurology at Weill Cornell Medical College and was first, chief of the Neuropsychiatry Service and then chair of the Department of Neurology at Memorial Sloan-Kettering Cancer Center from 1975-1987 and 1989 until 1997, when he was succeeded by Dr. Lisa DeAngelis.

Thank you all for coming together to meet for this interview.

I wanted to get started with a discussion of your early life and education, Doctor Posner. So if you could talk about how you became interested in medicine and different aspects of your early life that formed that interest.

JBP: My parents told me that from the time I was three years old I always wanted to be a doctor. I'm not sure about that. Where I lived in my day among our community, if you went to college, there were only one of three things you could do. You could go into your father's business—my father didn't have a business—or you could go to medical school or law school. I chose medicine.

LK: How did you decide on the University of Washington?

JBP: I lived in Seattle.

LK: Okay.

JBP: After graduating high school, I went to the University of Washington. It was the only school I applied to. In those days, you didn't really have to make a very serious application because everybody who graduated from high school, with, as I recall, at least a C average, as I recall was automatically admitted to the University of Washington. Medical school admission was more competitive, but it also was the only school I applied to because it was inexpensive and I could live at home.

LK: What did you major in in college?

JBP: Pre-med, I guess.

[chuckles]

LK: While at the University of Washington, I'm assuming that's where you developed your relationship with Doctor Fred Plum?

JBP: Yes.

LK: Did he have an early impact on your career in medicine?

JBP: I worked for him during the summers. During those days, almost all of the medical students worked during the summer doing research with somebody at the university and the NIH paid for it. You could make enough money during the summer to pay your tuition and your books. So between the summer of my third and fourth year, I worked for Fred Plum. At one point, he said, "You really ought to go into neurology." I always did what he said. So, I went into neurology.

LK: [chuckles] Did you continue to work with him while you served as an intern?

JBP: As an intern, no, but as a resident. He was chief of the service, at that time.

LK: When you went into neurology, I know you wrote a book [*The Diagnosis of Stupor and Coma*] with Doctor Plum.[1]

JBP: That book came out of my experience as a resident and his experience as attending at Harborview Hospital, King County Hospital in Seattle, but we actually wrote the book when we came to Cornell.

LK: Oh, okay.

LD: Tell us how you came to New York with Fred when he located here.

JBP: Fred had been a resident in neurology at Cornell. Harold [G.] Wolff was his mentor. Harold Wolff died in 1961 and Cornell spent two years deciding who the successor should be. Fred Plum was offered the job. So in 1963, he came to Cornell as chairman of the newly formed Department of Neurology. Before that, it had been a division of the Department of Medicine. Many of us who were in Seattle came with him, including some of the residents.

LK: Could you speak to your military experience as well? I'm assuming you were at Kentucky as part of the Berry Plan?

JBP: Yes, that was part of the Berry Plan.[2] When you finished your residency, you automatically entered the military having been deferred from the draft during residency training. Ireland Army Hospital [named after a former surgeon general of the Army, Merritte W. Ireland, not the country], was a hospital on a base which had about 40,000 troops and a lot of dependents who lived in the area. So we saw both elderly and young people at the same time. I think I was the first neurologist to actually have gone to the hospital at Fort Knox. It was really part of the Psychiatry Department there.

LK: Were you able to work as a specialist there?

JBP: Yes. I did the neurology there for two years.

LD: To get the chronology straight… You came with Fred to New York and, then, shortly thereafter went to Kentucky?

JBP: No, no. I went to Kentucky right at the end of my residency in 1959. In 1961, I came back to Seattle and Fred Plum had arranged for me to do a biochemistry fellowship with [Edwin G.] Ed Krebs, who, subsequently, won the Nobel Prize. I spent two years in his laboratory.

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[1] Fred Plum, Jerome B. Posner, *The Diagnosis of Stupor and Coma*, 1966; now Jerome B. Posner, Clifford B. Saper, Nicholas D. Schiff, and Fred Plum, *Plum and Posner's Diagnosis of Stupor and Coma, 4th ed.* New York, Oxford University Press, 2007.

[2] The official name was the Armed Forces Physicians' Appointment And Residency Consideration Program. It was an Army deferment program for physicians doing their residencies.

LK: On the Krebs cycle?

JBP: No, no, it's not that Krebs. It was Ed Krebs.

LK: Okay. [chuckles]

JBP: I spent two years in his laboratory. It was during the end of that time when Fred decided to come to Cornell. So when I finished the program in 1963, I came to Cornell. He came in July; I came in September.

LK: I was wondering if you could also speak to the influence of basic science on your work. I know that you completed your work through the National Institutes of Health at the Department of Biochemistry. I was wondering what kind of influence that had on you.

JBP: Actually, I worked on muscle metabolism with Ed Krebs. When I came to Cornell, I was interested in working more on brain metabolism. I had a laboratory which did that for a while and, then, my laboratory here at Sloan-Kettering which also did some of that for a while. But, then, I got interested in paraneoplastic syndromes. Most of my research here has been on that; although, we (Bill Shapiro and I) did some work on tumors, particularly metastatic tumors.

LK: You were doing that work with…?

JBP: By myself when I came here.

LK: Okay.

Your interest in brain cancer came from that work on biochemistry, generally?

JBP: No. My interest in brain cancer came from the fact that the position here required an appointment in Cornell and, therefore, the chairman at Cornell, Fred, was instrumental in appointing the individual who was going to run neurology here at Memorial. When he couldn't find anybody else, he sent me…

LK: Oh, wow!

JBP: …and that's how I got here. I had no interest in brain cancer until I got here—or in cancer in general.

LD: That was what year?

JBP: I was officially halftime in 1967, fulltime in 1968. It wasn't clear that there was enough clinical work to support a fulltime neurologist the first year.

LD: You spent four years being, basically, fulltime faculty at Cornell.

JBP: Exactly.

LD: Then, a year halftime here and, then, in 1968…

JBP: Well, actually, it was allegedly halftime. I spent fulltime here once I got here.

LD: Neurology was a service in the Department of Medicine, at the time, is that correct?

JBP: It was part of the Neuropsychiatric Service of the Department of Medicine when I came. It became a department in 1975.

[pause]

LK: I saw as part of looking into Doctor Plum's work that he was a strong advocate of living wills and seemed to have a strong connection to medical ethics. I didn't know if you shared at all in this advocacy or if that was…

JBP: Uhhh… I'm not sure how to answer that.

LK: Okay.

JBP: I didn't have exactly the same view of things. He was more nihilistic about treatment of advanced disease, perhaps, than I was. But I do believe that people have autonomy and they can make decisions. Sometimes, it's very difficult for them and I think a responsible physician helps them out with the decisions.

LK: Would you say that that was an issue that was developing during that period increasingly or…?

JBP: Yes, the concept of brain death was developed during that period. I guess the first study on what eventually became brain death was done at Harvard and, then, we got very interested in that. The question of once a patient's brain was dead whether they were dead or not was controversial at that time. It largely has been settled now. As the possibility of transplants from humans who've died recently became more and more important, it became a more and more important issue. We addressed that issue in detail in the first edition of *Stupor and Coma.*

LD: It grew out of, really, the description of the vegetative state.

JBP: Well, the first description was the Harvard description on irreversible coma, which was really brain death. The term "vegetative state" was actually coined by Fred Plum and a neurosurgeon from Ireland, [William] Bryan Jennett, who'd been a neurosurgeon in Glasgow. They coined the term. They were describing people who were not dead by the criteria for brain death but who were not going to recover consciousness, presumably ever. As it turned out, that probably was not quite correct but close enough.

LK: Could you elaborate on that a little?

JBP: Well, there have been reports now of people who *appear* to be in a vegetative state, but who, in fact, do have cognitive function that can be tested by functional imaging. So those patients do not meet the definition of vegetative state but may be fully conscious.

LK: We've been talking about the influence of Doctor Plum on your career. I was wondering if you had any other mentors who influenced the direction your career took.

JBP: Well, Ed Krebs, certainly.

LK: Right.

JBP: All of us at the University of Washington at that time were influenced by Robert [H.] Williams, who was chairman of the Department of Medicine, who was an endocrinologist and who, I think, set the tone for the University of Washington, which, at that time, was not well known, but was an excellent medical school, largely set by people whom he appointed to the Department of Medicine, including Fred Plum.

LK: So increasing the reputation of the University of Washington.

JBP: Well, it increased over time.

LK: Could you talk a little bit about the culture of the University of Washington in contrast to the other institutions at which you served, like the emphasis on clinical versus research?

JBP: Because of the influence of people like Bob Williams and the people he appointed—I was in the fifth graduating class, so it was a relatively new school—the University of Washington Medical School always emphasized research and the importance of research in clinical medicine. The people that he appointed as his division chiefs in the Department of Medicine were all research oriented and most of them became, as did Fred Plum, an international expert. He did emphasize clinical research as well as basic research. That was his major interest.

LK: I'm sorry if I'm making you repeat yourself, but could you talk a little bit more about the research you did with Ed Krebs?

JBP: I worked on an enzyme called phosphorylase, working in muscle. At that time, it was unclear how muscle metabolism worked when muscles were contracting, were functioning. There was an enzyme called phosphorylase which was instrumental in that. What I did was measure the changes in that enzyme and some others as muscle was contracting.

LK: When you came to New York, you took the position that was primarily centered on cancer research. Could you talk a little about how you, I guess, changed your focus?

JBP: When I moved to Memorial, I had a laboratory. I, first, did a little bit of work on brain metabolism, but, then, it became important that I work on things that were related to cancer. I started fulltime in 1968. In 1969, [William] Bill Shapiro came here and together, we decided that we would look at metastases in the central nervous system and with a number of Japanese fellows. (At that time, the Japanese government paid for some of its physicians to work in some American laboratories). With a number of Japanese fellows, we developed models of metastases in experimental animals that we could manipulate. That's what we did for the first several years before the paraneoplastic stuff started.

LK: And when did that start?

JBP: It must have been in the late 1970s or early 1980s.

LK: Okay.

[pause]

LD: How did you get interested in paraneoplastic syndromes? Why did you decide to pursue that?

JBP: I discovered when I got here that we rarely saw patients with paraneoplastic syndromes. Every time we thought a patient had paraneoplastic syndrome, they turned out to have cancer involving the nervous system. But we had two patients within a short period of time who had what turned out to be paraneoplastic syndromes. At that time, one of the fellows here, Francesc ["Cesc"] Graus, and another fellow, Kurt Jaeckle, were interested. They each saw one of these patients and decided that they were going to study this along with Carlos Cardon-[Cardo], who had a laboratory that did immunohistochemistry. We discovered that these patients (a) did, indeed, have paraneoplastic syndrome and (b) had in their serum antibodies which identified their disorder as paraneoplastic syndrome. One was a patient with what we called the anti-Hu syndrome and the other one was a patient with what we called the anti-Yo syndrome. They were both patients here. Then, we got interested in looking at the serum of other patients with possible paraneoplastic syndromes. Then, people began sending us serum from outside to ask us whether they had any of these antibodies. Finally, the tests became commercially available.

LK: Oh. Did you work on that development?

JBP: We worked on the development and actually licensed the clinical testing to a commercial laboratory.

LK: All of that work was done with Carlos Cardon-Cardo?

JBP: No. No. Done with different people.

LK: Okay.

JBP: The fellows turn over. They don't stay for very long. Eventually, another individual from Barcelona, who was actually a close friend of "Cesc" Graus, came here…Josep [O.] Dalmau. He came as a fellow and, then, was on the faculty for a decade. He really took over all of the work on paraneoplastic syndromes and has continued to be the leader in the field.

LK: Have you developed other research interests that I haven't touched on yet?

JBP: I don't think so.

LK: [laughter]

LD: Maybe not so much another laboratory focus as you really devoted the lab to the paraneoplastic problem. But you were really instrumental in describing, basically, all of the neurologic syndromes that we see in cancer patients.

JBP: Well, that's what I did clinically, yes.

LD: So from the clinical side and from perspective of education of the fellows and descriptive research, describing all the syndromes such as plexopathies and things of that nature…

LK: I saw that you were co-chairman of the Institute for Cancer Research. Is that correct?

JBP: Oh, I was one of the… No.

[chuckles]

JBP: The Sloan Kettering Institute had four divisions and I was on the executive committee, actually, for a while. Then, John Mendelsohn took over and I got fired.

LK: Oh…

[pause]

LK: Were there any other major research collaborators that you wanted to discuss?
Were you a fellow under Doctor Posner? [speaking to Doctor DeAngelis]

LD: I was absolutely a fellow.

LK: Okay.

JBP: All of the fellows who came here did research and published their research, as they continue to do under Doctor DeAngelis' direction. I think the person I worked most closely with was Dalmau. But a lot of the clinical descriptions were done by the fellows, like [Kathleen M.] Kathy Foley, Richard [W.] Price, [David A.] Dave Rottenberg, all of whom came here as fellows and then became faculty members. They're the ones who really described all of the syndromes, which I put together, first, by myself and, then, with Doctor DeAngelis in a book, *Neurologic Complications of Cancer*.[3]

LD: Do you want to talk a little bit about the training program, the development of a fellowship devoted to neuro-oncology, and when that program started?

JBP: It must have started, I guess, probably in 1969 with Norm Chernik, who became a fellow in neuropathology. I think he may have been the first one. Then, other fellows came. Some of them stayed on the faculty, like Doctor DeAngelis.

LD: And Bill?

JBP: Bill, no. Bill was a resident at Cornell. He spent two years at the NIH working with [James I.] Jim Ausman on experimental models of primary brain tumors. Actually, it was because, as I remember, his grant failed when he came here on the primary brain tumors that I decided it would be wiser to look at metastases, because almost nobody else in the country was doing that at the time. So we wrote a grant application for that and that's what got the metastatic program going.

LK: This was Bill…?

JBP: Bill Shapiro. He's just retired.

LK: Had you recognized that no one was working on metastases?

JBP: Nobody was working on it. I guess [Isaiah J.] "Josh" Fidler was working from an experimental point of view. That's true. Yes. "Josh" Fidler was working on it at that time, was doing some very fundamental work and has continued to do that. Isaiah Fidler.

LD: He's at MD [Monroe Dunaway] Anderson [Cancer Center, University of Texas].

LK: Were you looking at it more from the clinical viewpoint?

JBP: He was looking at it from the point of view of tissue culture and some experimental models. We were looking at it from the point of view of identifying a model that we could study the physiology of different central nervous system metastases. We looked at

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[3] Lisa DeAngelis and Jerome B. Posner, *Neurologic Complications of Cancer.* New York. Oxford University Press, 2008.

the effect of steroids on experimental brain metastases. We looked at the phenomenon of what happens to the blood-brain barrier in experimental brain tumors or experimental spinal and leptomeningeal tumors, so we were more interested from the physiologic point of view.

LD: And the focus was the nervous system; whereas, Doctor Fidler was looking at metastases of all sorts, not just restricted to the nervous system.

Given that you have had a long history of all of these trainees, fellows who have come through this program… They're now all over the world, really. Many of them are leaders like "Cesc," and Josep, and Jean-Yves [Delattre] in Paris. They're really all over the place. What do you think is your largest legacy? Do you think it's your trainees or your scientific contributions, particularly in the paraneoplastic…?

JBP: Oh, my scientific contributions are, on the whole, trivial. Yes, the people who succeeded me like Josep and like Jean-Yves and like you who really made the contributions. The fact that people came to this institution and did neurology and, then, neuro-oncology and went on to develop programs throughout the world is, I guess, the thing I've done best.

LD: Could you have imagined that there would have been a Society for Neuro-Oncology, its own organization and multiple sub-specialty journals, when you first walked on York Avenue?

JBP: Oh, no! Actually, when Fred told me that I should take this job, I talked to [Robert A.] Bob Fishman, who was the chairman at the University of California-San Francisco. He said, "This is a crazy thing to do. You'll never be heard of again." But I did it anyway. No, I never envisioned that it would be very much like this. The only other person doing that in the entire world was Jerzy Hildebrand, who was in Brussels at the time. We were, basically, contemporaries. Unfortunately, he died recently [February 11, 2013].

LK: I'd seen that you had done some work on the neurological complications of AIDS [Acquired Immune Deficiency Syndrome]. I didn't know if you had done significant research into that.

JBP: Only on description. We wrote one of the original papers on neurological complications of what was then called "Gay related immunodeficiency disorder" [GRID]. There was a large homosexual community in New York City, and many of them were quite public spirited, and many of them donated blood to the Memorial Sloan Kettering Cancer Center long before we had a test for this and we knew exactly what was going on. Some of them, when they got sick, came here either because they developed tumors—Kaposi sarcoma was one they developed; lymphomas were one they developed—or they developed lesions in the brain that they thought were tumors which turned out to be toxoplasma infections. We started seeing some of these people on our neurology service. In 1983 we reported on 50 patients with neurological complications of AIDS, one of the first extensive reviews of the problem. It wasn't until 1985 that there was actually a test so that the blood supply could be protected.

LK: Could you talk about the environment surrounding your work and treatment of AIDS patients? My understanding is that there was a lot of concern about transmission.

JBP: Yes, it got to be a real problem. Surgeons were reluctant to operate on some of the people. We knew it could be transferred via the blood supply. Then, there was a question of protecting privacy, because being homosexual was not as well accepted in those days. There was a big issue over when you test for AIDS and how you test for AIDS in individuals. Eventually, a program was developed here which allowed one to get informed consent to do the testing.

[pause] You're straining my memory.

LK: [chuckles] I didn't know if you wanted to talk about any of the international travel or sabbaticals you've taken in your career.

JBP: No sabbaticals!

LK: No sabbaticals. [chuckles]

JBP: We don't have a sabbatical program here.

LK: Okay.

JBP: International travel really involved going to at least one international neurological meeting and, sometimes, I was invited to be a visiting professor or to give lectures internationally and, of course, I always went.

LK: You mentioned many international researchers. I didn't know if you had done any collaboration or anything while you were abroad.

JBP: Many of the people internationally, like Josep Dalmau who is now in Barcelona, and Jean-Yves Delattre who is in Paris, and some of the neurosurgeons in Japan were here as fellows, and, then, they went and set up their own programs. So there are programs really all over the world, some of which have people who trained here.

LK: Did you really set up this program here?

JBP: Yes.

LD: There was no subspecialty training here before Dr. Posner arrived.

LK: In terms of cancer or neurology?

JBP: Memorial Hospital for cancer dates back to 1884. We had a neuropsychiatric service, which was started in the 1950s. Its chief was a psychiatrist named Arthur [M.] Sutherland. During that time, one volunteer neurologist and one part time neurologist worked under Sutherland. But I was the first fulltime neurologist to come here. I took over the service. Sutherland left, retired, in 1961, I think. There was a long hiatus where the neurologist who was a volunteer was acting chief but never actually became a fulltime chief. His name was Jerry Klingon. The story is he was a friend of Gene Roddenberry and Rodenberry named the Klingons in *Star Trek* after him.

LK: Really? [chuckles]

LD: College classmates, I think, or roommates.

JBP: Is that what it was? Actually, it was more appropriate than most people recognized.

LK: [chuckles] Can you talk about setting up the program and directing more funding to it? It was a lot of grant writing, I'm assuming. Is that what powered it, really?

JBP: There really are the three major sources of funding for a department. One is their operational funds which come from the hospital and which form the core of our budget. Secondly, the grant funding, some of which goes to salaries for the individual. At one point, you could get funding for fellows and still can to some degree, but it was easier in those days. So if a fellow comes, you can get a grant to support that fellow for something. So that's the second form. Then, thirdly, your philanthropic funds. Individuals who have a relationship with the department may donate money and that money, then, can be used by the department to fund things which can't be funded in other ways. Those still form the core of our…

LK: What was the major source that you sought out?

JBP: We tried them all.

LK: [laughter] Okay.

I don't know what the impact of this was on you all, but I know there were increasing funds for cancer in the 1970s.

JBP: It was a lot easier to get grant money.

LD: The War on Cancer [National Cancer Act of 1971] that [President] Richard Nixon signed into being and the establishment of the National Cancer Institute [NCI] did allocate specific funds for cancer research. While that was helpful globally, historically, there was not a huge amount of money going into brain tumor work. There has been a change and brain tumor research has definitely received substantially greater funding in the past, let's say, five years than it ever did before.

LK: Oh, wow.

LD: So that’s kind of a reversal, but, traditionally, brain tumors were not a big focus of research in the 1970s, 1980s, even not so much in the 1990s.

JBP: Some of that came out of the progress review thing [Report of the Brain Tumor Progress Review Group] done.

LD: That was in 2000.

JBP: Yes, that was in 2000. So some of it came out of that.

LK: What was the progress…?

JBP: I guess it was the [National] Cancer Institute that set up a group of committees to look at progress or to map progress in various cancers. One of the early ones was brain tumors. That was done with the NCI in conjunction with the NINDS, which is the Neurologic Institute [National Institute of Neurological Disorders and Strokes].

LD: That was a group that Doctor Posner chaired. It involved people from all over the country, all different aspects of input—now, we’re talking about primary brain tumor work—to, basically, develop a road map, if you will, of future research.

LK: Why wasn’t there much of an emphasis on brain tumors?

JBP: Well, they’re not that common. There wasn’t a lot one could do. When I came here, in fact, this institution would accept *any* patient with cancer except those who had brain tumors.

LK: Really?

JBP: There was no neurosurgeon here. When they had to have operations on the brain or the spinal cord, a surgeon from across the street [The New York Hospital, now New York Presbyterian Hospital] would come over and operate. That was mostly on spinal operations, because we didn’t see primary brain tumors and we didn’t even operate on very many metastatic brain tumors. It was unusual thing to do. I came in 1967. The first neurosurgeon came, I think, in 1969, when Richard Bergland was appointed here. I think it was 1969 or 1970. Then, we set up a service where we took patients with brain tumors and operated on them and developed protocols for the treatment of primary brain tumors.

LK: Did the program grow as the research grew, as technology changed? It seems pretty pessimistic…

JBP: When I came here, I talked to the physician in chief, [Edward J.] Ted Beattie, who was a surgeon and believed that there was no such thing as an inoperable tumor. When I talked to him, we came to understand what would develop over time. One of the important things for me was recruiting a neurosurgeon so that we could deal with brain tumors. He was very supportive in doing that. There were other aspects that we worked together to develop. We needed institutional support to do these things. You can't recruit a neurosurgeon unless you have institutional support for it, which we did. Then, I also wanted beds devoted to neurology and neurosurgery. We shared the service together. I was able to get beds, not here but in the Ewing Hospital, which is now closed. So Dick Bergland and I developed the joint neurology and neurosurgical service together once he got here.

LK: You said he got here in 1969?

JBP: In 1969 or 1970, I think.

LK: Was he recruited here by…?

JBP: Yes. He'd been a resident at Cornell…[recruited] by Doctor Beattie. Beattie was chief of the thoracic service, and chair of surgery, and physician in chief.

LD: Sounds like Ted Beattie.

JBP: Yes. That was like Ted. He was a nice man.

LK: The fact that there wasn't any focus on brain tumors here, was that unusual nationally?

JBP: Well, no. General hospitals did brain tumors, all that had neurosurgical services. I'm not quite sure why we didn't do brain tumors. They were operating on brain tumors at Cornell all the time. In the beginning, before we even had surgery, when Bill Shapiro got here, we developed some protocols for the treatment *after* surgery of those patients and Bill would go over and see the patients at Cornell after surgery and recruit them into the program.

LK: Okay.

LD: When you developed an inpatient service with Dick Bergland…

JBP: No, I developed it by myself. Bergland came later.

LD: All right. Was that when the residents started to participate?

JBP: No.

LD: When did the residents…?

JBP: The sole reason for my coming here, the sole reason for Fred Plum sending me here, was the fact that Memorial supported three residency slots in his program. The residents rotated through here each year. It was a very quiet service. That was the time they took their vacations, but there were always residents at each year level rotating through. Since they supported three fulltime residency slots, it was important that we have a chief here to supervise the residency program. That was one of the things.

LD: I think we should remind the current residents that, historically, MSK was when they took vacation, that the service was so slow and that's when they would take vacation. That's not the case any longer.

JBP: It was very slow. That was the reason, I think, for the halftime appointment for the first year. It wasn't clear that there was going to be enough to do, but it turned out that there was plenty.

LK: We haven't talked at all about your work at Cornell. Is that just teaching medical students?

JBP: No. I had a laboratory. I did some work on brain metabolism. I didn't get very far because it was only a three-year sort of thing.

LK: So you were there only there three years.

JBP: I came in September of 1963 and left in July of 1967. I wasn't there for a very long period of time.

LK: I thought you were still associate…

JBP: There was an affiliation.

LD: We're still affiliated. We all have Cornell appointments. That is our academic home in the sense of the medical school. But nobody here works at Cornell.

LK: Okay.

You said that the time of year when people took vacations was [unclear] neurology residencies?

JBP: The neurology residents had rotations. They spent some months on the ward service, some months on the consult service. In the 1960s, I guess it was three-month rotations over here during which they saw consults, because there were no ward patients at that time. It was very quiet. They didn't see a lot of consults. So it was a time when they could take vacation, because there wasn't an awful lot going on. That's all. Right now, it's a very busy service and that doesn't happen.

LK: That was about bringing in more patients, though?

JBP: Well, there were a lot of patients here. It was asking for neurological consultations.

LD: Most of the physicians, at the time, didn’t recognize a lot of the neurological complications as requiring input from a neurologist.

One of the areas that Doctor Posner really led was the description of pain syndromes in the cancer patient and how most of those syndromes were due to involvement or compromise in some fashion of the underlying nervous system. He, with Doctor Foley, really developed that whole area of cancer-related pain syndromes from either active cancer or from cancer therapies, such as post operative syndromes and things of that nature.

LK: Oh, okay. Okay.

LD: Most of these were just ignored, I would imagine.

JBP: Well, we had a pain service here run by [Raymond W.] Ray Houde which was very effective. But I thought that neurology ought to have an input into that. When Doctor Foley came over here, she developed the neurology pain program working very closely with Ray Houde. Eventually, she took over the entire program…a very successful recruitment.

LD: How about positions of national leadership? You were president of the ANA [American Neurological Association].

JBP: Yes. In those days, that was kind of an honorific thing. I didn’t do very much, but I was president of the ANA, at one point.

LD: You served for a long time at NIH on study sections.

JBP: I was on the council, actually, for a period of time, which was very interesting, a lot better than it is now because there was money and we could actually have some influence on the way things went. The same was true of study sections. It’s much harder now, I think, to do them than it was then.

LK: Were you recruited to that position?

JBP: The NINDS, the National Institute of Neurological Diseases, has committees that look at grant applications. They’re called study sections. People, generally, are appointed by the hierarchy at the NINDS to form these committees. They serve for several years and meet several times a year. Above them, is the Council, whose members are academics who are recruited to look at the grants that the study section approves and to set priorities, which may be somewhat different from the study sections. For example, the council, if they see something that has a good score but isn’t good enough to be funded, can say, “This is an important priority,” and actually move it up so that it can get funded. Then, they discuss other things which help the hierarchy at the NINDS plan for the future…

LK: Okay.

JBP: …if there is a future.

LK: Did you have any other positions that you served in? We touched on president of the ANA. I didn't know if there were other positions that you want to talk about.

JBP: I don't think so. I don't remember, actually.

LK: [chuckles]

I was wondering if you had any general comments on—we've been touching on this the entire interview—maybe changes in neurology training over time, how you've seen training change.

JBP: [sigh] It's hard to know, because I'm in one program. I think it's gotten harder because there's more to know. It's gotten more sub-specialized. At one point, one did general neurology and encompassed every patient who had a neurological problem, but, more and more, it's become more complicated. Because we know more, it's become more sub-specialized.

Do you think the training has changed all that much from when you were a resident? [speaking to Doctor DeAngelis]

LD: I think the patient experience has not changed that much—or, at least, we hope it hasn't changed that much. I think the way the residents spend their day and the kind of work that they do has changed enormously with the development of the electronic everything: the medical records, the documentation; the notes. They're much more burdened with a lot of that than certainly I ever was.

JBP: There were always distracting things. When I was a resident, in the evenings, we did our own laboratory work. If the patient needed a white blood count, we did it, because the laboratory was closed. All the time, we drew bloods. We'd have to go every morning and draw the bloods. Now, we have technicians who do that and do it much better. So we always had a certain amount of work which distracted you directly from patient care. But I think the development of computers and the emphasis on paperwork, which is now computer work, has really burdened the neurology residents more than it did us.

We had very little imaging. Most of the diagnosis was clinical because you didn't have imaging. Now, with, really, very sophisticated imaging, the residents spend more of their time looking at images, perhaps, than they do looking at patients. That can be a problem.

LK: What is that clinical approach? Is that speaking to the patient and talking to them about day-to-day experiences, kind of detective work?

JBP: What? Clinical work?

LK: Yes.

JBP: Neurology in the real world, not at Memorial Hospital but in the real world of neurology, most patients don't have images which tell you anything.

LK: Hmmm.

JBP: The vast majority of neurology is based on what the patient tells you, the history. Often, they don't have physical signs to go along with the history. So neurology, of all the specialties other than psychiatry, is probably most dependant on taking a history from a patient. At *this* hospital, because our patients have cancer and most of the problems that we're faced with are a direct result of cancer, imaging becomes very important. Still, sometimes, the images don't tell you what's really going on because the patient's story is different from what the images tell you. So it's still very important to take a clinical history.

I think, as Doctor DeAngelis points out, perhaps, the residents now and the staff spends less time with the patient and more time with the computer. If you want to see what that's like, you should read a review in the *New York Review of Books* by Arnold Relman about his experiences in an intensive care unit at Massachusetts General [Hospital]. It's called "On Breaking One's Neck."[4]

LK: What is your perspective on that change and less time with the patient and more time with images?

JBP: Well, I think a lot of it has become necessary, because the bureaucracy demands that you do certain things. It demands, for example, that you write a substantive note every day on every patient in the hospital; whereas, in our day, if the patient's hadn't changed by the next day, you just wrote, "Status quo." That took ten seconds as opposed to ten minutes or fifteen minutes or more on each patient every day. So their time is occupied by things which may or may not be directly relevant to patient care. It's just a change.

LK: Yes.

Have you noticed changes in teaching and mentoring within neurology? Do you have any comments on your approach?

JBP: We've moved, as most places have, from voluntary staff to fulltime staff. When I was a resident, many of the attending physicians were physicians who were in practice. They would come by three times a week and see patients. These were volunteers; they volunteered their time. Actually, most physicians in practice are so damn busy, they

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[4] Arnold Relman. "On Breaking One's Neck" in *The New York Review of Books*, 2/6/2014.

can’t volunteer a lot of time any more. In the 1960s here, we moved from a voluntary staff, that is physicians in practice who spent some time here, to a fulltime staff. Of course, most universities have done that, as well. In some institutions, the inpatient service is staffed by physicians called hospitalists who supervise the care of hospitalized patients as their primary job. So even if you admit a patient to the hospital, a hospitalist essentially takes care of the patient when he or she is in the hospital. That doesn’t mean you can’t go to see them, but it does mean that the responsibility changes.

LD: Well, you were really ahead of your time in that. For the service here, once you started to have more than yourself as a faculty member, all the faculty that you hired were always fulltime here.

JBP: Yes. Well, the whole institution moved that way in the 1960s.

LD: Right.

JBP: That was one of their commitments.

LD: Apart from the hospitalist model, the faculty rotated the responsibility of the consult service and the ward. So it was always run that way even though it wasn’t a designated group who did it.

JBP: Each attending spent a month at a time on the ward supervising the ward. So that if you were not the ward attending that month when you admitted a patient, you knew that the ward attending would take care of things. You’d go to see them every day. Decisions were made in consultation. That was good. The attendings had less responsibility than they do now. It is now a service where the attending sees every patient every day and writes a "substantive note”. That wasn’t like that when I first came here. The attending would go by and would see the patients, but only for the time necessary to be sure that the patient was getting appropriate care. The attending would depend on the house staff to tell him or her what was going on. It was all mostly *him* when I started here.

LK: [chuckles]

JBP: In about 1965, I got a call from Fred Plum. He said, ‘I’ve just got an application from a woman. I wonder whether we should take a woman into the residency.”

LK: Oh, really?

JBP: We did.

LD: You were also very much at the forefront of having kind of enhanced ancillary personnel. You were, I would say, way ahead of the curve in getting advance practice nurses—they weren’t necessarily called that or even necessarily trained with a specific certification—recognizing the important role educated nurses can play.

JBP: I learned that as a resident. When I was a resident at Harborview Hospital, we had a head nurse on the service called Thelma Ritter. She had been there a long time and she, clearly, knew more about neurology than I did when I started and she knew more about neurology than the interns who would rotate through the service. She had a way of gently reminding them that maybe that wasn't a wise thing to do or maybe they ought to consider starting an anticonvulsant. She did this in a way that people were willing to accept. Nessa Coylewho was head nurse when I got here could do the same thing.

LD: Yes.

JBP: It became clear that the nurses played a very important role because they have an institutional memory about patients and they know things about patients that rotating residents just don't know. They know what happens to brain tumor patients. Then, it was pretty obvious to me, at some point, that we weren't going to have enough residents to do everything. It became much more important that some of the things were going to be taken care of by trained nurses who can really do the work very well. They can learn about their specific areas and really do it very well.

LD: You really developed that in neurology here on both the outpatient side, when our clinic was still on this floor, and the inpatient side. Nurses used to go back and forth between the 2 services and providing continuity of care.

JBP: Yes. We had very good nurses. At this hospital, the turnover of nurses is small. People stay a long time. It becomes very important, because they learn how things are done. It's still very important, but, to some degree, it's a little less important now because we have a fulltime attending on the service all the time. But when the residents were running things, as they were in the early days, it became very important to have nurses who really knew, who'd been there for years, as opposed to the resident who'd been there for a week, maybe.

[pause]

LK: I was wondering if you have any final thoughts on neurology or advice for individuals who are interested in neurology.

JBP: Well, if you're interested in dealing with patients, it's probably the best of the specialties, because you've got to spend a lot of time talking to patients. It's a wonderful specialty for that. If you're interested in research, the brain is where research is. Neuroscience has exploded in recent years and it's still the most interesting. I think among the specialties now, neurology is probably the most challenging, and probably the most interesting, and possibly the most rewarding—not financially but intellectually.

LK: Thank you all for coming together today.

JBP: Thank you.

LK: Thank you.

[End of the Interview]

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