YOUNGSTOWN STATE UNIVERSITY

ORAL HISTORY PROGRAM

History of Medicine in the Mahoning Valley

Practice in Radiology

O.H. 42

SAUL TAMARKIN, M. D.

Interviewed

by

Paul Zimmerman

on

June 13, 1975

SAUL J. TAMARKIN

Saul J. Tamarkin, noted Radiologist at St. Elizabeth Hospital, in Youngstown, was born on January 31, 1903. He attended South High School in Youngstown and Ohio State University, from where he received his medical degree. After a one-year internship at St. Elizabeth Hospital, Dr. Tamarkin decided to specialize in the field of Radiology at Mt. Sinai Hospital, in New York City. The training took two years and Dr. Tamarkin returned to his private practice in Youngstown in 1930, in the midst of the Great Depression. Business was very slow at the time and Dr. Tamarkin moved his equipment to St. Elizabeth Hospital, where he was able to treat both hospital patients and private cases. As a consultant he had the help of Dr. John Heberding, local pioneer in the field of Radiology.

In this interview Dr. Tamarkin discusses advances in Radiology and recalls men who enabled the field to grow. Since he has been on the staff of St. Elizabeth Hospital for thirty-five years, he also speaks of the hospital's younger days and its growth.

Currently Dr. Tamarkin resides at 465 Gypsy Lane, in Youngstown. He is a member of the Mahoning County Medical Society and the American Medical Association. He attends Rodef Sholom Temple. His hobbies include gardening and golf.

SILVIA PALLOTTA
JULY 28, 1977

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INTERVIEWEE: DR. SAUL TAMARKIN

INTERVIEWER: Paul Zimmerman

SUBJECT: Practice in Radiology

DATE: June 13, 1975

Z: This is an interview with Dr. Saul Tamarkin for the Youngstown State University Oral History Project on the History of Medical Practice in the Mahoning Valley by Paul Zimmerman, at 465 Gypsy Lane in Youngstown, Ohio, on June 13, 1975, at 10 a.m.

Z: Dr. Tamarkin, who or what influenced you to become a doctor?

T: I had a brother who was a doctor. He primarily influenced me, but my parents wanted me to be a doctor, too.

Z: Where did you go to high school?

T: I went to South High School in Youngstown, Ohio.

Z: Did you pursue the academic course of study?

T: Yes. I went to Ohio State University for both the pre-med and the medical school. I graduated from there in 1927.

Z: What was the medical school like there? Was it tough?

T: It was very difficult in those days.The academic programs were difficult and the instructors were difficult on the students. At that time they tried to get you out of medical school if you didn't shape up. Nowadays once you get into medical school, as I understand it, they try to keep you in. If a fellow isn't doing well, then they work with him and try to get him through. In those

days, if you didn't shape up, they'd let you out. That's the big difference between medical college in those days and medical college now.

Z: How long did it take to go through college and then medical school?

T: In those days, I did it in six years. I had two years of pre-medics and four years of medicine.

Z: Then you got mostly basic sciences in the pre-medics?

T: Yes, that's about all. I had very few electives in the pre-medics. In medicine, of course, there were never any electives of any kind. Today, though, most students have four years of pre-medics and so are able to take many electives that in those days we weren't permitted at all.

Z: What were your conditions of internship? Where did you serve your internship?

T: I had what they called an externship at St. Elizabeth's Hospital in Youngstown, in my senior year. The next year I had an internship at St. Elizabeth's for one year. They called it a rotating internship; you had to do all things. Then I made up my mind that I was going to go into a specialty and I decided to find a place where I could take it up. That specialty was Radiology.

Z: Had you ever thought of going to some town other than Youngstown after you graduated?

T: I don't think I ever did. My brother was here and so was all of my family. While I was interning at St. Elizabeth's Hospital, Radiology was still in its infancy. The Superintendent of the Hospital talked to me and asked if I would be interested in Radiology. At that time I really hadn't thought much about it. In fact, I thought I'd just go into Internal Medicine. She told me that when I'd come back, I'd have a job at the Hospital. So I thought it over and decided to go in for it.

At that time the Radiology was done by one man for all of Youngstown, Dr. John Heberding. He had South Side Hospital and he also had St. Elizabeth's. I don't think South Side Hospital had been built yet in 1927. He was assisted by Dr. Baker at South Side Hospital. After I decided to become a Radiologist, I applied to many hospitals for a residency and finally went to Mt. Sinai Hospital in New York City. That is where I had my training in Radiology. At that time the course took two years and I did some extra work in X-ray and Radium Therapy in

Memorial Hospital in New York City. I came back to Youngstown in January of 1930, right after the great Depression of 1929.

Z: Did that have any effect on your practice?

T: It sure did! I had just opened an office in the Central Tower building downtown. I had bought some equipment from money which my father lent me. The equipment was brand new and I equipped this office in the Central Tower Building.

I didn't have a car and when I was called to go up to St. Elizabeth's to do a case, I would take the streetcar. They had very few cases at the hospital, one or two a day. I took the streetcar where the bus runs today, did the case, and came back. Because of the Depression, there was very little work outside of the Hospital. I only had about one case a day downtown.

I did a lot of studying at that time. There was a small library across the street. I used to go there and borrow books and read everything while sitting around the office waiting for patients. Dr. John Hardman had his office across from mine on my floor in this Central Tower. He helped me a lot when I first started by sending me patients and encouraging me to keep at it.

I had thought of giving up Radiology and going into General Practice, but I stuck to it. After about a year or eight months, the downtown work didn't increase very much, but the hospital work increased a little bit. They had very antiquated equipment at St. Elizabeth's at that time, so I talked to the Superintendent and asked her what she thought of my moving up to the hospital and bringing my equipment with me. I had new equipment and could do all the hospital patients and the private cases that came in. She thought it was a great idea. That's when I moved up there. That was less than a year after I had the office, which was the only time that I had ever been away from the Hospital. I had been with St. Elizabeth's for thirty-five years and I retired in 1967.

Z: Have you pretty much seen St. Elizabeth grow up?

T: Yes. When we first started, I did all the X-ray work. I did the taking of the X-ray, I did the developing, I one-finger typed the report and took it around to the floor. As time went on, more and more things were x-rayed and I had to buy more equipment. We had a unique arrangement with the Hospital. I owned the equipment and the Hospital supplied me with the space. I hired the help I needed and paid rent to the Hospital for the space. That continued until I retired. It was a very amicable

arrangement for both of us. The Hospital was well satisfied with our arrangement and so was I. We only had a verbal contract, but it remained all the years I worked there.

We first started at the lower level of the Hospital near the emergency room. We had only one room at first. That lasted for a few years, then we moved up to another floor, the first floor, away from the emergency room. We had to buy more equipment then and I had to get some help and technicians. Dr. Heberding was a consultant to me at the time. I was the Radiologist. He had an office downtown and had some interest in our financial arrangement. After a number of years, maybe eight or ten years, he retired from the Hospital. Shortly afterwards, I decided to get a partner. My first partner was Dr. Raymond Scheetz, who joined me in 1947.

As business gradually increased, we increased the size of the department and got more employees. At the time I left, in 1967, there were 7 radiologists in the department, and 85 employees. We were doing about 200 cases a day. That gives you an idea of how things increased as far as the amount of work. We also did Therapy. We did X-ray and Radium Therapy. I didn't do Radium Therapy right from the start. I was qualified to do it, but I didn't have any radium,although I did do X-ray therapy. Afterwards I bought some radium.

Z: Were you the first one in Youngstown to do this?

T: Dr. Heberding did it first because he bought some radium. I couldn't afford to buy it; I just leased it every time a case came up that needed radium. That is about the extent of my own career in Radiology.

Z: I've talked with some surgeons who think that one of the greatest advances in medicine has been in the science of X-rays.

T: Oh, yes. That's why there's so much being done today. As things improve, Radiology improves also. New things are being X-rayed. We can X-ray practically any part of the body now. Lately they've combined that into what they call Nuclear Radiology, where they take radioisotopes and inject them into the bloodstream. Some of them can be given by mouth too. They take scans of any part of the body, the liver, the kidneys, the spleen, and many other parts.

Radioactive isotopes are products of nuclear reactors. These chemicals are radioactive. When they enter the body, they lodge in various organs, such as the liver,

spleen, brain, or kidneys. Their location depends on the chemical used. These radioactive chemicals then emit rays from their body locations. These rays are similar to X-rays and can be shown on X-ray film. The pattern shown on the film gives information about the organ from which they eminated. They often determine tumors, cysts, and abscesses. The type of X-ray obtained by the above material is a scan. You therefore get scans of the liver, spleen, et cetera. This is called Nuclear Radiology or Nuclear Medicine and is a subspecialty of General Radiology. My son-in-law is a Nuclear Radiologist on the staff of New York Hospital and Cornell Medical Center.

Z: You said that you didn't get many patients in the beginning. What kinds of things did you see?

T: All we had in the early days were fractures. Somebody was hurt and you'd X-ray a bone. When I had my training at Mt. Sinai, I was trained to do everything. I did a lot of stomach work, for instance, in which the patient would swallow barium under fluoroscopic observation. It was more or less in its infancy, so we didn't do too much of that. The doctors weren't trained to ask for it, but after a while they began to become familiar with it. It began to appear in the literature, so doctors started asking for it.

There were two main things that were X-rayed: bones, and lungs, the latter to show tuberculosis, pneumonia, et cetera. Then came the stomach and colon X-rays. Later on they found a dye they could inject or give by mouth and it would show up in the gall bladder. It just started when I came here in 1930. Afterwards, they found a dye for the kidneys to see how they were functioning. Now they do heart X-rays by injecting into the arteries and brain X-rays by injecting into the carotid arteries.

Z: What was a typical day like? How long did you have to work?

T: When I first started, I read a lot. After I got busy, I'd start about seven in the morning and I'd leave at five. I'd go back again at seven thirty at night and stay there until nine. Then, if I had an emergency, I'd get up at night. Anytime a person would be in an auto accident, the Hospital would want him X-rayed right away. I'd get up to do that. It didn't happen too often. During the week, I'd have to get up maybe twice at night. I did that for quite a while. I forgot to mention that we also did work on the outside. If a person had pneumonia and he couldn't be moved, they called me. I had a portable machine and I'd take

that to the patient's home and take X-rays in the home. They do not do that anymore. That has been completely eliminated, as far as I know. They take the patients to the hospital by ambulance and, if necessary, have them admitted to the hospital, or take them home.

The equipment we had to take into the homes was satisfactory, but you didn't get as clear a picture as you got with our equipment at the hospital. We also did some therapy in the homes. If people had swollen glands or something like that, the machine was capable of giving a certain amount of treatment. That's been discarded entirely now, too, because everything is done now in the hospital or in the doctor's office. There are some doctors who have their own X-ray equipment and they do the work in their offices. The really complicated procedures are all done in the hospital.

Z: I wasn't going to ask you a question about house calls, but I guess I should.

T: X-ray house calls have been eliminated completely. I did do a lot of hospital night work. After I started having partners, we alternated the night work. You have to have an X-ray department available twenty-four hours a day for emergency care. Now we have X-ray technicians and residents who are on call and they'll do emergency X-rays.

The internist or the surgeon will say, "This patient has this and that and we want an X-ray of a certain part of the body." Our chief technician or resident will go up there and he'll take the X-ray, then he'll call us and we'll come over and read the X-ray and give the report to the doctor. We do not give reports to patients. Sometimes a doctor will bring in his patient and discuss it with the Radiologist. Our reports, though, go only to the doctors.

Z: So you don't really deal with the patients too much?

T: Very little. The only time I actually see a patient is when I do stomach X-ray or something like that in which you use a fluoroscope. We usually have to talk with the patients and ask them a few questions about their symptoms, so we'll know what to look for. But when the average patient comes in with a chest condition or fracture or injury or something, the Radiologist has essentially no contact with him at all, in that sense of the word. If it's complicated and we want to examine the patient and take another view, then we have some contact with him.

Z: What about the development of the emergency room service at the Hospital? Have they always had this service?

T: They've always had an emergency room where people could come in at any time and have emergency service. That's where we got most of our work to begin with.

Z: What were some of the big killers in medical disease when you first started?

T: Pneumonia was the chief killer; in those days we didn't have penicillin. They would also once in a while die of certain surgical complications. People would, after they were operated on, sometimes develop a clot in a big vessel, the aorta. No one could do anything in those days and they never operated on them. I remember one good friend's father was in the hospital. He was operated on for a ruptured appendix. His son was an intern at the hospital, or in medical school. His father developed this complication. His legs became cold and we diagnosed a blood clot in the aorta. A specialist from Cleveland came down and confirmed our diagnosis. They gave him some iodide drugs, but it did nothing, and in a week or so, this fellow died. Today, the surgeons would go in and remove that clot and there would be nothing to it.

Now we can cure pneumonia almost quicker than most colds. We can give penicillin or one of the other drugs. If a patient developed pneumonia, even after surgery, they would die. I had a brother, my youngest brother, who had a rheumatic heart. He died because he developed an endocarditis, an infection of the heart. It had started with a bad cold. That was the days before penicillin and there was nothing we could do about it, and he died. Today, he wouldn't have to die. We could make a set of X-ray films that would show the heart defect and surgery could take care of the rheumatic heart. The flu also was a big killer. In 1918, I think, we had the big flu epidemic. Many people died of that when I was still a youngster.

Z: Do you have any experiences with the flu epidemic?

T: No, I don't. They're vague in my mind. I remember a great many people were sick. They closed the schools and used them as hospitals because the hospitals were so full. Beds were installed in them. The people died because there was no cure for it.

Z: Did you see much tuberculosis in this area?

T: Oh, yes, there was a lot of tuberculosis. In those days, there used to be a big tuberculosis hospital. I used to go there and read their X-rays. After a while, they'd send the films down to us to read. The hospital was pretty well filled. You see, they had no real cure for Tuberculosis in those days. They could only give them bed rest and isolate them, try to keep them away from the other people. It's a very contagious disease. Well, in the last few years now, they have found a drug that can cure TB and it's very seldom that anybody dies of it anymore. That has been a big advance also. They have closed the TB Hospital now; they don't treat the patients anymore.

Z: I was wondering how much of a percentage of Radiology had to do with Tuberculosis X-raying?

T: I've forgotten how many cases we've X-rayed.

Z: Was it a large percentage?

T: Oh, no. We did a lot of chest work, but the number of actual new cases of tuberculosis that we would find was very,very little. If we found one in two or three weeks, that would be average. There were a lot of them that needed follow up X-rays, but they were not new cases. I don't remember exactly how many there were.

Z What were some of the big advances in technology that helped you in your field?

T: We have these new drugs that we inject into the body that we can x-ray the kidneys and we can x-ray the gall bladder, the blood vessels that go to the heart, lungs, brain, et cetera. Those are the biggest advances that we've had. Now it's nuclear medicine. They can now x-ray the breast of a woman to see if there's cancer in it. That's because the equipment has been refined. It isn't so much that it's a new type; it's still an X-ray. The X-ray is so refined that it x-rays soft tissue. Before this an X-ray would only show the bones. But since they've improved X-rays, they can show the difference between cancer and a fatty tumor. It isn't one hundred percent accurate, but it's a big step in diagnosis of cancer of the breast.

Z When did most of the advances take place in Radiology, before or after the second world war?

T: Most of the big advances have taken place in the last twenty years. Some of these are Image Amplification, Radioactive Cobalt therapy and Emi and Delta scanning.

Image Amplification results when an X-ray beam is augmented several times by means of electronics. This is used chiefly when patients are fluoroscoped. Formerly, when a Radiologist fluoroscoped a patient in the dark, it took a fairly powerful beam of X-rays to penetrate the patient's body so that he could see it on the screen. With amplification, the strength of this X-ray beam can be cut down greatly. The patient receives much less radiation and the Radiologist gets a much brighter image. In fact, practically all patients are fluoroscoped in a lighted room today.

Cobalt has almost entirely replaced Radium in the treatment of patients, especially those with malignancies. Cobalt is relatively inexpensive compared with radium. It can be used in place of radium needles for use within body tissues. It is also used in cobalt bombs for external body treatment.

Emi and Delta scanners have been discovered in the last four or five years. They are machines that rotate a very fine beam of X-rays throughout the body in several seconds. This results in films that give a diagnostic picture of the contents of the skull, and the other organs of the body. This is possible due to the differences in density of the various organs of the body through which the X-ray beam passes. This new equipment is very expensive. St. Elizabeth Hospital recently purchased an Emi scan at a cost of $475,000.

I have seen a lot of changes in medical and surgical treatment. Years ago, they'd keep a patient in bed after a hernia operation, flat on his back, for two weeks. He wasn't permitted to sit up or do anything. Now after an operation, the person is able to get up and walk around the same day. This is a tremendous advance. That is one of the biggest things that has come out of World War I. It is called early ambulation. The same thing is done with pregnancies now. Women have babies and get out of bed on the same day and walk around. Years ago, a person was kept in bed at the hospital and when she went home she had to stay upstairs because she couldn't walk down the stairs. Doctors have found that the wound heals faster if you let the patient get up. At first, they didn't realize that a person could heal this fast. I believe Dr. Brandt was the first surgeon to try early ambulation in Youngstown.

Z: What about the advance in heart care? Did they know what was going on with coronaries years ago?

T: Electrocardiograms showed a lot. I'm not really up on that. The death rate is still very high on coronary patients.

People die of coronary probably more today than they did years ago because the life expectancy is much greater. People are also under greater stress. There's no cure for a coronary. They operate on some of them now, and take care of some of the coronary arteries, but that hasn't proven to be as effective as they had hoped it to be. They still do a lot of surgery on the heart after a person has had a coronary. They can X-ray and see if the coronary vessels are opened or closed and then they can operate and do a bypass. I think it was pioneered in Cleveland. It has helped a lot, but it isn't as effective as they had hoped.

Z: You mentioned something about not having a lot of business at first. How were you able to collect your fees during the Depression, when a lot of people didn't have money? Did you extend credit?

T: Oh, yes. In fact, in those days, in about half of our cases, we collected nothing. There was no such thing as government subsidy or city subsidy. If the patient could pay, they would pay, and that was it. In my first year I made $1200. In my third year I made $3000. It gradually increased after that as things improved. During the depression, people just didn't have the money and we did a lot of work for nothing. We hoped they could pay and if they didn't, that was it. The family doctors and the surgeons did the same thing; they did a great deal of charity work. The difference now is that the government pays for everything.

Z: But nobody went without medical attention, if they needed it, right?

T: Never. We never turned down anybody in the X-ray department. The emergency room took care of all of the people who were in there for any cause. There was no such thing as not taking care of patients. Some doctors wouldn't make house calls, because they were too busy. They'd have them come to the hospital and they were taken care of. As far as I know, no doctor ever refused to take care of a patient because he didn't have the money to pay the bill.

Z: What else do you know about medical history besides Dr. Heberding's background?

T: Some of the doctors I worked for in those early days were Doctors Whelan, Beard, W. E. and J. M. Ranz, Osborne, McElhaney, C. D. Houser, Hardman, G. B. Nelson, A. M. Rosenbloom, J. Nagle, E. Nagle, McNamara, and B. J. Dreiling. These men were all on the staff of St. Elizabeth Hospital. Doctors on the staff of Youngstown Hospital were Sherbondy, Brandt, Clark, Hartzell, Turner,

Morall, Lewis, Rosenfeld, Haneman, Goldcamp, and Bierkamp. I don't think any of them are still alive.

Z: How fast did they pick up on Radiology and X-ray?

T: They kept up with the literature, or if they didn't read the literature, the detail men would give them information. These detail men are those who sell the drugs and they have a lot of information. They would advise the doctors on what was new in the way of medical diagnosis and drugs, and what was going on in the medical world.

Most doctors did a lot of studying. I did mine by subscribing to several Radiology magazines and some medical magazines. Being a Radiologist is different than being an internist. An internist just takes care of the patients, and is not responsible to anyone except that patient. A Radiologist is responsible to the doctors. When a doctor comes to the X-ray room and asks me, "What have you found on this patient's X-ray?" if I make a mistake I'm responsible to him for it. Radiology isn't one hundred percent accurate. Even in the best clinics in the world, if they make a seventy-five percent accuracy of diagnosis, it's considered good. There are a certain number of cases in which we can't make a proper diagnosis because we don't have the right information. It isn't so much the equipment as it is the information to make a proper diagnosis. If we do make a mistake, it's only natural. I have to keep up with everything.

A doctor will come to me and he'll say, "What did you find?" I say, "Well, I found this ulcer." "Well, what kind is it?" I tell him. A lot of times he'll say, "Well, what should I do about it? Do you think he needs surgery?" I say, "No, I don't think so. He can be on medication." The same thing will happen with lung conditions. If there is a little nodule, they ask, "What do you think?" I say, "It's just benign." "Do you think it's TB?" "No, I don't think so."

We have to keep up with all branches of medicine. It's a little different than being an internist, since I'm directly responsible to the doctors.

In Radiology I missed the patient contact. If I had my life to live over again, I don't think I would go into Radiology because I miss talking to the patients. If I didn't have contact with the doctors I wouldn't like it at all. I really enjoyed having the doctors coming down to discuss cases with me. That was the compensation I had for missing the patient contact.

Z: So you got to see everybody's cases?

T: I saw all of the ulcer patients of every doctor on the staff; I would know what the patient did and what the doctor did, and so on. To some doctors I gave clues about what to do with the case, if I was familiar with it. Of course, on many conditions, I don't know a thing, because they're not X-rayed. This includes the flu, and some child diseases and others. About things that I see on X-rays, I would know what to tell the doctors. That is the reason that it's a specialty. You have to know certain conditions which the average doctor doesn't see at all or he'll see one and I'll see one hundred.

Z: You must have been a great help to the general practitioner.

T: Yes, I was Because of my experience they would often come to me to discuss certain cases. They asked me what I thought they should do about a certain case.

Z: How long have they had Radiology in Youngstown.

T: X-ray was discovered in 1895, and as far as I know, Radiology started about 1910 in Youngstown. It may have started as early as 1900 in other cities where they had hospitals older than the hospitals here.

Z: And Dr. Heberding was the only one who practiced it at first.

T: At that time, yes. He was the first one, as far as I know, who had X-ray. He just picked it up on his own because he didn't have any formal training. There was no place to get it. He just did like any pioneer did. I don't think there was anything like an X-ray residency then. By the time I came around, of course, it changed. We have now at St. Elizabeth Hospital, Residents in Radiology. To become a Radiologist you have to have special training after your internship. When I first started it took two years; now it's four, I think. After a year of internship, they have to have four years of special training in Radiology. Then, if you want to do one of the subspecialties, it takes more time. We've been training Radiologists in Youngstown for approximately fifteen years.

Z: Have you ever taught in seminars or conferences?

T: Oh, yes. We have those all the time for our residents. It started with the residency. Before that, I'd lecture to the staff on certain things every so often, but that's for a staff meeting, which would be maybe once a month.

Most of the time, I'd have to give some kind of a talk on some branch of Radiology to the staff as part of a general program. Once in a while, I'd do something for the Mahoning County Medical Society. They'd have their big meeting downtown and I'd be on the program along with the other Radiologists here in town. That's the only teaching we did. We would meet with them maybe once a month and give them a talk on Radiology. They still do that. Our residents enter into that program now, rather than the Radiologists.

Z: It sounds as though they kept you quite busy.

T: Oh, yes, we were very busy.

Z: What were some problems connected with medical practice at this time? Were there many industrial accidents.

T: No, we didn't have too many at St. Elizabeth's, because most of the industrial accidents went to the South Side Hospital. They were connected with Sheet and Tube as far as doing their industrial accidents. We've seen emergencies from other plants. I don't think those accidents have changed very much. What have increased a lot are the auto accidents, as more and more people are driving cars.

Z: What is your opinion of government regulation in medicine?

T: What do you have in reference?

Z: In reference to Medicare, national health insurance, and the general areas of government intervention.

T: I don't really have much of an opinion. I don't think I had better comment on it.

Z: How would you compare the freedom of today's doctor to the freedom of a doctor when you first got out of medical school?

T: Well, our biggest problem today is the malpractice suit. It is because of these suits that Radiology has increased so tremendously. Doctors today are constantly being sued for some minor infraction. A person comes into the emergency room and has a bump on his head or his back or hip, and before you know it, the doctor orders an X-ray of practically every bone in the body. Years ago, that was completely unnecessary. We X-rayed the part that we thought was damaged. Of all of the X-rays that come through the emergency or anywhere else, I'd say that about eighty percent of them are negative. In other words, nothing of any consequence was found. In fact,

maybe it's greater than eighty percent, largely due lately, to the malpractice suits that the doctors are subject to. If there is a little crack and the doctor missed it, there is a law suit right away. Now they just don't take any chances. They'll call the X-ray department at night, even, to do this work. They want the information as soon as possible.

Z Did that put any more pressure on you?

T: Oh, yes, there's more pressure, because we have to X-ray many more things. When we quadrupled the size of our department several years ago, we thought we had enough space to last another fifteen years. When I visited there recently, they told me that they are out of space already. That's largely due to unnecessary X-rays. Of course, there are new fields now. All the new heart and blood vessel examinations require more space.

Z: Since you were inside the Hospital most of the time, could you tell us about the running of the Hospital?

T: There is the superintendent of the Hospital and the staff and an advisory board. In a Catholic Hospital it's an advisory board, not a governing board like in other hospitals. It is strictly advisory and they have a lot to do with the running of the hospital. The Sisters usually agree to what the advisory board suggests. The staff itself is run by another organization. They have a president, vice president and a secretary. The chiefs of the various departments are elected by the staff once a year. He is responsible for anything that happens in his department, especially where the discipline of the department is concerned. For many years I was chief of Radiology at St. E's. In other departments, they rotate the chiefs because any member of that specialty is eligible. I'm not familiar with the running of the hospital.

As far as my own situation with the hospital was concerned, at one time we owned the equipment and rented the space from the hospital. Also, they collected our accounts on in-patients and we paid them a certain percentage on that. Since I've retired, the hospital has taken over the department. When a patient is x-rayed today, he gets a double bill from the hospital. Say, they do a chest X-ray. If the X-ray is fifteen dollars, the hospital will send a bill for ten dollars for technical services because they own all of the equipment and supply everything that's needed in the X-ray department. The radiologist will send his bill for the interpretation. That might be five dollars or less.

The hospital does not exploit the doctor. The doctor sends his own bill. That is the way the hospitals in Youngstown are run today. There is a double charge, one for the technical end and the other for the doctor's fee for interpretation.

Z: Do you happen to recall any of the fees that you charged when you first started?

T: Surprisingly, X-ray fees haven't changed a great deal. When I started I remember we did an X-ray of the leg for ten dollars, and I think it's still ten dollars today. The chest X-rays have increased. In those days it was ten dollars and now it's fifteen or twenty, chiefly because they take more views of the chest today In those days we used to take one film; now they'll take three or four because they've learned to interpret a little better than in previous years. A gall bladder X-ray used to be fifteen dollars, now it's twenty-five.

Z: Considering how the cost of everything else has gone up, have X-rays gone down?

T: X-rays have not gone down. I think the reason that they haven't gone up any more is that there is so much more done today. The actual increase in income of the doctor is primarily because the quantity increased rather than the increase in the cost of the actual work. You have technicians who can do many more patients each day.

Z: Have you ever taken any working vacations or studying vacations?

T: I went for refresher courses. I went to Mt. Sinai a couple of times because they were doing special work on the kidneys. I'd go there and stay several days to see their technique on a specific problem. I went to other places because they did some work on the breast. I remember going to the Mayos to see a Radiologist who was very adept at stomach work, so I went and watched him work for a couple of days. I went to a great many X-ray meetings, which were just discussions on Radiologic papers and X-ray exhibits.

Z: Did you ever work overseas?

T: I attended some meetings overseas. That was for international meetings. I did that, but I didn't do any actual work there.

Z: How would you compare the work overseas with the work in this country? Did it develop at about the same time?

T: Originally, they were a little in advance of us. They had much better X-ray equipment than we did. The first X-ray equipment I brought to Youngstown when I opened my office in 1930, was German-made. It had valve tube rectification. In this type of equipment the rectifying tube is enclosed in oil. The wires to the X-ray tube were in shock-proof cables. The original X-ray machine at St. Elizabeth Hospital had mechanical rectification. There were open high tension wires. One of the reasons that the Hospital wanted me to bring my equipment up from my office in the Central Tower was that it was shock proof. I believe I was the first radiologist to bring this type of equipment to Youngstown. In my opinion, the American manufacturers finally outdid all the foreign ones in X-ray equipment in all fields of radiology.

Z: Did they always take X-rays on film or was it on glass plates?

T: Oh, initially on glass plates. When I started at Mt. Sinai in 1928, the work was all done with film. In one place in New York they were still using glass plates for sinus X-rays. This man was a pioneer and he wouldn't change. That was the only time I saw any glass plates. It was at the eye and ear hospital. He was an old timer and didn't like using the film. The film was, at one time flammable. Now it isn't. At the Cleveland Clinic many people died because the film caught on fire and the fumes killed the people.

Z: What are some of the dangers involved in your profession?

T. Years ago some Radiologists were electrocuted because the wires were exposed. I remember a Dr. Steven in Cleveland was killed by touching an overhead wire. The greatest danger was in X-ray overexposure. Doctors developed cancer because they were testing their X-ray machines with their hands. They didn't realize that X-rays were dangerous. They altered the skin and could destroy it if you had enough rays. Many of the pioneers in X-ray developed skin cancer, primarily in the hand. The original men tested their X-rays by putting their hand under to see how the picture was under the fluoroscope. Dr. Heberding lost two fingers due to malignancy from too much exposure to X-rays.

They often didn't use lead gloves or other protection. Dentists would hold the film in the patient's mouth with their fingers and take the X-ray. If you get enough X-ray on the same part of the body, it's going to destroy the tissue and start a malignancy. Many people with acne were treated with X-ray. The Radiologists didn't realize

that too much X-ray would cause malignancy of the face. As far as people being electrocuted by X-ray machines, that's practically unheard of now. The only danger today is giving too much X-ray for a particular condition, particularly in therapy. They can get too much treatment and it would do more harm than good.

Z: Have you ever been involved in any medical first in Youngstown?

T: No.

Z: What do you think of today's doctors?

T: Well, I think the doctors are very well trained today. As years go by, the doctors know a lot more than the old doctors because of the better training received in the hospitals' internships and residencies. I have much more confidence in the new doctors than in the old ones for diagnosis and treatment. New medications are discovered and given all the time. It's like everything else; it's improved all along. I have very much faith in the medical schools today.

Z: In your years of practice, if you had it all to do over again, what would you do differently?

T: I'm not sure I would go into Radiology. I think I'd just go into Internal Medicine. Once you make up your mind, though, you just keep on. I would however, definitely, want to be a doctor of medicine.

END OF INTERVIEW