

Wai-Kwan Alfred Yung, MD

Interview Session One: March 20, 2014

Chapter 00A

Interview Identifier

Tacey Ann Rosolowski, PhD

0:00:00.0

And. Alright I started the recorder again. It is 1:25. And. So the identifier. I'm Tacey Ann Rosolowski and today I'm interviewing Dr. Kwan Alfred Yung, MD:. Is that correct?

0:00:17.9

Wai-Kwan Alfred Yung, MD

0:00:17.8

Yes. Yes.

0:00:18.0

Tacey Ann Rosolowski, PhD

0:00:18.1

Okay.

Wai-Kwan Alfred Yung, MD

0:00:18.7

Correct.

0:00:18.9

Tacey Ann Rosolowski, PhD

0:00:19.3

For the --- For the Making Cancer History Voices Oral History Project run by the Historical Resources Center at MD Anderson Cancer Center in Houston, Texas. Dr. Yung joined MD Anderson in 1981 as an Assistant Professor in the Department of Neuro-Oncology. He has served as Chair of that department since 1999. He also serves as Co-Director of the Brain Tumor Center and holds the Margaret and Ben Love Chair in Clinical Cancer in honor of Charles --- Dr. Charles A. LaMasitre. This interview is taking place in a conference room in the Department of Neuro-Oncology in the Faculty Center on the Main Campus of MD Anderson and today is my first session with Dr. Yung. It is now 1:27 and the date is March 20, 2014. Thank you so much for agreeing to

0:01:12.6

Wai-Kwan Alfred Yung, MD

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0:01:12.3

Thank you.

0:01:12.5

Tacey Ann Rosolowski, PhD

0:01:12.7

--- to take part in our project.

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Chapter **01**

Education and Family in Hong Kong

A: Personal Background

Story Codes

A: Character, Values, Beliefs, Talents

A: Personal Background

A: Inspirations to Practice Science/Medicine

A: Faith;

A: Professional Values, Ethics, Purpose;

Tacey Ann Rosolowski, PhD

0:01:12.7+

I want to just start with some basic biographical background. Can you tell me your birth date and where you were born?

0:01:22.5

Wai-Kwan Alfred Yung, MD

0:01:24:7

I was born in --- on April 8, 1948. I was born in Hong Kong and so I grew up in Hong Kong.

0:01:39.0

Tacey Ann Rosolowski, PhD

0:01:40.7

Tell me a bit about your family. Was there anyone involved in the sciences?

0:01:43.0

Wai-Kwan Alfred Yung, MD

0:01:45.6

My father and mother came to from China to Hong Kong. You know, during the Second World War. He --- they came from the province of Qaun --- Quang tong.

0:02:07.6

Tacey Ann Rosolowski, PhD

0:02:08.5

I'm sorry, I'm going to need you to spell that for me.

0:02:10.1

Wai-Kwan Alfred Yung, MD

0:02:10.1

Yeah. Quang Tong should be Q-U-A-N-G T-O-N-G. Quang Tong.

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0:02:17:8

Tacey Ann Rosolowski, PhD

0:02:18.3

T-O-N-G. Okay.

0:02:18.8

Wai-Kwan Alfred Yung, MD

0:02:20.8

As I kind of lost check of how to spell these things that --- with the new --- with the new spelling that China use now.

0:02:31.8

Tacey Ann Rosolowski, PhD

0:02:32.5

Well it can be checked later on.

0:02:33.6

Wai-Kwan Alfred Yung, MD

0:02:33.7

And they came from a --- a ---, you know, village called **Dichow Jo (0:02:39) province** ---

Dichow Jo province

0:02:43.5

Tacey Ann Rosolowski, PhD

0:02:43.5

Was it a --- it was a small village?

0:02:44.6

Wai-Kwan Alfred Yung, MD

0:02:45.7

No. It's not that --- well it's not that small. It's a --- It's one of the bigger provinces within --- within the --- within Quang Tong. And they --- so I think came down to Hong Kong during the Second World War. And when I grew up as a youngster we were doing some --- we w --- my father was in business with fixing tires when I first was first born, I think. And then he moved on to do plastic manufacturing back in the early '50s. You know, Hong Kong is recovering from the war. And --- And the plastic industry was one of the way that a lot of people, you know, kind of make their living on. And either we processing things for --- for a bigger factory or started making small things. So --- So I remember we wer --- we were kind of --- we were pretty poor at that --- that time. We all crowded into --- into a --- a small house.

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0:04:18.5

Tacey Ann Rosolowski, PhD

0:04:19.2

Yeah. How big was your family?

0:04:20.3

Wai-Kwan Alfred Yung, MD

0:04:22.3

I have eight bro --- well we are total eight siblings. So I have seven brothers and sisters. And, you know, my mother is my hu --- my father's second wife. He lost his first wife, you know, when she was very young. So he remarried and so they came --- then came to Hong Kong. So we had a total of eight.

0:04:51.2

Tacey Ann Rosolowski, PhD

0:04:51.8

Wow. Did that --- Did that experience growing up in a --- in a poor family --- how did that affect you or did it?

0:05:00.1

Wai-Kwan Alfred Yung, MD

0:05:00.6

Well we all --- I mean in those days --- in --- in the early '50s in Hong Kong is --- is, you know, everybody had --- you know, when we gre --- grew up everybody work. I mean we all had to work in --- with the --- in the family business. You know.

0:05:19.3

Tacey Ann Rosolowski, PhD

0:05:21.5

What did you do?

0:05:21.9

Wai-Kwan Alfred Yung, MD

0:05:22.8

I do a lot of stuff when I grow up as youngsters. You know, I wo --- you know, because we were doing plastic toys and plastic flowers I wo --- you know, work on putting things together. You know, I'd do some painting and I --- pa ---. I also delivered, you know. So, you know I'd --- I'd --- I would use a bic --- you know, bicycle and deliver, you know --- you know, bags and carton box of stuff, you know, to the factory or to the store.

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0:06:03.6

Tacey Ann Rosolowski, PhD

0:06:03.9

How early did you do that? At what age did you start working in the family business?

0:06:07.6

Wai-Kwan Alfred Yung, MD

0:06:09.3

I probably working --- start working when I was around 10. You know. Yeah. Probably around 10.

0:06:18.4

Tacey Ann Rosolowski, PhD

0:06:19.2

So you have a serious work ethic.

0:06:20.4

Wai-Kwan Alfred Yung, MD

0:06:20.3

When I --- When I --- When I was in 5th Grade, 6th Grade.

0:06:24.9

Tacey Ann Rosolowski, PhD

0:06:25.5

Yeah, so from a --- a work ethic, yeah ---

0:06:28.4

Wai-Kwan Alfred Yung, MD

0:06:29.3

A work ethic. So from that time I'm always working. Well, as the --- because a --- as the business grow --- that the --- the --- the --- the factory grow, you know, and you know, we start hiring more workers then --- then I --- then I get to spend more time in study. So I think by the time --- by the time that I'm in --- by the time I'm in Grades 8 or 9 I pretty much con --- you know, don't need to do much work in terms of, you know, labor work with the factory anymore and focus more on --- on study and play.

0:07:17.8

Tacey Ann Rosolowski, PhD

0:07:19.0

That's a good thing too.

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0:07:20.2

Wai-Kwan Alfred Yung, MD

0:07:21.6

Mostly focused on study because the Hon --- the education system in Hong Kong, you know, in the '50s and '60s a pretty --- a British pyramid system. And also we had actually two system that either you are in Chinese school, especially in the --- in the secondary school in the high school time they kind of --- the system got segregated into a Chinese system and English. So. And I was --- You know, I started because my family was poor I --- I started in a --- in a school that run by a church. Actually, no. My first school was not a church school. My first school is actually a --- a what --- what did they call --- a community school. And so then I --- then --- by -- wh --- by the time I'm ready for the --- I think 4th Grade I moved to a church run elementary school. I think so. The lot of [?] (0:08:46.6) school in Hong Kong oth --- besides in --- in --- in the '50s and '60s besides the government school is almost all church, you know, related school because during --- after 1949 when the communist took over China all the religious activity in China, you know, was prohibited and so a lot of church, you know, whether its Catholic Church or protestant church they all kind of moved to Hong Kong. Or --- And --- And --- these schools, you know, that built by different denominations, different churches.

0:09:30.5

Tacey Ann Rosolowski, PhD

0:09:31.9

Now was --- was your family religious in this way?

Wai-Kwan Alfred Yung, MD

0:09:34.8

No. No my --- my family is not. But because I went to church schools so I, you know, went to church activity early one when I was in --- in early --- in 5th Grade or 6th Grade and continued on. So I actually --- I became a Christian in Hong Kong when I was in high school. You know, and the --- and the church that I went to in the elementary [?] (0:10:01) school which is a --- a missionary church from California. A kind of --- a Pentecostal church --- a Pentecostal denomination church called Four Square Church and they have the school.

0:10:20.2

Tacey Ann Rosolowski, PhD

0:10:24.6

Has that continued to be important to you?

0:10:26.4

Wai-Kwan Alfred Yung, MD

0:10:26.4

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And o --- so that --- my --- my faith had been started then and its actually continue, you know, going to church. My --- My church service even when I came to the US.

0:10:43.3

Tacey Ann Rosolowski, PhD

0:10:44.3

Is that still the case.

Wai-Kwan Alfred Yung, MD

0:10:44.1

Th --- That's a big part of my life and our life because I met my wife also in Hong Kong in the same church that we went to.

0:10:52.7

Tacey Ann Rosolowski, PhD

0:10:54.7

And your wife's name?

0:10:55.1

Wai-Kwan Alfred Yung, MD

0:10:55.8

My wife is Susie --- Susie Yung.

0:10:58.9

Tacey Ann Rosolowski, PhD

0:11:00.9

Thanks. Yeah. So tell me about the education. How was the education? When did you know that you were going to focus in the sciences or in medicine?

0:11:10.7

Wai-Kwan Alfred Yung, MD

0:11:11.3

Oh. Well. Since the --- the --- the first 6th Grade I was in pretty much a, you know, a community school or church school that wa --- was not very high level. But in Hong Kong also you have, you know, as I said is a pyramid system so there is --- there is public exam for you to go to the next level and get kind of see if fit to a better school --- say --- so at 6th grade you have a public exam and then if you do well in the public exam, you can be selected into better school by the government. So I did well in my 6th Grade exam so I was sent to a Catholic school --- a Jesuit school in Hong Kong called the Wah Yan College.

0:12:10.1

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Tacey Ann Rosolowski, PhD

0:12:11.4

And how would you spell that?

0:12:11.9

Wai-Kwan Alfred Yung, MD

0:12:12.1

W-A-H Y-A-N College. And the --- the school was run by the Jesuit, you know.

0:12:22.0

Tacey Ann Rosolowski, PhD

0:12:23.8

The intellectuals.

0:12:24.4

Wai-Kwan Alfred Yung, MD

0:12:24.3

Its --- Its --- Its boy's school. And it's pretty vigorous school. You know, because in those days, you know, its really because of the --- you --- you need to be, you know, selected by your ex --- by the grade of your exam and then you get put in that school. And I was lucky. I think I was lucky. I did well. I get assigned to a very good school. You know, it's one of the school that has --- run b --- started by the Catholic Church with a pretty good school ground. You know, land is very precious in Hong Kong and most school is very small with a small building but my --- my, you know, high school or secondary school that --- that they call because from 7 to 12, actually to 13. The --- The British system is 7 to 13 ---13. And so I went ---- I stayed with the same school through --- to --- to --- to --- to Grade 13.

0:13:32:4

Tacey Ann Rosolowski, PhD

0:13:33.3

So comm ---

0:13:33.6)

Wai-Kwan Alfred Yung, MD

0:13:33.6

But I started --- I mean since I started from a relatively low level community school, my English was terrible because it was a English --- it is a English school. Te --- All teaching was --- was taught by English except for the Chinese class. We do have Chinese class. Chinese literature and Chinese history class that are taught by Chinese but the rest are all in English. So my English was terrible from --- because of coming from the --- so I had pretty tough time the first few years in this school to maintain my --- to maintain my grades so that I won't get kicked out

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from the school. But at the same time the school has a lot of --- I --- I --- I'd like t --- you know, the --- the education provided by --- by the school, especially the Jesuit system. They are very vigorous, you know. Very serious in their teaching. And but at the same time because of my school is --- had --- you know, was given a pretty big piece of land so we have our own soccer field, our own basketball court, and so I --- and we get to involve in sport. You know, well so I -- I get involved in sport early on, you know, find my time to play soccer, tr --- to do track and field and do swimming.

0:15:13.2

Tacey Ann Rosolowski, PhD

0:15:15.5

So it was really pretty re --- pretty well rounded.

0:15:17.7

Wai-Kwan Alfred Yung, MD

0:15:18.9

Well I mean I was, you know, --- I grew up fr --- my family was pretty poor. ____ (0:15:22) ____ you know --- you know, --- I --- but I'm also given freedom to entertain myself. So I get involved with --- with sport activity. I would go out swimming with friends and with church friends and so --- and you can do things wi --- do those kinda of things without mo --- without any money.

0:15:44.7

Tacey Ann Rosolowski, PhD

0:15:44.5

Any money. Right.

0:15:46.5

Wai-Kwan Alfred Yung, MD

0:15:46.7

Right?

0:15:46.8

Tacey Ann Rosolowski, PhD

0:15:47.1

Yeah. Absolutely.

0:15:47.7

Wai-Kwan Alfred Yung, MD

0:15:47.6

I mean I don't have to go to a club. I don't have to do that. I just go to the --- you know, go to

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the w --- you know, pier and jump in the water. Or go to the beach the --- in Hong Kong --- Hong Kong has many beautiful beach. ____ (16:02) you know, in the '50s and '60s is still kind of developing. You know, the countrysides are very natural and beautiful and so we can just take a bus and go to the countryside and jump in the water or hike, you know.

0:16:20.8

Tacey Ann Rosolowski, PhD

0:16:23.2

So tell me about the subjects that you were really attracted when you were in school. H --- You know, how --- was it chemistry, was it bio --- where were your interests starting to develop?

0:16:33.8

Wai-Kwan Alfred Yung, MD

0:16:35.7

I, you know --- When I was in high school I wanted to do medicine.

0:16:39.3

Tacey Ann Rosolowski, PhD

0:16:39.7

Really. Why?

0:16:39.9

Wai-Kwan Alfred Yung, MD

0:16:41.6

Because I was attracted to medicine for you know --- for the service aspect. You know, that I can, you know, serve. Partly also --- I mean I think that's one --- the influence by, you know, growing up in the church also. That, you know, in --- in those days again, you know, recovering from the war you either work as a laborer or if you --- if you're, you know --- with the pyramid most of --- the --- the --- the --- the high school graduate that get in ---- go to the university, you know, most the time go into very tech --- scie --- science and technical because, you know that's whe --- those are the --- the --- the subject that w --- will make you in --- go into professional --- go into, you know, profession that has stable income, you know. So you b --- you either go into -- become, you know, in t --- in the technical become engineer or become doctors, become --- . Very few lawyer in those days because we only have one law school in Hong Kong. There's only one medical school in Hong Kong when I grow up. And then a lot of people become police. That's a stable government job.

0:18:16.0

Tacey Ann Rosolowski, PhD

0:18:16.0

Right. Sure.

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0:18:16.4

Wai-Kwan Alfred Yung, MD

0:18:17.4

Or you go and --- and --- and you become gov --- civil servants. It's a colony --- It's a British colony. The British government, you know, choo --- chose a lot of educated people to run the government. You know, and --- and becoming a civil servant is, you know, very stable job with good benefits. But, again so that's what all the s --- you know, all the high school graduates, university graduates the bulk of it will go into Civil Serv ---

0:18:53.4

Tacey Ann Rosolowski, PhD:

0:18:53.5

Civil Service.

18:53.8

Wai-Kwan Alfred Yung, MD

0:18:53.7

Civil Service.

0:18:53.8

Tacey Ann Rosolowski, PhD

0:18:56.7

Sure

0:18:56.8

Wai-Kwan Alfred Yung, MD

0:18:56.7

I was attracted to science. You know, so I --- and also attracted to --- to the medical service, you know. So I --- And also the system is that you have to choose, you know, if --- in the middle of -- of the elementary school --- sorry in the middle of secondary school like by Grade 9 and 10 is -- the student are pretty much segregated also is technical career. So you go into technical college. And --- And college career then you could stay on to finish up to Grade 12, Grade 13 to compete to go into college. You know, so --- so g --- the first --- div --- diversion is in about Grade 9 and 10 you got to --- don't graduate but go into tech --- technical college to be --- to be a technician.

0:20:02.1

Tacey Ann Rosolowski, PhD

0:20:02.5

Right. But you knew you wanted to

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Wai-Kwan Alfred Yung, MD

0:20:04.0

Oh yeah. So I stay --- I --- I want to go into co --- university so --- so I did --- and I was doing well enough that I don't get kicked out to go to technical college, you know.

0:20:16.7

Tacey Ann Rosolowski, PhD

0:20:16.6

So how did --- how did it happen that you ended up coming to the US for your college experience?

0:20:21.7

Wai-Kwan Alfred Yung, MD

0:20:23.2

In 1966 is the time that I finish my Grade 11 and that's --- at that point there is a --- again there is public exam called Middle School Certificate Exam. You have to pass a Middle School Certificate Exam before you can go into Grade 6 and Grade 7 and those are 12 and 13. That's the British system th --- the la --- the last --- the last two years it's called Advanced Certificate. You know, on matriculation time. Otherwise you stop at Grade 11 and go out to workforce. And so I pass that exam so I get to go on to Grades, you know, 12 and 13 to prepare for college entrance. And --- And that --- the two years again is very vigorous school because that is also the time that you have t --- you have to decide whether you're going to become a --- you know, going to go into artssubject or science subject or --- or medicine. Because the --- the --- the --- the British system is that when you enter university you either enter art, science or medicine, or engineering. So, you know, it's decided at that --- at the juncture after the so-called Advanced Level Exam. So at Grade 13, there is a university exam called Advanced Level Exam. And you have to pass enough subject making that point to get into the university. And I --- I did quite well on that exam but I did not do well enough to enter medicine. You know, I missed --- I missed the point to enter medicine even though I did do well. So I --- I was, you know --- I think I was allowed to enter Science but I missed my --- I missed medicine. Or maybe actually I did not. I forgot. I think I --- I missed the whole thing. I m --- I missed the whole thing, you know, when the result came out. But then, you know --- like, you know, every high school student, you know, one or two at that time who --- those high school student one to two have a educate --- a university or college education almost also prepare for alternative. If you cannot get into the University of Hong Kong, some people will prepare, you know, alternative or you could go abroad. You know, if you're civil servant, you know, you can send y --- yo --- one of the fringe benefit for civil servant your children can go to Britis --- go to England for --- for university. If yo --- If you don't --- you're not in that group like my fa --- I'm not in that group because my father is n --- you know is --- is --- is a, you know merchant being a business person. You know, grew up without any education. So we're not in the civil service rank. So but if you want to prepare alternative you either go to Taiwan. There's --- There's opportunity to go to Taiwan.

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There's opportunity to go to Australia, Can --- Canada, or USA. So I --- you know, when we're in --- in Grade 12 and Grade 13 everybody should --- should start preparing. You know, do I go out to work or do I make sure I have a --- a backup option if I do not get into university of now go abroad. Even though my family was, you know, doing well but not well enough really to send me abroad, but I said well, I still need to prepare. So I applied. I ap --- I make --- I made application to some university in Canada and --- and --- and the United States. In fact, my first opportunity to go abroad come when I finish Grade 12. I --- I got accepted into the University of Toronto in Canada but I did not pass my physical exam. Back then you have to pass a physical exam before you can, you know, go to Canada. I did not pass my physical exam. There was some --- some kind of, I mean, I have worm in my --- almost every kid in Hong Kong has parasite. We go --- We swim in dirty waters and yeah we swim.

0:25:30.3

Tacey Ann Rosolowski, PhD

0:25:31.1

That must have been so frustrating.

0:25:32.5

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Chapter **02**

Culture Shock in the United States and Plunging into Research

A: Educational Path

about 25 minutes

Story Codes

A: Character, Values, Beliefs, Talents

A: Personal Background

A: The Researcher

A: Inspirations to Practice Science/Medicine

A: Experiences Related to Gender, Race, Ethnicity;

C: Formative Experiences;

C: Discovery, Creativity and Innovation;

C: Discovery and Success;

Wai-Kwan Alfred Yung, MD

0:25:32.3

Yeah. **[Inaudible]**. No. And that also in 19 --- 1967 is the year of the cultural revolution in China and Hong Kong was affected. There was a riot and then there is protests in Hong Kong and it was a kind of chaotic, you know, year in 1967. But I did not leave in 1967 because I did not pass the exam. So I finished Grade 12 trying to go into University of Hong Kong for medicine and I --- I did not make the grade to get in. But --- and so I did prepare. But then I was accepted to the --- to the University of Minnesota. So I am --- I have --- I was given a spot in the University of Minnesota. So when --- when the result come out that I did not make the cut for --- for medicine then --- then I prepared to --- you know, my father --- and my father and my mother agreed that well, go. We don't want you to stay in the fa --- in the family factory. Just --- Just went --- you know, went to the US now, seek the opportunity there.

0:26:51.6

Tacey Ann Rosolowski, PhD

0:26:51.9

Right. So did you arrive without any kind of connections in the US such as ---

0:26:57.7

Wai-Kwan Alfred Yung, MD

0:26:57.9

Nope.

0:26:58.0

Tacey Ann Rosolowski, PhD

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0:26:58.4

Wow. That's pretty brave.

0:27:00.2

Wai-Kwan Alfred Yung, MD

0:27:00.5

Yeah. I arrived in --- in --- in America with --- just with a --- pretty much just a bag. And went from tropical Hong Kong to freezing Minnesota. Bec --- And also because I --- I --- that's also a interesting time. That --- I think --- tho --- tho --- those are --- I would consider those as defining moments. Because when I came to the US and went to Minnesota in '68 --- in --- in the fall of '68, you know, --- because I made my decision late. I was all sure that I would get into the university in Medicine but when the result came I missed by one or two point and I --- so I do all the prelims[?] **(0:27:55)**. So by the time I get in, you know, --- get everything done, you know, I --- when I arrive in Minn --- Minn --- Minneapolis, you know report to the university there is no dormitory space for me so I had to look --- look around for housing.

0:28:14.3

Tacey Ann Rosolowski, PhD

0:28:17.1

Talk about trial by fire.

0:28:18.9

Wai-Kwan Alfred Yung, MD

0:28:18.3

Yeah. Trial by fire.

0:28:18.8

Tacey Ann Rosolowski, PhD

0:28:19.3

Just throw him into it.

0:28:19.8

Wai-Kwan Alfred Yung, MD

0:28:20.3

Just throw me into it.

0:28:20.8

Tacey Ann Rosolowski, PhD

0:28:23.5

So this must have been amazing culture shock.

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0:28:25.7

Wai-Kwan Alfred Yung, MD

0:28:24.2

So this is very interesting. [inaudible] (0:28:26) I think this is culture shock as well as a defining moment now.

Tacey Ann Rosolowski, PhD

0:28:29.7

Yeah. Yeah. Tell me how --- Tell me more about the defining moment.

Wai-Kwan Alfred Yung, MD

28:31.0

So they --- in those days --- you know, so the --- the --- the university do have so-called Foreign Student Service. I mean, you know, so they will --- you know and --- proba --- you know, the Foreign Student Service is --- was staffed by, you know, foreign students from the various countries that was in that university so they help out the foreign students so as to --- so I'm being a Chinese can --- came from Hong Kong so there is some Hong Kong student that volunteered with the Foreign Student Service. Even though there is not a whole lot of foreign students at that time, but they are. So I was met by, you know, another student from Hong Kong, you know, at the airport so at least somebody --- somebody came to --- to help me out.

0:29:27.8

Tacey Ann Rosolowski, PhD

0:29:28.5

Yeah. That's --- That's huge.

0:29:30.4

Wai-Kwan Alfred Yung, MD

0:29:31.5

And then, you know --- And then we --- we --- you know helped me to look for a room to stay --- you know, find a room, you know, by the university to stay. You know, and then later on actually I walk around, you know, --- the --- the first room I had was not --- just a tiny room, so. But it's good enough to get started where they help me get the room by the university.

0:29:58.1

Tacey Ann Rosolowski, PhD

0:29:59.0

So tell me about your educational path at this time. Wha --- What --- How did you select your major and what did you find really interesting, frustrating, about the education?

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0:30:09.1

Wai-Kwan Alfred Yung, MD

0:30:11.7

Well I, you know, selected biochemistry as my major.

0:30:16.8

Tacey Ann Rosolowski, PhD

0:30:17.0

Why?

0:30:17.1

Wai-Kwan Alfred Yung, MD

0:30:17.5

Because I was interested in medicine so and I --- I was interested in medicine so I selected biochemistry. Because I always interested in medicine and biology. So I was --- I selected biochemistry as my major in college. And I --- then I --- I as --- the --- the Uni --- at the University of Minnesota have a small populations of foreign student from Hong Kong, from Taiwan, and also was from Africa. But, I --- you know, being from --- from Hong Kong and, you know, my English was not very good at that time so and because I was, you know, helped with the --- with the --- from the Foreign Student Service from a group of Chinese. So I hang out with a group of Chinese. But when I was looking for a place to stay after I settled down act --- and then I found a --- a place --- again that's, you know, what --- why I call it defining moment, maybe that's God's will that done. Actually, I find a room in a house that belonged to a Chinese church on campus. And they have, you know, that --- that --- that house has six rooms and they rent out six rooms to six students and I'm one of the six students. And --- And it also so happened that I was the only undergrad student. The other five are graduate students. You know, from --- couple from Taiwan, couple from Hong Kong but they're Graduate students. So actually I can min --- mingle with a bunch of graduate students. And I al --- And --- And some of them from Taiwan and speak Mandarin and I get to learn Mandarin from these people. And I was involved with them because of the church that --- the --- the building is a church, you know, property and they use the house for some of their evening meeting and so I --- I --- I get exposed to some of the activity and join with others and other students. So. And that really was a --- a lot of help to really help me through this very difficult transition period. And --- And that also helped me grow spiritually to be --- to have, you know, --- to have stronger faith. So I --- I started, you know, as a sophomore because I came, you know after --- after Grade 13. Then with the advanced exam that we took in Hong Kong is recognized as the first year subject, so actually I placed out the whole year of credit and I started as a sophomore instead of freshman.

0:33:42.7

Tacey Ann Rosolowski, PhD

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0:33:43.6

I was just thinking, you know, from, you know, not doing well enough on that exam to placing out and becoming a sophomore. That's --- That's pretty good.

0:33:51.9

Wai-Kwan Alfred Yung, MD

0:33:52.6

It's pretty good. But it's still really tough in terms of --- you know, --- since the --- came from --- from the foreign place and trying to get into the American system is tough.

0:34:04.8

Tacey Ann Rosolowski, PhD

0:34:05.0

Yeah. That's very tough.

0:34:05.4

Wai-Kwan Alfred Yung, MD

0:34:06.2

And --- And so I always had trouble with the Humanity subject with English and English reading, but we are very good with science. I mean, my math and science subjects we --- there's no issue. Always the problems are always in --- in --- in the Humanity side because we have to fulfil the Humanity [inaudible] (0:34:31).

0:34:31.3

Tacey Ann Rosolowski, PhD

0:34:31.6

Right. Interesting. Yeah.

0:34:33.5

Wai-Kwan Alfred Yung, MD

0:34:34.4

And since I was interested in medicine, so I actually I --- when I was involved in some, you know, research work to --- to have the --- as --- as part of summer work and I involved and I worked with a professor in biochemistry to do research. So actually that started my research career.

0:34:59.8

Tacey Ann Rosolowski, PhD

0:35:01.5

What was the project you were working on?

0:35:02.4

Wai-Kwan Alfred Yung, MD

0:35:03.4

I was working on --- that's at the beginning of the DNA time, you know, in the --- in the late '60s. So I was working on a --- on a project that involved DNA synthesis. And look at DNA structure and DNA synthesis which was forced nucleotide. And so with the research project (0:35:52.4

and, actually it was --- it was a big help and I graduate with summa cum laude.

Tacey Ann Rosolowski, PhD

0:35:56.7

So tell me about selecting your medical school, what that was about.

0:36:01.2

Wai-Kwan Alfred Yung, MD

0:36:01.9

Oh that's an interesting trip because I was --- I was very disappointed I did not get into medicine in Hong Kong, so that's I why I studied very hard when I was in --- in, you know, in Minneso --- in college in Minnesota and to prepare for, you know, application to --- to -- medical school. It -- - It's also kind of fortunate that in those days foreign students --- even foreign students are allowed to go to medical school for different, you know, state and private medical school we don't have to be American citizens or American resident to get into medicine back then in the --- in --- in the early --- in the early '70s. It was kind of --- as the competition becomes steeper then it's a lot more difficult for foreign student to get in medical school. But in those days. So I studied ve --- very hard to --- to --- for the MCAT exam to go to med school. And I even find out that there are some university that has a **graduate[?] (37:17)**, you know will --- will admit, you know, the sophomore and junior so that they can start medicine early. There is, you know -- - there is a six years program instead of --- that you can go in after sophomore as a junior. I did apply to --- to --- to Johns Hopkins for --- for me --- for the six years program as soon as I --- after I finished my first year as a sophomore. And I made it into --- into interview. And it turned I was given a chance to interview. Well, partly probably because when I went into Minnesota there's one way to support myself without working --- a lot of foreign students work in a restaurant as busboy, as waiter to make money to **[inaudible] (38:18)**. I did not do that. In fact, I worked in the --- in --- in a professor laboratory. You know, I found a job a professor laboratory to wash animal cages. Because --- the profe --- I had the professor in Radiation. No actually, the professor was in --- in Food Science where they use --- you know, she --- she, you know, maintained --- she used --- do animal experiments and so there is a job open in the animal facility for --- for someone to wash cages and change cages for --- for mi --- for mice. So I got a job there.

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0:39:04.0

Tacey Ann Rosolowski, PhD

0:39:04.5

Did --- Did those experiences in the lab, you know, certainly in the research lab but also for example working for this person in --- in wh

0:39:13.3

Wai-Kwan Alfred Yung, MD

0:39:13.5

A certain influence

0:39:14.3

Tacey Ann Rosolowski, PhD

0:39:14.2

Does that --- that enhance

0:39:14.5

Wai-Kwan Alfred Yung, MD

0:39:15.3

--- that certainly influenced my thinking. You know, in terms of --- you know, --- in one way I don't have to work in the restaurant to make money to support my --- my school. And another way that I was --- you know, --- I get exposed to --- to --- you know, medical research very early on.

0:39:34.9

Tacey Ann Rosolowski, PhD

0:39:35.8

And just how a lab works.

0:39:36.1

Wai-Kwan Alfred Yung, MD

0:39:36.7

And how --- how a lab work and so that really influenced my thinking from just wanting to be a -- you know, a private practice or clinical doctor to bec --- to think more about a --- a --- a --- a research that teaching type career. So that --- that really is --- you know, --- is a --- is another, you know influence that I --- that I have because the job that I had in Minnesota also helped me to get a job when I enter medi --- when I get into medical school University of Chicago. Because I was working in the --- in ---with the professor in Radiation Oncology in Minnesota and --- and when I get into University of Chicago he send me to --- to his friend in Radiation Oncology and

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say well you need a job, you know, to pay for your --- your school and pay for you so go to see this guy. He'll --- he will help you.

0:40:42.9

Tacey Ann Rosolowski, PhD

0:40:44.0

Now is that how you're interest in cancer started?

0:40:46.3

Wai-Kwan Alfred Yung, MD

0:40:47.1

Partly because I --- I --- I was working --- in medical school --- I was working in --- in Radiation Oncology Department. In fact, my --- my project at that time is --- is --- is Quantifying Radiation Damage in --- in --- in --- with a --- with the Sprouting Seed Model. You know, so I was working on calculating radiation damage, I mean, with different --- different type of radiation. And --- And even with high --- high energy neutron radiation. So that's ---

0:41:34.6

Tacey Ann Rosolowski, PhD

0:41:35.5

Very early.

0:41:35.7

Wai-Kwan Alfred Yung, MD

0:41:36.1

that's early on --- early on in my interest in --- in cancer .

Tacey Ann Rosolowski, PhD

0:41:41.5

How did

0:41:41.8

Wai-Kwan Alfred Yung, MD

0:41:41.7

The --- The oth --- The other in --- You know, the other exposure to cancer is that I was --- since I work --- I was interested in research and --- and --- as a --- also a research project in a student I actually hook up with a professor in Neurology and --- and he was --- we would --- he has a research topic that was inv --- that involved using virus to induce tumor in mouse, involving brain tumor actually, because the professor, Dr. Vick, and --- and he --- he, you know, --- Dr. Vick came back from --- came back from NIH where he was, you know, a fellow there in NIH during the --- the Vietnam wartime. And his research topic at that time in --- in NIH is creating

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and using virus to create brain tumor model to study the --- the development of (0:43:11.2
brain tumor from --- from --- with a --- from a viral induction point of view.

Tacey Ann Rosolowski, PhD

0:43:12.2

So that was very

0:43:12.3

Wai-Kwan Alfred Yung, MD

0:43:12.2

And also look

0:43:12.6

Tacey Ann Rosolowski, PhD

0:43:12.9

Cutting edge research.

0:43:13.2

Wai-Kwan Alfred Yung, MD

0:43:12.6

---- looking at, you know, vasculature. The ---, you know, --- the integrity of the vasculature
which is kind of cutting edge research in --- in brain tumor in the ---in the very early day in terms
of tumor genesis.

0:43:27.0

Tacey Ann Rosolowski, PhD

0:43:30.5

That's a great window into, you know, what's ---

0:43:33.3

Wai-Kwan Alfred Yung, MD

0:43:33.3

so that ---

0:43:33.6

Tacey Ann Rosolowski, PhD

0:43:34.2

--- really hot.

0:43:34.3

Wai-Kwan Alfred Yung, MD

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0:43:34.3

that --- at that point, you know, it really get me, you know, --- the thinking do I --- do I really want to be a practicing doc or do I want to be involved in academic research? And that sort of skew me much stronger into academic research. And that's another, you know, I think defining influence that --- I have never really, you know, entertained going into private practice. It's always been involved, you know, with --- with, you know, academic research training.

0:44:14.4

Tacey Ann Rosolowski, PhD

0:44:16.7

And you had the perfect experiences to --- to tract you right into that. Very lucky. Very lucky. So how did you select the University of Chicago? How'd that work out?

0:44:26.9

Wai-Kwan Alfred Yung, MD

0:44:27.7

How did I end up in University of Chicago? Well, I was in Minnesota --- University of Minnesota and University of Minnesota is one of the Big, you know, Big 10 schools. You know, and ha --- you know, you're just a number. Forty something thousand students in --- in the early '70s.

0:44:51.5

Tacey Ann Rosolowski, PhD

0:44:52.4

Crazy.

0:44:52.5

Wai-Kwan Alfred Yung, MD

0:44:53.3

Crazy. Crazy. But I --- on the other hand I enjoyed that --- that three years im --- immensely. You know, it was my fir --- my first connection with the US, you know. Even those very cold, you know --- you know, I learn how to skate, you know, I do al --- I learn --- continued my running two hours a day. So but when I was looking for med school, I said, gee, I want to go to a smaller place. I was accepted into the University of Minnesota, you know, and I applied to a couple of other schools. I was accepted to --- to un --- to the --- at that time it was called Marquette. That's in Minnes --- in Wisconsin but now is the --- is --- is Wisconsin. They change their name now. They belong to the State. And I now --- applied to, you know, University of Chicago and I was accepted to the University of Chicago and so I said, "Gee, this is a smaller school." It also has very --- a good reputation. And so I went. I went to the University of Chicago.

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0:46:04.5

Tacey Ann Rosolowski, PhD

0:46:06.4

So what were some of the high points in --- in your medical school experience? Did it change your direction at all? Solidify? What happened?

0:46:15.5

Wai-Kwan Alfred Yung, MD

0:46:16.6

Well I mean the one thing is that, you know, I was a --- I was attracted to Neurology, you know, because of, you know, Nick Vick. I mean Un --- University of Chicago has a very strong, you know, Neuroscience Department. Neurology was exceptionally strong back then. Probably because there is a group of professors in Neurology that is --- I mean, they go extra way to really teach a student about the nervous system. Th --- They even have Saturday sessions that --- designed for medical student to, you know, --- to teach --- to --- to just kind of expose the medical student to --- to Neurology. You know, how to really think. You know, how to really utilize the history and the symptoms to think about how the brain functions. So its --- its very, you know ---

0:47:32.5

Tacey Ann Rosolowski, PhD

0:47:32.9

Now when you say history

Wai-Kwan Alfred Yung, MD

0:47:33.5

Interesting.

Tacey Ann Rosolowski, PhD

0:47:33.8

do you mean the patient history?

Wai-Kwan Alfred Yung, MD

0:47:34.9

Beacu --- patient history and demonstrating how to examine the patient and based on the history and --- and the exam, you know, to --- to --- to deduce the diagno --- different diagnosis, different disease physiology, and --- and location. And, you know, it's very stimulating the way tha --- that the teaching was given. So I was attracted to Neurology. And --- And then at the same time my mother --- actually another influence I have to go into the nervous system is my mother developed, you know, a tumor in the spine that make her paralyzed. And --- And, you

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know, so I --- I was very int --- interested in --- by that --- that again further draw me into --- into know how the nervous system work. And with --- then --- then because I was so interested in --- in Neurology Dr. Vick o --- have opportunity for me to work in his lab as a medical student. So actually I --- I worked in the Radiation Oncology Department for --- for a part time job and I work in Dr. Vick's lab for my research thesis or research topic.

Tacey Ann Rosolowski, PhD

0:49:07.7)

0:49:08.1

So this was real immersion.

Wai-Kwan Alfred Yung, MD

0:49:08.1

Immersion time. So when I ready to graduate actually I was choosing between Neurology, Neurosurgery, Radiation, and I --- I decided on Neurology.

Tacey Ann Rosolowski, PhD

0: 0:49:27.4

49:27.5

Why?

Wai-Kwan Alfred Yung, MD

0:49:27.7

Because I was interested in the nervous system.

Tacey Ann Rosolowski, PhD

0:49:30.8

That was primarily it.

Wai-Kwan Alfred Yung, MD

0:49:31.6

Yeah. Yeah. Primarily it. So I went into Neurology.

Tacey Ann Rosolowski, PhD

0:49:38.5

So your next move is you went to California. You get your MD in 1975 from the University of Chicago and then in '75 you went to the University of California San Diego for your residency in Neurology. How did that happen?

Wai-Kwan Alfred Yung, MD

0:49:56.0

Th --- That happened primarily because I married Susie when I w --- I was a junior in med school. You know, I --- w --- we have a long term courtship in Minnesota to --- Minnesota and Chicago to Hong Kong and then I, you know, I decided, you know to go home to go back to Hong Kong to marry her and she came with me as my --- in my junior year in Chicago. And she have a --- she was a physical therapist and she, you know, got a job in Chicago in the south side of Chicago in a very --- the black neighborhood, you know. And winter in Chicago is unforgiving.

Tacey Ann Rosolowski, PhD

0:50:51.5

Yeah. That wind.

Wai-Kwan Alfred Yung, MD

0:50:53.7

That wind. The Windy City. And so it's --- it's pretty tough, you know, on her to have to take the bus to go --- go to south side to work. So --- So when I was looking for residency one of the things that we consider is do we want to stay in the North --- in the Midwest for the cold or do we want to go South to warmer climate? And I was accepted into Neurology Residency in St. Louis, back in Chicago --- St. Louis and then I also got accepted --- I get --- also get accepted to --- S --- San Diego. And so I --- I chose to go to San Diego. That's because wa --- we want to move --- by that time we want to move to warmer climate.

Tacey Ann Rosolowski, PhD

0:51:52.6

How did you find the program there? What --- How did that program influence you?

Wai-Kwan Alfred Yung, MD

0:51:57.2

The pr --- program was okay. Uni --- Univers --- UC Califor --- UC San Diego. You know, you first got in San Diego is --- am --- among the --- the UC campuses when probably --- at that time when, you know equal to UCLA or maybe slightly lower than UCLA and smaller than UCLA. But UC San Diego has a interesting, you know, system because when UC San Diego was created and modeled after --- slightly after the British system to have small colleges. So like Harvard --- maintain some colleges and have a lot of emphasis in --- in --- in academic research. That also carried over to the medical school. The medical school had more --- better in basic science than clinical science. Partly also because there is competition in San Diego to the --- you know, San Diego is --- is --- is a --- is a big Nav --- Navy town --- there is a Naval Hospital t --- there's a lot of, you know, the --- the private practice doctor there. And so --- so Uni --- the --- the UCSD clinical operations always under competition with the Navy with the --- with the private hospitals, but is very well known for the research component. So when I went there I, you know, --- the --- the Neurology Service --- we --- I think its --- they were very good but probably, you

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know, could even be better and since I started with a lot of interest in research I was alw --- I, by the time I finished, you know, the --- the --- the third years of training I was thinking about wa -- - wha --- what to do. What kind of Fellowship I want to have. And I would --- When I was resident in Neurology and my mother passed away because of the can --- because of the tumor even though I took --- I --- arra --- arrangement for her to come to San Diego for treatment --- for radiation therapy treatment, but, you know, she passed away, you know, because of the tumor resulting in paralysis as well as liver, you know, cirrhosis and so. So actually that bring me back about the idea of maybe I should go back to cancer. And also loo --- look at opportunity to --- to do cancer research. So I talked to --- or at that time, you know, when I was looking for Fellowship I said well, do I --- I have opportunity to go to NIH or there is also opportunity to go to Memorial Sloan-Kettering for a Neuro-Oncology Fellowship to do, you know, brain tumor research. So I, you know, --- I took the opportunity of going to Memorial. In fact, I left San Diego a year ahead of time. You know, I --- I did my --- I met, you know, Dr. Posner at --- at Memorial Sloan-Kettering was willing to take me a year a --- ahead to provide me with the --- to make arrangements for me to finish my last years of Neurology training in New York and start my fellowship at the same time, you know. So my first year in Mem --- in New York is actually my last year with Ne --- Neurology training.

Tacey Ann Rosolowski, PhD

0:56:29.1

Actually I noticed that overlap on your CV

Wai-Kwan Alfred Yung, MD

0:56:31.7

Yeah.

Tacey Ann Rosolowski, PhD

0:56:31.5

And I was wondering about that. I mean that's an amazing vote of confidence.

Wai-Kwan Alfred Yung, MD

0:56:35.7

Oh yeah.

Tacey Ann Rosolowski, PhD

0:56:36.0

from Memorial Sloan-Kettering. I mean they --- So tell me --- tell me about that Fellowship period. What were you working on and how did change or make you grow in perspective?

Wai-Kwan Alfred Yung, MD

0:56:48.4

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That, you know, the --- the Fellowship period, you know, --- the Neuro-Oncology Fellowship in Memorial was one of three training program for people to study Neuro-Oncology in the country at that time. Its --- its pioneer back then. You know, Dr. Posner and Dr. Sh --- Shapiro started Neuro-Oncology program at Memorial Sloan-Kettering and the other two program, one is in Duke by Dr. Darrell Bigner and then one is in UCSF in --- in the Department of Neurosurgery by Dr. Wilson and --- and --- and Dr. Leavens. Those are only two -- really these are three pioneer in s --- in terms of focusing on treatment and researching in brain tumor. So I --- I went --- So I was involved, you know, very early in my Fellowship in research. I, you know --- I joined a laboratory of --- of --- Dr. Shapiro and his wife Joan Shapiro. And that's at the time that we were studying tumor heterogeneity, developing cell culture. Doing, you know, cell culture study with ---with different drug and --- and --- and also doing, you know, karyotyping and looking at chromosome --- doing chromosome analysis.

Tacey Ann Rosolowski, PhD

0:58:45.1

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:58:47.0

And those are the d --- those are the research that really influenced my whole research career when I finished my Fellowship becau --- We were ---, you know, we enter into in vitro studies, cell --- cell culture study with brain tumor in the very early stage of --- of brain tumor analysis. And when I was a fellow the --- the --- the --- the --- the chromos --- chromosomal changes --- chromosome analysis identifying, you know, some specific chromosome change for brain tumor just in the early phase of development. So --and that the day that --- when we go from chromosome analysis into molecular biology. You know, for --- in --- in cancer research in general as well as in brain tumor. So those few years really it defined my research career, you know, in the last 30 years.

Tacey Ann Rosolowski, PhD

1:00:04.1

Right. Hmm. Dr. Shapiro's first name again? I missed that?

Wai-Kwan Alfred Yung, MD

1:00:09.1

1:00:09.3

He's William.

Tacey Ann Rosolowski, PhD

1:00:10.1

William.

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Wai-Kwan Alfred Yung, MD

1:00:11.1

Yeah. William Shapiro.

Tacey Ann Rosolowski, PhD

1:00:11.9

Okay.

Wai-Kwan Alfred Yung, MD

1:00:12.1

Yeah.

Tacey Ann Rosolowski, PhD

1:00:12.6

And his wife is Jo --- Joan.

Wai-Kwan Alfred Yung, MD

1:00:13.6

Joan Shapiro.

Tacey Ann Rosolowski, PhD

1:00:14.4

Uh-huh. Okay.

Wai-Kwan Alfred Yung, MD

1:00:15.4

And Dr. Jerry Posner was the Chairman of Neurology and he's the one who started Neuro-Oncology.

Tacey Ann Rosolowski, PhD

1:00:25.5

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:00:25.6

Yeah. He's --- Posner is a great mentor. He's --- He's a genius. He is a walking dictionary in Neurological disease.

Tacey Ann Rosolowski, PhD

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1:00:36.2
Hmm.

Wai-Kwan Alfred Yung, MD
1:00:36.7
including tumor biology.

Tacey Ann Rosolowski, PhD
1:00:38.8
Hmm.

Wai-Kwan Alfred Yung, MD
1:00:44.4
He's --- actually Dr. Posner's most famous for his book called *Stupor and Coma*.

Tacey Ann Rosolowski, PhD
1:00:50.1
What is it called?

Wai-Kwan Alfred Yung, MD
1:00:50.8
Stupor. S-T-

Tacey Ann Rosolowski, PhD
1:00:52.5
Stupor?

Wai-Kwan Alfred Yung, MD
1:00:52.7
--- S-T-U-P-O-R. Stupor.

Tacey Ann Rosolowski, PhD
1:00:55.2
Stu -- *Stupor and Coma*.

Wai-Kwan Alfred Yung, MD
1:00:56.3
and Coma.

Tacey Ann Rosolowski, PhD

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1:00:57.1

Interesting. Hmm. Great title.

Wai-Kwan Alfred Yung, MD

1:01:02.2

1:01.24.6

Well that's a --- that --- that book is probably the reference on, you know, the --- the mechanism or --- or the --- the --- the --- the dis --- abnormality in the brain that cause patient to become unconscious. Stupor. And w --- And develop coma.

Tacey Ann Rosolowski, PhD

1:01:28.8

Uhm. Interesting.

Wai-Kwan Alfred Yung, MD

1:01:30:0

Br – with brain swelling

Tacey Ann Rosolowski, PhD

1:01:31.6

Hmm. Wow.

Wai-Kwan Alfred Yung, MD

1:01:32.6

the --- the different way and also th --- the sign and symptoms and --- and the cause of --- of brain swelling, the cause of ---

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Chapter 03

Developing a Brain Tumor Clinic at MD Anderson

B: Building the Institution;

Story Codes

A: The Researcher;
A: The Clinician;
A: Joining MD Anderson;
A: Contributions to MD Anderson;
B: MD Anderson History;
B: MD Anderson Impact;
B: MD Anderson History;
B: Building/Transforming the Institution;
B: Multi-disciplinary Approaches;

Tacey Ann Rosolowski, PhD

1:01:42.3

Hmm. So you finished your Fellowship period in 1981 and at that point you made the move to MD Anderson. Is that correct?

Wai-Kwan Alfred Yung, MD

1:01:56.0

Uh-hmm.

Tacey Ann Rosolowski, PhD

1:01:56.7

So tell me how that came about.

Wai-Kwan Alfred Yung, MD

1:02:00.0

S --- So as I finishing the Fellowship and I already have a pretty well developed research, you know, interest in --- in the --- in laboratory and so I was looking for, you know, the next step. I could stay in Memorial but living in New York is very tough. Try to raise a family in New York is very tough so

Tacey Ann Rosolowski, PhD

1:02:34.9

And it's cold.

Wai-Kwan Alfred Yung, MD

1:02:35.3

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And it's co --- well cold is not that bad actually sin --- I mean, both my wife and my big city.
You know, we came c ---

Tacey Ann Rosolowski, PhD

Okay. Yeah.

Wai-Kwan Alfred Yung, MD

And actually why I never really into even though I by --- and I came to Minnesota is really not a rural area in Minnes --- Minneapolis. And St. Paul is a pretty big city.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And then from Minnesot --- I mean from Minneapolis and then moved to Chicago. Big City. From Chicago I went to San Diego. It's not a very big city but, you know, it's still very much a city. Not ru --- Not --- Not countryside.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And then back up to New York. So we always in big city.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know we --- So and we r --- we alrea --- by --- the time I finish fellowship we already have two children, you know. Both of my daughters were --- one --- my oldest --- our oldest daughter was born in San Diego and the second daughter was born in New York. So we already have two children. Then we have to decide, you know, where to settle.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, in the next move and also if --- a place that I can continue my academic career.

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

So I could stay in New York and Dr. Posner was going to, you know, keep me. But, you know, it's --- it's tough. So I look for other places I, you know --- and I was pretty well known to some of the Neuro-Oncology programs

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

You know, like Duke, you know, Dr. Bigner want me to go to Duke and I look at, you know, do we want to go west or --- again

Tacey Ann Rosolowski, PhD

Uh-hmm.

Wai-Kwan Alfred Yung, MD

I would look at other places though. When I was looking besides checking up to Duke, Dr. LaMaistre and --- and --- and at that time the --- the Neurology group --- the --- the --- the --- the Neurology in --- at Anderson was covered by the medical school.

Tacey Ann Rosolowski, PhD

Hmm

Wai-Kwan Alfred Yung, MD

I think. So they --- the --- actually Dr. LaMaistre came to New York. You know, somehow --- Let's see how did I h --- hook up with Dr. --- with --- with San Diego

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

I mean --- mean MD Anderson. Oh, I know. I now remember. I remember. When MD Anderson was looking for a neurologist to do Neurology consultation

Tacey Ann Rosolowski, PhD

Hmm

Wai-Kwan Alfred Yung, MD

to d --- you know --- to --- to handle the --- the --- the, you know, the --- the Neurology need of Anderson they looked to the Medical School and Bill Fields --- William Fields was a Chair of

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Neurology at --- at UT Houston. And Bill hire a fellow of --- Dr. Posner's fellow that finished before me --- a year before me a --- a person called Dr. Peter Glass. Peter Glass spent one year at Memorial, came to Mem --- came to MD Anderson as a neurologist to do Neurology consultation

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

When I was looking for a fellows --- when I was looking for a staff job ready to finish my fellowship and --- and I get a call from --- from Memorial --- from MD Anderson that said for Dr. Fields, that well, we're looking --- we need more help down here.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

And, you know, would you be interested to --- to come to MD Anderson, you know. And so I said, sure, why not? I'll t --- I'll take a look at MD Anderson.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And, in fact they said well we need actually two --- two more person at MD Anderson. We also were looking for someone that can do pain.

Tacey Ann Rosolowski, PhD

Oh.

Wai-Kwan Alfred Yung, MD

And one of the fellow with me at Memorial, you know, is a neurologist --- a woman neurologist who is interest in --- to doing pain. You know, so it's a --- you know, we --- we want to actually che --- you know, try to tract tumors. If --- If you want to come look fine, all --- you know, Dr. Obben, Eugenia Obben, who's the other fellow finishing, you know, her training in pain, you know, was also looking. So in fact --- you know, so both of us agreed to --- to come to Anderson --- to look at Anderson to see what down here. I can first --- Actually, I came first to meet Dr. Fields. And the before I came --- actually before I came to look or maybe --- no af --- yeah I came down to look back in 1979 or end of the '70s --- or early '80s.

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Tacey Ann Rosolowski, PhD

Oh wow, so this was ---

Wai-Kwan Alfred Yung, MD

My first trip down here

Tacey Ann Rosolowski, PhD

a year in advance.

Wai-Kwan Alfred Yung, MD

--- My first trip down here I think is either end of '79 or early '80, you know --- yeah '80 --- kind of --- in 1980 the f --- the year before I finish

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

1:08:26.1

fellowship.

Tacey Ann Rosolowski, PhD

1:08:26.3

So what were you impressions? Did you immedia ----

Wai-Kwan Alfred Yung, MD

1:08:28.3

That was, I mean --- well MD Anderson is only the original building.

Tacey Ann Rosolowski, PhD

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:08:35.3

The --- The --- The pin

Tacey Ann Rosolowski, PhD

1:08:35.3

The Pink Palace.

Wai-Kwan Alfred Yung, MD

1:08:37.0

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--- The Pink Palace. The pink marble building. The --- The --- you know --- you know, that little T-shaped building.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know. So its --- it --- it --- my impression at --- at that time, gee --- this is --- it's interesting place. A free standing cancer center. It's similar to Memorial because that's --- that wa --- there was a time --- one --- one thing about --- probably because I get a call from --- from LaMaistre because there is only two cancer center. Memorial Sloan-Kettering and MD Anderson. And An --- Memorial certainly is more established. Better reputation back then.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, then --- then MD Anderson. But I was attracted, you know, by the fact that this is a free standing cancer center.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:09:36.1

Yeah.

Tacey Ann Rosolowski, PhD

1:09:36.3

We --- I just want to get some clarification.

Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski, PhD

1:09:51.7

Now when you got the call about these --- this position or two positions opening, up it was pretty clear that they wanted a person at MD Anderson not attached to the medical school or was that not clear?

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Wai-Kwan Alfred Yung, MD

1:09:52.4

Th --- No, it was --- they want --- they want a person at Anderson

Tacey Ann Rosolowski, PhD

1:09:57.6

At Anderson.

Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski, PhD

1:10:00.7

Did you get a sense of why that was?

Wai-Kwan Alfred Yung, MD

1:10:01.3

But when I came to look

Tacey Ann Rosolowski, PhD

Ah, okay. Uh-huh.

Wai-Kwan Alfred Yung, MD

--- when I came to lo --- well because there is --- there is a big need

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:10:16.1

at Anderson for, you know, **Peter Glass (1:10:14)** was overwhelmed.

Tacey Ann Rosolowski, PhD

1:10:16.9

Now tell me about th ---

Wai-Kwan Alfred Yung, MD

at that time.

Tacey Ann Rosolowski, PhD

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1:10:25.5

What --- What did y --- What would you --- What did you do? What does a person who's on staff for Neuro-Oncology consult to do?

Wai-Kwan Alfred Yung, MD

1:10:25.3

Well, I think back then, you know, --- the --- the ne --- the neurologists --- the primary s ---, you know, the primary need of service is dealing with the neurological complication.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

You know, patient --- patient with --- with, you know, cancer undergo treatment develop problem with --- with, you know, drug toxicity.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

And they also develop problem with metaste --- with the --- with the cancer metastasize to the brain

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

to the spinal cord and --- and, you know --- the --- the --- the neuro-oncologist was trained to really deal with these --- make diagnosis during this issue with the --- with the brain toxicity from metastasis to the brain,

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

to the meninges, to the spine as well as drug toxicity. You know, many drugs that was used at that time caused encephalopathy also

Tacey Ann Rosolowski, PhD

I'm sorry ence --- ence

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Wai-Kwan Alfred Yung, MD
caused --- encephalopathy.

Tacey Ann Rosolowski, PhD
Encephalopa ---

Wai-Kwan Alfred Yung, MD
Yeah. And --- Or change in mental status.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
You know, or cause seizures and cause ne --- neuropathy with numbness and tingling.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
All these neurological problems that come with the drug that need manag --- diagnosis and management from --- from a expert neurologist that

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
--- that deal with that issue.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
And Peter was the only one and he was overwhelmed and he --- he's also very kind of precise, meticulous person. You know, he's overwhelmed. So they need more help.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
They were primarily looking for help in that area in terms of neurological complication. But when I came to look at job I said I want to add another element. I don't want to just deal with

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neurological complications but I also want to develop, you know, --- I --- I want to see patient with primary tumor in the brain. Meaning these are the gliomas and --- and patient that devel --- and --- and I want to manage those patients to develop chemotherapy for those patients during --- back then the --- those patients are seen by medical oncologist. By Dr. Benjamin and --- and there's a fellow called Lynn Feun. F-E --- F-E-U-N --- L-Y-N. Lynn Fuen in --- in Medical Oncology. And so I said --- I --- I want to get involved in brain tumor. I d --- I do not want to just deal with neurological problem. I want to start the brain tumor clinic. And so they said fine. Wo --- Work with Dr. Benja --- wo --- then you can work with Dr. Feun and Dr. Leavens. D --- Dr. Leavens was a neurosurgeon. L-E- ---L-E-A-V-E-N-S. Dr. Leavens --- actually Dr. Leavens picture is still in the Neurosurgery Department.

Tacey Ann Rosolowski, PhD

Oh Okay. Yeah. Umhh. Yeah. Uh-huh.

Wai-Kwan Alfred Yung, MD

And he just passed way --- Milam passed away how many years now? Not too long ago. You know, he was the only neurosurgeon when I came in 1981. He's on staff at Baylor as well as here. And --- And so I team up --- so I team up with Milam and Lynn Feun and we s --- we created the first Brain Tumor Clinic. Kind of designated brain tumor clinic for MD Anderson when I came in 1981.

Tacey Ann Rosolowski, PhD

Wow. Hmm. Hmm.

Wai-Kwan Alfred Yung, MD

So then we expand. Basically, we expand the Neurology service from just serving as a Neurology doing consultation for compli --- neurological complication to include primary care for patients with, you know, --- with primary brain tumor, you know to rule out.

Tacey Ann Rosolowski, PhD

Right. Right. Hmm.

Wai-Kwan Alfred Yung, MD

And I also --- I --- because I was well established in --- in my laboratory, you know, and so Dr. LaMaistre, which you know, --- one --- one of the iss --- one of the reasons why I decided to come to Anderson also Dr. LaMaistre went all the way to New York City to --- to --- to interview me. After I came meeting with Dr. Feun, Dr. Lamaistre was in New York one time and he called me up and say, "Al Yung, I want to meet you." You know, let's have a cup of coffee. And --- and I met him, you know, in Waldorf.

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Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

I think he stay in Waldorf at that time. And have a very nice chat with ---with Dr. LaMaistre

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

And --- And that's also another, you know, convincing reason to co --- another reason that convince me to come --- to come to Anderson.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

And so because I want to have a lab. Dr. Feun was Chairman of Neurology over at the med school even though he sort of, you know, has created so-called a section over here at Anderson, but he still sort of have a joint appointment. All of us have a joint appointment in the medical school. And there is no lab space here for me. When I came in 1981, Dr. Feun gave me a lab at the medical school. So I actually o --- established my laboratory at the medical school when I first came. You know, while, you know, --- while my primary --- my primary work is done here, you know, all my clinical work was done at Anderson but my laboratory work was at --- at the medical school. Actually, so I get to know the faculty at the medical school very well because I -- I hang out there for research. My laboratory actually moved back to Anderson in 198 --- '83 when I moved the laboratory back in the --- when --- there was space opened up for me.

Chapter 04

Shifting to a Division System in the Eighties to Build Research Collaboration and a Stronger Institutional Reputation

B: Institutional Change;

Story Codes

B: MD Anderson History;

C: Understanding the Institution;

B: Research, Care, and Education;

B: Institutional Mission and Values;

B: Building/Transforming the Institution;

B: Multi-disciplinary Approaches;

B: Growth and/or Change;

B: Controversy;

B: MD Anderson Culture;

B: The MD Anderson Brand, Reputation;

Tacey Ann Rosolowski, PhD

1:17:27.5

Well, what would you like to talk about next? Would you like to talk about your --- the way your research was evolving or do you want to talk about the clinical side first? What makes sense to tell your story?

Wai-Kwan Alfred Yung, MD

1:17:44.2

Well. Actually, you know, the growth of Neuro-Oncology at Anderson, you know, have a much bigger component in the clinical side. You know, first.

Tacey Ann Rosolowski, PhD

1:18:05.2

Why was that?

Wai-Kwan Alfred Yung, MD

1:18:06.3

O --- that's where, you know, I --- the --- the --- as Anderson grow the --- as the patient population grow --- there are, you know --- the --- the --- the --- the need for neu --- Neuro-Oncology consultation also increase. Because i --- it, you know, th --- the more patients have --- have brain metastases, has meningo metastasis,

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Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

and also as e --- as the treatment become, you know, more sophisticated in terms of radiation therapy and chemotherapy, you know, then more toxicity to the brain.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:19:22.8

So --- So we actually --- so the need on the Neurology side expands in parallel to the --- the to --- the other service --- to --- to the growth of --- of Anderson as an institution for patients.

Tacey Ann Rosolowski, PhD

1:19:22.1

Uh-huh. And this was also a period too of intense experimentation, obviously in chemo and radiation.

Wai-Kwan Alfred Yung, MD

1:19:29.1

Well --- I mean --- I think, you know, --- you --- you probably get, you know --- I think in the early 80s because of Dr. Freireich [Emil J Freireich, MD [Oral History Interview]

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, presence here in --- with a --- a strong interest in development of experimental therapeutics so, you know, the intensity of chemotherapy, you know, advanced very rapidly.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, in --- in the early '80s. And, in fact, is --- MD Anderson was kind of known as the, you know, experimentation place. I mean, we carry a name kind of not that very good fr --- in the community and say, you know, if you have cancer if you want to be a guinea pig

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Tacey Ann Rosolowski, PhD

A guinea pig. Right

Wai-Kwan Alfred Yung, MD

1:20:25.6

You come to MD Anderson

Tacey Ann Rosolowski, PhD

1:20:25.5

Right. I've heard that before. Yeah.

Wai-Kwan Alfred Yung, MD

1:20:27.4

Right?

Tacey Ann Rosolowski, PhD

Yep.

Wai-Kwan Alfred Yung, MD

That, you know, --- at that time, you know, it's a intense competition between Methodist and Baylor and Anderson.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And --- And --- And that's also the time that --- when Anderson was established the chart --- de -
-- de --- demanded from the State creating MD Anderson --- MD Anderson is created as a
tertiary facility, the patient cannot self-refer to

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

MD Anderson. Has to be referred by --- by a doctor.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

And --- And that really is --- is --- is the way that it was started but it is also the way that --- that

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impede the --- the growth of An

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

--- Anderson, you know. We --- We get the --- Anderson get the, you know, end-stage disease people. Also getting the name --- get the name of, you know, you go there fo --- to be a

Tacey Ann Rosolowski, PhD

To die.

Wai-Kwan Alfred Yung, MD

guinea pig, to die.

Tacey Ann Rosolowski, PhD

Yep. Yep.

Wai-Kwan Alfred Yung, MD

For experiment. And Dr. Freireich is doing, you know, experiment to poison you guys.

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

They say that.

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

Right.

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

And the --- so the --- that we were struggling that kind of reputation.

Tacey Ann Rosolowski, PhD

Hmm.

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Wai-Kwan Alfred Yung, MD

That --- that's the period. But I --- I --- I think with, you know --- then Dr. LaMaistre reorganized, you know, --- the --- the --- the --- the --- the --- the institution in terms of creating, you know --- creating the --- the Division system. In --- In 1982 and bringing --- bringing a --- a --- a, you know --- a new group of faculty.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:22:49.2

I --- that's --- Again, I think that's a --- a --- a important milestone for Anderson between 1982 to '86. You know, with the reorganization of these --- of --- of the --- the --- the institution go from Department system to Division creating --- creating the Division, you know.

Tacey Ann Rosolowski, PhD

1:22:49.8

What did that --- What did that do for the institution that addressed these problems you were talking about earlier with reputation?

Wai-Kwan Alfred Yung, MD

1:23:02.5

I --- You know --- With --- With the reorganization and bring in, you know, Dr. [Irwin] Krakoff to --- to head up Division of Medicine and I think to create a --- a better collaborative environment among the departments --between Medicine and Surgery and Radiation. And also, you know, with a, you know --- with some more systematic approach to promote clinical research. That, you know, I think created a --- a --- a new --- kind of new environment.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

You know, of more col --- you know, integration among the --- the --- the different specialities. More cross talk be --- you know, among the facilities.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

1:24:19.8

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And th --- At that time we're small enough that almost everybody know everybody.

Tacey Ann Rosolowski, PhD

1:24.20.1

Right. This is the second pen that's run out of ink during this interview.

Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski, PhD

So let me just dig for another one. I'm sorry to interrupt us.

Wai-Kwan Alfred Yung, MD

So

Tacey Ann Rosolowski, PhD

I --- I need to pause the recorder Dr. Yung.

Wai-Kwan Alfred Yung, MD

Yeah. Pause it.

Tacey Ann Rosolowski, PhD

Do you have a pen??

Wai-Kwan Alfred Yung, MD

My pen doesn't work. I'll give you another one.

Tacey Ann Rosolowski, PhD

1:24:40.3

I --- I apologize for th ---

Tacey Ann Rosolowski, PhD

00:02.8

Wai-Kwan Alfred Yung, MD

00:03.9

So I --- I think the reorganization from department to division ... is a big milestone in the development of Anderson. It's kind of --- it --- it's --- I would say it was a first attempt to create, you know, more collegial environment, less competition. Because now, say, when we have a Department of Development Therapeutics, a Department of Medicine, now headed by Dr.

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Freireich and the other Department of Medicine is Dr. Conrad and Fred --- and --- and Fred Conrad and Tom Haney...

there is sort of a artificial wall created between the two. The --- a Developmental Therapeutics is the research arm, ... you know. Intense chemotherapy arm. And, you know, the --- the Medicine side is sort of second class citizen when --- when we don't want it.

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

01:27.5

The patient that we don't want to go to you.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

It was not very --- I --- I think that --- that --- that, you know, the reorganize --- the reorganization take away the competition.

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

Or take away the --- that --- that kind of internal ...

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

... competition and also with a bold systematic app --- approach of patient care and with --- with some more structure in --- in the different serv --- different group of patients go to different, you know, clinic ...

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

... is allow, you know, a more --- a integrated development ...

Tacey Ann Rosolowski, PhD

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Mhmm.

Wai-Kwan Alfred Yung, MD

... of patient care and research among the --- the team. Now we really focus more on disease type...

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

... as opposed to experimental therapeutic and not so experimental therapeutic, you know.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

The research group and the not --- the --- the --- the non-research group.

Tacey Ann Rosolowski, PhD

Right. Yes, I see that

Wai-Kwan Alfred Yung, MD

But now the research and patient care are more integrated under the --- under the --- the --- the --
- the different disease ...

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

... type. And integrated medicine and surgery and radiation, in a multidisciplinary approach.

Tacey Ann Rosolowski, PhD

02:58.9

Hmm. Now you also mention -- I just want to make sure I understood -- because you also mentioned that a factor in this was the new faculty that were brought in at the time. Now, were there people who had kind of a different philosophy or --- I just want to make sure I understand what that piece was in this. How did the new faculty contribute to this new environment?

Wai-Kwan Alfred Yung, MD

Would --- the --- the --- the --- the new faculty that come in would --- together with a new organization in the old ... have --- the ____ 03:47 have the --- provide a platform ...

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Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

... for us to re-enhance the quality of the research that we're doing at the --- at the same time that, you know, starting the --- the --- the notion of, you know, research ___ and patient care. And so that we have a more concerted effort of elevated level of both and more, you know, more integrated. And --- and also allow us to increase our communication and collaboration with the outside ...

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

... people like Memorial and other cancer centers, you know. Because that --- that --- would create more collaborative ...

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

... environment internally as well as externally.

Tacey Ann Rosolowski, PhD

04:50.9

Hmm. So it's really a milestone period.

Wai-Kwan Alfred Yung, MD

It --- it's a milestone period because ...

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

...and --- and the new faculty also attract a lot more of grant funding. We were that is in the period with that --- the laboratory research group got expanded.

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

Fred Becker was including people like those at the time that --- that --- Josh Fidler and Cain
(0:05:21.3)...

Tacey Ann Rosolowski, PhD

Mhmm.

Wai-Kwan Alfred Yung, MD

... expanded on the research side.

Tacey Ann Rosolowski, PhD

05:30.2

Right. Basic scientists

Wai-Kwan Alfred Yung, MD

The basic scientists.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

_____ (0:05:34.1). As well as the --- as the clinical research become more systematized with better regulation.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

More comfort, you know, bringing more statistical approach. And that --- that's the first time that --- that we sort of have better link --- better linkage

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

_____ (0:06:00.6) without, you know.

Tacey Ann Rosolowski, PhD

06:03.3

Interesting. We're almost out of time for the day. Would --- do you mind if leave it at this?

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Wai-Kwan Alfred Yung, MD

Yeah, I think --- I think, we leave for another day, we can pick it up next.

Tacey Ann Rosolowski, PhD

06:16.0

Sounds good.

Wai-Kwan Alfred Yung, MD

Sounds good?

Tacey Ann Rosolowski, PhD

Yes. Thank you very much for this because I think you're the first person who's ever kind of told the story about that particular period in this way, and it's a really great summary, a snapshot.

Wai-Kwan Alfred Yung, MD

_____(0:06:27).

Tacey Ann Rosolowski, PhD

Yeah, yeah.

Wai-Kwan Alfred Yung, MD

06:31.4

.. with the --- the --- that's --- that --- that --- I --- I think between '83 now to the early '90 ...

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

... when we encounter the first financial attack.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

06:51.9

That was a really strong building period.

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Tacey Ann Rosolowski, PhD

Hmm. Well, I look forward to hearing more about the story next time.

Wai-Kwan Alfred Yung, MD

07:05.1

Okay. Good.

Tacey Ann Rosolowski, PhD

07:06.2

Okay. Thank you very much, Alfred WK Yung. And I'm turning off the recorder at 2 --- about

Wai-Kwan Alfred Yung, MD

07:12.2

Yeah. Somewhere around there.

Wai-Kwan Alfred Yung, MD

Interview Session Two: May 7, 2014

Chapter 05

Stepping Down as Chair of Neuro-Oncology

A: The Administrator;

Story Codes

A: The Administrator;

A: Career and Accomplishments;

A: The Patient;

D: On Leadership;

D: On the Nature of Institutions;

Tacey Ann Rosolowski, PhD

00.03

I am going to turn on the recorder.

Wai-Kwan Alfred Yung, MD

02.4

Go ahead.

Tacey Ann Rosolowski, PhD

03.3

So you were telling me that you started as Interim Chair in what year?

Wai-Kwan Alfred Yung, MD

06.4

1999.

Tacey Ann Rosolowski, PhD

07.6

1999. Okay.

Wai-Kwan Alfred Yung, MD

09.9

I was Interim from 1999, actually that was the year that I had my cancer surgery --- chemo --- chemotherapy and cancer surgery. So I assumed the Interim after I recovered from surgery, basically. And then I w --- I was at Interim for three years until 2002 when Dr. Hong, you know --- you know, appointed me full time and ma --- make it official. So, I was --- I was official Chair in 2002 until now.

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Tacey Ann Rosolowski, PhD

59.2

Right. So what are your reasons for wanting to step down as Chair now?

Wai-Kwan Alfred Yung, MD

1:03.9

Eve --- Even when I took the Chair, I --- I believed that, you know, a, a --- a Chair or a leader should have a finite time. I wa --- I planned on a finite time and I also believe that one should really move on, you know, at the height, when you, you know, build the shop up and then w --- then give it to the next generation to bring it into another level, bringing fresh energy. And, after awhile you get stale. You know, so that's --- I follow that philosophy I want to, you know have somebody else take over, you know, when I am still in the --- you know, being considered capable of doing something

Tacey Ann Rosolowski, PhD

2:10.1

Right.

Wai-Kwan Alfred Yung, MD

2:10.7

as opposed to wait until people say it's over time, better go, and --- .

Tacey Ann Rosolowski, PhD

2:15.5

Yeah.

Wai-Kwan Alfred Yung, MD

2:16.1

to kicking you out. I think that, you know, that the Chair should not be permanent.

Tacey Ann Rosolowski, PhD

2:23.1

Yeah.

Wai-Kwan Alfred Yung, MD

2:24.2

R --- Renewal, with new energy.

Tacey Ann Rosolowski, PhD

2:30.9

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Let me kind of do the business stuff with the --- with the interview putting on the and --- identifier and everything and then I would like to continue the conversation about your Chairmanship.

Wai-Kwan Alfred Yung, MD

2:41.5

Okay.

Tacey Ann Rosolowski, PhD

2:43.7

Okay, let me just do t

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Chapter 00B

Interview Identifier

Tacey Ann Rosolowski, PhD

00:00.0

So --- I will --- Alright. Now we are at the official beginning of the interview.

Wai-Kwan Alfred Yung, MD

00:06:4

The official beginning. Okay.

Tacey Ann Rosolowski, PhD:

00:09:5

And we we're at about 12:38 when we started and now at we're about 12:42

Wai-Kwan Alfred Yung, MD

00:17:8

Alright.

Tacey Ann Rosolowski, PhD

00:18:0

And today I'm on the 7th Floor of the Faculty Center at M --- the main campus of MD Anderson in the Department of Neuro-Oncology, interviewing Alfred Young, Chair of the Department, as he has just been describing. So thank you for making time.

Wai-Kwan Alfred Yung, MD

00:34:5

You're welcome.

Tacey Ann Rosolowski, PhD

00:35.1

We were --- We were talking about how busy you are because you were in the midst of a search for a new chair.

Wai-Kwan Alfred Yung, MD

00:39.2

Well, I have nothing to do with the search.

Tacey Ann Rosolowski, PhD

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00:41:2

Yeah.

Wai-Kwan Alfred Yung, MD

00:41.5

I'm --- I'm busy because of the many projects that we're doing.

Tacey Ann Rosolowski, PhD

00:50.5

Okay. Gotcha.

Wai-Kwan Alfred Yung, MD

00:51.9

And today's my, you know, day that I meet with my Lab people.

Tacey Ann Rosolowski, PhD

00:54:6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

00:56:3

But then we also, you know, working on a big Moon Shot proposal to try to get brain tumor into the Moon Shot world, you know.

Tacey Ann Rosolowski, PhD

01:07.7

01:25:5

Well, let me ask you what you would like to do now. We could continue talking about your administrative role as Chair, or would you like to talk about your research? We ha --- Because we really haven't done that in depth so far. Where --- What's kind of on your mind to explore today?

Wai-Kwan Alfred Yung, MD

01:28.4

Well, I can d --- I mean I can do anything, you know.

Tacey Ann Rosolowski, PhD:

01:30.9

Okay.

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Wai-Kwan Alfred Yung, MD

01:31.4

you --- you want to do whatever you want to follow the --- the trail that we've followed before.

Chapter 06

Looking at Chromosomal Patterns in Brain Tumors; Chromosomal Heterogeneity, Chemo-Sensitivity, and EGFR

A: The Researcher;

Story Codes

A: The Researcher;

A: Overview;

A: Definitions, Explanations, Translations;

D: Understanding Cancer, the History of Science, Cancer Research;

B: MD Anderson History;

B: Multi-disciplinary Approaches;

C: Discovery and Success;

C: The Professional at Work;

D: Understanding Cancer, the History of Science, Cancer Research;

B: MD Anderson Impact;

B: Institutional Mission and Values;

Tacey Ann Rosolowski, PhD

01:37.1

Well why don't we talk about your research then? Because we --- we had talked a little bit last time about you coming to MD Anderson. You talked about your dreams for making Neuro-Oncology really a clinical piece of what MD Anderson could offer. And but we didn't talk about --- And you talked about how you set up your lab and then moved it to the main campus but we really didn't talk about the projects you were working on and the evolution of your own research. So I'd really like to --- to get that story.

Wai-Kwan Alfred Yung, MD

02:09.4

Well when --- When I was a fellow at --- at Memorial Sloan-Kettering I started on a project with --- with Dr. Joan Shapiro at that time at Memorial. We started a project looking at the question of heterogeneity.

Tacey Ann Rosolowski, PhD

02:34.4

Okay.

Wai-Kwan Alfred Yung, MD

02:36.1

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Recognizing that, you know, brain tumor is not a, you know, homogeneous tumor

Tacey Ann Rosolowski, PhD

02:45.7

Hmm

Wai-Kwan Alfred Yung, MD

02:46.2

Like a liquid tumor like leukemia or lymphoma. You know, brain tumor is like other solid tumor, breast cancer, lung cancer, it is very heterogeneous.

Tacey Ann Rosolowski, PhD

02:58.1

Hmm

Wai-Kwan Alfred Yung, MD

02:58.5

with --- with multiple populations. So we started a project back then looking at chromosomal pattern back, but back then in 19 in the --- in the late 1970's, you know, molecular genetic is coming online. And --- and, you know, genetics is starting with looking at karyotyping and looking at chromosome changes, chromosome gain, chromosome loss. And that is --- that was the time that, you know, in the brain tumor world we start --- with in terms of karyotyping begin --- began to identify some chromosomal change in brain tumor, including gaining chromosome 7 and loss of chromosome 10. These ---

Tacey Ann Rosolowski, PhD

03:58/2

04:00.5

Wha --- What is the significance of those?

Wai-Kwan Alfred Yung, MD

04:00.9

The --- These are the work done at Duke, you know, and also with Joan Shapiro. The --- The significance of chromosome changes is that you cannot --- you can use those changes as a marker

Tacey Ann Rosolowski, PhD

04:12.5

Uhm.

Wai-Kwan Alfred Yung, MD

04:14.6

for the tumor, you know, and also identify the m --- you know, clones of cells with a different chromosome pattern. So in fact, we di --- we did a project like th --- just like that in terms of looking at one patient's tumor, how many different clones of cells are there are and what kind of chromosome, you know, pattern those clones of cells, you know, display.

Tacey Ann Rosolowski, PhD

04:48.9

And what did you find?

Wai-Kwan Alfred Yung, MD

04:50.2

And we find that, you know, from one tumor have many different clones and each clone has its own chromosome --- basic chromosome pattern. Changes in chromosome. And that's --- I think that is --- is --- you know we ---- we start working on this question of how does the chromosome pattern influence the sensitivity of the cell to different drug? You know, using drug sensitivity again as a, you know, functional characteristic of the cell in relationship with --- with the chromosome pattern. Th --- Later on, now a day we don't talk about chromosome pattern now. Now we talk about genes. What gene **colony (5:34)** with sensitivity, what drug?

Tacey Ann Rosolowski, PhD

05:38.2

And what ca---

Wai-Kwan Alfred Yung, MD

05:39.2

So that was the very beginning, so it is kind of, you know, early development on precision medicine ____ (**5:48**). But the crude assay at that time is looking chromosome change.

Tacey Ann Rosolowski, PhD

05:53.6

And what caused that wh --- you --- when you talked about used to talk about chromosome patterns and now you talk about genes, what caused that shift in vocabulary? It was a conceptional shift or ---

Wai-Kwan Alfred Yung, MD

06:04.5

Well, because, you know, with the --- with the development of, you know, molecular genetics and molecular biology, you know, the technology advanced a lot. It was to look at, you know, the gene structure. We have the total number of genes in a human genome change in number,

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you know. Until the human genome project is completed, then there is a --- a better understanding of how many genes is in the human genome. And how many genes is in the enti - -- the 22 chromosomes. So early days, you're only looking at chromosome pattern and --- and -- - and you can look at the character of the chromosome by different band, we call chromosome banding. And --- And we don't have the knowledge of the gene yet at that point. But later on when the tech --- technology develops and now we start sequencing, you know, the chromosome or the DNA in the chromosome and now you are able to --- to really identify the gene and location of the gene and the structure Of the gene, whether it is normal or mutated or lost. So you evolve from a big picture of chromosome to the final picture of gene. And then also, you know, the structure of the gene that is involved. Exon, you know, non --- you know, the space between the exon --- intron and exon. And --- And all these just keep develop where we find with the technology coming up, you know.

Tacey Ann Rosolowski, PhD

08:05.4

Uh-hmm. So this is really the development of an entirely new field.

Wai-Kwan Alfred Yung, MD

08:09.3

There's the development of an entirely new field in --- in, you know, genetics into molecular genetics and with molecular biology. And now, you know, we're in the area of genomic medicine. You know, the application of the geno --- genomic knowledge into --- into the clinic and prescribing medicine according to the --- to the genetic makeup of the disease.

Tacey Ann Rosolowski, PhD

08:39.1

Uh-hmm.

Wai-Kwan Alfred Yung, MD

08:39.9

So my first project in really looking at, you know, heterogeneity in terms of, you know, the technique that we will have at that time _____ (8:48) is --- is chromosome pattern. And --- And chemosensitivity. Then later on, you know, we --- when I moved to Anderson, we started looking at then --- then we beginning to --- again the --- the field developed that now we recognize there are some growth factors that you know, are important in the, you know, in the growth potential of these cells. And the first growth factor receptor that was identified is important to brain tumors is epidermal growth factor receptor. You know, so

Tacey Ann Rosolowski, PhD

09:31.5

And that's the EGFR.

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Wai-Kwan Alfred Yung, MD

09:32.8

EGFR

Tacey Ann Rosolowski, PhD

09:33.4

09:33.7

Yeah. Okay.

Wai-Kwan Alfred Yung, MD

09:35.2

Now EGFR is

Tacey Ann Rosolowski, PhD

09:35.0

And you --- is --- your lab identified that, or

Wai-Kwan Alfred Yung, MD

09:38.1

No. Our lab did not identify that. The EGF receptor is --- is identified by --- by, I don't remember. Actually, Dr. Mendelson is --- is very essential in th --- in the work of EGF receptors functioning in cancer.

Tacey Ann Rosolowski, PhD

09:56.2

Uh-hmm.

Wai-Kwan Alfred Yung, MD

09:57.5

But I don't remember who discovered the EGF receptor.

Tacey Ann Rosolowski, PhD

10:03.2

And I noticed as I was doing the background that EGFR comes up a lot in describing your focus. So you eventually began to work with that.

Wai-Kwan Alfred Yung, MD

10:12.8

I wou --- We --- We --- We spent a lot of time working on EGF receptor and the --- the protein that stimulates EFG receptors. And --- And then in --- in the --- you know, when my lab first

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established and come over, you know, we moved the lab to Anderson in '83 and then we --- we recruited a scientist, Peter Steck, to join us. Peter --- Peter joined --- was at Anderson already. He finished his post doctoral fellowship with Dr. Nicholson --- Nicholson and looking for a staff position and --- and I created a --- a scientist faculty position for him and he joined us. And --- And, so we work on EGF receptor together but he's also a --- a protein chemist, you know, so

Tacey Ann Rosolowski, PhD

11:12.5

So he's a PhD.

Wai-Kwan Alfred Yung, MD

11:13.4

He's a PhD.

Tacey Ann Rosolowski, PhD

11:14.5

PhD. Uh-hmm.

Wai-Kwan Alfred Yung, MD

11:14.8

11:

He's a scien --- scientist to run EGF receptor together with --- and then at the same time he started a --- a --- a project of, you know, trying to --- to look at the observation of loss of chromosome 10 in these brain tumors. Glioblastoma cell. And --- And what's behind this loss

Tacey Ann Rosolowski, PhD

11:44.0

Hmm.

Wai-Kwan Alfred Yung, MD

11:44.3

of chromosome 10. Especially, there is a piece of chromosome 10 that is missing in many tumors and he wanted to identify what gene is located in that pie --- that piece of chromosome 10. And --- And, the thinking at that time is that, you know, when you have gene that is missing, that --- that is a tumor suppressive gene that --- that now plays a role in --- in preventing cancer development. But, then when you miss that tumor suppressive gene then

Tacey Ann Rosolowski, PhD

12:20.3

Uh-hmm.

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Wai-Kwan Alfred Yung, MD

12:21.0

You know, the cell becomes malignant. So --- with a long story, it takes awhile for him to --- but he started with a technique of somato --- somato-cell fusion and --- and tried to reidentify this in bits --- bit by piece of the chromosome and --- and

Tacey Ann Rosolowski, PhD

12:38.5

Hmm.

Wai-Kwan Alfred Yung, MD

12:40.0

Identify the gene ____ (12:40). But eventually in 1997, you know, we --- we sequenced and --- and --- and discovered the --- the PTNG ---- PTNG.

Tacey Ann Rosolowski, PhD

12:55.5

Hmm.

Wai-Kwan Alfred Yung, MD

12:56.7

But there is a com ---, you know, --- competing lab in Columbia that is also working on the same --- same gene and that --- they're proving in --- in Columbia by Ramon Parsons. And, we ended up actually announced the --- the --- the discovery together.

Tacey Ann Rosolowski, PhD

13:22.6

Hmm.

Wai-Kwan Alfred Yung, MD

13:23.4

You know, the two labs announced the discovery together.

Tacey Ann Rosolowski, PhD

13:25.6

Oh wow.

Wai-Kwan Alfred Yung, MD

13:27.2

We --- At Anderson we id --- we call the gene as MMAC1. MMAC1, you know, stands for Mutated Multiple Advanced Cancer, because Peter was able to show that --- that missing gene

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the P10 ge --- the missing gene --- missing chromosome 10 is involved in not only glioblastoma but also involved in advanced breast cancer.

Tacey Ann Rosolowski, PhD

13:53.4

Oh, wow.

Wai-Kwan Alfred Yung, MD

13:54.6

and prostate cancer. That's why --- he used the term --- he quickly named it as MMAC, but Dr. Parsons' group named it PTEN --- PTEN because it's on chromosome 10.

Tacey Ann Rosolowski, PhD

14:14.2

Hmm.

Wai-Kwan Alfred Yung, MD

14:16.1

And --- And I think that --- that PTEN was adopted as the --- as the official name of that gene.

Tacey Ann Rosolowski, PhD

14:22.8

Right.

Wai-Kwan Alfred Yung, MD

14:24.4

But the --- the function of PTEN gene is intimately related to an enzyme called --- PI3 kinase --- PI3 kinase and it's also --- and PI3 kinase is linked with EGF receptor function. So, that's why we --- we --- we started with EGF receptor work and then Peter

Tacey Ann Rosolowski, PhD

14:52.7

Hmm.

Wai-Kwan Alfred Yung, MD

14:53.7

branched off to look at, you know, tried to clone the gene of PTEN and then so from that point on with all that really worked on a goal, the function of the PTEN gene and how it's length with growth factor receptor activity in --- in brain tumor. That has been the line of research that now we follow.

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Tacey Ann Rosolowski, PhD

15:17.8

Uh-hmm.

Wai-Kwan Alfred Yung, MD

15:19:0

)

From 1997 onward. Unfortunately, Peter died in 1999 from a massive heart attack, you know.

Tacey Ann Rosolowski, PhD

15:26.9

Hmm. That's a loss.

Wai-Kwan Alfred Yung, MD

15:36.3

So --- So it is a big loss.

Tacey Ann Rosolowski, PhD

15:37.3

Uh-hmm.

Wai-Kwan Alfred Yung, MD

15:38.3

I took over some of his work, but, I mean I'm not since I --- I wear two hats at that time trying to be a physician scientist, run the lab as well as run the clinic. So, we --- we take a more translational direction trying to look at the function of the, you know, --- the PTEN regulated PI3 kinase pathway and how it influence cell growth and how we can --- how we can int --- you know, inhibit this function. And --- And you know, inhibit cell growth. So we took the e --- the --- the lab takes on a more translational direction instead of a basic science direction.

Tacey Ann Rosolowski, PhD

16:34.0

Now I wanted to ask you about that, because, you know, we talked about how you --- your work and just your professional life has been evolved during the creation of entirely new fields and translational --- the translational approach has been part of that. And one of the things I've been interested in asking people about in these interviews is what is really the history of translational research? You know, what did translational research, how are people --- how were people thinking about it i --- in the early days and how has it developed? How has it changed or become more complex. So that --- I --- you know, you'll have to tell me what the evolution has been.

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Wai-Kwan Alfred Yung, MD

17:16.8

It's --- That's a interesting question. Because, I think you could get different answers from different people.

Tacey Ann Rosolowski, PhD

17:23.8

Yeah.

Wai-Kwan Alfred Yung, MD

17:24.8

I --- I mean is --- if I look back as, you know, in --- in --- in cancer research as well as you know, --- you know, medical research, you know, even when I was, you know, very active in terms of st --- study section review of giving out grants, you --- in --- in th --- back then in the '70s and '80s very strong emphasis on basic science. So, that's the time that we're developing fundamental knowledge of disease and the biology of the disease and --- and there's a lot of emphasis on understanding the biology in the very fund --- basic levels. Cellular level, organ --- organ level. And so, you know, basic science is --- is the foundation of the knowledge.

Tacey Ann Rosolowski, PhD

18:37.4

Uh-hmm.

Wai-Kwan Alfred Yung, MD

18:40.0

And the clinical --- clinical research come along in a --- you know, you're looking at clinical research. Besides understanding the anatomy and the cause of the disease is, you know, the treatment of the disease. And, the treatment of the disease, especially in the cancer world, is really, you know, besides radiation therapy and surgery, chemotherapy the use of drug came pretty much after the second World War.

Tacey Ann Rosolowski, PhD

19:20.3

Uh-hmm. Yeah.

Wai-Kwan Alfred Yung, MD

19:22.0)

I mean I think when you look at the history of development and even at Anderson using, you know, --- Dr. Freireich (19:28) and Emil Frei, these are people who are really champions and the forefathers of developing chemotherapy

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Tacey Ann Rosolowski, PhD

19:38.2

Uh-hmm.

Wai-Kwan Alfred Yung, MD

19:38.2

Using a drug for cancer treatment.

Tacey Ann Rosolowski, PhD

19:40.5

Uh-hmm

Wai-Kwan Alfred Yung, MD

19:40.8

Before that is surgery, radiation. And --- and so clinical research really is --- is totally separate from the fundamental basic research. The laboratory knowledge accumulate in the laboratory --- in the structural level and, you know, cellular level under --- understanding protein and understanding DNA and those are all fundamental development. And there's no improvements into the clinic because the clinic research is interaction back in behind. In --- and so the --- the two directions really dev --- develop independently of each of other

Tacey Ann Rosolowski, PhD

20:27.9

Hmm.

Wai-Kwan Alfred Yung, MD

20:29.2

for a long time until --- until, you know, probably I would say late '80, early '90 when --- when -- when --- when the two sides start talking. The clinical people and the basic science people talking. There are more physician scientists. You know, people like, you know MD, PhDs --- that or MD with P --- MD PhD to s --- to start with thinking about we need to bring the clinical question into the lab.

Tacey Ann Rosolowski, PhD

21:07.8

Uh-hmm.

Wai-Kwan Alfred Yung, MD

21:08.1

And take the lab observation back into the clinic. And --- And that's where, you know, the way translation research come up is we need to bring some more of the clinical observation into the

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lab, you know, as our scientists, you know, how --- what do you think about this ob --- clinical observation and how do we, you know, sort of like, you know, we see when we --- when we take the cell and we treat it with this drug and it is not working. Well, why is it not working? Or we use this drug for this group of patient and it's not working, well why is not working? And we take that question to the lab and say can you help us answer why I treat this tumor with this drug and it not working. And then the people in the lab start saying well let's create some --- some model system.

Tacey Ann Rosolowski, PhD

22:05.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

22:06.6

Can we --- Can we isolate the cell from this tumor or the cell (22:10). Can we, you know, make --- make a tumor --- similar tumor in the animal, in the mouse, in the dog so that we can study the tumor in mouse and dog.

Tacey Ann Rosolowski, PhD

22:22.1

Now what ---

Wai-Kwan Alfred Yung, MD

22:22.5

That's where they're at beginning of translational

Tacey Ann Rosolowski, PhD

22:25.9

Uh-hmm.

22:26.4

research.

Tacey Ann Rosolowski, PhD

22:28.1

Now what was happening at MD Anderson in the '90s --- in the late '90s that made it more attractive, necessary, to have those conversations?

Wai-Kwan Alfred Yung, MD

22:41.8

I --- I think we in the --- well when I came to Anderson in '81 --- between '81 and '85, you

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know, that's when, you know, Nic --- [Garth] Nicholson, Fidler --- Dr. [Isaiah Joshua] Fidler, Dr. [Margaret] Kripke, joined MD Anderson. And I --- I would say, you know, they bring in the --- the more translational branch --- more translational research.

Tacey Ann Rosolowski, PhD

23:34.8

Hmm.

Wai-Kwan Alfred Yung, MD

23:35.5

into it --- into MD Anderson. And --- And this --- at the --- at the time that we are also --- Anderson is really developing clinical research.

Tacey Ann Rosolowski, PhD

23:51.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

23:55.5

And with under --- under the group with --- with at that time we called Developmental Therapeutics. You know, with Dr. Freireich and his group.

Tacey Ann Rosolowski, PhD

24:09.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

24:11.2

And then later on Dr. Krakoff came in to con --- to continue with --- with that development of emph --- elevating the sophistication and the level of clinical research. And then in the laboratory, Dr. Becker would bring in people like Nicholson, Fidler, Kripke and other people. I think from the beginning --- in the beginning of the '80s maybe even the '90s, Anderson is --- become the fore --- forerunner in more applied, more transitional laboratory usage. And I think we remain the leader in that transition as opposed to, you know, institutions like Rockefellers and Memorial Sloan-Kettering and they have, you know, they started with a strong focus on the basic issues. They have a separation from clinic to basic _____ (25:28), but at Anderson even I came in and joined in the '80s --- early '80s and mid '80s we start with focus on the translational issues and clinical research.

Tacey Ann Rosolowski, PhD

25:43.5

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Hmm. Hmm. Now wh --- in the '80s when you were beginning this project looking at heterogeneity and, you know, unraveling this whole

Wai-Kwan Alfred Yung, MD

25:56.2

Uh-hmm.

Tacey Ann Rosolowski, PhD

25:57:4

--- all these mechanisms involved with PTEN, how were --- I mean it seemed from the very beginning that just thinking about that research --- you were posing research questions that had clinical implications from the very beginning.

Wai-Kwan Alfred Yung, MD

26:14.3

Uh-hmm.

Chapter 07

Research Pathways and Research Issues that Emerge from EGFR Work

A: The Researcher;

Story Codes

A: The Researcher

A: Definitions, Explanations, Translations

C: The Professional at Work

D: Understanding Cancer, the History of Science, Cancer Research

C: Controversies

D: Ethics

A: Activities Outside Institution;

B: Beyond the Institution;

C: Healing, Hope, and the Promise of Research;

Tacey Ann Rosolowski, PhD

26:15.2

Now how did that research lead to other projects --- well maybe I should ask you first, what were some of the key findings that you've made with that research about the epider --- epidermal growth factor receptor and with PTEN that have taken a turn into affecting patient care with therapies?

Wai-Kwan Alfred Yung, MD

26: 40.1

Well I --- I think the research in epidermal growth factor functions in brain tumor and --- led to,

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you know, many clinical trials.

Tacey Ann Rosolowski, PhD

26:53.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

26:54.1

You know, foll --- actually following the --- the --- the timeline of dev --- the development of epiderm --- EGF receptor inhibitor and EGF receptor antibody.

Tacey Ann Rosolowski, PhD

27:09.3

Hmm.

Wai-Kwan Alfred Yung, MD

27:09.7

in --- in --- in cancer research. And so the --- the laboratory study that we do in our laboratory and other labs in the brain tumor world actually convinced, you know, several drug companies to give us EGF receptor inhibitor.

Tacey Ann Rosolowski, PhD

27:31.0

Hmm.

Wai-Kwan Alfred Yung, MD

27:31.7

to --- to --- to treat brain tumor in the glioblastoma patient. We did not see a who --- un --- un --- unfortunately it is not highly active, you know, in --- in --- in glioblastoma, you know. But it was also not very active in other cancer until the --- the --- the, you know, development of molecular biology and --- and molecular genetic, you know, when we start matching the genetic changes

Tacey Ann Rosolowski, PhD

28:14.0

Hmm.

Wai-Kwan Alfred Yung, MD

28:14.8

To the reason of responding or not responding and --- and the lung cancer people is able to identify the mutation --- specific mutation in the EGF receptor gene. Spec --- that match with

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sensitivity to the EGF receptor inhibitor. I mean that's the time --- when --- when we start identify as this specific mutation in the --- in the kinase domain of the --- of the EGF receptor gene that is present in the higher frequency in Asia --- you know, Asia population in Asian man and woman than Caucasian. And there is a discrepancy of that gene mutation

Tacey Ann Rosolowski, PhD

29:00.6

Hmm.

Wai-Kwan Alfred Yung, MD

29:01.0

20% --- 20% in --- in --- in Asian population and only 5% in --- in Caucasian and --- and those who carry this mutation is highly sens --- highly responsive or sensitive to the EGF receptor inhibitor. They --- th ---- so that again takes a long time when we go to that stage of now we're able to match the gene mutation with sensitivity drug.

Tacey Ann Rosolowski, PhD

29:31.2

Can I just ask you bec ---

Wai-Kwan Alfred Yung, MD

29:32.8

And brain tumor does not have that mutation

Tacey Ann Rosolowski, PhD

29:35.0

Hmm.

Wai-Kwan Alfred Yung, MD

29:35.6

Unfortunately.

Tacey Ann Rosolowski, PhD

29:36.3

Right.

Wai-Kwan Alfred Yung, MD

29:36.9

There is very low frequency with --- with in --- that's why right now up to this time, almost 20 years now, we still have not really increased the responsiveness of brain tumor patients to EGF receptor inhibitor.

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Tacey Ann Rosolowski, PhD

29:51.2

Uh-Hmm.

Wai-Kwan Alfred Yung, MD

29:51.1

We have some clue but we ha --- we are not there yet.

Tacey Ann Rosolowski, PhD

30:00.3

_____, I was just going to ask you that question about the time. You know, 20 years, looking at this one problem. I mean this may be a naïve question, but are you --- if you --- the persistence question. You know, why --- what is that you are unraveling that gives you the sense that

Wai-Kwan Alfred Yung, MD

30:23.4

30:23:6

Well --- I --- I think that

Tacey Ann Rosolowski, PhD

30:25.0

Eventually there will be

Wai-Kwan Alfred Yung, MD

30:25.6

What the --- the --- the so --- I mean --- if I look at, you know, the question of, you know, are you disappointed that after that many years of focusing on EGF receptor for brain tumor we still have not find a --- a

Tacey Ann Rosolowski, PhD

30:45.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

30:46.7

--- a --- a, you know, solution or we have not find a hit to really in --- increase the responsiveness of the tumor to EGF receptor. I am --- I am disappointed for that end, but I am not disappointed because of focusing on EGF receptor also unraveled all the parallel relationship discovering other pathways.

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Tacey Ann Rosolowski, PhD

31:16.0

Right

Wai-Kwan Alfred Yung, MD

31:17.4

other linkage to

31:18.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

31:19:7

to the PI3 kinase pathway to other growth factor. I mean, it open up an --- a --- a whole, you know, line of research to look at, you know, what propelled glioblastoma cell growth. What propelled glioma cell growth. Because the same --- the same question is being asked in different tumor types of glioblastoma, even in the brain tumor world, glioblastoma, astrocytoma, oligodendroglioma, and we got different laboratory stuff, building models to look at this question.

Tacey Ann Rosolowski, PhD

32:00.1

Uh-hmm.

Wai-Kwan Alfred Yung, MD

32:02.6

What is the role of growth factor in these ____ (32:00)? What is the role of signal pathway? And --- And that really generated a whole new line of research

Tacey Ann Rosolowski, PhD

32:21.9)

32:22.0

Uh-hmm.

Wai-Kwan Alfred Yung, MD

32:23.0

Of --- and we bring in all this complicated pathway and --- of course --- I can --- we also benefit greatly, you know, when NCI and NIH, you know, decided to develop, you know, the genome Atlas for cancer

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Tacey Ann Rosolowski, PhD

32:45.1

The gene ---

Wai-Kwan Alfred Yung, MD

32:46:1

After they --- after --- after --- you know, in the mid '90s, the NIH --- was it --- was it the mid '90s or late --- yeah late '90s I think. I don't remember when the project began. NIH and NCI decided to, you know, follow the success of sequencing the entire human genome, the entire mouse genome, and --- and start asking the question well can --- can we sequence cancer genomes. And --- and there was --- actually there was big debate whether NIH will spend time and effort to try to sequence

Tacey Ann Rosolowski, PhD

33:46.3

Hmm.

Wai-Kwan Alfred Yung, MD

33:46.9

the cancer genome because cancer is such a complicated disease and such a dynamic disease and it keeps changing. Cancer is not a static process. You know, --- we --- but we --- but we all known that when --- when cancer --- cancer can present in a early stage, late stage, you know, early malignancy, late malignancy and so there is a dynamic change of cancer. Can you really sequence the genome in a dynamic disease as opposed to the human normal gene that is static.

Tacey Ann Rosolowski, PhD

34:24: 8

34:25.2

Uh-hmm.

Wai-Kwan Alfred Yung, MD

34:25.2

The normal. It doesn't ch --- when it changes it changes in a small way _____ (34:30) and --- and they identify disease in that small way.

Tacey Ann Rosolowski, PhD

34:33.6

Uh-hmm.

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Wai-Kwan Alfred Yung, MD

34:34.6

But cancer keeps changing. So there was a big debate. The --- The cancer people win and say we will learn something

Tacey Ann Rosolowski, PhD

34:42.0

Uh-hmm.

Wai-Kwan Alfred Yung, MD

34:44:0

But let's sequence gene and NIH invest --- invest, you know a big chunk of money into sequencing it and it caused the --- the cancer genome Atlas project. And they select three cancers as a pilot and glioblastoma was selected as one of the three cancers besides squamous cell carcinoma of the lung and --- glioblastoma, squamous cell carcinoma of the lung, and what is the third one? Is it ovarian cancer? I think it is ovarian cancer.

Tacey Ann Rosolowski, PhD

35:25.6

Ovarian?

Wai-Kwan Alfred Yung, MD

35:26.2

Yeah.

Tacey Ann Rosolowski, PhD

35:26.7

Uh-hmm.

Wai-Kwan Alfred Yung, MD

35:27.4

And that's the pilot. And --- And so

Tacey Ann Rosolowski, PhD

35:32.8

What's your view of the value?

Wai-Kwan Alfred Yung, MD

35:34.7

We --- actually at MD Anderson is one of the tissue supplier --- the tissue supply --- brain tumor tissue as well as all the other lung cancer tissues and ovarian cancer tissue to --- to --- to the

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project of the TCGA. But we have high quality tissue, you know, for them to do the sequencing. So we are the tissue supplier and then we also participate with ____ (35:58

Tacey Ann Rosolowski, PhD

36:00.1

And TGCA that stands for

Wai-Kwan Alfred Yung, MD

36:04.3

T is The, C Cancer, G --- G is Genome

Tacey Ann Rosolowski, PhD

36:09.2

Oh.

Wai-Kwan Alfred Yung, MD

36:09.4

A Atlas. So, its --- so TCGA

Tacey Ann Rosolowski, PhD

36:13.1

There we go.

Wai-Kwan Alfred Yung, MD

36:15.7

The Cancer Genome Atlas. And that actually evolved into an --- into the TCGA, the ____ is a US effort (36:22).

Tacey Ann Rosolowski, PhD

36:26.3

Hmm.

Wai-Kwan Alfred Yung, MD

36:27.1

And that evolved into an international effort called ICGC. International Cancer Genome Consortium.

Tacey Ann Rosolowski, PhD

36:45.3

How have --- have you benefited? Has your work benefitted in any way from this project?

Wai-Kwan Alfred Yung, MD

36:49.6

I think so. Yeah. We --- We --- We benefit I think not only our work at Anderson or my work and I'm intimately involved with the TCGA effort for brain tumor.

Tacey Ann Rosolowski, PhD

37:00.3

Uh-hmm.

Wai-Kwan Alfred Yung, MD

37:01.5

I'm involved in --- in --- because we --- we then from sequencing glioblastoma then we convince you know TCGA to also improve lower grade brain tumor. So, we have basically two projects. One with the high grade glioblastoma and then the lower grade tumor and I was involved in both projects.

Tacey Ann Rosolowski, PhD

37:27.7

So if you're

Wai-Kwan Alfred Yung, MD

37:28.4

37:35.5

So we benefited greatly because the knowledge --- really we define how we look at the --- the tumor.

Tacey Ann Rosolowski, PhD

37:36.0

How so?

Wai-Kwan Alfred Yung, MD

37:36:4

):

Not on --- Not only from the morphology side. I mean in the past we defined a tumor by, you know, this is --- this tumor comes from astrocyt --- astrocytoma. This tumor comes from oligodendroglioma --- is oligodendroglioma from oligodendrocyte. And this tumor comes from astrocyte and is a lower degree of malignancies because not that many cells are dividing and not that many blood vessels, so it's astrocytoma grade 2.

Tacey Ann Rosolowski, PhD

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38:05.3

Hmm.

Wai-Kwan Alfred Yung, MD

38:06.3

Lots of cells dividing a lot of blood vessels as --- in astrocytoma grade 3. There is a lot of dead tissue necrosis, so it is glioblastoma. It's all based morphology. Now that we go into the molecular area we start looking at well this group of tumor had EGF receptor mutation. This group of tumor has NF1 mutation and this group of tumor has different mutation and --- and the meaning of this mutation and how do we --- and so we're now actually building a so-called molecular classification besides, you know, being parallel to the histologic classification. And in the future de --- we believe that the molecular classification will tell us a lot more how to treat these tumors. Then purely histologic classification because each histologic classification had multiple molecular subgroup.

Tacey Ann Rosolowski, PhD

39:10.4

Now how have you finessed the problem of can --- of these cancers being so dynamic? You know, are you taking samples longitudinally? So h ---

Wai-Kwan Alfred Yung, MD

39:21.5

And so now, is --- that's a very good question too. You know, it's --- that is --- that is a fundamental question. Can we understand the evolution of a tumor as it develops, as it's being treated, and in the different stages of treatment how does the cancer change? It is a much difficult question to answer for solid tumor than in liquid tumor.

Tacey Ann Rosolowski, PhD

39:48.9

Hmmm.

Wai-Kwan Alfred Yung, MD

39:49.9)

40:39.3

The liqui --- you know, leukemia you can actually --- is not --- it is much less invasive to the patient to draw blood in different stages of the tumor. But being a solid tumor depending on the location of the tumor is much more difficult to get tissue in different stages. For example in brain tumor where is the most --- being the most difficult location. Trying to --- to get a piece of the tumor is n --- is pretty invasive. You have to open the brain to get a piece of tissue. Even if --- if you can do a needle biopsy you still need to drill a hole and stick a needle into the brain passing through normal brain to get to the tumor to get a piece, so its not a --- not a simple

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innocuous procedure. You cannot do it --- you certainly cannot do it many times

Tacey Ann Rosolowski, PhD

40:40.9

Hmm.

Wai-Kwan Alfred Yung, MD

40:41.5

as opposed to draw blood many times. So we are pretty limited in how many times we can sample the tumor. In the beginning of treatment, during treatment, or after treatment. It's not like leukemia when you get the blood easy or even malignant melanoma like in the surface of the --- the skin you can take a nip without that much damage or that much trauma to the patient. You know, you can take a snip of the --- of the tumor in the beginning, you know, one week after treatment and one month after treatment is still kind of on the surface you can, you know --- and the brain I cannot tap the brain weekly or monthly.

Tacey Ann Rosolowski, PhD

41:25.0

Yeah.

Wai-Kwan Alfred Yung, MD

41:25.5

Without a lot of damage. So it's a lot more

Tacey Ann Rosolowski, PhD

41:27.9

So

Wai-Kwan Alfred Yung, MD

41:28.4

It's a lot more difficult to answer that question but that's what we want to a --- wh --- that's what we are doing.

Tacey Ann Rosolowski, PhD

41:33.7

Um-hmm. So

Wai-Kwan Alfred Yung, MD

41:34.0

Want to do, yeah.

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Tacey Ann Rosolowski, PhD

41:34.2

How are you deciding the timing of the samples since you have these limitations?

Wai-Kwan Alfred Yung, MD

41:40.9

It's again --- it is --- it is difficult. I mean I think wha --- what we can do --- right now we're actually only limited to the first piece

Tacey Ann Rosolowski, PhD

41:55.6

Uh-hmm

Wai-Kwan Alfred Yung, MD

41:56.0

To make the diagnosis that you have the tumor or the second piece when the tumor comes back and we need to remove the tumor, you know, to --- you know, either for needle diagnosis or we need to remove it to decompress the brain so to --- you know, to relieve symptoms.

Tacey Ann Rosolowski, PhD

41:16.7

Uh-hmm.

Wai-Kwan Alfred Yung, MD

42:16.9

You know so a second surgery is to --- to --- and that --- and we're --- you know, I --- I don't think, you know, we can really take biopsy when the patient is doing well from treatment and stable and you say I'm going to stick a needle into your brain now and get a biopsy even though we, you know, it's --- it's two months after the treatment or three months after the treatment and you're doing well, the tumor is stable and you don't need it, you know, we just want to have a piece of the tumor to study it.

Tacey Ann Rosolowski, PhD

42:53.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

42:55.5

Not only insurance will not pay for it.

Tacey Ann Rosolowski, PhD

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42:57.8
Right.

Wai-Kwan Alfred Yung, MD

42:59.1
The patient probably don't want to subject that risk, right? Because it's high risk.

Tacey Ann Rosolowski, PhD

43:05.1
Right.

Wai-Kwan Alfred Yung, MD

43:06.2
So that's a --- right now it's a big limitation for us to answer the question of how brain tumor evolves and respond to treatment.

Tacey Ann Rosolowski, PhD

43:11.9
Uh-hmm. Sounds like a classic ethical issue too.

Wai-Kwan Alfred Yung, MD

43:17.4
Yeah.

Tacey Ann Rosolowski, PhD

43:17.6
Yeah. I mean there are a lot of controversy around the whole thing.

Wai-Kwan Alfred Yung, MD

43:21.4
--- controversy. Yeah.

Tacey Ann Rosolowski, PhD

43:22.4
Yep. Yep.

Wai-Kwan Alfred Yung, MD

43:23.5
But we need to be able to do that in order

Tacey Ann Rosolowski, PhD

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43:25.6
Uh-hmm.

Wai-Kwan Alfred Yung, MD

43:26.0
You know --- you know then --- because we do --- we do know that even though we have a good understanding of the --- of the molecular profile or the genetic profile of the tumor in the beginning. Once we treat with radiation or with drug, that structure, that profile, changes. Because we are disturbing with the --- with the --- with the treatment modality with radiation or the drug we are disturbing that.

Tacey Ann Rosolowski, PhD

43:55.6
Wow.

Wai-Kwan Alfred Yung, MD

43:56.0
The genetic pattern.

Tacey Ann Rosolowski, PhD

43:57.3
That is a real gap in knowledge

Wai-Kwan Alfred Yung, MD

44:00.3
Yeah. And then when we --- when we try to propose a --- a new treatment when the tumor grows after the first set of treatment

Tacey Ann Rosolowski, PhD

44:08.4
Uh-hmm

Wai-Kwan Alfred Yung, MD

44:08.9
If we base on the profile here, we're proba --- is wrong is because that profile is changed by the treatment.

Tacey Ann Rosolowski, PhD

44:17.2
Right. Interesting.

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Wai-Kwan Alfred Yung, MD

44:17.4

44: 19.7

And --- And we need to have a new profile.

Tacey Ann Rosolowski, PhD

44:19.9

Uh-hmm.

Wai-Kwan Alfred Yung, MD

44:20.8

Wh ---, you know, in that new tumor.

Tacey Ann Rosolowski, PhD

44:24.1

Uh-hmm.

Wai-Kwan Alfred Yung, MD

44:25.6

And --- And treatment needs to be based on that new profile. Leukemia can do that. Malignant melanomas do it easier and even breast cancer can do it easier at least, but brain is very difficult.

Tacey Ann Rosolowski, PhD

44:41.4

Hmm. Hmm.

Wai-Kwan Alfred Yung, MD

44:43.9

Yeah.

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Chapter 08

Brain Tumor Research: Translational Studies in Progress and the NCI Study Section

A: The Researcher;

Story Codes

A: The Researcher;
A: Overview;
A: Definitions, Explanations, Translations;
A: Activities Outside Institution;
D: Understanding Cancer, the History of Science, Cancer Research;
D: On Research and Researchers;
D: On Pharmaceutical Companies and Industry;
B: Industry Partnerships;
C: Leadership;
D: On Research and Researchers;

Tacey Ann Rosolowski, PhD

44:46.1

What are some of the other research projects that you worked on?

Wai-Kwan Alfred Yung, MD

44:50.9

Well, besides the laboratory stuff, I --- I --- you know sort of --- I mean I said I am translational guy then I take --- I also, you know, led several teams in terms of developing clinical trials. Clinical research, you know, in the clinic, you know, in the clinic. So I was ver --- I was very involved in the --- in Ni --- NCI --- with NCI in st --- study section for research and then I was involved in the study section that is awarding clinical research, you know. And I was involved -- - I was involved in our TOG designing clinical trials for brain tumor. I lead a consortium. You know, NCI developed a --- a --- in the mid '90s and late '90s NCI wanted to develop several groups of centers to do brain tumor research in a Phase 1 and Phase 2 setting. So I led one of those consortiums, put a field center together

Tacey Ann Rosolowski, PhD

46:06.4

Hmm.

Wai-Kwan Alfred Yung, MD

46:06.8

to develop clinical trials in the ea --- you know, early phase, clinical trial. Phase 1 and Phase 2

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clinical trials studying new drugs. And that's when we study these EGF receptor, inhibitors and new --- new drugs like temozolomide and other drugs.

Tacey Ann Rosolowski, PhD

46:25.3

What were some of the challen ---

Wai-Kwan Alfred Yung, MD

46:26.5

And then actually I led to --- led the big group of people doing st --- clinical trial on temozolomide that led to registration of temozolomide.

Tacey Ann Rosolowski, PhD

46:35.9

Temozolomide

Wai-Kwan Alfred Yung, MD

46:37.3

Yeah. T-E-M-O-Z-O-L-O-M-I-D-E and the trade name is Temodar, T-E-M-O-D-A-R.

Tacey Ann Rosolowski, PhD

46:53.1

Hmm.

Wai-Kwan Alfred Yung, MD

46:54.1

And that's they're approved --- the drug tests approve of TVM (46:55) in 1997.

Tacey Ann Rosolowski, PhD

47:03.1

So it was the trials that you put together that confirmed the --- the usefulness of this drug.

Wai-Kwan Alfred Yung, MD

47:07.7

___ (47:07) Yeah.

Tacey Ann Rosolowski, PhD

47:09.2

Wow. I was going to ask you with your involvement of putting together these consortia, you know, working with different institutions, have there been some special or unique challenges that arose with setting up these translational projects?

Wai-Kwan Alfred Yung, MD

47:32.8

In --- It --- It is always a challenge in trying to really get a group of, you know, highly intelligent, highly driven people together to march to the same drum or to move in the same direction. So that is always a challenge --- that's a challenge. That is also a, you know, rate limiting factor for move --- for --- for advance. So, I mean, my observation in working with, you know, dif --- different consortium is that we really need to be able to enable and encourage, you know, people who are willing to work together and work together. I don't think we can please everybody and I don't think that we can force unwilling participants to participate in the same level. So --- So --- I --- I --- think the challenge for us really is for us to build a team with people willing to work together. And we al --- we --- we need to build teams with different focus.

Tacey Ann Rosolowski, PhD

49:11.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

49:12.2

You know, so that we can divide up the tasks into the multiple teams.

Tacey Ann Rosolowski, PhD

49:21.6

Are you observing that younger generations of people are maybe more willing to work on teams than older generations? Is --- I mean is there any trend like that that you're noticing?

Wai-Kwan Alfred Yung, MD

49:33.5

Well I think the younger generation is more willing because I think the younger generation is, you know, is more cognizant of the interdependence of --- of --- the research arena that we are. I mean, we are --- in --- in --- in the --- in the --- in the new, you know, world of research is that --- is such a complex problem we're faced with that if --- without working with each other with a larger --- larger group of people you cannot make anything happen.

Tacey Ann Rosolowski, PhD

50:24.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

50:27.2

As opposed to in the past when we're just in the beginning, I can just focus on my own world

and I really don't need a whole lot of help to know how this protein works if I am smart enough to figure out some of the new techniques of doing it I can do it all myself. But now is a new --- the technology is so advanced. A lot of technology developed that one --- one group or one person is going to master the various areas and it's just not possible. And also in terms of looking at a bigger picture of understanding how cells grow, understanding how cells move, understanding the --- the effect of the environment versus the effect of the cell itself. I mean the --- these are big questions. And it --- it really required a whole team of people to work together. And I think that realization brings people **looking (51:32)** So I think the team science is better recognized and --- and by nature you have to work in a team.

Tacey Ann Rosolowski, PhD

51:46.6

Hmm. I --- in my background research I noted a couple of studies. And I don't know if these are very significant --- significant enough to spend time on today. One of those, the Phase 2 study for BKM --- BKM 120 for patients with recurrent glioblastoma. That was part of the P13K pathway. Was that worth

Wai-Kwan Alfred Yung, MD

52:20:6

Well, that, I mean

Tacey Ann Rosolowski, PhD

52:21.3

talking about or ---

Wai-Kwan Alfred Yung, MD

52:22.9

That --- that clinical trial is --- is pretty unique because, you know, that clinical trial is developed based on a lot of laboratory data that was generated in my lab as well as --- as with --- with --- with the company in Nevada who developed the drug BKM 120 and it also illustrates the difficulty for a small cancer like GBM, glioblastoma or for _____ other small cancer like thyroid cancers or sarcoma to get attention from Biotech or _____ **(53:11)** whose main goal is to really make sure they have a --- a drug that makes money.

Tacey Ann Rosolowski, PhD

53:20.5

Right. Yep.

Wai-Kwan Alfred Yung, MD

53:20.7

Right. So the pharmaceutical companies are really almost always focused on big cancer so that

they --- they can have a big market.

Tacey Ann Rosolowski, PhD

53:30.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

53:32.6

Small cancer is --- never --- always ---, but you know, people --- you know --- they're so --- so we work very hard to develop in the clinic --- the preclinical data and work with a company you know to get a drug in the lab to do some preclinical study and our lab is very interested in PTEN and PI3 kinase so --- so I established some relationship with --- with Nevada and was able to get some of their, you know, new drug early on to --- to --- work in the lab

Tacey Ann Rosolowski, PhD

54:10.4

So

Wai-Kwan Alfred Yung, MD

54:11.2

_____ (54:11) the PI3 kinase. So we develop those preclinical data for this drug BKM 120.

Tacey Ann Rosolowski, PhD

54:17.6

So how did you convince them that it was worth their effort to do

Wai-Kwan Alfred Yung, MD

54:21.7

Well we

Tacey Ann Rosolowski, PhD

54:21.8

This study?

Wai-Kwan Alfred Yung, MD

54:22.1

--- we generate the data and look --- and --- and --- and --- and we show them that this drug had a level --- a certain level activity in this --- in cell line that we generated as well as seeing mouse and --- and we worked with them, you know, work with the company, you know to compare data with their own in-house data and, you know, then they would --- you know, after we have enough data generated we said okay so --- the --- the --- there is something there that we can we

can --- we can take --- take a stab at this.

Tacey Ann Rosolowski, PhD

55:02.2

Uh-hmm. So is ---

Wai-Kwan Alfred Yung, MD

55:03.9

So we develop a f --- a clinical trial after they finish their Phase 1 all solid tumor trial knowing how much drug to use and then we develop a Phase 2 trial. But thi --- the --- we can only get that Phase 2 trial, you know, approved by them because we have pre-clinical data to convince them that it is a worthwhile attempt.

Tacey Ann Rosolowski, PhD

55:28.0

Great. Yep.

Wai-Kwan Alfred Yung, MD

55:28.5

You know --- you know.

Tacey Ann Rosolowski, PhD

55:29.3

Yep. So is the assumption --- I mean I'm kind of thinking about your description of this in parallel with what you were saying earlier about the growth factor research that --- is Novartis and are you assuming that even though this is a small cancer what you will you will learn will have implications well beyond.

Wai-Kwan Alfred Yung, MD

55:52.5

Definitely. I think, what you learn --- I th --- and this is one of the emphasis' that actually Anderson, you know, is driving and can be --- is --- is to --- to tell the pharmaceutical industry that we have enough expertise here that we can partner with them early on in development of drugs for different cancer types used. You know, we can work with them early one to get the drug from them and utilize our laboratory and preclinical, you know expertise to generate the --- the --- what we call the pre-clinical data to --- to --- what work, what does not work and how it works and how it did not work. And --- and w --- with those knowledge we can, you know, have a m --- a --- a more careful way of designing the clinical trial and speed up the clinical trial development. I mean, this is exactly the --- the line of thinking that Dr. DePinho is, you know, is advancing, you know. And --- And I think for a small cancer like brain tumor it is even more important for us to really be able to have established relationship early, you know to --- to get

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those data because those data can be --- can be used to really convince the --- the --- the industry to say this drug may pay a little for this cancer and this cancer has a critical need for new drug.

Tacey Ann Rosolowski, PhD

57:47.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

57:49.0

And there may be a --- a small --- it's just a --- it is a small investment that may have very important implications.

Tacey Ann Rosolowski, PhD

57:57.1

Uh-hmm.

Wai-Kwan Alfred Yung, MD

57:57.9

While you are investing in breast cancer well invest a little to brain tumor. There is --- you know.

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Chapter 09

The Challenges of Glioblastoma; Lessons from MD Anderson's Moon Shot Program; No Low-Hanging Fruit for Neuro-Oncology Research

A: The Researcher;

Story Codes

A: The Researcher;
A: Overview;
A: Definitions, Explanations, Translations;
C: Professional Practice;
C: The Professional at Work;
D: On Research and Researchers;
B: Critical Perspectives on MD Anderson;
A: Definitions, Explanations, Translations;
D: Understanding Cancer, the History of Science, Cancer Research;
D: The History of Health Care, Patient Care;
B: Building/Transforming the Institution;
B: Multi-disciplinary Approaches;
B: Growth and/or Change;

Tacey Ann Rosolowski, PhD

58:05.0

Uh-hmm. Well, thinking too of what you said earlier about PTEN that --- and --- and that the --- the work that you were doing on those related pathways that it hasn't had the dramatic effect on glioblastoma, but it had some for lung cancer.

Wai-Kwan Alfred Yung, MD

58:22.1

Uh-hmm.

Tacey Ann Rosolowski, PhD

58:22.6

So there are --- you know, there can be collateral

Wai-Kwan Alfred Yung, MD

58:25.8

____ (58:25) collateral

Tacey Ann Rosolowski, PhD

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58:27.2

Right. Very interesting. I had wanted to ask you what makes glioblastoma and glioblastoma multiform such challenging cancers? Because I read that --- somewhere that you had said how difficult they are to treat.

Wai-Kwan Alfred Yung, MD

58:46.1

Well, I think it's a challenge in many ways. One --- One is the --- the --- the degree of heterogeneity is very high.

Tacey Ann Rosolowski, PhD

58:57.1

58:57.3

Okay.

Wai-Kwan Alfred Yung, MD

58:58.0

You know. And two is we still, you know --- and --- and --- and we do not have enough understanding of the --- the intricate interaction among different signals. Signals of growth. Signals of migration. Because brain tumor is a very mobile tumor. It moves around the brain. Bu --- And we also do not understand enough why glioblastoma do not metastasize to the lung and to bone but

Tacey Ann Rosolowski, PhD

59:42.2

Hmm.

Wai-Kwan Alfred Yung, MD

59:42.6

--- only move around in the brain. The other challenge we have about difficulty is because the brain --- the tumor in the brain is --- is --- is a, you know, occupies different location in the brain but the surrounding brain is a very sensitive organ and it's not very forgiving when we start treating the tumor at the same time effecting the brain. So the --- the --- the therapeutic index or the tolerance of the brain to the --- to the treatment is not very high. So we damage the brain very frequently when we try to treat the tumor. So that's a limitation as opposed to free standing tumor that --- that surrounding tissue is more tolerant to the tumor and we have that problem.

Tacey Ann Rosolowski, PhD

1:00:43.0

Uh-hmm.

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Wai-Kwan Alfred Yung, MD

1:00:43.5

The other problem we have is delivering of the drug to brain is limited by the protecting --- protective mechanism of the blood/brain barrier. Many drugs that's --- that is effectively treating cancer in the lung, in the liver, or in the breast do not the cross blood/brain barrier and cannot

Tacey Ann Rosolowski, PhD

1:01:06.8

Hmm.

Wai-Kwan Alfred Yung, MD

1:01:07.8

get to the brain. And so we --- we cannot treat, you know, a tumor in the brain like glioblastoma or even metastasis in the brain in the same level of effectiveness with the same drug that --- that is active for lung cancer or breast cancer because it just doesn't go to the brain. So delivery of -- - of the --- of the treatment is a hurdle for --- for brain tumor also.

Tacey Ann Rosolowski, PhD

1:01:37.4

So I am dying to ask. How do you deliver the drugs in that situation?

Wai-Kwan Alfred Yung, MD

1:01:42.9

Well, you know, --- I mean --- so you have to really work on --- number one there is a way to make the drug cross blood/brain barrier.

Tacey Ann Rosolowski, PhD

1:01:51:6

Hmm. Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:01:52.2

Smaller molecule or molecule that is more lipid soluble. You know, react with the --- with the cell membrane and can jump past the blood/brain barrier. They are people who try open the blood/brain barrier by heat, by wave and follow by infusion. There are different ways of doing that. E --- you know, --- mechanical way op --- open the blood/brain barrier has --- has a limitation of also exposing normal brain to the toxic drug ____ (1:02:27)

Tacey Ann Rosolowski, PhD

1:02:28.8

Right.

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Wai-Kwan Alfred Yung, MD

1:02:30.3

So --- And the --- the --- the other --- the other challenge we face in --- yeah --- we know there's ways to make the drug cross the blood/brain barrier, but in some situations you do want --- you do not want the brain --- you do not want the drug to cross the blood/brain barrier. For, you know because, --- you know, for a long time the pharmaceutical companies think we really don't want the drug to cross the blood/brain barrier because we're treating lung cancer and we're treating breast cancer. We don't want the drug to cross

Tacey Ann Rosolowski, PhD

1:03:02.6

Right.

Wai-Kwan Alfred Yung, MD

1:03:02.8

the blood/brain barrier to cause toxicity in the brain.

Tacey Ann Rosolowski, PhD

1:03:04.8

Right. Right.

Wai-Kwan Alfred Yung, MD

1:03:06.1)

1:03:48.3

So they deli --- they --- they would rather see the drug do not cross the blood/brain barrier so that they can treat the system --- systemic organ effectively without hurting the brain. But the other side of the coin is those drugs, even those highly effective in breast cancer and lung cancer, is no good for us --- for to treat brain cancer so --- so we --- even though you may share the same mechanism of kill betw --- you know, between the cancer in the breast or the cancer in the brain I cannot us --- you cannot use that drug. It doesn't _____ (1:03:46) --- so we have to redefine a way to modify that drug

Tacey Ann Rosolowski, PhD

1:03:49.1

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:03:49.5

To make it cross the blood/brain barrier. Alright.

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Tacey Ann Rosolowski, PhD

1:03:55.9

Are there any other research related projects that you'd like to talk about?

Wai-Kwan Alfred Yung, MD

1:04:08.5

Well I mean, I think, at this stage I --- I, you know --- I am working with, you know, several brain tumor foundations to re --- to --- to foster, you know collaboration within, you know, the brain tumor community.

Tacey Ann Rosolowski, PhD

1:04:30.1

Hmm.

Wai-Kwan Alfred Yung, MD

1:04:30.5

So that we have a, you know, unifying, you know, effort of identifying, you know, a way that we really can advance the treatment for brain tumor. T--- So I'm working with brain tumor founda - -- with the Bra --- The Brain Tumor Society. And we want to establish a --- a national network as well as, you know, working with several groups to develop an international network so that we can do, you know, collaborative research to move things faster by --- by involving, you know, more groups working together. Which is not --- I mean, I think, you know, the same kind of thinking, you know, stand up to cancer is the same thing as getting people hi --- a --- a group of experts and people working --- can work together to really focus on

Tacey Ann Rosolowski, PhD

1:05:40.6

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:05:41.3

one direction. And I think that in the ____ (1:05:44) working with the --- The Brain Tumor Society to really foster that kind of national initiative. And we --- we want to have, of course, locally at Anderson, the Brain Tumor Center, the Brain Tumor Group, Neurosurgery, Neuro-Oncology, Neuropathology, Radiation and really --- really working together to really --- to again put our --- put our experts together, you know, to form --- the --- the Moon Shot Team to --- to really make a strong and concerted effort to --- to --- to change the --- the --- the --- the landscape --and upwardly some strong impact. We are --- We are really in need of some new drug. But right now in t --- in the brain tumor world in glioblastoma we only have two drugs that is specifically approved.

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Tacey Ann Rosolowski, PhD

1:06:44.8

What are those?

Wai-Kwan Alfred Yung, MD

1:06:44.9

for this disease besides radiation. BCNU and temozolomide.

Tacey Ann Rosolowski, PhD

1:06:54.9

B-C-N-U?

Wai-Kwan Alfred Yung, MD

1:06:55.9

U and temozolomide.

Tacey Ann Rosolowski, PhD

1:06:57.6

Yeah.

Wai-Kwan Alfred Yung, MD

1:06:58.3

And the third one approved for recurring disease is bevacizumab or Avastin. So in total we have three drugs --- drugs that's approved for --- for glioblastoma. Two for newly diagnosed disease and one for recurrent disease.

Tacey Ann Rosolowski, PhD

1:07:22.5

Are there specific drugs on the horizon that

Wai-Kwan Alfred Yung, MD

1:07:27.2

Close to being, no.

Tacey Ann Rosolowski, PhD

1:07:28.6

Really? What's the impediment? The blood/brain barrier is one.

Wai-Kwan Alfred Yung, MD

1:07:33.3

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Blood brain/barrier, the really strong resistant ____ (1:07:37)

Tacey Ann Rosolowski, PhD

1:07:37.9

Hmm.

Wai-Kwan Alfred Yung, MD

1:07:38.4

Of the --- of the tumor.

Tacey Ann Rosolowski, PhD

1:07:40.0

Wow.

Wai-Kwan Alfred Yung, MD

1:07:40.8

I don't think that there is one drug close to approval right now.

Tacey Ann Rosolowski, PhD

1:07:43.8

Wow. Why is the glioblastoma so resistant?

Wai-Kwan Alfred Yung, MD

1:07:47.8

I don't know.

Tacey Ann Rosolowski, PhD

1:07:48.7

That's part of what you're figuring out.

Wai-Kwan Alfred Yung, MD

1:07:50.3

That's what we're trying to figure out. Trying to figure out. But I sa --- I must say though I think, you know --- you know, I'm certainly very --- I mean over the years at Anderson, you know, I'm very appreciative in terms of the kind of investment the institution is --- has placed in o --- in brain tumor --- in the brain tumor group. And we have the largest brain tumor group in the country and probably the world because --- and --- and --- and this is the investment that started with Dr. [Charles] LeMaistre [Oral History Interview] and continued with Dr. [John] Mendelson [Oral History Interview] and now continuing with Dr. [Ronald] DePinho [Oral History Interview].

Tacey Ann Rosolowski, PhD

1:08:45.9

Tell me about the Moon Shots platform for glioblastoma.

Wai-Kwan Alfred Yung, MD

1:09:00.7

1.9

Well we don't have it yet.

Tacey Ann Rosolowski, PhD

1:09:02.2

Oh, really.

Wai-Kwan Alfred Yung, MD

1:09:03.3

We're not --- We are not, I mean --- as you know, the --- the six cancers that we've included in the Moon Shot, you know, initiative is melanoma, prostate, CML, AML, ovarian and woman cancer. The six cancers.

Tacey Ann Rosolowski, PhD

1:06:36.7

I had forgotten that glioblastoma was not part of it.

Wai-Kwan Alfred Yung, MD

1:06:38.6

Glioblastoma is not part of it.

Tacey Ann Rosolowski, PhD

1:09:39.8

Right.

Wai-Kwan Alfred Yung, MD

1:09:41.4

We --- The institution is, you know --- is going to extend, you know, ne --- this year --- is going to extend to include more cancer. So the Brain Tumor Group is, you know, working to put together a proposal.

Tacey Ann Rosolowski, PhD

1:10:03.1

Hmm. And what are your strategies for putting that together?

Wai-Kwan Alfred Yung, MD

1:10:13.9

I --- It, you know --- I think we --- we certainly want --- is looking at, you know, the --- the expertise that we have in terms of drug development and also, you know, immunotherapy. Brain tumor is --- especially glioblastoma, you know, has some prior success in ap --- in applying immunotherapy to this disease and there has --- and also with the institutional immunotherapy platform that really opened up many --- many opportunities

Tacey Ann Rosolowski, PhD

1:10:55.3

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:10:57.2

to utilize that to attack brain tumors so we --- we are looking at how to really look both at new drug, signal transduction drug, cytotoxic drug, and immunotherapy how it amplifies each other.

Tacey Ann Rosolowski, PhD

1:11:13.9

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:11:14.5

You know, that's going to be, you know the --- the --- the strategy. We also have developed a --- I think I forgot to mention actually one of the other projects that we developed internally is a oncolytic virus

Tacey Ann Rosolowski, PhD

1:11:31.7

Hmm.

Wai-Kwan Alfred Yung, MD

1:11:32.9

Project, that I also have a part of it. It's --- Dr. Juan Fueyo is --- is one of the researchers in ou -- in our department that --- that he took the --- the --- the --- the --- the flu --- the influenza virus --- the adenovirus. They did a piece of the genome. They did 24 base pair from the genome. And, you know, according to --- to the discovery of Dr. Frank McCormick we deleted the 24 --- he deleted the 24 base pair and created a virus called Delta 24. With the deletion of that 24 base pair the virus only replicates in dividing cells but would not --- would not divide until --- until resting cell like normal neuron and normal astrocyte. So we make the virus only

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kill tumor and not affecting the brain. And we --- we, you know, developed --- that --- that virus in the laboratory. We showed that the working animal model and we also had a grant from the -- - from the NIH, from NCI to do all the preclinical studies that required by the FDA. And we get a grant from the Marcus Foundation, you know, with Dr. Bass' help to ----. And we finish the Phase 1 clinical trial to show very interested in activity in this virus. And --- And --- And so this is homegrown viral therapy direction. We call viral or viral therapy

Tacey Ann Rosolowski, PhD

1:13:26.1

Yeah. Interesting.

Wai-Kwan Alfred Yung, MD

1:13:27.1

That will be integrated into the Moon Shot.

Tacey Ann Rosolowski, PhD

1:13:29.4

Hmm. What's your impression of the way the Moon Shots Program has been structured with it -- - with it --- it's very different as I understand.

Wai-Kwan Alfred Yung, MD

1:13:50.6

It's very different. I --- I think, you know, the idea --- the idea that we should look at a disease in a very focused fashion and we also invest, you know --- you know, in a very high level and sort of like, you know, we must land on the moon. So we must make something happen. We've done put a lot of resources, put a lot of talent, and put a lot of research to make something happen. I think that's the right concept --- great concept. I don't think, you know --- without --- without that kind of, you know, investment you will make things happen slowly. With that kind of --- say I'm going to make a concentrated effort and I'm going to make big effort, big investment and put a lot of talents in it and w --- we'll make things happen fast. The question really is how selective we want --- can we really use the same strategy to many, many different cancers.

Tacey Ann Rosolowski, PhD

1:15:08.6

Hmm.

Wai-Kwan Alfred Yung, MD

1:15:09.6

Or we have to select --- be selective --- and if we have to be selective, how do we select?

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Tacey Ann Rosolowski, PhD

1:15:24.8

I'm wondering too at a practical level since this is such a different way of putting together research. I can imagine there are some people who are glad in a certain way not to be part of the first Moon Shots and maybe to be applying in the second wave because they can kind of look at well that didn't work so well maybe thi --- I mean, were there lessons learned? Are there lessons that you learned by observing that first couple of years of Moon Shot so that you can tweak what you're imaging is going to happen with glioblastoma?

Wai-Kwan Alfred Yung, MD

1:16:02.1

Well I --- I think there is a lot of lessons learned.

Tacey Ann Rosolowski, PhD

1:16:04.8

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:16:05.2

And I observe it is, you know, whether you --- you know, whether we have over promise the community and the speed of things. And --- And --- And where the lesson learned in terms of how fast that we --- we can develop the infrastructure to support it. You know, how easy and how difficult to put the team together to make the team work together. You know, I think there's a lot of lessons learned in that.

Tacey Ann Rosolowski, PhD

1:16:46.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:16:47.0

You know, and of course I think, you know we can --- ____ (1:16:51), you know, just like you said, that people may feel that it's better not to be in the first wave because, you know, more is given and more is demanded. You know.

Tacey Ann Rosolowski, PhD

1:17:03.9

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:17:04.8

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If you're in the first wave you need to deliver quickly.

Tacey Ann Rosolowski, PhD

1:17:07.8

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:17:08.9

You know, you may not be --- I mean that's also what Dr. DePinho's emphasis is to say, you know, let's focus on something that has low-hanging fruit.

Tacey Ann Rosolowski, PhD

1:17:18.9

Right.

Wai-Kwan Alfred Yung, MD

1:17:19.3

When you do not have the low-hanging fruit

Tacey Ann Rosolowski, PhD

1:17:21.5

Uh-hmm.

Wai-Kwan Alfred Yung, MD

1:17:21.9

9.3

You know, you're not going to be able to deliver, you know, in the first few --- first three years.

Tacey Ann Rosolowski, PhD

1:17:29.5

9.7

Right.

Wai-Kwan Alfred Yung, MD

1:17:32.7

But the lesson also can be learned in what is low-hanging fruit.

Tacey Ann Rosolowski, PhD

1:17:38.5

I hadn't actually thought of that question. Yeah. Interesting. Is there is any low-hanging fruit or what is the low-hanging fruit in the arena of glioblastoma?

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Wai-Kwan Alfred Yung, MD

1:17:54.4

We don't have low-hanging fruit.

Tacey Ann Rosolowski, PhD

1:17:56.5

Yeah. I kind of thought that might be your answer.

Wai-Kwan Alfred Yung, MD

1:17:57.6

Because if I --- if I define low-hanging fruit by something that I can change the survival of the brain tumor patient, you know, in a big way in the --- in the three year span, we don't have anything. If we define it just such a rigid way. If I --- If I'm defining it the --- if there --- is there a drug, is there a treatment, or is there an understanding of the biology that will allow me to save twice as many people in the next three years, I don't.

Tacey Ann Rosolowski, PhD

1:18:43.3

Hmm.

Wai-Kwan Alfred Yung, MD

1:18:43.8

To be honest, I don't.

Tacey Ann Rosolowski, PhD

1:18:45.0

Uh-hmm. So what is the fruit that y ---

Wai-Kwan Alfred Yung, MD

1:18:48.5

Do I have anything --- Do I have anything that I can move --- that'll move the response rate, you know, 10%, 15%. Yes, we have leads to work on. And then some of the immunotherapy, you know, antibody that we can get a hold on and we can --- we have opportunity there. Virus, opportunity there. Combination of several drugs will get --- you know, it's possible we learn more about those drugs. So, in --- in a way if we m --- if we're looking at, you know, --- it --- in the baseball analogy we're looking for a second base hit.

Tacey Ann Rosolowski, PhD

1:19:36.8

Hmm.

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Wai-Kwan Alfred Yung, MD

1:19:38.0

We may --- We have. If we're looking for home run, we don't.

Tacey Ann Rosolowski, PhD

1:19:49.5

Well we're at two o'clock now and I --- I know you're a very busy person right now. So, is there is anything else you'd like to add for our session today?

Wai-Kwan Alfred Yung, MD

1:20:00.3

It's --- It's --- So no, I don't have anything that I am --- I --- I am. --- Now let me ask you, _____
(1:20:06) If you look back in the last session, I don't know whether you have really, you know, looked at the transcripts or any

Tacey Ann Rosolowski, PhD

1:20:16.5

That hasn't been transcribed yet.

Wai-Kwan Alfred Yung, MD

1:20:16.5

or --- or just _____ (1:20:16

Tacey Ann Rosolowski, PhD

1:20:18.6

I --- I'm --- going by my notes.

Wai-Kwan Alfred Yung, MD

1:20:19.1

_____ (1:20: 19) the mental, go back mentally to what we talk about from the last time, but I was --- I mean I was even less --- I mean I --- I actually have much better idea around this session.

Tacey Ann Rosolowski, PhD

1:20:34.5

Oh, okay.

Wai-Kwan Alfred Yung, MD

1:20:35.5

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Then the last session.

Tacey Ann Rosolowski, PhD

1:20:36.1

Yeah.

Wai-Kwan Alfred Yung, MD

1:20:36.5

which, you know --- so I don't know what --- if you think back if there's anything that you want to go back. Any --- Any questions or anything that you want to go back

Tacey Ann Rosolowski, PhD

1:20:47.0

Nothing.

Wai-Kwan Alfred Yung, MD

1:20:47.0

that --- that we talked about last --- in our last session.

Tacey Ann Rosolowski, PhD

1:20:49.4

Nothing emerged. I mean --- I --- I, you know, as you notice I take a lot of notes and so I --- I typed all those up and I reviewed them. And if --- if things spring to mind that looked like they were kind of holes, I didn't come across any. I mean, I'll do the same with this session and we can follow --- we can fill in. We do have another session.

Wai-Kwan Alfred Yung, MD

1:21:08.1

Okay.

1:21:08.3

scheduled. And I did want to say that after I looked at my notes from last time, you gave a beautiful, beautiful explanation of the impact of the move from departments to divisions in the institution. It was just really great. It was a great explanation of that piece of MD Anderson history. So I wanted to thank you for that. It was really terrific. Well I look forward to talking to you again next time.

Wai-Kwan Alfred Yung, MD

1:21:34.2

Okay. Good. Good. Good.

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Tacey Ann Rosolowski, PhD

1:21:35.2

Alright. And I am turning off the recorder at about three minutes after two.

Wai-Kwan Alfred Yung, MD

1:21:39.3

Great.

Wai-Kwan Alfred Yung, MD

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Chapter 00C

Interview Identifier

Tacey Ann Rosolowski, PhD

0:00:00.1

So I'll put on the recorder and then we'll be ready to go.

Wai-Kwan Alfred Yung, MD

Uh-huh.

Tacey Ann Rosolowski, PhD

Okay. The counter's moving and we are recording. And today is June 18, 2014 and the time is 2:11. And I'm on the 7th Floor of Mendelsohn Faculty Center in the Department of Neuro-Oncology and today I'm interviewing Dr. Wai-Kwan Alfred Yung, MD for our third session together. So thank you, Dr. Yung, for

Wai-Kwan Alfred Yung, MD

Uh-huh.

Tacey Ann Rosolowski

0:00:29.3

agreeing to fit me in with your busy schedule.

Wai-Kwan Alfred Yung, MD

0:00:32.0

It's nice --- It's been a wonderful experience.

Tacey Ann Rosolowski

0:00:35.1

Oh, well --- well I'm glad --- I'm glad.

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Chapter 10

Creating a New Department of Neuro-Oncology in 1983

B: Building the Institution;

Tacey Ann Rosolowski

0:00:35.1

Today, as I mentioned before we turned on the recorder, I wanted to talk a bit about the department history. And I realized --- was that just thunder? --- I think it was thunder --- anyway. We're probably going to get a storm here. I realized that in the --- when we first started the interview I think I said that you joined the Department of Neuro-Oncology in 1981, but then I saw that 1983 is when the department was actually started. Is that correct? I mean maybe you could tell me a bit about that history.

Wai-Kwan Alfred Yung, MD

0:01:11.5

When I came in 1981, there is --- there was no Department of Neuro-Oncology.

Tacey Ann Rosolowski, PhD

Wow.

Wai-Kwan Alfred Yung, MD

So I was recruited --- recruited by Dr. LeMaistre to be a neurologist. And at that time Neurology --- I think it is called a section under --- under the Department of Internal Medicine.

Tacey Ann Rosolowski, PhD

Oh, okay. Uh-huh.

Wai-Kwan Alfred Yung, MD

Now in 1981 there are th --- there are basically two Departments of Medicine. Department of Internal Medicine and Department of Developmental Therapeutics.

Tacey Ann Rosolowski, PhD

Uh-huh --- uh-huh.

Wai-Kwan Alfred Yung, MD

So we were under the Department of Internal Medicine.

Tacey Ann Rosolowski, PhD

0:02:18.2

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Uh-huh.

Wai-Kwan Alfred Yung, MD

And I mea --- I think the Chair is --- oh I forgot his name. He's a Nuclear Medicine doctor _____
_____ (02:16) back --- when we come back.

Tacey Ann Rosolowski, PhD

0:02:16.7

We can add it later. Sure.

Wai-Kwan Alfred Yung, MD

0:02:19.5

And then later --- And then Dr. Conrad. Actually, Frank Conrad. I think that D --- Dr. Frank Conrad was the --- the Chair. So we're a section of Neurology in that time. There was a neurologist recruited before I came. Peter Glass was the sole neurologist at that time doing Neurology consultation and --- and Dr. LeMaistre want to have more people

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

so --- so I came as a neuro-oncologist that do cancer neurology as well as to develop a brain tumor program. And then at the same time actually LeMaistre has also recruited another fellow called Eugenia Obbens and she came with me but she was in Neurology and also Pain --- do Pain Management.

Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

0:03:42.1

So --- So by --- So when we c --- When --- So both of us came at the same time. Me and Obbens came at the same time so we actually increased the section from one neurologist to three neurologists.

Tacey Ann Rosolowski

0:03:43.0

Yeah. That's pretty amazing.

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Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski

0:03:44.9

Right.

Wai-Kwan Alfred Yung, MD

0:03:45.7

And then I team up with the medical oncologist, Dr. Feun --- Lynn Feun. At that time, you know, to create the --- the brain tumor program, I team up with Dr. Lynn Feun --- L-Y-N --- L-Y-N-N -F-E-U-N.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:04:21.3

And --- And --- And Dr. --- neurosurgeon Dr --- D --- it will also come back. The name is so familiar as, I have --- I have dementia, can't think the name.

Tacey Ann Rosolowski

0:04:22.3

It's alright. Those are things we can add later on.

Wai-Kwan Alfred Yung, MD

0:04:23.5

See --- it's Dr. Milam Leavens.

Tacey Ann Rosolowski

0:04:25.9

Oh. Okay. Milam?

Wai-Kwan Alfred Yung, MD

0:04:27.6

Milam. Leavens. L-E-A --- L-E-A-V-E-N-S

Tacey Ann Rosolowski

0:04:32.9

V-E-N-S. Okay. Great. Okay. So that's --- that's

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Wai-Kwan Alfred Yung, MD

0:04:37.9

D --- Dr. Leavens is the only neurosurgeon at that time.

Tacey Ann Rosolowski, PhD

Oh okay.

Wai-Kwan Alfred Yung, MD

At that institution.

Tacey Ann Rosolowski, PhD

Oh my gosh.

Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski, PhD

That's amazing.

Wai-Kwan Alfred Yung, MD

Was the only neurosurgeon and so the three of us started the Brain Tumor Clinic.

Tacey Ann Rosolowski, PhD

Wow.

Wai-Kwan Alfred Yung, MD

0:04:56.4

Lynn Feun, me and --- and Milam --- and we started the Brain Tumor Clinic, you know.

Tacey Ann Rosolowski

0:04:58.6

Now was that immediate so you --- you did all this like in the first year or first couple of years --- or

Wai-Kwan Alfred Yung, MD

0:05:03.7

Pretty much the first year.

Tacey Ann Rosolowski, PhD

First year.

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Wai-Kwan Alfred Yung, MD

We op --- We --- We start the --- the --- the Brain Tumor Clinic.

Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

Or ma --- yeah in --- la --- Well I came in July but by the time we started maybe late

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

'81 or early '82.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:05:20.2

But we --- we started right away, you know.

Tacey Ann Rosolowski

0:05:20.3

So what happened by 1983 that you were able to actually formalize

Wai-Kwan Alfred Yung, MD

0:05:24.6

So 1983 we formalized the department because D --- Dr. Bill Fields --- William Fields who was the Chair of Neurology at UT Houston and h --- he, you know, --- so the section of the Neurology is --- is linked with the Department of Neurology at UT Houston.

Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

So --- So Bill --- When Bill retired from --- stepped down and retired from UT Houston he came over to MD Anderson.

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Tacey Ann Rosolowski, PhD

Oh I see.

Wai-Kwan Alfred Yung, MD

Actually LeMaistre --- Dr. LeMaistre br --- brought him over to Anderson.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And --- And turned the section of Neurology into a Department of Neuro-Oncology.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

with Bill Fields as the Chair

Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

0:06:15:1

in 1983.

Tacey Ann Rosolowski

0:06:15:5

Now what was the timing there? I mean, was the time right?

Wai-Kwan Alfred Yung, MD

Now

Tacey Ann Rosolowski

0:06:20.6

I mean there was a critical mass

Wai-Kwan Alfred Yung, MD

0:06:20.6

That timing actually coincide with the organization --- reorganization of the division

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Tacey Ann Rosolowski, PhD

Oh, okay.

Wai-Kwan Alfred Yung, MD

of, you know, the --- the de --- the --- the formation of the Department of Neuro-Oncology actually coincided with the reorganization of Department of Internal Medicine and --- and Department of Therapeutics, were that the two departments merge into --- into the --- the Divisions of Medicine.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:06:57.3

And then were multiple departments.

Tacey Ann Rosolowski

0:06:57.5

Right. Yeah you told the story of that.

Wai-Kwan Alfred Yung, MD

0:06:59.1

And then --- And then Department of Neuro-Oncology become one of the departments

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:07:03.7

under the Divisions of Medicine.

Tacey Ann Rosolowski

0:07:04.6

Now what was the advantage at the time to having the Department of Neuro-Oncology at that time? I mean, --- I can imagine, but what --- what did you see immediately as a good effect of that?

Wai-Kwan Alfred Yung, MD

0:07:18.9

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Well I think the --- it --- one, the advantage of --- its --- lets see how to say. The advantage --- because what is also part of the organization because if you look at that we basically --- Anderson basically create a new system that is a little different from the --- the medical school structure. Medical school structure have department and then division under it. We actually flipped it. In 1983 we --- we create a new system that --- we create a big division and then put the department under the division. So it may not be really a traditional department structure.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

But when the organization was created it actually give the department some autonomy because the department has its own o --- faculty allocation. How many faculty is allotted to that department. The department is given an independent budget and the departments also have more say an --- in the direction of the department. So there is a --- a good advantage. So when we created the department --- actually, in 1983 the department was given several function. We not only --- We have Neurology doing --- as --- as the --- doing the Neurology consultation and now we call Cancer Neurology. We --- The Brain Tumor, you know, Clinic that we --- th --- the medical oncologists of patient with primary tumor.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

We also have Pain Management section in the department w --- you know, with the Pain Management Group. We also actually at that time --- Psychiatry also put under Neurology because the Psychiatry is very small with --- with the --- with the structure that we build in the division. You know, Psychiatry was put under Neurology as a section.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know. So we are section of Neurology, sections of --- of Pain Management and section of Psychiatry and that form a department. So that's because the advantage that we have is now we actually, you know, have --- putting so --- some related services together as a group with our --- with, you know, we're able to have an independent budget for allocation. We actually also develop laboratory research under that we --- we given the, charge of developing laboratory research in brain tumor.

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Tacey Ann Rosolowski

0:10:29.3

Now I had in my notes and I just want to make sure this is correct, from 1984 to 1999 you were Deputy Chair of the department. Is that correct or ---

Wai-Kwan Alfred Yung, MD

0:10:43.7

I think so.

Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

Bi --- Bill Fields --- Dr. Fields was the Chair.

Tacey Ann Rosolowski, PhD

Was chair. Okay.

Wai-Kwan Alfred Yung, MD

0:10:52.1

I think he made me something sort of the --- the --- the Deputy

Tacey Ann Rosolowski

0:10:51.7

Deputy Chair --- so you were. Now in terms of creating this vision for the department when all of these different sections and different functions --- was that something --- how was that created? How was that vision created?

Wai-Kwan Alfred Yung, MD

0:11:06.7

Well I --- I think it is --- it is --- it is a natural development. We have, you know, the --- the mission and the function of, you know, being the --- the institution's neurologists

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

and we also have the function and --- and mission of being the department --- they --- the --- the institutions brain tumor doctors

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Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

--- the neuro-oncologists and Pain Management, you know, need to be --- has its own but its different direction from Neurology. And at that time a lot of pain ma --- pain doctors are actually neurologists. You know, and so like Dr. Obbens is a ne --- was a neurologist and neuro-oncologist, but she specialized in Pain Management

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:12:12.7

When she was a fellow at Sloan-Kettering, she attached to the Pain Management Group. And then at that time, there is also Dr. Stratton Hill. I don't know if you knew him.

Tacey Ann Rosolowski

0:12:12.3

Yeah, I've interviewed him.

Wai-Kwan Alfred Yung, MD

0:12:13:6

Stratton was doing Pain Management. So actually Stratton as an endocrinologist

Tacey Ann Rosolowski, PhD

Uh-huh

Wai-Kwan Alfred Yung, MD

was, you know, put under Neurology to be --- to create a section of Pain Management.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And --- And so --- so you put the mission and function together

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

0:12:32.7

and do --- and then the psychiatrist

Tacey Ann Rosolowski

0:12:33.0

And it all lined up.

Wai-Kwan Alfred Yung, MD

0:12:33.7

Yeah. It's all lined up.

Tacey Ann Rosolowski

0:12:35.0

Yep. Now what --- what were your hopes? You know, because here you are. There's this new administrative structure, you've got everything in place. What did you hope would happen in the early '80's when you saw this set in place and the department has its own identity and now its autonomy and its own budget and kind of its self-determining?

Wai-Kwan Alfred Yung, MD

0:12:58.5

Well my personal direction is, you know, I am more into, you know brain tumor research.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

More so than Neurolo --- you know, general Neurology.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

So --- So my --- my --- at that --- my --- a --- my hope is --- is to help build the department with, of course, myself --- I, myself, will focus on, you know, brain tumor, you know, care and brain tumor research together with Neurology.

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

But my, you know, secondary interest, you know, is brain metastasis and neurological complications ____ --- ____ (0:13:46.0) to. And --- And also, you know, in order to build Neurology since we have so much overlap in functions with Pain Management and also with Psychiatry at that time, I --- I --- I think, you know, --- We were hoping that with that synergy the whole group can grow. In the early '80s its pretty --- I mean, we are in very close group of faculty.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And its really dev --- it is a very early developing phase of the institution. So I mean, my --- my goal is working, you know, working with Dr. Field. Dr. Field is a stroke neurologist. Dr. Field really have t --- is --- the --- is not a neuro-oncologist per se. And so we as a young people is the one who really take --- take the

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

(0:14:51.9

--- you know, --- take the vision and want to do something, you know. .

Tacey Ann Rosolowski

0:14:51.6

Uh-huh. So tell me how that happened. What were some of the big milestones in the early growth of the department?

Wai-Kwan Alfred Yung, MD

0:15:00.5

Well the --- the early growth --- so we'r --- so we started --- we started in the Neurology side. We started with three neuro-oncologists. Glass, me, and Obbens. And--- And --- And Bill was the Chair. So we have four faculty on the Neurology side and then we have two faculty in Pain Management. And that's Obbens and Stratton Hill. And I don --- I think we have two psychiatrists. I don't remember very clear in my mind now. I think we started with either o --- only one psychiatrist or two psychiatrists at that time.

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

You know. So the --- the --- the --- and in th --- the first m --- the --- the first really, you know, I think accomplishment is to establish of the Brain Tumor Clinic.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

We grow the Brian Tumor Clinic very quickly. That actually required an additional neurosurgeon. So, you know, --- So the expansion come first is recruiting two more neurosurgeons

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

0:16:47.5

into --- into Neurosurgery to work --- to --- to help Dr. Leavens. So I think very quickly, you know, we expand the --- the Neurosurgery section to include --- to recruit Richard **Moser** (0:16:37.5) and J. Bob Blacklock. Blacklock is now at Methodist. And so ---

Tacey Ann Rosolowski

0:16:47.5

And that's Bla --- Blackwell?

Wai-Kwan Alfred Yung, MD

0:16:49.3

Blacklock.

Tacey Ann Rosolowski

0:16:49.9

Blacklock. Uh-hmm.

Wai-Kwan Alfred Yung, MD

0:16:51.1

B-L-A-C-K-L-O-C-K.

Tacey Ann Rosolowski, PhD

Uh-hmm.

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Wai-Kwan Alfred Yung, MD

Blacklock. So --- So we expanded Neurosurgery Group right away to --- because we --- we --- really expanding.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

Yeah. And then Pain Management also grown and very quickly we --- we recruit another pain person which is Richard Payne. P-A-Y-N-E. And then order to --- Then --- Then the next phase is we est --- we --- beside --- we always had a resident program

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

because in Neurology we always have residents come from UT Houston. W --- We also creat a fellowship program to --- to train Neuro-Oncology fellow. These are neurologists who want to specialize in Cancer Neurology and Brain Tumor Management.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

So we --- we take on graduate from Neurology Training Program to spend two years with us.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:18:09.4

So we cr --- you know, that's so the --- the next phase of development is we create a fellowship

Tacey Ann Rosolowski

0:18:10.5

You know, it's so hard to imagine what the institution was like at that time. You know, when there were simply areas that were very, very underrepresented or not represented at all. You know, how did expanding Neurosurgery --- you know, hiring two more neurosurgeons --- you know, opening a fellowship program so you suddenly have this new blood coming in. How did

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that change the environment of the department? You know, wh --- what --- what was it like to suddenly have more people around and that synergy? What was happening with that?

Wai-Kwan Alfred Yung, MD

0:18:51.

The --- I mean I think th --- the department, you know --- of course we --- we did not expand explosively,

Tacey Ann Rosolowski, PhD

Uh-huh

Wai-Kwan Alfred Yung, MD

but I think we expan --- we expanded in a rapid phase which, you know, I think is --- is outcome of, you know --- because there is a need.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, as the institution grow there is a --- you know, --- a great need for Neurology consultation. There is also -- we gain reputation about brain tumor treatment so more patients come. So as we w --- I think the --- the --- the mood of the department is that we have this whole opportunity to really create a entity. And a -- to create the reputation of being good. Neuro-Oncology was a new field

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

in the early '80s. It started with Memorial Sloan-Kettering and the other group is --- is UCSF who focus on brain tumor research. But it is --- so we are the new --- basically, the new guy on the block because we --- we came up

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

--- they came from Mem --- I came from Memorial to really ---

Tacey Ann Rosolowski, PhD

Wow. Right

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Wai-Kwan Alfred Yung, MD

to build a new shop. So we al --- really in a --- in a building mood. And then we are h --- we're very proud and happy that we a --- we are making something.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know. And with the help of I think --- I'm going to say, you know, with --- with the help of Dr. LeMaistre.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, we do --- very interesting what we're doing. We both willing to give it to resources and we were able to really establish a major foothold and --- and reputation in the --- in this niche area of Neuro-Oncology

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:21:11.10

--- or develop Cancer Neurology and Brain Tumor Treatment and Pain Management.

Tacey Ann Rosolowski

0:21.11.4

Uh-huh. Now I kind of interrupted you, you were

Wai-Kwan Alfred Yung, MD

So

Tacey Ann Rosolowski

0:21:16.3

talking about the fellowship program

Wai-Kwan Alfred Yung, MD

0:21:16.3

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So they --- the --- the --- there's a group of young faculty feeling, you know, very excited and --- and energized. We're building something.

Tacey Ann Rosolowski

0:21:29.5

Uh-huh. How big was the fellowship program when you started it?

Wai-Kwan Alfred Yung, MD

0:21:32.2

When we started it was only person.

Tacey Ann Rosolowski, PhD

Only one person.

Wai-Kwan Alfred Yung, MD

One person.

Tacey Ann Rosolowski, PhD

Right

Wai-Kwan Alfred Yung, MD

Two person.

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

We cannot have a b --- even now we still do not have a big program.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

Now we still maintain a program in --- in two to three per year. So we have a total of five or six fellows.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:21:53.4

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Over a two year or three years period.

Tacey Ann Rosolowski

0:21:54.2

Now how did you structure the fellowship program in those early days?

Wai-Kwan Alfred Yung, MD

0:21:58.1

I think that the early days pretty much, you know, apprenticeship.

Tacey Ann Rosolowski

0:22:03.2

Apprenticeship. Hmm. Yeah.

Wai-Kwan Alfred Yung, MD

Yeah.

Tacey Ann Rosolowski

0:22:05.6

And research involved?

Wai-Kwan Alfred Yung, MD

0:22:05.5

All we --- do --- the --- the institution already have --- in the Medical Oncology side have some -
-- had fellowship program --- had some dytetic --- dyadic

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

inf --- you know, infrastructure in teaching so we incorporate that and then make our --- our
fellows go to those lectures.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:23:00.8

And then we also have basically, you know, our own, you know, interaction. The more, you
know, in a meeting fashion. And I will meet with the fellows, you know, weekly. You know we

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have --- we have rounds, you know. So --- So morning repo --- we have morning report and morning rounds that we discuss issues with.

Tacey Ann Rosolowski

0:23:02.0

So its almost like, you know, as you said mentorship or an apprenticeship.

Wai-Kwan Alfred Yung, MD

0:23:04.5

Its really a mentorship and apprenticeship

Tacey Ann Rosolowski, PhD

Yeah. Right.

Wai-Kwan Alfred Yung, MD

and for the clinic, you know

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:23:09.9

and do consultation.

Tacey Ann Rosolowski

0:23:11.7

Uh-huh. Is there a research ---

Wai-Kwan Alfred Yung, MD

0:23:12.3

So the --- they serve more like a junior attending.

Tacey Ann Rosolowski, PhD

Oh okay.

Wai-Kwan Alfred Yung, MD

0:23:17.9

Between, you know --- so.

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Tacey Ann Rosolowski

0:23:22.4

I was just ask --- asking was there a research component p --- put into that as well?

Wai-Kwan Alfred Yung, MD

0:23:28.8

There --- The --- The research components, you know, early on is more in the clinic research because I, you know --- I start developing the --- the --- the --- two research directions because I have my laboratory

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

In 1983 we also recruited a research faculty as --- so we --- that's how we --- we also recruited a research faculty, Dr. Peter Steck.

Tacey Ann Rosolowski, PhD

Alright.

Wai-Kwan Alfred Yung, MD

You know, and joined the department as a research faculty so Peter and I spearhead the --- the --- the research development side.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

laboratory research ____ (0:24:05). And then I also spearhead the clinical research development side which is to re --- you know, develop --- you know research protocol, research study

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

with --- with --- with participating program NIH

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD
and NCI now.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
0:24:26.2
You know. So

Tacey Ann Rosolowski
0:24:28.5
So that was initiated really early too.

Wai-Kwan Alfred Yung, MD
0:24:29.5
And that --- And then in the early clinical trial we --- we sort of --- you know, we --- we worked together with the div --- with the division, you know.

Tacey Ann Rosolowski, PhD
Hmm.

Wai-Kwan Alfred Yung, MD
That's also wh ---- when Marty was there. I mention Bob at that time did the --- did the clinical research for the --- for the Division of Medicine.

Tacey Ann Rosolowski, PhD
Uh-huh.

Wai-Kwan Alfred Yung, MD
You know. And so --- And wh --- At that time we're small enough that really the --- the clinical research development cut across all the department ---

Tacey Ann Rosolowski, PhD
Hmm.

Wai-Kwan Alfred Yung, MD
--- well solid department versus liquid department.

Tacey Ann Rosolowski, PhD
Uh-huh. Uh-huh.

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Wai-Kwan Alfred Yung, MD

0:25:24.7

And --- And we are mourning --- I think there was a day that all the --- all the clinical faculty involved in research in the division have a meeting to get a goal or the protocol where d --- doesn't matter which department we're all --- all go over the protocol together.

Tacey Ann Rosolowski

0:25:26.2

Were those the institutional Grand Rounds or ---

Wai-Kwan Alfred Yung, MD

0:25:28.8

That's it --- no that is

Tacey Ann Rosolowski, PhD

That's different.

Wai-Kwan Alfred Yung, MD

--- that is --- Dr. --- Dr.

Tacey Ann Rosolowski, PhD

Dr. Freireich?

Wai-Kwan Alfred Yung, MD

Dr. Krakoff.

Tacey Ann Rosolowski, PhD

Oh, Dr. Krakoff.

Wai-Kwan Alfred Yung, MD

Right. Dr. Krakoff came and created a Division of Medicine. Dr. Freireich become the --- I think at that time he's --- he's Chair of Leukemia group

Tacey Ann Rosolowski, PhD

Uh-huh. Uh-huh.

Wai-Kwan Alfred Yung, MD

--- He's Chair of Leukemia and ---and who's Chair of Lymphoma. Dr. Conrad.

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Tacey Ann Rosolowski, PhD

Oh okay.

Wai-Kwan Alfred Yung, MD

Fred Conrad was Chair of Lymphoma before he was --- before he was killed.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know. So but all, you know, we have a joint meeting in terms of developing research protocol and monitoring research progress in a joint grant that can --- that helps support research nurses with the different department. So I to --- took advantage of that d --- that --- that infrastructure

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

to --- to start developing research protocol for brain tumor.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

0:26:29.3

So that's

Tacey Ann Rosolowski

0:26:29.3

Tell me about how you took advantage of that.

Wai-Kwan Alfred Yung, MD

0:26:32.1

Well because with joint grant we will be able to get institutional support

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

for --- for research nurses and also ha --- with --- with --- with --- with the division involvement

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we better contact with NCI, CTEP and also --- and in --- there is the NCI CTEP contract go to the division so that --- that w --- we --- we have --- goes through the division and then we have, you know, contact with --- with CTEP through the joint --- through the ---the --- the grant that comes to the division we were able to get drug

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

0:27:26.2

from the CT --- CTEP to do the --- to do the trial in a different disease site. Brain --- Brain is included in one of those.

Tacey Ann Rosolowski

0:27:26.9

Now I'm not sure is --- are you referring to CTAB as ---

Wai-Kwan Alfred Yung, MD

0:27:32.3

CTEP is

Tacey Ann Rosolowski, PhD

I --- I --- do ---

Wai-Kwan Alfred Yung, MD

C-T-E-P

Tacey Ann Rosolowski, PhD

Oh, E-P.

Wai-Kwan Alfred Yung, MD

0:27:36.4

E-P. C-T-

Tacey Ann Rosolowski

0:27:36.5

I don't think I've ever heard of that. What is that?

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Wai-Kwan Alfred Yung, MD

0:27:38.8

CTEP is Cancer Treatment Evaluation Program.

Tacey Ann Rosolowski

0:27:42.7

Oh. I've never heard of that. And that's through NCI or NIH or separate?

Wai-Kwan Alfred Yung, MD

0:27:47.9

CTEP is a division of NCI.

Tacey Ann Rosolowski, PhD

Oh.

Wai-Kwan Alfred Yung, MD

CTEP is the division that governs clinical trial.

Tacey Ann Rosolowski, PhD

Oh okay.

Wai-Kwan Alfred Yung, MD

Funding and --- and --- and clinical trial network.

Tacey Ann Rosolowski, PhD

I see.

Wai-Kwan Alfred Yung, MD

0:28:01.3

Yeah.

Tacey Ann Rosolowski

0:28:01.2

I see. Okay. Yeah, I don't think I've ever heard that acronym before. So obviously that was really key to be able to tap into that.

Wai-Kwan Alfred Yung, MD

0:28:09.3

Oh it's very key in _____ (0:28:10.3) --- well that's the way to tap into NCI resources.

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Tacey Ann Rosolowski, PhD

Uh-huh

Wai-Kwan Alfred Yung, MD

--- NCI funding.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, NCI funding, you know, the Extramural Funding Program come --- go --- go to support Cancer Center research.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

And so --- So the other development that we expand our research is through the cooperative group.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, so Dr. Cox was Chair of Radiation Therapy Oncology group, you know, in the early 80's and the --- and the Radiation Therapy Oncology Group is divided into again disease site. Brain, head and neck, lung. So Dr. Cox asked me to join the Brain Committee.

Tacey Ann Rosolowski, PhD

Oh Okay.

Wai-Kwan Alfred Yung, MD

In 1983 or '84.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And so I joined the Brain Tumor --- Brain Committee as MD Anderson faculty and took --- under --- the --- the --- the --- participate in the --- in the, you know, network activity.

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Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

0:29:18.2

_____ (0:29:15.0) clinical trial for brain tumor.

Tacey Ann Rosolowski

0:29:19.5

So was that ---

Wai-Kwan Alfred Yung, MD

0:29:20.2

So that --- We also benefit greatly when we b --- become part of the network and we take the trial and --- and open the trial at --- at Anderson.

Tacey Ann Rosolowski, PhD

Uh-hmm.

Wai-Kwan Alfred Yung, MD

0:29:29.0

And ---

Tacey Ann Rosolowski

0:29:30.3

And the Brain Tumor Committee, when was that formed? Do you remember?

Wai-Kwan Alfred Yung, MD

0:29:34.1

The Brain Tumor Committee

Tacey Ann Rosolowski, PhD

That was in existence?

Wai-Kwan Alfred Yung, MD

It is existence.

Tacey Ann Rosolowski, PhD

Oh okay. Okay.

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Wai-Kwan Alfred Yung, MD

I mean that --- that is the --- the structure of the cooperative group --- of the group --- the Radiation Therapy Oncology Group. You know ---

Tacey Ann Rosolowski, PhD

Oh okay, right. I re ---

Wai-Kwan Alfred Yung, MD

The --- And --- And --- And the Radiat --- the --- the --- the cooperative group is divided into different subgroups

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:30:03.3

to, you know, manage the strategy --- develop strategy and manage the trial under those disease sites.

Tacey Ann Rosolowski

0:30:03.2

Under those. Okay. Right. That's right and Jim Cox was really involved with that

Wai-Kwan Alfred Yung, MD

Yeah Jim Cox ---

Tacey Ann Rosolowski, PhD

at that time he --- that was his thing.

Wai-Kwan Alfred Yung, MD

At that time yeah.

Tacey Ann Rosolowski

0:30:12.5

Right okay.

Wai-Kwan Alfred Yung, MD

0:30:13.5

Somewhere in '84 or '85, I don't remember when ---

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Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:30:19.9

you know --- you know.

Tacey Ann Rosolowski

0:30:20.5

So --- So this was really, you know, a key time of --- you know, going --- really a qualitative as well as a quantitative leap. I mean, just really expanding a lot of facets.

Wai-Kwan Alfred Yung, MD

Oh yeah, a lot of facets.

Tacey Ann Rosolowski

0:30:38.7

Yeah. Pretty much amazing. I mean setting in place all the lines of development.

Chapter 11

Creating Networks for Clinical Trials

A: The Researcher;

Story Codes

A: The Researcher;

A: Contributions;

A: Activities Outside Institution;

B: Building/Transforming the Institution;

B: Multi-disciplinary Approaches;

C: Discovery and Success;

A: Overview;

A: Definitions, Explanations, Translations;

D: Understanding Cancer, the History of Science, Cancer Research;

Wai-Kwan Alfred Yung, MD

0:30:38.3

Oh yeah because --- so --- so by 1988 --- by 1988 we have --- Oh I don't even know how many faculty we have. We have several fellows that we trained and --- and stayed with us. But in 1988, you know, Dr. --- Dr. Field was ready to retire and so the --- then Dr. LeMaistre decided to again expand the --- the Neuro-Oncology Group and at that same time Neurosurgery.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

You know. Th --- So the --- So the first ex --- the first expanded because Dr. Field retired. So we launch a --- a national search for a Chairman to replace Dr. Field and the search, you know, resulted in recruiting Dr. Victor Levin from UCSF to --- to join the Department of Neuro-Oncology. And --- And he was given a very big package of expanding the program. Both in the research side as well as the clinical side.

Tacey Ann Rosolowski

0:31:59.1

Okay. Yeah, how big was that package? I mean do you know the details of it?

Wai-Kwan Alfred Yung, MD

0:32:05.3

Oh, I --- I think that it was big because w --- he was given a lot of laboratory space to increase the laboratory presence with, you know --- we --- we --- with I think we --- he brought in two

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scientists right away and wi --- together with Peter. And then we also recruited another one in the fall. So --- So it's a big expansion

Tacey Ann Rosolowski, PhD

Another big expansion.

Wai-Kwan Alfred Yung, MD

on --- on the laboratory side.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

And then w --- we also give him a few more clinical faculty because we need to expand our faculty side on Neurology as well as Brain Tumor.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, I remain as a Deputy to --- to Victor to --- to really --- I mean he put a lot of focus on --- on --- on the research side and put development with Neurosurgery. And I helped more on --- more the --- the nitty-gritty of developing clinical trial for brain tumor. You know, managing the Neurology Consult Service. You know, doing more of the --- on the --- on this, you know, clinical administration side.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And cont --- An --- And continued to run my own research because at that time I o --- I ha --- not only I have a IO-1 for my laboratory, I also have a grant to run --- to run a clinical network focusing on Phase 1, Phase 2 trial for brain tumor. There's a --- NCI created several network in the --- in the late '80's and we --- we completed and I --- I was PI for one of the grant to develop a network of --- of four instuti --- three or four institutions.

Tacey Ann Rosolowski

0:34:00.1

Now what was the significance of --- of doing that? What was the aim of doing that?

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Wai-Kwan Alfred Yung, MD

0:34:06.6

The --- Well the aim is --- is, you know, finding b --- there is no --- there is no --- number one there is no attention paid to brain tumor --- malignant brain tumor treatment other than radiation therapy and surgery.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

Chemotherapy is in a --- really infancy of development. And --- And this is a --- this is a very tough disease.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

So we --- we --- we want to really gain more research. Not only in the laboratory but also in the clinic. And the opportunity came when NCI is willing to increase our funding to create network of _____ (0:34:53.6) institutions to start some more clinical trial in brain tumors --- specifically in brain tumor. And --- And using the network to --- to really develop, you know, leads and --- and early signals to _____ (0:35:12.9) And that is a major --- I mean --- is --- is really a major stimulus to the Clinic Research Committee for brain tumor among the neurologists and neurosurgeons. We --- I --- That is a very important milestone in terms of clinical research for malignant brain tumor for NCI to create these a --- a --- specific brain tumor consortium. You know, because brain tumor is not getting a whole lot of attention in the big cooperative group at that time, you know.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

0:36:02.6

--- with the group, you know.

Tacey Ann Rosolowski

0:36:04.1

So tell me --- I mean since this was so important --- I mean tell me how --- tell me how this worked at the time. So what did you do to help make this happen?

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Wai-Kwan Alfred Yung, MD

0:36:14.6

The --- The, you know, so-called research --- request for application. You know, I --- because, you know, --- CTEP at that time working some consultation with --- with the different groups say well it will be --- it will be, you know, great and necessary if you want to stimulate more research in the brain tumor area is to create, you know, network that can focus on early stage trial of brain tumor using the NCI drug. So at that time they decid --- NCI decided to fund three small groups. They ask people to create three small groups. These small groups called consortium. Each group could have up to five centers in them. And --- And so we --- so --- so the comu --- so the --- the --- the --- the --- the group of research of center decided to --- so we all talk and then we --- somehow we gravitate into three group of people. I de --- I, you know, develop a group together with --- with D -- -Dr. **Fine (Feun?) (00:37:48.2)** and Dana Farber. And then we have Dr. Fine, Dana Farber what do we --- who else did we have --- I think kind of --- kind of little break in the --- in the number. So I organize a group with three centers

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

and there is a fellow called Stuart Grossman at Hopkins, he crea --- he develop with another five centers and UCSF --- I think UCSF had ano --- also created a group with five centers. So these five centers form a --- what we call collaborative consortium. We will, you know, construct clinical trials together

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

with --- with NCI's drug --- the --- the --- they have NCI --- working with --- with NCI to develop drug that they give us to develop trial

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

And NCI give us funding to manage the data, to develop the protocol, and enter patient into the trial, you know. So there are three network.

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

Yeah. And after the first four years we, you know --- NCI decided that, you know, probably be better to consolidate the strength.

Tacey Ann Rosolowski, PhD

Huh.

Wai-Kwan Alfred Yung, MD

So we --- we take the center of the three network and --- and group into two networks. So the next phase of funding is go from three network into two network. So w --- I, you know, as the PI of my network I merged my network with the UCSF network.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

00:39:43.8

You know.

Tacey Ann Rosolowski

00:39:44.4

00:39:51.0

What did you --- What did you learn from that process? I mean, it sounds like a pretty amazing thing to get all these people working together.

Wai-Kwan Alfred Yung, MD

00:39:50.3

Well we learn how to get people work together.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

We --- We --- We also learn to really, you know, sort of divide up some of the emphasis among the three groups. And we learn how to run trial together.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

We also learn, you know, really establish better relationship with --- with NCI to be able to

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really, you know, get actually more NCI attention not only in the clinical side, also in the research side and say hey we could not do cl --- clinical research because we don't have enough basic science research in this area .

Tacey Ann Rosolowski

00:40:38.7

How interesting.

Wai-Kwan Alfred Yung, MD

____ (00:40:39.7

Tacey Ann Rosolowski

00:40:39.8

00:40:41.3

So it really revealed some gaps

Wai-Kwan Alfred Yung, MD

00:40:41.2

So we revealed some gap, you know. And so it --- it actually increased a lot of attention from, you know, --- from the NCI side. So much so that actually NCI also create a network for childhood brain tumor.

Tacey Ann Rosolowski, PhD

Oh wow.

Wai-Kwan Alfred Yung, MD

Beside the three adult network.

Tacey Ann Rosolowski, PhD

Huh.

Wai-Kwan Alfred Yung, MD

La --- Later on they also fund a pediatric brain tumor network.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

00:41:08.6

You know.

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Tacey Ann Rosolowski

00:41:09.5

I hadn't --- I mean, you know --- stupidly I hadn't even thought of that. I mean I was interviewing Eugenie Kleinerman [Oral History Interview] this morning

Wai-Kwan Alfred Yung, MD

Uh-huh

Tacey Ann Rosolowski, PhD

00:41:26.2

who of course talks a lot about how Pediatrics is often not thought about in clinical trials and of course this would be an area particularly in rare cancers.

Wai-Kwan Alfred Yung, MD

00:41:26.7

Yeah. So --- So we --- So we actually through the --- the --- the development of three adult consortium --- so NCI also later on they --- oh we need to have a pediatric consortium

Tacey Ann Rosolowski, PhD

Pediatric. Yeah.

Wai-Kwan Alfred Yung, MD

00:41:48.7

to --- to stimulate pediatric. Because pediatric brain tu --- tu --- brain tumor in children is a second cancer.

Tacey Ann Rosolowski

00:41:50.6

00:41:51.1

What do --- What do you mean?

Wai-Kwan Alfred Yung, MD

00:41:51.3

The most common cancer in

Tacey Ann Rosolowski, PhD

Oh.

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Wai-Kwan Alfred Yung, MD
children is leukemia.

Tacey Ann Rosolowski, PhD
Right.

Wai-Kwan Alfred Yung, MD
And the mo --- And the second most common cancer in children is brain tumor.

Tacey Ann Rosolowski, PhD
I had no idea.

Wai-Kwan Alfred Yung, MD
Yeah.

Tacey Ann Rosolowski, PhD
Wow.

Wai-Kwan Alfred Yung, MD
Yeah because you look at pediatric cancer, leukemia and lymphoma but it's actually more leukemia than --- leukemia is number one. Among the solid tumor, brain tumor is. So right now brain tumor is probably the number one --- number one cancer killer in children. Because leukemia treatment is --- is --- has so --- has made so much advance.

Tacey Ann Rosolowski
00:42:32.6
Wow. I had no idea.

Wai-Kwan Alfred Yung, MD
Yeah.

Tacey Ann Rosolowski, PhD

00:42:46.8
That's really something. Huh. So, I mean, just --- just for the record what were some of the drugs that you were testing during this time? I mean, if you can recall.

Wai-Kwan Alfred Yung, MD
00:42:47.2

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Yeah. We would --- that's --- that is also one of the issue we have, you know. We actually don't have very good drug

Tacey Ann Rosolowski, PhD

Oh, I see.

Wai-Kwan Alfred Yung, MD

for brain tumor. Most of our trial has been --- has been, you know --- had not been very successful. I mean, we basically test almost all the drugs that we use in --- in solid tumor. Cis-platinum, methotrexate, 5-FU, CCNU, BCNU, you name it. All the cancer --- All the --- All the, you know, chemotherapy drug that is available for solid tumor we tested in --- in glioblastoma.

Tacey Ann Rosolowski

00:43:35.5

00:43:36.9

Uh-huh. Back in the '80s.

Wai-Kwan Alfred Yung, MD

00:43:37.9

Back in the '80s and '90s. Uh-huh. You know, nothing really come up better than BCNU and CCNU which is approved for specific for brain tumor. And that was the main drug for --- from the '80s to the '90s until temozolomide came along in 1995, you know. And that was the second, you know, active drug, which is strictly speaking, not that much better than BCNU or CCNU.

Tacey Ann Rosolowski, PhD

Oh. Wow.

Wai-Kwan Alfred Yung, MD

You know, so brain tumor research follow cancer research at large. You know, we move from cytotoxic drug to targeted drug because now the biology come along identifying specific proteins, specific mutations, specifically targeting in --- in --- brain tu --- glio --- glioblastoma. And then there is some drug available for those. For example the first target that we usually make very popular is EGF receptor.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, so we test EGF receptor inhibitors in --- in brain cancer. And --- And so we follow

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that development. There's also a --- a --- a big effort in --- among the clinical trial group in developing immunotherapy. In fact, I think immunotherapy for brain tumor is one of the early applications. One of the disease cited very early on developing immunotherapy with vaccine --- with tumor vaccine. But the early --- the early development of tumor vaccine in brain in tumor is very crude. You know, mince up the tumor make a --- make a vaccine --- or mince up the tumor stimulate some T-cell, you know. And we go through active immunotherapy to adoptive immunotherapy but

Tacey Ann Rosolowski, PhD

Very resistant

Wai-Kwan Alfred Yung, MD

Yeah, very --- very --- you know, most of the result is kind of disappointing. You know. So we --- its --- I mean I think with the --- with the development of the consortium with the, you know, funding of the NCI, you know, research in Neuro-Oncology has growth --- I think vastly expanding, you know. But yet we are still, you know, in search of the magic bullet right now. But on the other hand, the --- the --- the --- the --- the opportunity is much better. Availability of drug is much better. Availability of funding is much better. We also was aided --- I think --- We're also, you know, fortunate that we were also aided by some private funding. There are more, you know, foundations established by patient family and philanthropy group. So that also was developed in the --- you know, in the '90s and 2000s.

Tacey Ann Rosolowski

00:47:19.5

00:47:20.7

So it sounds like

Wai-Kwan Alfred Yung, MD

00:47:20.5

00:47:24.7

And --- And I think we are front and center in that, really, phase of development at Anderson.

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Chapter 12

Becoming Chair of Neuro-Oncology and Developing Collaborations with Neuro-Surgery

B: Building the Institution;

Story Codes

A: The Administrator

A: The Researcher

B: Building/Transforming the Institution

B: Multi-disciplinary Approaches

B: MD Anderson Culture

B: Devices, Drugs, Procedures

C: Discovery and Success

Tacey Ann Rosolowski

00:47:25.9

00:47:46.4

So Dr. LeMaistre left the institution in 1996 and I --- I'm I just trying to get a sense of, you know, he was very supportive of the department in its growth --- its expansion. You had the key period of time, you know.

Wai-Kwan Alfred Yung, MD

00:47:46.5

So under LeMaistre we expand the Department of Neuro-Oncology. You know, in 1988. You know, wi --- with the recruitment of Dr. Levin --- Victor Levin. And then in 1990, you know, Neurosurgery become a department instead of a section. So that's --- Again that's, you know --- with --- with the expansion of Neuro-Oncology under Levin then, you know --- much --- b --- the Neurosurgery as well as --- as in terms of re --- research development. This is a --- a --- Neurosurgery should become a department as well, instead of a division of Head and Neck still.

Tacey Ann Rosolowski, PhD

A division. Right. Uh-huh.

Wai-Kwan Alfred Yung, MD

So in 1990 we recruited --- you know, the institution went out to recruit Dr. Sawaya and create th --- And --- And created the Chair --- the Department of Neurosurgery. And that creation --- or that formation of the department allowed the department to really grow and develop and flourish. And it --- it very --- it grow very quickly from 3 neurosurgeons to the current size of 12 neurosurgeons

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Tacey Ann Rosolowski, PhD

Right. Yep.

Wai-Kwan Alfred Yung, MD

and scientists. So the --- So

Tacey Ann Rosolowski

00:49:09.4

00:49:10.2

And you guys share a floor here.

Wai-Kwan Alfred Yung, MD

00:49:10.3

And we --- And then we share a floor.

Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

You know, so that's --- You know --- under --- under LeMaistre we have that growth of Neuro-Oncology and also growth of Neurosurgery. And --- And --- And fo --- And forming a horizontal structure of, you know, Brain Tumor Program. And we successful in b --- you know, also become part of the CCSG because at that --- by ---by the mid '95 --- by, you know, after we have the --- the Department of Neurosurgery and Dr. Levin was instrumental of getting a program ____ (00:49:54.2) grant funded and also organize how ____ (00:49:58.2) would be part of the Cancer Core Grant --- as a --- as a program under the Cancer Center Core Grant. I don't know whether you know the --- the Cancer Core Grant.

Tacey Ann Rosolowski

00:50:08.3

00:50:10.6

So I don't know what that is. No. I don't.

Wai-Kwan Alfred Yung, MD

00:50:10.9

Cancer Core Grant or --- or Cancer Center Core Grant, CCSG A comprehensive cancer center as designated by NCI.

Tacey Ann Rosolowski, PhD

Is it.

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Wai-Kwan Alfred Yung, MD

Comprehensive center --- center. In order to be a comprehensive cancer center you also need to demonstrate that you are --- you have a, you know, portfolio of research

Tacey Ann Rosolowski, PhD

Hmm. Okay.

Wai-Kwan Alfred Yung, MD

in patient care, laboratory research, cancer prevention. And --- And with all the grant that you get from NCI the --- the --- the --- you know, in order to gain the destination of comprehensive cancer, number one you need to have a --- a portfolio of individual research grant. Number two is also have to compete. You know, the --- the idea is that for you to become a --- a --- a comprehensive cancer center you're also in --- in need of some Core support for the center. **And** _____ (00:51:18.5) to Core --- you know, Cancer Center Core Grant. You have to be able to get funding for that Core Grant before you get a destination of --- of comprehensive cancer center.

Tacey Ann Rosolowski

00:51:31.4

00:51:32.2

Uh-huh. And what exactly does the ---

Wai-Kwan Alfred Yung, MD

00:51:32.1

And the Core Grant give the center a pot of money to support shared resources.

Tacey Ann Rosolowski, PhD

Oh.

Wai-Kwan Alfred Yung, MD

You know, animal facility. Shared facility for peptide synthesis. Shared facility for, you know, pharmacology

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

studies. Shared resources for statistics. And these are shared resources that all cancer centers invested can use in the funding of that grant.

Tacey Ann Rosolowski, PhD

Uh-huh.

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Wai-Kwan Alfred Yung, MD

In order to get a grant though you need to support it by, you know excellency in the program.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

So --- So --- You know, MD Anderson was designated as a comprehensive cancer center with the funding of the Core Grant. And the Core Grant is in _____ (00:52:35.1) --- you know --- is supported by a group of program. And the program, you know, get e --- the number of programs can be expanded. You know, if you want more money you expand the program ---

Tacey Ann Rosolowski

00:52:47.2

00:52:48.4

Now was that

Wai-Kwan Alfred Yung, MD

00:52:48.2

00:52:55.8

So in --- And I --- I think we were included as a program in the Cancer Core Grant as a core program of the center.

Tacey Ann Rosolowski

00:52:57.0

00:52:58.2

And that was in mid '90s or ---

Wai-Kwan Alfred Yung, MD

00:52:58.5

00:52:58.9

The mid '90s.

Tacey Ann Rosolowski

00:52:59.7

00:53:04.8

Mid '90s. Now m --- was MD Anderson already designated a comprehensive cancer center

Wai-Kwan Alfred Yung, MD

00:53:04.9

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Oh yeah.

Tacey Ann Rosolowski

00:53:05.0

00:53.05.2

at that time? Okay.

Wai-Kwan Alfred Yung, MD

00:53:05.4

00:53:05.6

At that time. Yeah.

Tacey Ann Rosolowski

00:53:05.6

00:53:09.9

Okay. Yeah. And it just kind of makes sense that ---

Wai-Kwan Alfred Yung, MD

00:53:10.2

No I think --- I forgot when --- when MD Anderson was designated a can --- a comprehensive cancer center. I think when I came in '81 we were already a comprehensive cancer center. Or maybe sooner. I don't remember when. You ha --- You have to --- to look into the institution's history

Tacey Ann Rosolowski, PhD

---tion history. Right. Right.

Wai-Kwan Alfred Yung, MD

when we get designation

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

00:53:33.8

as a cancer --- a comprehensive cancer center.

Tacey Ann Rosolowski

00:53:34.7

00:53:41.7

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Well I'm just thinking too with --- you know, with this specific change and Dr. Levin, you know, managing to get the --- the Core Grant . . .

Wai-Kwan Alfred Yung, MD

00:53:42.9

Well he manage --- Well he did not manage to get the Core grant. He managed to make the Brain Tumor Program as part of the Core Grant

Tacey Ann Rosolowski

00:53:50.9

00:54:09.6

Part of the Core Grant. Okay. Okay. Cause it seems --- Because, you know, as I was mentioning, you share a floor here with Neurosurgery and though those --- yo --- it became a separate department I can imagine that there is a lot of interaction between these two _____

(00:54:09.6

Wai-Kwan Alfred Yung, MD

00:54:09.4

There is a lot of interaction between the department. I think --- you know, --- I --- remember we also owe a lot of, you know, the development. Not only to Dr. LeMaistre had a vision of --- of really expanding the two departments and --- and the Brain Tumor Program. You know, and --- and I think when Dr. Mendelsohn came he continued seeing, you know, the --- the merit of the Brain Tumor Program. And, in fact, we are the --- we are the --- probably the only clinical program that was --- have the --- that given the opportunity to put the Medical Department and Surgical Department on the same floor in this building as well as a research lab in the same floor in the Research building.

Tacey Ann Rosolowski, PhD

Oh, wow.

Wai-Kwan Alfred Yung, MD

You know, --- you know, as opposed to the other program that, you know, like if you look at breast cancer. The Surgical Department that do breast cancer research, their laboratory in --- in in one --- in a different building than the Medical Department that do research. But here we have the Brain Tumor Program, that one that with our affiliation with, you know, the --- the researchers affiliation is with Neuro-Oncology and Neurosurgery, we have the same floor. We put them all together

Tacey Ann Rosolowski, PhD

Right.

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Wai-Kwan Alfred Yung, MD
on one floor.

Tacey Ann Rosolowski, PhD
Now I

Wai-Kwan Alfred Yung, MD
00:55:38.3
So that increase the interaction tremendously.

Tacey Ann Rosolowski
00:55:38.7
I interviewed Dr. Sawaya last year.

Wai-Kwan Alfred Yung, MD
Uh-huh. Uh-huh.

Tacey Ann Rosolowski, PhD
You know, and he talked, you know, over and over underscoring his vision that the treatment of brain cancer is very much a multidisciplinary concerted activity.

Wai-Kwan Alfred Yung, MD
Yeah. Yeah.

Tacey Ann Rosolowski
00:56:03.4
And so those connections are really, really key. And just to --- so you share that vision.

Wai-Kwan Alfred Yung, MD
00:56:03.5
Sure the --- the --- I mean --- I the def --- the --- the development of --- you know, the historical development of the program in the '80s to the '90s, it really follow, you know, closely this concept of multidisciplinary. Well, you know, because when we create the Brain Tumor Clinic, it's Neur --- it is Neuro-Oncology and Neurosurgery together with Radiation Oncology. That --- That a --- That's a _____ (00:56:34.7) is our main Neuro-Onco --- Radiation _____ (00:56:38.1). We always work together as a group. And when we develop the Science Research Laboratory we --- we develop laboratory also as --- as a group. Now when I have --- when we recruited --- because I recruited, you know, Peter Stack and work on the basic research before Dr. L --- Sawaya came in, you know. But when --- when Dr. Leavens, Milam Leavens recruited Dr. Mos --- Richard Moser --- Richard Moser has an interest in Immunology.

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Tacey Ann Rosolowski, PhD

Okay.

Wai-Kwan Alfred Yung, MD

Yeah. So, you know, Richard and I wor --- we worked together developed the immunolo --- im --
- you know, immunotherapy for Brain Tumor Clinic. So we always follow, you know, the --- the
concept of multidiscipline because brain tumor we really need multidisciplinary approach
because the main treatment is radiation therapy. Surgery and radiation therapy, and
chemotherapy work in concert. And --- And I think the --- the --- the --- the --- the blessing we
have in this group is that we all work well together as a group. And we are willing to really work
together in a very, you know, collegial collaborative manner as opposed to fighting for turf from
each ot --- for --- for --- for, you know, the individual group. But we're willing to really band
together.

Tacey Ann Rosolowski, PhD

How do you ---

Wai-Kwan Alfred Yung, MD

00:58:17.9

And go to the administrator and ask for all the resources together.

Tacey Ann Rosolowski

00:58:18.2

00:58:26.0

Hmm. How --- How did you and others --- how were you able to create that climate? Because
it's kind of unusual.

Wai-Kwan Alfred Yung, MD

00:58:28.9

Well --- I mean I think it --- it does require some give and takes and some downgrading of
individual ego. S --- I mean --- they --- they were fight. You know --- I think --- you know look
at it and the --- there is some disagreement between Dr. Milam --- Dr. Levin --- Victor Levin and
--- and Dr. Sawaya on how we should develop things.

Tacey Ann Rosolowski

00:58:57.0

00:58:57.8

No. I mean it's natural.

Wai-Kwan Alfred Yung, MD

00:58:58.1

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It's natural. And when Dr. Levin stepped down I stepped into his role. You know, I make a del --- concerted effort to work with Dr. Sawaya. You know, and we --- we have mon --- weekly meeting to talk about our, you know, concern and our vision and work together. So it --- it's a give and take.

Tacey Ann Rosolowski

00:59:19.5

00:59:36.3

So, well, tell me about stepping into the role as Chair. Because let's see you were at interim Chair for a couple of years I think and then 2002 took over as permanent Chair. Tell me about that process.

Wai-Kwan Alfred Yung, MD

00:59:39.3

Well, in 1999 it's --- it's a kind of interesting time because 1999 is also the year that I was diagnosed to have cancer.

Tacey Ann Rosolowski, PhD

Uh-huh. Okay.

Wai-Kwan Alfred Yung, MD

01:00:12.9

And I --- you know, I was diagnosed to have cancer in February of '99. And I undergo chemotherapy first and then have major surgery after chemotherapy, you know.

Tacey Ann Rosolowski

01:00:16.6

01:00:18.8

How long did that whole process take?

Wai-Kwan Alfred Yung, MD

01:00:19.4

01:00:55.3

Well, I have chemotherapy for about five months. So I think surgery came in July ____ (01:00:29.8) --- June or July. And then I recovered from surgery probably by end of July or early August, you know. And --- But that su --- that was also the time that Dr. Levin decided that he gonna --- he is going to step down. And ---

Tacey Ann Rosolowski

01:00:56.4

01:00:57.2

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When it rains it pours, huh?

Wai-Kwan Alfred Yung, MD

01:00:57.5

Yeah --- Yeah. And so Dr. Mendelsohn asked me if I would step in. You know, I was --- I was the most qualified person at that time because I had, you know, quite a bit of national reputation at that time.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, because I run those cli --- clinical consortium and I also, you know, h --- had my research funding. So I --- you know --- for the good of the department and program I said okay, even though I just recovered from my treatment then I will take over.

Tacey Ann Rosolowski, PhD

Uh-huh. I mean that --- I mean it ---

Wai-Kwan Alfred Yung, MD

So --- So

Tacey Ann Rosolowski, PhD

It just ha ---

Wai-Kwan Alfred Yung, MD

So I --- I was put in the --- the interim fashion. I think there was some discussion, you know, between, you know, Mendelsohn, you know, --- at that time we h --- we had a Division of Cancer and at that time is --- Bob Bass is the --- is the Head of the Division of Cancer Medicine. And --- And so they --- there was _____ (01:02:09.4) on how to, you know, search or form --- and --- and --- and find a permanent Chair for the department. You know.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

So we --- I guess it took them three years to decide whether there was some argument, disagreement behind the scene, but I think we --- there was no decision on --- of, you know, a --- a candid --- a surgery candidate. Because there's also at that time sort of a transition of the Division. Dr. [Robert] Bast [Oral History Interview] was also, you know, under considering stepping out ---

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Tacey Ann Rosolowski, PhD

Right.

Wai-Kwan Alfred Yung, MD

--- stepping out and --- and then Dr. [Waun Ki] Hong [Oral History Interview] step in. So I was made ---

Tacey Ann Rosolowski

01:03:02.9

01:03:03.0

And this is as

Wai-Kwan Alfred Yung, MD

01:03:03.4

01:03:03.5

I was made

Tacey Ann Rosolowski

01:03:03.4

01:03:03.5

Head of Research. I was made permanent in 2002 when Dr. Hong became the Head of Division of Cancer Medicine. It --- It take two and half year.

Tacey Ann Rosolowski

01:03:16.5

01:03:32.6

Right. Right. Uh-huh. Now I just wanted to --- to say that must have been a really stressful time and I know we'll talk at a later time about your experiences as a patient, but that must --- that must have been a difficult decision to ---

Wai-Kwan Alfred Yung, MD

01:03:33.7

That was a difficult decision. I mean --- I --- I took on them of course partly is my ambitions

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

You know, I see something that we have developed and I don't want to see it falter. And --- And I probably consider I'm --- I was the best person at that time to really take over. And Dr.

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Mendelsohn is very, you know, enthusiastic about me taking over. And, in fact, we we're given, you know, some additional resources expanding our faculty --- you know, the number of faculty and also h --- and more start up fund to recruit scientists, you know.

Tacey Ann Rosolowski

01:04:21.3

01:04:34.5

Wow. Okay. So tell me about your goals. You know, now you had kind of the new mandate as Head of the department. Wha --- What did you want to do and how did you go about doing it?

Wai-Kwan Alfred Yung, MD

01:04:36.9

Well, we want to at that time --- We really wanted to work very concretely with --- you know, as a program with Neurosurgery --- Neuro --- you know, Neuro-Radiation, and we wanted to --- you know, Sawaya and I said we need to develop a coe --- a cohesive program. We don't --- look at, you know, how we do it.

Tacey Ann Rosolowski, PhD

Hmm.

Wai-Kwan Alfred Yung, MD

Where we need some more --- some more help whether it's in Imaging, Radiology? If, it's so, we'll help, you know, increase the number of radiologist, you know, to fill that gap. ____
____ (01:05:22.7)

Tacey Ann Rosolowski, PhD

Now I want to ask

Wai-Kwan Alfred Yung, MD

When we see that we also have a gap in --- in basic when we expand. When we work together to really, you know, put our --- to --- we --- to put our laboratory together on the Mitchell Floor. I think we're the moving the Mitchell --- I forgot where --- because I helped the --- I was in the Design Committee for the Mitchell Building

Tacey Ann Rosolowski, PhD

Oh ,Okay.

Wai-Kwan Alfred Yung, MD

You know together with Mar --- with Dr. Kripke and is --- in --- in that process Dr. Kripke promised that we'll put Neurosurgery Laboratory and ____ (01:05:56.7),

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Tacey Ann Rosolowski, PhD

Oh, okay.

Wai-Kwan Alfred Yung, MD

floor so that we will work better. You know, so that we have a vision that we're on. Now that we have this opportunity to w --- putting all the laboratory together we need to really show ou --- show our work, you know, good stuff. And we, you know, make some major impact in research. And so our goal is really expand the program and also, you know, l --- individual department wide --- in Neurology we --- I also want to expand our, you know, patient care delivery in the Neurology side as well as the Brain Tumor side. So I recruited several neurologists to create thi --- the --- the --- the, you know, capability of doing a lot of neurophysiology intraoperative, monitoring, and you know, we want to have a comprehensive ge --- Cancer Neurology Program. As well as the --- As well as the Brain Tumor Research Program. And --- And we also want to have more joint grants, collaborative grants. So we work very hard to compete for --- an --- tha -- that's also the time that NCI created the SPORE concept.

Tacey Ann Rosolowski, PhD

Okay. Yeah. Okay.

Wai-Kwan Alfred Yung, MD

So we ve --- work very hard to create a SPORE Grant for brain tumor. We failed the first aroun -- first time around. We did not, you know, get high enough score to get into the first group.

Tacey Ann Rosolowski

01:07:40.8

01:07:43.2

Uh-huh. And is this the training grant?

Wai-Kwan Alfred Yung, MD

01:07:44.1

No. This is the --- the SPORE Grant.

Tacey Ann Rosolowski, PhD

Oh. Okay.

Wai-Kwan Alfred Yung, MD

SPORE. S-P-O-R

Tacey Ann Rosolowski, PhD

Right.

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Wai-Kwan Alfred Yung, MD

S-P-O-R-E. We were able to get the Brain Tumor SPOR Grant fina --- in the second round which is in 2000 --- let's see when is the second round? When did we get our funding? We just got renewed in 2014 so we get our firs --- we get our funding in 2009. We compete for 2000 --- and 2004.

Tacey Ann Rosolowski, PhD

Uh-huh.

Wai-Kwan Alfred Yung, MD

01:08:21.6

We missed --- we did not get 2004.

Tacey Ann Rosolowski

01:08:21.5

So what have you been able to accomplish with that grant?

Wai-Kwan Alfred Yung, MD

01:08:27.3

With the SPOR? Well, the SPOR Grant not only, you know, is politically important we say because, you know, it's --- it's kind of meaning that you are worthy of the designation of a specialized center. You have, you know, excellent clinical research translation _____ (01:08:49.2) that you're worthy of that --- carry that designation that you are the specialized center in brain tumor research. So we est --- we establish our s --- our credibility that we are specialized center in brain tumor research. We are one of --- one of the, you know, biggest best Brain Tumor Center in the country. You know. Also we --- again we were able to put investigator from different department, Neuro-Oncology, Neurosurgery, Pathology and work together to combine the project into --- into the SPOR Grant. You know, And --- And lastly we al --- we --- the --- the SPOR Grant _____ (01:09:37.3) is also anchored by, you know, the -- the development of a virus that we developed inhouse in our program from creating the virus to --- in the laboratory --- to test the virus cl --- preclinically in mouse model. And then get NCI money to --- to prepare TMP and that, you know, the --- that --- you know, the SPOR Grant allow us to really do --- you know, to bring that virus into the clinic.

Tacey Ann Rosolowski

01:10:14.6

01:10:16.3

And the purpose of this virus?

Wai-Kwan Alfred Yung, MD

01:10:16.8

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Is --- It is --- It is ---It is a oncolytic virus that will kill the tumor cells and leave normal brain cell alone. You know.

Tacey Ann Rosolowski

01:10:27.7

01:10:28.9

So is that now in clinical trial?

Wai-Kwan Alfred Yung, MD

01:10:28.5

So it's now in clinical trial.

Tacey Ann Rosolowski, PhD

Wow.

Wai-Kwan Alfred Yung, MD

So it --- it actually, you know, is one of the --- a --- a project --- a successful project of developing a drug --- a brain tumor specific drug from scratch.

Tacey Ann Rosolowski, PhD

Wow.

Wai-Kwan Alfred Yung, MD

01:10:43.9

Yeah.

Tacey Ann Rosolowski

01:10:46.6

01:10:49.9

It --- So that's actually in clinical human trials, obviously.

Wai-Kwan Alfred Yung, MD

01:10:49.4

01:10:50.6

That's in human trials now.

Tacey Ann Rosolowski

01:10:50.4

01:10:50.3

That's amazing.

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Wai-Kwan Alfred Yung, MD

01:10:50.7

And then we go into Phase 2 clinical trial.

Tacey Ann Rosolowski, PhD

Wow.

Wai-Kwan Alfred Yung, MD

Now, of course, SPORC is not --- SPORC come in --- the SPORC Grant come in s --- the later stage of development. The early stage of developments are funding by R1 grant and also NCI's drug development grant. The SPORC come in all --- allowing us to --- to further develop in the clinical. And --- And at the next generation of virus.

Tacey Ann Rosolowski, PhD

(01:11:19.3

01:11:25.9

Wow. That's amazing. Who is --- Who are the individuals involved in the development of this oncolytic virus?

Wai-Kwan Alfred Yung, MD

01:11:28.3

The, you know, the scientist behind it is **Juan _____ (01:11:32.5)**. You know, of course, I --- I was involved as a --- as a pusher and ki ---kicker. And --- And also finding money for it. Dr. Conrad. But Juan --- **Juan _____** and his wife Candy are the two major scientists. They commissioned me, Conrad, and then we later brought on Fred Lang from Neurosurgery, you know. So again, so it's really science, cl --- Neuro-Oncology, and Neurosurgery all work together.

Tacey Ann Rosolowski, PhD

Wow. Hmm.

Wai-Kwan Alfred Yung, MD

01:12:23.5

And the pathologist too. We need pathologist so Dr. Fuller was involved. And --- And

Tacey Ann Rosolowski

01:12:27.1

01:12:34.4

Fascinating project. Yeah. So that seems like a big landmark. Oh yeah, we've got about five minutes.

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Wai-Kwan Alfred Yung, MD

01:12:33.8

01:12:36.7

I think we've got about five minutes. We probably should wrap up this session.

Tacey Ann Rosolowski

01:12:36.4

01:12:39.2

Okay. Okay. Well that sounds good. I mean, we can ---

Wai-Kwan Alfred Yung, MD

01:12:39.4

01:12:39.5

This is landmark. Yeah.

Tacey Ann Rosolowski

01:12:39.8

01:12:40.9

Yeah. This is a big landmark.

Wai-Kwan Alfred Yung, MD

01:12:40.6

01:12:41.9

This is a good point to stop right now.

Tacey Ann Rosolowski

01:12:42.0

Sounds good. With a big success after your discussion earlier of how difficult the drug trials have been. So well thank you for your time today, Dr. Yung.

Wai-Kwan Alfred Yung, MD

Okay.

Tacey Ann Rosolowski

01:12:53.4

And

Wai-Kwan Alfred Yung, MD

01:12:54.1

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So we'll schedule another but I guess

Tacey Ann Rosolowski, PhD

Yeah.

Wai-Kwan Alfred Yung, MD

01:12:57.2

When we go into the department ____

Tacey Ann Rosolowski

01:12:57.6

Sure.

Wai-Kwan Alfred Yung, MD

Okay.

Tacey Ann Rosolowski, PhD

We have --- Yeah, we have another session scheduled for next week. So thanks a lot

Wai-Kwan Alfred Yung, MD

Alright. Good.

Tacey Ann Rosolowski, PhD

for taking the time today.

Wai-Kwan Alfred Yung, MD

Alright.

Tacey Ann Rosolowski, PhD

And I'm tak --- I'm turning off the recorder at twenty-five minutes after three.

Wai-Kwan Alfred Yung, MD

Okay.

Tacey Ann Rosolowski

01:13:07.4

So thanks a lot.

Wai-Kwan Alfred Yung, MD

Interview Session Four: July 7, 2014

Chapter 00D

Interview Identifier

Tacey Ann Rosolowski, PhD

0:00:09

For the record, today is July 7, 2014 and the time is 2:37 and I'm on the 7th floor of the faculty center today in the Department of Neuro-Oncology talking with Dr. Alfred Yung, Department Chair. This is our fourth session together. So thank you very much for agreeing to this last session and with all of our re-schedulings and equipment questions and all of that we've --- we've powered through and we're at our last session, so thank you.

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Chapter 13

Focusing on Work, Faith, and Hope During Cancer Treatment

A: The Patient;

Story Codes

A: The Patient;
A: Character, Values, Beliefs, Talents;
A: Personal Background;
A: Overview;
A: Definitions, Explanations, Translations;
C: Faith, Values, Beliefs;
C: Portraits;
C: Formative Experiences;
C: Evolution of Career;
C: Patients, Treatment, Survivors;
C: Funny Stories;
B: MD Anderson Culture;
C: Dedication to MD Anderson, to Patients, to Faculty/Staff;
C: Healing, Hope, and the Promise of Research;
C: Human Stories;
C: Offering Care, Compassion, Help;
C: Patients;
C: Cancer and Disease;
C: This is MD Anderson;
C: Dedication to MD Anderson, to Patients, to Faculty/Staff;

Tacey Ann Rosolowski, PhD

0:00:09+

Well, I wanted to ask you today, we were talking before the recorder was on about some of your experiences as a patient at MD Anderson. So I wanted to ask you a little bit more about that. Last --- last time you mentioned that you were diagnosed in 1999.

Wai-Kwan Alfred Yung, MD

0:00:59

Yeah. I was diagnosed with cancer in 1999, transitional cell carcinoma in the prostatic duct which is kind of an unusual place for transitional cell carcinoma. Transitional cell carcinoma usually either in the bladder wall, you know, or in the bladder entrance but in the prostatic duct is very uncommon. But on the other hand I actually was symptomatic for a few years before finally the biopsy revealed the cancer cell. I had multiple biopsies because of the --- because of the symptoms of urgencies and bladder obstruction. So I used to have to go to the bathroom a

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lot. So we had multiple biopsies at time initially thinking it may be just the congenital problem of the --- of the bladder outlet, too narrow to open it up and make the symptoms go away, but it didn't. Until 1999 when they did some more tests and had some spontaneous bleeding. So the urologist took a much bigger biopsy and then discovered the cancer cell. At the time the cancer cell invaded some of the blood vessel. So we decided --- so the oncologist and the urologist decided that we should have chemotherapy first before radical surgery. So we did chemotherapy for five months I think and then followed by surgery. At that time, we decided to, David Swanson is the urologist, and David said, "Well do you want to have small surgery, just kind of scrape out the --- the wall or do you want to have more radical surgery to take out all your _____ (0:03:21.7) organ like the bladder and the prostate all at once. That would guarantee that there is no --- no tissue left for cancer to come back. Small surgery, you know, you keep your potency but you are leaving a lot of tissue for the cancer to come back."

Tacey Ann Rosolowski, PhD

Right hard decisions.

Wai-Kwan Alfred Yung, MD

0:03:43.9

So we choose to have the radical surgery with reconstruction.

Tacey Ann Rosolowski, PhD

0:03:53

So tell me about that shift. I mean, to go from being a cancer doctor to a person having cancer and seeing the disease and experiencing the disease in a totally different way. What was that change like for you?

Wai-Kwan Alfred Yung, MD

0:04:11

Well, I mean I think, I --- my wife and I, you know, we grew up in church and we have very strong faith in God. So when we were told with this diagnosis we really just, you know, take it in the way of this is just another hurdle that we need to put it in --- use our faith and put it on God's side and see what He's guiding us to do. I mean we didn't really go through a lot of anger and "Why me? Why me?" type stage. We really focused on next --- what next.

Tacey Ann Rosolowski, PhD

0:05:01

Well I think it's interesting that you, you know, you're saying that it was sort of a joint experience, you and your wife. So it sounds like you have a really strong --- you had a really strong support system at home, which is great.

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Wai-Kwan Alfred Yung, MD

0:05:17

But when we were --- when I was deciding what to do, I mean, the first --- with the very first decisions that I don't, you know, want to leave Anderson system. I want all my treatment --- treatment for cancer, we're the best cancer hospital. I don't want to go elsewhere for the cancer treatment because I don't people to know that I had cancer. You know, so the first decision was to stay here whether it was chemotherapy or surgery. I trust my friends. So I talked to Logothetis and then talked to what's his name, the oncologist that left. It'll come back. I will have to find his name.

Tacey Ann Rosolowski, PhD

0:06:20

Okay and that first doctor's name was Peters? What was his first name?

Wai-Kwan Alfred Yung, MD

0:06:28

No. The Chief of GU Medicine now. Chris ---Christopher Logothetis.

Tacey Ann Rosolowski, PhD

0:06:38

Oh, Logothetis.

Wai-Kwan Alfred Yung, MD

0:06:42

Chris Logothetis.

Tacey Ann Rosolowski, PhD

0:06:43

Okay, got it. Uh-huh.

Wai-Kwan Alfred Yung, MD

0:06:44

But it --- But it was, you know, it was --- he assigned it to one of his deputies --- one of his faculty that specialized in bladder oncology. Logothetis himself is much more into prostate. So we have --- I had to go through five months of chemotherapy you know weekly times three, rest one week, and then --- and then --- so a total of 15 weeks of chemotherapy with three drugs.

Speaker

Wow.

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Wai-Kwan Alfred Yung, MD

But, you know, I was ama --- I was in pretty good health even though the chemo is pretty strong other than just losing all my hair and my --- my blood count dropped only one time and I have really --- you know, I timed the chemotherapy such that I get my chemotherapy Friday night. I check into my hospital room because it's overnight infusion. So I check into the hospital room Friday night, get my infusion done, and then Saturday morning I check out, go home and rest then come back to work on Monday. So for 5 months we go through this routine. But on the other hand that kind of experience was exactly how again like I said I wanted to behave like a patient, not a VIP, not a doctor. So I usually just go up to my room just like any other patient, check in, wait for my --- my chemotherapy and interact with the staff just like other patients.

Tacey Ann Rosolowski, PhD

0:08:54

Was there anything about that patient experience that surprised you?

Wai-Kwan Alfred Yung, MD

0:08:58

And I think it is. You know --- it is --- You get the feeling. At night it's pretty noisy in the hospital because the nurse comes in to check you. So you understand when patients say. "I don't want to stay in the hospital because it's so noisy at night. I cannot sleep." It's true. You cannot sleep. Because the nurse has to come check you sev --- several times a night and also if your room is close to the nursing station a lot of people are talking out there all night long. You know. So these are real people that go and the food is really lousy no matter what. Our food is pretty terrible. And you also have to, you know, --- you have side effects from the chemotherapy you know but I think that the experience of our staff, --- you know, I think at MD Anderson we have a wonderful team of nurses and support staff. And I think most of our nurses and assistants are very good, you know, very compassionate to patients. There are some who occasionally they are going to be that slacker but otherwise we have a very good team.

Tacey Ann Rosolowski, PhD

0:10:35

Did you observe? I mean did those observations and going through that experience, you know, from the inside, did that make you think differently about you know MD Anderson, about your own practice?

Wai-Kwan Alfred Yung, MD

0:10:49

Well I mean --- I think, you know, it did not change my mind about MD Anderson. I mean it

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helped me to --- to really be a better manager or to be --- to really be a better advisor when people --- when management asks me what we need to do and how we can improve MD Anderson and also as a Department Chair how we want to --- how we want to really change things in our clinic and the way that we administer care to the patients because I have seen first-hand, you know, what kinds of issues that you run into as a patient. I --- When my IV doesn't work, how fast do I get help? When I need to go to the bathroom, how fast did I get help? And when I have issues with one of the --- one of the drugs that I have is a steroid and steroid make you a nut, at night --- especially when you have steroids at nighttime --- especially when have steroids at nighttime you are agitated all the time. They make you feel like you pins and needles all the time --- pins and needles all the time, you know, and you cannot sleep. And when you go through that kind of experience you know what the patient goes through. When the chemotherapy makes you --- your stomach really queasy and you don't feel like eating anything or always want to --- want to throw up. You experience it and then when you talk to your patients you know what they go through and you understand what he is talking about. So in a --- in a way that experience really helped me. You know, I don't want to use the phrase "more compassionate" because I think I am compassionate enough without being a patient, but more understanding of what a patient goes through when you talk about or try to calm down their fears or trying to calm their nerves, you know, you can come in with more understanding there.

Tacey Ann Rosolowski, PhD

0:13.25

Do you tell your patients that you've --- you yourself have been a patient?

Wai-Kwan Alfred Yung, MD

0:13.29

Yes.

Tacey Ann Rosolowski, PhD

0:13.31

Does that help create?

Wai-Kwan Alfred Yung, MD

0:13.33

It does. I have many of my older patients, especially the patients who see me through those times. I still have a lot of patients that --- that, you know, saw me when I had no hair and up to this stage they say, you know, "Are you still okay?" No, I'm not --- I tell my patients I --- I know exactly what they are talking about because I am a patient. And, you know, I use my experience to encourage my patients that, you know, --- that you've got to have hope. We --- I am just a messenger. I always tell them I'm the messenger. I don't have the ultimate answer for you. I give you the medicine that I give everybody, but it may work on you and it may not work

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on you. He's the guy --- upstairs guy who is in control. You know, you just have to have the hope. This is a battle. you know.

Tacey Ann Rosolowski, PhD

0:14:44

I can imagine, I mean I think if a physician told me that you know he or she had experienced whatever I was going through I think that would really calm my --- you know calm me down and make me feel like, yeah this person kind of --- ki --- really knows.

Wai-Kwan Alfred Yung, MD

0:15:02

It depends on the patient. Some patients really, you know, have such a high anxiety level and high anger level that, you know, it's --- the anxiety and anger overcome everything else.

Tacey Ann Rosolowski, PhD:

0:15:27

Is that particularly the case in dealing with brain cancers? I mean I'm --- you know all cancer is so difficult to deal with. The diagnosis is so difficult, but I've --- I've always thought that a diagnosis of brain cancer has you know kind of a special urgency because the brain is so tied up with our identity, I mean who we are as a person.

Wai-Kwan Alfred Yung, MD

0:15:50

Well, yes. I mean I think --- I think the --- the anxiety level is higher mainly because it is so you know generally perceived that this is a --- you know especially a brain tumor is a deadly disease -- a hopeless disease. No one --- No one lives, you know. So --- But on the other hand, my observation is also --- depends on the makeup of the patient. Whether the patient is a control person or not a control person. I mean I think --- I don't think brain --- malignant brain tumor is any different from lung cancer or breast cancer you know. The only difference --- I think the only difference --- I would say there is a difference. The difference is that when you have cancer in the brain --- tumor in the brain, that the unfortunate thing is because the tumor is in the brain it kind of destroys your --- your cognitive function. It des --- destroys your --- your orientation, memory early. And so you lose your brain function early as opposed to cancer in the lung whereas you could be totally intact up here with the body being rotting away. But the problem with brain is that you lose your faculties. You become, you know, dependent on people and a lot of type A, high function people, really cannot handle that well. You know especially when high function people feel that they are only functioning at 70% because part of the memory is gone or part of the --- where they were able to function at 130% of their brain function and now they are only functioning at 70%. They don't like it. And also now they depend on what the doctors say, what my wife --- what the caregiver has to say and they used to give order. So it leads to a lot

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more anger especially on the high function people. You know a lot of anger and a lot of depression.

Tacey Ann Rosolowski, PhD

0:18:24

What do you do as a clinician for people like that?

Wai-Kwan Alfred Yung, MD

0:18:31

Not much you can do. You know hook them up with psychiatrist early or encourage them and say this is going to happen. The more you can give the more you can --- The sooner you can accept. My emphasis has always been the sooner you need to accept --- the sooner you can, the sooner the better for you. You need to accept that you are not the same person. Yes, you are CEO of the big company, you functioned at 130% of brain capacity but you know --- you --- now you only --- you only function at 90%. In general 90% is very good already so come on guy accept. 90% is better than a lot of people. Don't just keep drilling on that "Gee, I was 130% before, why can't I be 130%? I don't like 90%." So you are going to be depressed if you do not like your 90%. You've got to accept, 90% is just as good and function at 90% and not push yourself back to the 130 because you'll never get there. You'll get frustrated and you'll get depressed. Some people, you know, --- The people who do well is the ones that accept it. They say, "I'm stepping back. I accept this." Those who cannot do that they go into a deep depression and so some do not do well treatment-wise.

Tacey Ann Rosolowski, PhD

0:20:16

That's a very hard situation. I remember last time you also told me that when you were going through your treatment and all of this experience as a patient, I mean you were also really being jettisoned into an entirely new administrative role so your own administrative responsibilities had changed dramatically. How do you feel --- Was there --- What was that collision like? I mean here you were a patient and then suddenly, bang, you know you had this whole new role to take on. Did that help? Did it hurt? You know what --- what was that like?

Wai-Kwan Alfred Yung, MD

0:20:54

Well, the illness other than the you know the tumor and the surgery and the recovery from surgery, that five to six week period. We did not --- Even chemotherapy did not slow me down that much. But surgery and recovery from surgery, that five to six weeks of recovery time slowed me down. But as soon as I recovered from the surgery I was, you know, back to 100% active and my perspective at the time was that I'm given extra time so --- so now I have to use the extra time properly you know to the best of . . . God had given me the time I have. Because

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with the --- with the chemotherapy first and surgery later at the time of surgery the tissue that got removed showed almost no cancer cell left so what we call pathological res --- you know remission. The chemotherapy killed off all the tumor cells. So that was a good prognosis, a good prognostic factor that we were able to achieve pathology CR --- pathologic CR and then --- then the surgery becomes a cleanup job. And also the other thing is --- is that you know David, the surgeon, was able to --- to instead of when --- when you have to remove the bladder you know you either have to create a neo-bladder or use the bowel to create a bladder so that you can make internal --- you know have an internal reservoir or you have to wear an external bag if there is no --- not enough room to create. You know I told David I said "Try your best. Even though you may need to get rid of all the tissue but try your best and see if it's possible save enough room to put a bladder in so that my quality of life would be a lot better without dealing with the bag." Even though I have to deal with the incontinence but there is no --- no real sphincter control but it's still much better than changing a bag all the time. So we were able to have a neo-bladder so --- so I mean I function almost without much disability after the surgery. I'm really, you know I look like at it as God has given me the extra time, so I'm going to use it to do the program, you know.

Tacey Ann Rosolowski, PhD

0:23:53

What were some --- Were there some projects or you know pathways that you identified that you wanted to use with --- wanted to go down with that extra time? You know were there things that okay I've been given this time, I really want to do THIS. Was there anything like that?

Wai-Kwan Alfred Yung, MD

0:24:10

Well, I mean I wa --- Yes. I was going to --- to really build a world class brain tumor research program here you know and kind of continue what Dr. Levin, my previous boss, had started you know with Dr. Sawaya so I worked closely with Dr. Sawaya. We --- I --- I was given --- given positions and authority to expand the department, you know, and bring in more scientists and develop an area of drug development so that --- so that we have a team of people who develop new drugs and a team of people to look at creating virus for viral devel --- To create a laboratory and clinical program that can go you know back and forth in between it. What we call nowadays a translational program so that the clinicians and the scientists that work together. We go back and forth and we also perform more cohesive collaborations with Neurosurgery, Pathology, and Radiology to --- to really create this team so we go after the specialized center grant --- the SPORC grant.

Tacey Ann Rosolowski, PhD

0:25:50

Yeah we talked last night --- last time about how you were building those networks.

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Wai-Kwan Alfred Yung, MD

0:25:55

So we --- we were finally successful at getting the SPORE grant after one trial. We were not successful with the first round in 2006. I think we were not successful there but we finally got our grant funded in 2009 --- no 2000 --- 2008. The second round was in 2008. We got funded in 2008.

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Chapter 14
Building the Advanced Practice Nurse Program
A: The Administrator;

Story Codes

A: The Administrator;
B: Building/Transforming the Institution;
B: Multi-disciplinary Approaches;
B: Growth and/or Change;
C: Offering Care, Compassion, Help;
C: Patients;
B: MD Anderson Culture;
B: Institutional Mission and Values;
A: Overview;
B: Institutional Processes;

Tacey Ann Rosolowski, PhD

0:26:27

Yeah, we talked last time about some of the research that --- that has come out of that too so it's really promising. I wanted to ask you about some of the other --- I have this little printout of, you know, the 'Where we were' in the department and "Where we are" in the department.

Wai-Kwan Alfred Yung, MD

0:26:45

Where did you find that?

Tacey Ann Rosolowski, PhD

0:26:48

I found it online. It has some --- some really interesting things, some of which we've already talked about but there were some that we hadn't and I was interested in the advanced practice nurses. You know the degree to which advanced practice nurses are kind of part of what is going on. There's also, I don't even know how to say this, ependymoma.

Wai-Kwan Alfred Yung, MD

0:27:18

Ependymoma.

Tacey Ann Rosolowski, PhD

0:27:19

Ependymoma.

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Wai-Kwan Alfred Yung, MD

0:27:19

Ependymoma.

Tacey Ann Rosolowski, PhD

0:27:20

What is that?

Wai-Kwan Alfred Yung, MD

0:27:22

Well there are --- So let's talk about the --- the --- the advanced nurse program. I think we --- we developed the advanced nurse program in the department sort of along the institutional direction. Now when I --- when I took over the Chair, you know, I --- I hired several you know more clinical faculty and recruited several more in an event to expand the clinical program and at that time it was also one way to expand the clinical care is utilize support from advanced nurse --- advanced practice nurse. Some departments use advanced practice nurse, APN. Some departments, especially surgical departments, might use physician's assistants, you know P.A.s. We --- We --- We in the medical side most of the medical departments use advanced practice nurse so they come up from the nursing rank. They have Master's degree training in --- in primary care nursing or advanced care nursing so they become --- they can perform the functions aside a physician you know and do physical exams and do history-taking and even are allowed to prescribe some simple drugs after they workup this --- the patient and find out that maybe this is an infection and we need to prescribe an antibiotic or the --- and/or this is just a cold or something like that. So the advanced nurse can be really very helpful. Some of them sometimes even can do independent followup, you know, follow up and check out the patient to see if blood count is good and we don't need actually physicians to see those patients. So they set up their practice line themselves. So we start --- You know when I became chair I recruited two or three faculty to expand our clinical load and at the same time we needed it so we recruited and started expanding our advanced practice nurse. I recruited **Ava Lou Lee (0:30:03.1)** from --- from the -- from the emergency room and she is wonderful. She worked with me and she help --- she is kind of in charge of hiring more APN. She became the APN Supervisor and we built a --- a --- a APN team, you know, to work with --- work with them. Early on the division of medicine has a kind of --- has a formula saying how many doctors, you know, we are allowed to hire, one APN for --- for two doctors unless --- unless the doctor is a full-time clinician then we can have one APN per doctor. So you work out that kind of matching. We also utilize APN to help them with the procedures. We train our APN to do lumbar punctures and/or **myotap (0:31:02.3)** so that we can give chemotherapy to the _____ (0:31:05.7) reservoir. We also use our APN sort of like medical doc --- interns in the inpatient service. Other services do the same, use APN to staff to -- with the doctor to really manage the inpatients. So the APN gradually --- have become not

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only just an integral part of the department, but a major piece in the level of care, you know, in the care team. Working with the research nurse, working with the clinic nurse. So in a way MD Anderson is blessed. We have the resources that --- we actually have these four groups of nurses in the department level. We have the research nurse that take care of the research studies. We have advanced practice nurse as the phys --- as the doctor's assistant and then in the --- in the clinic, we have the clinic nurse that kind of do the clinic and then you have the inpatient nurses. And in most --- most other places we do not have these --- that rich resources where can have that large group of research nurse as well as advanced nurse and some --- some of the other places, they have to use their advanced nurses to do a lot more research functions.

Tacey Ann Rosolowski, PhD

0:32:45

Interesting. I'm curious. I was talking to Barbara Summers [Oral History Interview], and she was talking about how there is move in nursing to talk more about patient-centered care and family-centered care and I'm wondering is there any way that that is also becoming part of --- of Neuro and what the nurses do in Neuro since you were talking earlier about these dependency issues with Neuro-Oncology patients.

Wai-Kwan Alfred Yung, MD

0:33:18

Yeah, I mean I would use like the --- the --- the --- the advanced nurse we provide, you know, the --- a --- a lot of help and assistance to --- you know to the caregiver, to interact with the caregiver. We also have --- You know, there are several research nurse --- several advanced nurses who are very much interested in quality of living --- quality of life and patient symptoms and so --- so that --- that is also there. Their research interest in how to you know to --- to work with the caregiver and the patient in the area of enhanced, you know, family care and family interaction and I think that's very important in terms of improving the quality of life of the patient.

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Chapter 15

The Collaborative Ependymoma Research Network (CERN); Funding Research A: Professional Service beyond MD Anderson;

Story Codes

A: Overview;
A: Definitions, Explanations, Translations;
A: The Researcher;
A: The Clinician;
D: Understanding Cancer, the History of Science, Cancer Research;
D: Business of Research;
D: On Research and Researchers;
B: Philanthropy, Fundraising, Donations, Volunteers;
B: Industry Partnerships;

Tacey Ann Rosolowski, PhD

0:34:23

Very interesting. Hmmm... What about the uh ...?

Wai-Kwan Alfred Yung, MD

0:34:28

Ependymoma? You know, when it comes to primary tumor in the brain, the most common is astrocytoma. The second common is oligodendroglioma. Now in the brain if you re --- if you remember biology of the brain, there are four main types of cells in the brain. One is nerve cell, the neuron, nerve cell and then the nerve cell is actually supported by three groups of supporting cells. One is astrocyte. Astrocyte provides nutrients and spatial support to the --- to the nerve cell. Oligodendrocyte --- Oligodendrocyte is the cell that makes the lining of the nerve fiber to help conduction faster. And the third one is ependymocell. Ependymocell --- In the brain there is a reservoir called the ventricle and an ependymo --- ependymocell line the reservoir and make fluid and move --- propel the fluid. All three types of cells can become cancer --- become tumors. Ast --- When the astrocyte become tumor, it is astrocytoma. When the oligodendrocyte get transformed into tumor, they are called oligodendroglioma. When the ependymocell get transformed into tumor, we call it ependymo --- ependymocell --- sorry ependymoma. Ependymoma. So you have three --- But ependymoma is the least common in adults. Now in children --- in children --- the most common tumor in children is the nerve cell tumor, medulloblastoma, because it's sort of a, you know, --- there is --- the --- the --- the neuron is still dividing at an early age and that program had gone haywire so formed neural tumor called medulloblastoma. So most of the medulloblastoma is developed --- is developed early and gets discovered early. That's why it's a children's disease as opposed to adult disease. They pick up those tumors in children. Besides medulloblastoma, astrocytomas are very common, then

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ependymomas also are common in children more --- more than adults but it still is a very small disease. And now I recruited Dr. Mark Gilbert in 2004, you know, to --- to join us from Pittsburgh. Was it Pittsburgh? Yeah, Pittsburgh. And I forgot when maybe 2005 or 2006 or somewhere around there, maybe later in 2006 or 2007, he had a patient who had an ependymoma and the patient's brother had a foundation and the --- the patient's brother asked Dr. Gilbert "does this --- how much disease --- how much research is going on for this disease --- this small disease?" and Dr. Gilbert said "not much." Well then he said, "Well how can we create more research?" The Dr. Gilbert said, "Well we could do that if we have you a --- large sums of research funds." And the brother said, "Do it. Tell me how much." Dr. Gilbert said, "It probably takes about 20 million dollars." He said no problem. So they set up a --- a foundation or --- they set up a foundation and called it the --- The CERN. CERN is Collaborative of Ependymoma Research Network and that --- it is funded by this one family and probably a little more but --- but it is known as The CERN Foundation. This foundation single-handedly fund ependymoma research in adults and children. It's a joint --- It is a joint project with Dr. Gilbert and Dr. Gilbertson from --- from St. Jude Hospital.

Tacey Ann Rosolowski, PhD

0:39:25

So is this --- it sounds like maybe this is very unique, that there's not a lot of research.

Wai-Kwan Alfred Yung, MD

0:39:32

This is very unique and at least because the --- there's not a whole lot of research going there because it's such a small disease. Now if you think about --- about public funding from the government. So when you have a big disease, a big clinical need, and also big efficacy voice, you get more funding. When you have a small disease, not that many efficacy voice to raise, so you don't get much funding. So you know that if something happened to a rare disease most of the time you need, you know, private funding. And so this family and Mr. Clay, what is his last name? You could probably get his last name if you go on site --- go online and look up CERN, maybe you can find it. He's not that keen on announcing his name so everything is talked about CERN but --- but --- but this one piece of private funding has publicized the plight of patients with ependymoma because it stimulates a lot of --- especially more like tumor research and drug discovery research in this disease and it's --- is a model actually. I mean this is a model that we are following even with bigger disease like glioblastoma and I'm working with the National Brain Tumor Society to mount a national effort, you know, 50 million dollars along the same line that there is not enough public funding to really mount a big effort so you really can mount a --- a strong concentrated effort with private funding. We can seek out the --- the --- the talents, the strong scientists and high-impact program to get them to work together to --- to devote more time and more brain power into this problem and we'll --- we'll be able to make inroad faster.

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Tacey Ann Rosolowski, PhD

0:42:17

Is it the case too --- I mean I know when I was talking to Gabriel Hortobagyi he was raising certain issues that came up with private versus public funding for research and saying that even with certain private foundations and certainly with government, you know, there's a tendency to take a safer road in funding research whereas private funds can often be --- they have more freedom to fund things that --- that are innovative.

Wai-Kwan Alfred Yung, MD

0:42:46

I think he's right --- he's right. The system that we set up with NIH with the peer review system. It is --- It is a more conservative system because the peer review system, you know, utilized the view and take the view that "well tell me what you want to do" and this is what you want to do or why do you want to do it? What is the evidence that this is the right thing to do? So you --- they require a lot of preliminary data and it requires you know a --- a sort of --- a lot of safety valves, you know, check and balance to say you know I think of this but this has not worked as well. So it takes a more conservative way of thinking. In general because of the peer review system it's set up like this that the investigators do not really --- cannot take risks that much. You cannot say, "I want to do this even though I don't have a whole lot of data to support why I want to do this." You never get money from the public system when you say, "I want to do this just because of hunch. I don't have any data to support why that --- that it will work. Just a hunch." The public seminar gives you money to do this. The private systems works. If you --- If you say --- You know if you say that, "Gee, we need to take that risk." Especially you know if a group of advisors get together to say, "We have seen this. We --- We need to take this risk." And the private funding has the freedom because they don't --- they don't --- well they do have to answer to the constituents --- the ones who raise the funds, but they don't have to answer to a lot of government regulations that say, "Well did you use the money right?" You know? So I do believe that private funding allows you to take more risks which is what we need, to take risks.

Tacey Ann Rosolowski, PhD

0:45:14

I also wanted to ask you about the clinical research piece because I mean I was just talking to Robert Bast [Oral History Interview] this morning and --- and I've talked with other people who do translational research too, who you know have observed that there tends to be you know more emphasis on the pure basic research approach than a clin --- a more clinically based research. And I'm wondering if you feel that that's also a trend in funding. You know that I mean it's the basic research that gets into the high-impact journals that maybe attracts more --- more funding more quickly and that if private funding can be used for more clinical approaches, more translational approaches.

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Wai-Kwan Alfred Yung, MD

0:46:13

Well, I mean I think that there's --- there's a lot of NIH funding going to the clinical trials and I don't think there's enough private funding unless --- well there are s --- there are several high value foundations that they can --- they can fund you know clinical research in a way --- in a scale that the NIH is funding. Because doing clinical trials is very expensive. It's really very expensive you know and --- and that's either funded by the federal government or funded by the industry and private foundation funding unless you're talking about a big foundation like Coleman Foundation, you know, Ford Foundation those --- and Leukemia Foundation. Those big ones, they can handle multi-million dollar clinical trials. Many small foundations really cannot mount that kind of support for clinical trials. I think clinical trials require --- require a lot of --- if you can do it requires a lot of collaboration between the government and the drug industry and the private foundations for us to do more risky, innovative trials. The government funding tend to do, again, more conservative trials and --- and that's what the cooperative groups are doing, they --- conservative, you know, trials. Early --- But now even though the government and NIH are trying to fund the phase 1 and phase 2,, but phase 1 and phase 2 are traditionally still in the hands of the drug industry and the drug industry funds this kind of trial in big disease because they need to --- they need to get their money back. For a small disease like brain cancer, brain tumor, thyroid cancer, sarcoma they're always second fiddles or third fiddles when it comes to industry funding where there's --- this is where the foundation comes in.

Tacey Ann Rosolowski, PhD

0:49:01

If you had, you know, your wish granted, what would be one or two clinical trials that you would like to see handled in that way. You know, a risky trial funded by government, the drug industry, and private foundations all unifying their money. What would you like to see done?

Wai-Kwan Alfred Yung, MD

0:49:22

For brain tumor?

Tacey Ann Rosolowski, PhD

0:49:23

Yeah.

Wai-Kwan Alfred Yung, MD

0:49:24

Well we are actually doing some planning for that with a group of people and --- and thinking and planning and hoping that we can get these forces together. I mean what we --- what we have now to --- to --- that we need to take risks as we talked about in the research level we have a

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better understanding of the biology of a tumor. We know that, you know, glioblastoma can be divided in several subtypes with some clinical markings. So what we need to do then --- that --- is you know taking some of these molecular determinant and look at what drug could be matched with the molecular determinant and we can quickly test it. Getting one of drug A and drug B to treat disease A you know and disease B. Drug A and drug B if it does not work for C and D for disease A. Kind of doing these kind of mock-guided trials in a subgroup level. And --- And we can do this kind of trial in a very rapid changing fashion. A does not work, we go to B, B does not work, we go to C, C does not work, we go to D and there are technology for us to do that kind of design. The question is getting the company to allow us to use their drug which they are more happy --- you know, they would be more happy to give it to lung cancer and breast cancer but not as much to --- to --- to glioblastoma so we need to get the buy-in from the drug company saying, "Yeah we are going to come in to allow you --- to give you the drug." That's the collaboration you know and then we have money to --- and we share the risk with the company by going "You don't need to give us money to do the trial but just give us the drugs early enough or give a small amount of money for drug or foundation we could have more money to support the rest of the pot." That kind can allow us to really take this kind of risk. There's not a lot --- There's not a whole lot of preliminary data to say A should work with group A. There's not a whole lot of preliminary data to say B should work with A also. But what we do --- we carefully design the trial, monitor the patients carefully and we do a more very small number of patients. We can get the test in the patient itself without relying on testing of animals.

Tacey Ann Rosolowski, PhD

0:52:17

What's --- So this is the planning stages? Have you --- Have you had conversations at all with drug companies about this?

Wai-Kwan Alfred Yung, MD

0:52:24

We're beginning to through the foundation and through the National Brain Tumor Society.

Tacey Ann Rosolowski, PhD

0:52:32

Because it sounds almost like I mean it's reminding me a little bit of some of the --- the mindset of the Moon Shots, you know, that kind of view the short --- short. So I was right?

Wai-Kwan Alfred Yung, MD

0:52:44

That's kind of in the mindset of the Moon Shots. You --- You --- I mean in Moon Shot we --- we say you know what --- where's --- take the lower hanging fruit and materialize the lower hanging fruit first. And --- and here I would cause more risk taking and de-risking each other so

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they would bring the company early de-risking them with foundation money and ---and also with the government comes in to also de-risk the company because you --- you allow some of the, you know, --- you allow the risks to be taken through the government red tape and also give the company that if we do this we may be able to forego some of the red tape and keep the registration down.

Tacey Ann Rosolowski, PhD

0:53:47

That's kind of adapting the Moon Shots approach to a situation which as you said the last time there isn't any low-hanging fruit for glioblastoma. So you kind of have to adapt the model to the reality of that situation. Yeah. Interesting. Very interesting.

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Chapter 16

MD Anderson's "Horizontally-Organized" Brain Tumor Center **B: Building the Institution;**

Story Codes

A: The Administrator;
B: Institutional Processes;
B: Devices, Drugs, Procedures;
B: MD Anderson Culture;
B: Building/Transforming the Institution;
B: Multi-disciplinary Approaches;
B: Growth and/or Change;
B: Obstacles, Challenges;
B: Controversy;
C: Understanding the Institution;
D: Technology and R&D;

Tacey Ann Rosolowski, PhD

0:53:47+

Well, I wanted to ask you too about the Brain Tumor Center, which is something that we've mentioned from time to time because you've been the co-director of the Brain Tumor Center from --- since 2001. And we sort of mentioned it a bit along the way but we haven't really talked about what the Brain Center means and what it encompasses, so if you could tell me a bit about that.

Wai-Kwan Alfred Yung, MD

0:54:29

Well the Brain Tumor Center basically is a, you know, horizontal organization bringing the department together.

Tacey Ann Rosolowski, PhD

0:54:43

And this is with the Department of Neurosurgery?

Wai-Kwan Alfred Yung, MD

0:54:44

Department of Neuro-Oncology, Department of Neurosurgery, and Department of Radiation Oncology with this brain group there and imaging --- predominately imaging with the neuro-imagers. That --- Because the well-defined department is the Department of Neurosurgery and Department of Neuro-Oncology. These two departments all focus on brain tumors, so we are the

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anchor departments for the center. But we cannot be a Brain Tumor Center without support from radiation, without support from radiology, without support from pathology and also laboratory researchers. So we have these people all working together under the umbrella of the Brain Tumor Center. And we --- we basically kind of started you know and we said now we are going to work together so that we can synergize each other and combine resources so --- and also --- and combine resources and synergize our talents so that we do not go off on a tangent and we need to do things as a group. And --- and I think we have done very well since we work together very well as a group. This has probably about more than 60 members in it and we work together to --- to --- to help each other to get individual investigator funding as well as combined multi-center --- multi-investigator funding like we are able to get the SPORC. I think that getting the SPORC is a triumph of the Brain Tumor Center coming together and we also --- it becomes a --- a program under the cancer program, --- you know, it's a clinical program under the cancer program and --- and support the cancer program. We get a outstanding rating you know. And we work together to develop drugs and the --- the viral program is also an outcome of collaborative effort among neuro-oncologists, basic scientists, and neurosurgeons. All three groups working together to really promote the oncolytic virus program.

Tacey Ann Rosolowski, PhD

0:57:23

Is the Brain Tumor Center and, you know, the thinking behind it, does that represent a special culture at MD Anderson, do you think? I mean, it --- does it have unique qualities?

Wai-Kwan Alfred Yung, MD

0:57:38

Not really. I think, you know, if you think about it it is a multidisciplinary approach to the cancer problem. I think is brain tumor may be more unique and that we, not the medical oncologist, not the neurosurgeon, not the radiation can really go independently to really create something for the patient. You know the treatment is so _____ (0:58:16.5) --- the treatment is so you know much dependent on all three things. You know you have to have good surgery, you have to have good radiation therapy, and you have to have good chemotherapy and all three things can be intermixed. So all three group of people really have to make --- work together to make advances. So we may be more dependent on each other if you want to build up --- if you want to build up strength as opposed to breast cancer. Breast cancer you can say, you know, there's a lot of chemotherapy that we can do with it. But on the other hand nowadays, you know, if we don't put the surgeon and the radiation doctor and the chemotherapy together in breast cancer they cannot make big advances either. You know? I think whether we call it a program, a breast cancer program, a brain tumor program, a lung cancer program or we call it the lung cancer center, breast cancer center, or brain tumor center, it is a multidisciplinary concept. Clinical and research people working together. It is a collaborative approach. It takes a village. We cannot go independent together. There is so much interdependency. For us to really make I

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think a center approach or a program approach is the only way to go so we can bring all the talents together.

Tacey Ann Rosolowski, PhD

1:00:04

And you're co-director is Ray Sawaya, M.D?

Wai-Kwan Alfred Yung, MD

1:00:09

Yeah. The question is how much of an independent infrastructure and mini structure that you want to create for the center or how loose a structure do you want, like many medical school or medical center they more use major loosely put together center or you know if we want to be more ri --- more --- more formal and say now not only you work together, administratively, you're together. You know the director gets to hire all the people and gets to control all the machinery. That's --- That's the definition _____ (1:00:50.7).

Tacey Ann Rosolowski, PhD

1:00:53

And what's your view of that? I mean I interviewed Dr. Sawaya and he, you know, provided his perspective on that. What's your perspective on what that might look like and what the pros and cons are of independent administration?

Wai-Kwan Alfred Yung, MD

1:01:05

I think it depends on where you are. I mean if you are able --- if you are able to --- I think, of course, it is --- It would be wonderful if you have --- if we can have an independent center you know independent center you know that the center controls the building and controls everything so. But on the other hand financially it is a very big undertaking, you know. So there is pros and cons to that approach you know es --- especially for the support. I mean if you think about radiation therapy, you know, can we administer and own our own radiation machine for brain and then lung own their own radiation machine, breast own their and split up our radiation department into 10-15 subgroup to house under each --- each unit. It becomes very costly. So we have to really look at this --- all these finance models. It's easier for us to group our neurosurgeons and neuro-oncologists, you know, together because we don't need to handle big machines, but when you have to handle big machines like radiation --- big machines like radiology the --- the financial model needs to be carefully thought out whether the --- this is economical.

Tacey Ann Rosolowski, PhD

1:02:50

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Is there anything else you want to say about the Brain Tumor Center and maybe its future? Big directions that are being undertaken at this point?

Wai-Kwan Alfred Yung, MD

1:03:01

Well at --- at this point I mean the mixed levels. Presently I'm waiting for a --- a new chairman to come in to expand the group. I think it is time for us to bring in new talents to go into the next level. And --- and we have all the bells and whistles --- bells and whistles to do it and --- and I think we are pretty well set in terms of expanding the brain tumor program in a direction of the institution. You know not only to --- to put a lot more emphasis on immunotherapy and immunology which I think you know even though it has been employed for brain tumor treatment but I think the --- the --- the --- the new age of the emphasis of the T cel --- emphasis on T cell function you know is going to bring that into a new level also as opposed to the old --- the old way of depending on vaccine. Vaccine is not going to make a major impact other than you know coming back to look at this new --- the new knowledge of activating the T cell and that's how the brain tumor Moon Shots is pushing.

Tacey Ann Rosolowski, PhD

1:04:39

Now the brain tumor Moon Shot, has that become a reality?

Wai-Kwan Alfred Yung, MD

1:04:42

Not yet.

Tacey Ann Rosolowski, PhD

1:04:43

Not yet. That's what I thought I remembered from our last sessions but they're putting it together.

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Chapter 17

The Defeat Glioblastoma Initiative and the NCI Brain Malignancy Steering Committee

A: Professional Service beyond MD Anderson;

Story Codes

A: The Researcher;
A: The Administrator;
A: Contributions;
A: Activities Outside Institution;
D: Understanding Cancer, the History of Science, Cancer Research ;
D: Business of Research;
C: Professional Practice;
C: The Professional at Work;
C: Leadership;

Tacey Ann Rosolowski, PhD

1:04:43+

There were a couple other things I wanted to ask you about, your other roles. Your in --- involvement in the glioblastoma multiform research collaborative. Now I don't know --- Did --- I'm not sure we already talked about that, you know, the inter-institution organization. Yeah it's an inter-institution collaboration and data sharing under the auspices of the National Brain Tumor Society.

Wai-Kwan Alfred Yung, MD

1:05:22

That's the --- the --- the --- the new project that I'm setting up with National _____ (1:05:28.2). You know it's --- it's the initiative that we put together with several institutions including MD Anderson, you know, UCSD, _____ (1:05:46.1), UCLA, and Memorial-Sloan Kettering. We put the talents of the executive levels which we mentioned earlier about you know putting the talents together with a more concentrated funding and say --- then turn them loose and say now we want you to work on these directions. Develop new drugs, find out why -- - why the patient is resistant to the drug, find out --- keep --- find a marker that can divide the patient into a specific group, find out why the --- the --- the tumor escaped control, find out if there is any imaging way of --- if there is any molecular imaging to identify this patient without cutting open the patient. And these kind of --- giving these broad directions for this group of people. Do that and we're going to give you 20 million dollars or 10 million dollars to do it in the next three to four years. That is the initiative --- the goal of the initiative.

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Tacey Ann Rosolowski, PhD

1:06:58

I see. Wow. So what's the timeframe for getting this underway do you think?

Wai-Kwan Alfred Yung, MD

1:07:04

We started the first year. The --- This group has started --- just started working the first year. So the --- next --- the next level is using to expand a national group into international collaborative. So whether we can divide up the topics and divide areas in terms of bringing in collaborators from Germany, from China, from Australia, you know.

Tacey Ann Rosolowski, PhD

1:07:41

Yeah. Wow. And I read the aim is to double the five year survival rate of glioblastoma patients within five years so that's a pretty Is that --- Is that bold?

Wai-Kwan Alfred Yung, MD

1:07:55

Well, that's bold. If you start with 10% and double it to 20% it's not that bold.

Tacey Ann Rosolowski, PhD

1:08:00

Yeah that's why I was asking the question.

Wai-Kwan Alfred Yung, MD

1:08:00

No, it's not that bold. Initially we were going to go from 10% to 40%. That's pretty bold.

Tacey Ann Rosolowski, PhD

1:08:09

But you scaled back?

Wai-Kwan Alfred Yung, MD

1:08:12

We scaled back to more reality or more realistic.

Tacey Ann Rosolowski, PhD

1:08:18

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Right. And it says that this group is relying very heavily on information from the Cancer Genome Atlas as well as immunotherapy approaches.

Wai-Kwan Alfred Yung, MD

1:08:27

Not really but --- but we learn from them and we --- we use utilize the cancer genome, you know, data as a starting point in terms of characterizing the patient's tumor as well as you know cell line that get generated from patients tumor but it's not totally relying on that.

Tacey Ann Rosolowski, PhD

1:08:59

Interesting. Okay. There's also your role on the NCI Brain Malignancy Steering Committee. Is that something that's --- you'd like to comment on?

Wai-Kwan Alfred Yung, MD

1:09:11

The Brain Malignancy Committee is --- is --- is a new organization feature of the NCI in response to the request from the Institute of Medicine. The Institute of Medicine asked NCI to reform their clinical trial network and put some more emphasis on collaboration among the network. So one way to do that is that they formed a steering committee on each cancer. So there is a Lung Cancer Steering Committee, Breast Cancer Steering Committee, Ovarian Cancer, and the Brain Malignancy Steering Committee. The -- The role of the steering committee is to reviewed proposals, review concepts and research trials with concepts from the big cooperative group when it involves a large number of patients or with even smaller cooperatives that rely on NCI resources. You know they need to be reviewed and was --- we're hoping that using the brain malignancy committee with a group of people sitting there to --- to look at these concepts who are able to really identify a high value concept versus lower value concept to encourage investment in the high value concept and also to avoid competition from one group or the other group when they are doing a similar concept. They say, "Why don't you guys work together?" Instead of two similar concepts, one concept and two groups work together.

Tacey Ann Rosolowski, PhD

1:10:52

So, just because you said that this was a new

Wai-Kwan Alfred Yung, MD

1:10:56

So it's kind of the committee -- the committee is look at the national trends.

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Tacey Ann Rosolowski, PhD

1:11:01

Hmmm.. National trends. Because I was wondering I mean my question just to put it bluntly was what was wrong with the old system? You know weren't people doing that before?

Wai-Kwan Alfred Yung, MD

1:11:09

The --- The --- The old --- Without --- I think the committee plays a role in really looking at the national trend and the other idea is that usually a committee is able to chart national direction and then field it down to the cooperative group.

Tacey Ann Rosolowski, PhD

1:11:26

So it's --- So it's just taking a new perspective. That sort of integrative perspective was missing --- missing before.

Wai-Kwan Alfred Yung, MD

1:11:32

It's a new perspective, yeah.

Tacey Ann Rosolowski, PhD

1:11:36

Interesting. Now does that reflect kind of a new reality of what science is and doing --- doing biomedical research at this point?

Wai-Kwan Alfred Yung, MD

1:11:43

I think so. I think there is a new reality of bigger science, better team science, and you need better coordination when the resources is scarce. Especially you know because you have a fixed pot of money, now you have to do more work. How do you make --- use that money efficiently instead of you know allowing a lot of duplication. Because in the old system there's a lot of duplication. Even though it's --- it's competition but a lot of competition is self-centered competition and you --- you do a lot of duplication and a lot of wasting for a small thing.

Tacey Ann Rosolowski, PhD:

1:12:28

Oh I see what you mean by self-centered competition. It's like, well, I want to be the one to do it.

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Wai-Kwan Alfred Yung, MD

1:12:31

“I want to be the one to do it. I don’t want to work with you.” Or “I think my idea is good.” Even though it’s really trash. You know, this --- the third person looks in and say,s “This is trash, don’t do it.”

Tacey Ann Rosolowski, PhD

1:12:48

Interesting. I was thinking too about you know the --- an issue that’s come up in several conversations I’ve had about just the sheer volume of information now that people have to handle. Is there something in that as well you know that I mean you need an organization like this to kind of keep track. I mean it’s almost like this committee is --- is monitoring the groups that are producing information.

Wai-Kwan Alfred Yung, MD

1:13:20

Well the steering committee doesn’t really --- cannot deal with all proliferation of big data. That’s a separate issue. That’s a separate issue. All this big proliferation of data.

Tacey Ann Rosolowski, PhD

1:13:35

When did you start working with this committee?

Wai-Kwan Alfred Yung, MD

1:13:36

Well, the committee was formed in 2011. So I was appointed co-chair because the committee covered adult and pediatric. I’m co-chair for adult and Dr. Ian Pollock from Pittsburgh, Neurosurgeon, he is co-chair for pediatric. So basically the two of us started as the committee was formed. It’s a three year term. We’re just --- I’m just going in my second.

Tacey Ann Rosolowski, PhD

1:14:06

Secondterm. Is there anything that --- Is --- Are there any ways in which serving on this particular committee has, you know, changed your perspective at all or, you know, lessons learned from it? It sounds like a --- kind of a unique experience.

Wai-Kwan Alfred Yung, MD

1:14:24

Well I mean it gives me a nat --- gives me a chance to look at the national level is --- but on the other hand, it is a new experience in terms of kind of changing the mindset of how big group is

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working together or whether they can work together.

Tacey Ann Rosolowski, PhD

1:14:47

That's the question.

Wai-Kwan Alfred Yung, MD

1:14:48

It is very difficult. I mean like I said it's --- it's a lot of self-interest even in a --- in a government funded group. "Well you fund me to be in charge. So I should be able to tell what science is good. Why --- Why are you creating another group on top of me to tell me I'm not doing the right thing?" Right? So a lot of this kind of thinking is still there. The --- The government funding for a big group or more than four company and then you have this size group. So each disease has many groups working, several cooperative groups and --- and trying to get these groups so each group has a certain amount of resources so now a level of consistency managed with medical school and center working together in this group, the other group work together and there is this competitive spirit. And now you say, "Well guys work together" and one group may say, "Gee why are you saying that my level of science is not good enough?" You have to really get people really able to break down the sides and start looking at the big picture together. It's -- - It's an interesting process.

Tacey Ann Rosolowski, PhD

1:16:08

How --- How do you do that? I mean, tell me about that process. How do you work with that?

Wai-Kwan Alfred Yung, MD

1:16:15

You know we have a lot of meetings together you know and some retreats, but it's the --- I think it is still too new. It's only two or --- about a three year process and to change the mindset takes more than two or three years.

Tacey Ann Rosolowski, PhD

1:16:39

Right. I mean it's kind of interesting when I was talking to Gabriel Hortobagyi [Oral History Interview] about just putting together the multidisciplinary reviews of cases in breast cancer and I said, "Oh well how long did it take you know before people really accepted that process?" and he said "Well about a decade." And I thought wow. It's not easy.

Wai-Kwan Alfred Yung, MD

1:17:04

Making Cancer History®

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It's not easy. Changing mindset is not easy.

Tacey Ann Rosolowski, PhD

1:17:07

Not easy at all. Especially you know with big egos. You know big talent, big egos.

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Chapter 18

Key Periods of Change at MD Anderson

B: Institutional Change;

Story Codes

A: The Administrator;
B: Institutional Processes;
B: MD Anderson History;
B: MD Anderson Culture;
B: Building/Transforming the Institution;
B: Growth and/or Change;
B: Obstacles, Challenges;
B: Controversy;
C: Understanding the Institution;
B: Critical Perspectives on MD Anderson;
D: Understanding Cancer, the History of Science, Cancer Research;
D: The History of Health Care, Patient Care;
D: Business of Research;
D: Fiscal Realities in Healthcare;
D: The Healthcare Industry;

Tacey Ann Rosolowski, PhD

1:17:07+

I wanted to ask you about --- just some general questions about the institution. One of them is kind of, we talked about a big --- a key moment of change in the institution when the division system came in you know and how that got reorganized and you told me about that. I'm wondering if there are some other moments that you can identify in your career at --- at MD Anderson where there have been some really big changes in --- in the institution and you know how you saw that change?

Wai-Kwan Alfred Yung, MD

1:17:49

Well, I --- Dr. LaMaistre not only engineered the division concept. I think Dr. LaMaistre is also very instrumental in --- in handling you know the assault of you know the first healthcare change in terms of with the insurance changes from --- from the managed care. In '99 --- I mean I remember in 1992 and 1993 managed care concept comes in and says it's going to switch to Houston, Texas and we're gonna be --- MD Anderson is doomed. I think Dr. LaMaistre was really instrumental in --- in --- in preparing for that change especially getting the legislature to

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approve the new law that MD Anderson no longer functioned under referral system but MD Anderson can take patients directly. And this I see change law that allowed the survival of MD Anderson and allowed MD Anderson to grow and --- and --- and --- and that --- that gave MD Anderson new life. Then Dr. Mendelsohn came in in 1996 and bring that growth curve into the next level.

Tacey Ann Rosolowski, PhD

1:19:29

Can I ask you, I mean you mentioned Dr. LeMaistre [Oral History Interview] a number of times and I'm wondering did you have a working relationship with him?

Wai-Kwan Alfred Yung, MD

1:19:38

No. Not really. It was mostly just a --- a rapport as the president.

Tacey Ann Rosolowski, PhD

1:19:42

Right, right because I was wondering about your observations and what kind of a leader he was and what kind of a --- an individual.

Wai-Kwan Alfred Yung, MD

1:19:51

I mean I --- I get to know Mickey [LeMaistre] because he was very interested in the brain program and so I interacted with him eith the different levels in the department and the growth. But --- So --- And I especially in working with Dr. _____ (1:20:17.8) on the global expansion that was started by Dr. LeMaistre That's --- That's --- That allowed me to talk to him some more. But these are the observations in terms of the critical moments for --- of MD Anderson and what Dr. LeMaistre done and just like you know Dr. Mendelsohn pj[o . With Dr. Mendelsohn the --- the --- The clear change that Dr. Mendelsohn brought in is riding on the upswing and I think he skillfully bring that upswing --- continued upswing and actually changed the angle of the upswing even faster. And I mean the first 10 years of Dr. Mendelsohn's tenure was a rebuilding, one building after another building. I mean all these infrastructures is built by Dr. Mendelsohn.

Tacey Ann Rosolowski, PhD

1:21:22

Were there changes that you saw to the culture as a result of that enormous expansion?

Wai-Kwan Alfred Yung, MD

1:21:27

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There are certainly changes in cultures I mean I think whether we like it or not when the organization gets bigger more people come in and it becomes more of a corporation instead of a family business. You know when it was small it was a family business and we know each other and --- but when it becomes big, it becomes a corporation and now we have multiple layers, you know. So I mean that's the change. I mean with the increase of the size of the organization, the number of buildings, the number of programs, you have more administrators. Even though Dr. Mendelsohn say well we can limit our administration but there are unavoidable changes. There are also more vice presidents and more administration.

Tacey Ann Rosolowski, PhD

1:22:21

Right. What are the pros and cons of that?

Wai-Kwan Alfred Yung, MD

1:22:24

I mean you need growth. I think the --- the --- the challenge is that what we see you is a --- whether we are growing with a deviation from our base mission of research --- research-driven care as opposed to the growth of patient care for, you know, generating patient income to sustain the organization, which is --- which is a fine line. Because if we keep growing and we need to sustain the growth by patient income, when are we going to stop? Or is there a fine --- Or is there a fine line --- a moment where you sustain and say enough is enough because we really need to come back to say the kind of research knowledge that we have really has --- has to be --- has to have time to grow and have to have support so that we have the input into the pa --- clinical care and not to just grow in the clinical care without the research support.

Tacey Ann Rosolowski, PhD

1:23:58

What were some signs that you see or have seen, you know, as chair of the department that that fine line is --- that the institution is dancing around that line?

Wai-Kwan Alfred Yung, MD

1:24:12

It's dan --- dancing around the line all the time because we --- as Department Chair --- as the administration grows, the department becomes lower and lower in the administrative level. Department Chair is a midlevel manager just like you know director of the janitor. Not a whole lot more power. You know, now if I want to hire another faculty I need to go "Mother, may I? Give me the money. Give me the approval." So it's --- if you go up here it becomes smaller and smaller down here. As you move more emphasis on generating the number of patients which we are going to see every year as we see more patients and see more patients, then we have to say, "Well give me more faculty to see more patients." "No, you have enough faculty, you don't

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need any more.” And it’s always a constant argument. “No, I need faculty to research.” “No, you don’t need faculty to research.” Just you know we cannot afford it. I mean you have this constant back and forth argument. Sometimes it’s more successful because it’s, you know, if my voice is stronger than I get more but my colleague’s voice is not as strong as me, he get less.

Tacey Ann Rosolowski, PhD

1:25:48

Interesting, huh. What were some other --- have been some other moments? I mean John Mendelsohn brought in this expansion model. I mean I’m thinking obviously there’s been a big administrative change right now but maybe between you know and --- are there others between John Mendelsohn, you know, the big expansion. Were there other aspects of change in the department during John Mendelsohn’s administration that you could identify?

Wai-Kwan Alfred Yung, MD

1:26:14

No. I mean, I don’t.

Tacey Ann Rosolowski, PhD

1:26:15

That was a big one? The growth? Yeah. What about with --- now with Dr. DePinho [Oral History Interview] coming in? What have you seen or observed in the institution?

Wai-Kwan Alfred Yung, MD

1:26:26

Well, I mean I think you know you --- you hear all these noises internally as well as externally. I mean I think, you know, Dr. DePinho came in with a very good heart and very you know insightful observation that in --- that one way to really put Anderson in the next level is that we make some big impact in certain cancers. But the question is how do we do it? Whether there’s big advertisement on Moon Shot. Whether by recruiting some --- some well-known scientists. Whether by, you know, looking at the internal people, how many you know have been productive and not productive. These are you know necessary change and I think you know there is a certain level of complacency among the faculty as we grow you know with --- with --- with the golden era of Dr. Mendelsohn. And when you --- when --- when the new person like Men --- DePinho comes in and say now this is --- we are going to bring in some --- a --- a new group of scientists and laboratory scientists that are well-known in the country and replacing you know some of what he consider not very productive, it’s painful. You know I think that’s where the noise comes from. You know, the change comes in. And you know he may have done it in a way that has you know --- that --- that has opened himself up to a lot of criticism. But I think the change is needed. You know I think he went on realized that we had grown too complacent. We had a group of faculty that really not performing up to par. The clinical research you know

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infrastructure needs more investment. I have not seen Dr. DePinho tackle that piece yet. He's tackling some more of the organization with some of the scientists bringing this --- and --- and Moon Shot but he has not really tackled the clinical research infrastructure. Not yet. But I think what he wanted to do, his vision, is correct vision. The way that he has been doing it in the last three years has generated a lot of pain in some group and a lot of un --- you know uncertainty in some group. But I think that's necessary pain.

Tacey Ann Rosolowski, PhD

1:29:52

Growth is --- always hurts.

Wai-Kwan Alfred Yung, MD

1:29:54

And I think both sides have to learn. He has to learn to how to really deal with the faculty. You know and get the faculty large support and so that he's get the faculty large support and not to be affected by the smaller faculty and the --- the unsettled ones.

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Chapter 19

Stepping Down as Chair; Accomplishments in Perspective; A Sunday School Teacher

A: View on Career and Accomplishments;

Story Codes

A: Career and Accomplishments;

B: MD Anderson in the Future;

A: Faith;

C: Faith, Values, Beliefs;

C: Critical Perspectives;

C: Leadership;

C: Mentoring;

D: On Research and Researchers;

C: Personal Background;

Tacey Ann Rosolowski, PhD

1:30:26

Interesting. Well I have just you know a few tidying up kinds of questions and then I'll be done and I'll you know want to ask you if you have anything to add. But I wanted to kind of get you to reflect a little bit on --- First of all, you're stepping down as Chair. What are you going to be really focusing your attention on when that administrative piece is off your desk?

Wai-Kwan Alfred Yung, MD

1:31:00

Well, I mean I started a couple --- you know a couple of national projects, NBTS, _____ (1:31:06.7) projects externally. Internally, I will continue to promote the --- the --- the brain tumor research effort in the umbrella facet of the Brain Tumor Center and the --- the Moon Shot program. Before that though so --- that I will work with the new chair to help support the new chair to work on the --- to internally work on the brain Moon Shot, to support him and make sure that we are on the right track.

Tacey Ann Rosolowski, PhD

1:31:49

And when you kind of look back at your administrative role, what --- what are you very gratified to have set in place during that time?

Wai-Kwan Alfred Yung, MD

1:32:03

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Well, I --- I'm gratified to see how the department grew and how we maintain our you know different groups, are able to really grow in the area of brain tumor research, the area of cancer neurology and psychology. You know I think I'm gratified to see that the groups grow and work together well. I'm gratified to see that we work well with our neurosurgeons to strengthen our Brain Tumor Center. You know we grow and get these programs to be an example of a successful program among --- within the institution. I mean, on the other hand I think you know I could have done better in the --- especially in the level of mentorship and --- and helped in grooming the next level. I think we have not trained enough physician scientists which is one thing that I know.

Tacey Ann Rosolowski, PhD

1:33:20

What do you think are --- How do you see the challenges to doing that? I mean I've --- I've heard a number of people mention how difficult it is to do that.

Wai-Kwan Alfred Yung, MD

1:33:27

It's difficult. You know we also need a mindset --- mindset change within the institution because it --- it needs some culture shift in allowing the concept of physician scientists. How to support and how do we utilize institution support to foster physicians to spend time in the research lab? You know and that requires institution policy because --- mainly because where we are in Texas and where are not being a full-fledged medical school, it's a different environment than institution like Harvard Medical, you know, Johns Hopkins or Stanford or University of California. They have a different --- They already have a well set up mechanism of grooming physician scientists and we don't. We need to create that.

Tacey Ann Rosolowski, PhD

1:34:51

What are your big hopes for the Department of Neuro-Oncology in the future? You indicated some of it, but you know how would you define where you would like it to be in say 10 years?

Wai-Kwan Alfred Yung, MD

1:35:06

We are in --- the --- the place that you know the brain tumor patients will come to. We are the place that discovered the new treatment for brain tumor patients and the new science. We're the leader in terms of new thinking for this disease. I think the department also has a lot of room to grow and to attack the issue of brain metastasis not just find new tumor and we should be a participant or leader in conquering the issue of brain metastasis.

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Tacey Ann Rosolowski, PhD

1:35:47

So that is an under --- that --- that area has not really been looked at? Is that what you're suggesting?

Wai-Kwan Alfred Yung, MD

1:35:55

The area is now beginning to look at but it's just the beginning. It's the tip of the iceberg. It's a big --- It's a big problem.

Tacey Ann Rosolowski, PhD

1:36:03

Really? Why has that been a neglected area?

Wai-Kwan Alfred Yung, MD

1:36:10

Well, a neglected area because it's difficult. It's very diff --- you know a very halogenous issue. Metastasis from lung cancer, metastasis from brain, from breast cancer are not the same and so we stay in the level --- because they are not the same. So it has been stayed in the level of just radiation therapy with physical force but now with better understanding about it. We are beginning to say, "Gee, we cannot win just by radiation only." We have to do more than radiation and that's where the science and treatment are going to meet. It's ready to be --- to be you know explored and deployed. I think we can play a role here in this institution because of the number of patients that we have.

Tacey Ann Rosolowski, PhD

1:37:14

I want to ask you a kind of odd question, which is what do you do in your free time?

Wai-Kwan Alfred Yung, MD

1:37:21

Oh! I don't know yet. My wife asks me a lot. I'm going to see my grandchildren. Or I may not have that much free time.

Tacey Ann Rosolowski, PhD

1:37:32

I kind of thought you might say that.

Wai-Kwan Alfred Yung, MD

1:37:35

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But as much as I have, I will continue to teach Sunday School and go to see my grandchildren.

Tacey Ann Rosolowski, PhD

1:37:42

So you teach Sunday School? That's very nice. How long have you done that?

Wai-Kwan Alfred Yung, MD

1:37.45

Oh, for years.

Tacey Ann Rosolowski, PhD

1:37:46

Really? And why have you done that? Why s --- Why teaching Sunday School? Of all the things you could with your free time?

Wai-Kwan Alfred Yung, MD

1:37:55

I like teaching Sunday School because I mean I sort of like to train the next level of, you know, church leaders.

Tacey Ann Rosolowski, PhD

1:38.04

What is the age group that you teach?

Wai-Kwan Alfred Yung, MD

1:38:08

I teach --- I --- I teach you know the 40s and 50s or 30s --- the --- the --- the middle adult.

Tacey Ann Rosolowski, PhD

1:38.21

Interesting! So, leadership training?

Wai-Kwan Alfred Yung, MD

1:38.22

Yes.

Tacey Ann Rosolowski, PhD

1:38.24

Interesting. I mean what --- what kinds of things do you talk about in that? How do you train that next generation of church leaders?

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Wai-Kwan Alfred Yung, MD

1:38:31

Well, I --- I have a co-teacher work with me together in the last few years so we you know thought --- the way to make church leader is --- Today, the most important thing for people is to really look at their belief, their faith seriously. And for a church to grow it has to grow solidly in their faith and what they believe. They need to know what they believe. They need to know who that God that they believe. Not just cavalier and say well "I'm a Christian, I'm a Catholic, I'm a Buddhist." But what does it mean?

Tacey Ann Rosolowski, PhD

1:39:19

So self-knowledge?

Wai-Kwan Alfred Yung, MD

1:39:22

Yeah. It's a real foundation of your belief.

Tacey Ann Rosolowski, PhD

1:39:26

Is that a process that you feel you've gone through yourself?

Wai-Kwan Alfred Yung, MD

1:39:32

Yeah, I have. I spent a lot of time in reading books and --- and think about the --- the --- the God and the constant. Who is God? Why do you believe in God? What is required where you believe in God? What kind of, you know, behavior or living?

Tacey Ann Rosolowski, PhD

1:40:03

Is there a meeting place between the work you do here at MD Anderson and your faith?

Wai-Kwan Alfred Yung, MD

1:40:12

Yeah. I use it. It --- It appears all the time in my interactions with patients.

Tacey Ann Rosolowski, PhD

1:40:22

How so?

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Wai-Kwan Alfred Yung, MD

1:40:22

How I encourage them. You know how we look --- look at the battle that you're fighting together with conquering the disease or the daily --- daily trepidations up and down that patient goes through.

Tacey Ann Rosolowski, PhD

1:40:53

A lot of ministering. Absolutely.

Wai-Kwan Alfred Yung, MD

1:40:56

Psychology. Mostly it's encouragement.

Tacey Ann Rosolowski, PhD

1:41:07

Well, is there anything else that you would like to add Dr. Yung at this point?

Wai-Kwan Alfred Yung, MD

1:41:13

No. I think we had very fruitful sessions so I think if I look at the transcripts and there is anything else comes up I will let you know.

Tacey Ann Rosolowski, PhD

1:41:21

Okay, do! Yeah, sure. That would be great. Well I thank you very much for the time and I've really enjoyed talking to you.

Wai-Kwan Alfred Yung, MD

1:41:25.8

I've enjoyed talking to you, too.

Tacey Ann Rosolowski, PhD

1:41:29.9

Thanks very much.

Wai-Kwan Alfred Yung, MD

1:41:34.2

Great. Okay.

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Tacey Ann Rosolowski, PhD

1:41:34.5

I'm turning off the recorder at about 17 minutes after 4.