

## **Wai-Kwan Alfred Yung, MD**

**Interview Session Three: June 8, 2014**

### **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 7<sup>th</sup> 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.

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## 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.