

Episode 2 Transcript – Dr Bebb

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**Michelle Jobin:** *Hi, I'm Michelle Jobin, and this is My Time, My Voice.*

*No one is more passionate about helping patients than doctors, nurses, and other healthcare providers, and the desire to help patients extends way beyond what happens in the clinic. Healthcare providers can also be a part of the advance of care, and they can serve as champions for patients across Canada.*

*To stay at the forefront of innovation, healthcare providers attend conferences and read the latest research, and they advocate for their patients to ensure they get the same opportunities for care as patients in other provinces and countries. Because there's strength in numbers, healthcare providers can partner with advocacy groups to support innovation, as well as to help unify and amplify the patient voice. One more thing healthcare providers can do is help connect patients to clinical trials, patient databases, and other initiatives that could lead to positive outcomes for patients down the road.*

*And we'll be talking about that with Gwyn Bebb in this episode of My Time, My Voice.*

**Michelle Jobin:**

**Well, good morning Dr. Bebb, thank you so much for being with us here today. Would you please introduce yourself for our listeners and tell them a little bit about who you are and what it is that you do?**

Gwyn Bebb:

I'm Gwyn Bebb. I'm a medical oncologist here at the Tom Baker Cancer Center and I'm a professor of medicine at the University of Calgary.

for the last little while, actually I've just been treating lung cancer alone while running a clinical trials unit and most recently have been leading our Precision Oncology and Experimental Therapeutics program. The acronym is POET, a very attractive one I think.

**Michelle Jobin:**

**I wanted to move onto lung cancer in just a moment, but before we got there I wanted to see if you could define for us precision oncology for those of us that might not be as familiar with what that term is.**

Gwyn Bebb:

I think we can encapsulate it in the phrase, the right treatment to the right person at the right dose at the right time. Strangely enough, that comes from a quotation, I believe, by Aristotle, who was trying to describe how to speak eloquently, and that you can get your point across best by saying the right word in the right place in the right order at the right time to the right person. But I think when it's adopted to cancer, it encapsulates exactly what we're trying to do. So I think it recognizes the fact that cancers are different, but also people are different.

Essentially, if we distill it even further, it really reflects a personal approach to cancer management whereby we have to size up our patients on their cancer on every occasion we meet a new client in our clinics and figure out how best to treat them.

**Michelle Jobin**

**I've seen you speak on the subject of lung cancer on YouTube. It is also a subject that I am familiar with. I lost my father to lung cancer five years ago.**

Gwyn Bebb:  
Sorry about that.

**Michelle Jobin**

**I wanted to know if you could please give our listeners a sense of how widespread and serious lung cancer is, for example, as a cause of death.**

Gwyn Bebb:  
Lung cancer is a very difficult disease to treat. Strangely enough, it is the biggest cancer killer of all. It kills more people than breast cancer, colon cancer, and prostate cancer combined.

The impact of lung cancer is difficult to understate. Because it kills so many people, almost all of us will have been touched by lung cancer to some extent or another. If it's not our parents, it can be our grandparents, our uncles, our siblings.

**Michelle Jobin:**

**And is there a particular reason that you zeroed in on the specialty of oncology?**

Gwyn Bebb:  
That's a very interesting question, isn't it? You wonder how your life unfolds and sometimes you think you have complete control and other times you have no control. But I think a consistent theme has been an interest in cancer in general and the cellular and molecular defects that make cancer cells behave the way they do. Very sadly, when I was about eight years old, my brother died of what turned out to be a spinal sarcoma. Never really understood the pathology of the disease at the time, but I do remember the pain that he experienced and the grief that my parents went through. Certainly was a life-changing event for them. So I was always aware of the damage that cancer could do to people's lives.

**Michelle Jobin:**

**I'm sorry.**

Gwyn Bebb:  
My mom was a biology teacher and she had been excited about the discovery of structure of DNA and I remember her trying to explain to me some of the basics of that and why it was such a fantastic discovery and how understanding the simple structure of DNA allowed us to understand how cells can replicate genetic information and pass that information fairly accurately from one generation of cells to another. And then while doing my undergrad studies, I certainly learned about aspects of growth and molecular basis of abnormal growth. Then a couple of professors along the way helped direct my interest in that. And I think certainly during the late '80s and early '90s, you saw an increase in understanding of molecular biology and that seemed to renew my interest in oncology and I was always keen to see how these new discoveries could eventually be applied to the clinic.

Probably one of the frustrations in oncologists' lives is the fact that although these are momentous discoveries at the time, there's a big lag before they're actually seen on a day-to-day basis in how we manage our patients in the clinic. And attempts to try to shrink that gap if you like or accelerate the

clinical application discoveries was something that I thought was very important. So I think these are some of the things that have directed my interest.

**Michelle Jobin:**

**Specifically, right now, your research interests lie around the subject of lung cancer?**

Gwyn Bebb:

I think I would be a little bit broader than that. I think my main research avenue right now is within the realms of precision oncology in general.

Gwyn Bebb:

I think the recent explosion in the understanding of genomics and molecular aberrations in cancer allow us to hone in on some specific faults or defects in the cell that allow us to target those cells specifically.

The other one is the microbiome. There's an increasing amount of data suggesting that the microbiome, that is the bacteria that populates our body, on our skin, in our mouth, but particularly those in our intestines, have a strangely profound effect on our body's function. This is becoming apparent in studies of many chronic diseases, but also increasingly in cancer. We certainly don't understand all of it yet and certainly don't know whether modulating or changing the microbiome can impact our outcomes.

So, as we move forward, I think we're going to see a lot of omics being brought into the precision oncology field and this will require at some point the adoption of more sophisticated analytical techniques, and people are mentioning machine learning and artificial intelligence and all this, to try to identify the key aspects that we need to focus on.

**Michelle Jobin:**

**Can we clarify, just for the listeners that might not be familiar, the term "omics"?**

Gwyn Bebb:

I think what it refers to is our ability to test many, many things at one time. So when I first started out in the lab, we would be say cutting a tumor and we would look at one gene. Then it became apparent that clearly that one gene wasn't enough to tell us the picture, so we would do two genes.

And I think you can keep applying this to everything. So it refers to lots of data for every specimen that you have. And when you have lots and lots of data points with each interrogation, then you're in a place where it's actually very difficult for one human mind to interpret all that data, hence the need for more computational power with machine learning and artificial intelligence.

So once you have this many things being investigated in parallel, we tend to call it omics.

**Michelle Jobin:**

**What do you see, Dr. Bebb, as the future, say 10 to 15 years from now? Is there something else on the horizon that you're looking at in terms of a possibility?**

Gwyn Bebb:

So trying to predict exactly what's going to happen is challenging. But I would say a few themes that are ongoing. The first is what I've alluded to already, the need to use multiple testing capabilities to use as a

foundation for precision oncology. So we can't rely just on genomics, we have to use other omics. I think this is going to become standard of care probably within seven to 10 years.

So that is one of the things that I'm looking forward to. Then I think the emphasis will also change to a little bit more about the patients themselves and the patient's make up in determining treatment.

I think the need to follow the tumor's evolution and the patient's immune system is also going to become standard of care as well. Now, having said all that, one of the challenges, I think, in all of what we get excited about is the economic feasibility. There's no doubt that the impact of what we bring to the clinic is dependent very much on how fiscally viable those new programs and those new treatment plans are.

And I think lastly, what we're going to see in this is a slicker communication between the patients and the caregivers. Digital, real-time patient reported outcomes is going to be very, very important in determining how we feel the medicines that we're using in the clinic are actually doing, how well do our patients feel on these?

**Michelle Jobin:**

**Is there anything specific for the POET Program, that you haven't touched on already, that you're hopeful for in terms of implementing there?**

Gwyn Bebb:

I think the POET program highlights a number of challenges. The truth right now though is that we're able to do this because not of grants or of funds from Alberta Health, we're able to do this because of donations from a patient actually, one of my patients who unfortunately succumb to lung cancer about three years ago, but whose legacy lives on through the donation he made to the POET program. So I think the contribution of patients and their families to research that allows precision oncology to be applied cannot be understated.

**Michelle Jobin:**

**And I would love to make sure that we get the message out that anyone can help by making a donation. Is that correct?**

Gwyn Bebb:

Those donations come in the forms of big financial gifts, they come in the form of multiple small financial donations, but they also come in the form of data donations, sample donations, volunteering.

Patients voluntarily joining clinical trials is a key aspect of moving precision oncology forward. So I have to acknowledge and thank all the patients who've being so kind in joining clinical trials.

**Michelle Jobin:**

**In your work, do you ever consider yourself to be an advocate for patients?**

Gwyn Bebb:

I certainly hope so. I think we advocate for our patients on many levels. It is strange that I get probably more thank yous for telling people the truth about their terminal condition than I do thank yous for treatment. So I think advocacy takes many forms. I think we have to advocate for our patients to get access to clinical trial opportunities, we have to advocate for our patients to get access to new drugs

sooner, we are to advocate for our patients to get tests performed in a timely fashion on their biopsies to see whether they are candidates for new treatments or clinical trials. I think we have to advocate for our patients when there is no feasible option in moving forward.

We have to be able to support them when we're at a dead end in terms of treatments, when we have to tell them, "Look, I'm really sorry, but I cannot offer you anything that is going to change the course of this disease without doing you terrible harm." So, I would hope that all these things are forms of advocacy for our patients because what we're trying to do is we try to do no harm and we try to provide them with as much optimism and clinical benefit as we can within the limitations of our current understanding and within the limitations of the healthcare system as we have it without exposing them to adverse event

**Michelle Jobin:**

**I am struck by the weight of all that when I hear you speak. Emotionally speaking, what is it like working in this field when you are dealing with at times delivering some very, very difficult news for people?**

Gwyn Bebb:

That's an interesting question. I think sometimes it is onerous. Clearly, it is our job and is a job that we do well. What I find most strange is how even after a heavy clinic sometimes, you can go home and feel relatively unburdened. And then on another occasion, there will be cases for reason I do not understand that become a little bit too close to home or that are emotionally particularly taxing. And those set you back a little bit actually. Sometimes they're young people, sometimes they're people that whose story resonates with you. I don't know, but I think we all have those. Sometimes trying to recover from those episodes is difficult and I've seen some of my colleagues burdened down with these challenges where you think there is something that you should be able to do and you try very hard to get patients on a clinical trial or get access to a new molecular test or access to a new drug and you fail.

And yes, it's quite taxing. On the other hand, there's many cases where there's a lot of laughter and smiles at each encounter even though the picture is just as gloomy. I do remember a couple I treated a few years ago. He struggled with lung cancer for... as it turned out, for about three and a half years. So statistically, he did well. There was the symptoms from his disease, but he was always particularly jovial in clinic and we had a really good time joking around. I remember I had a young medical student with me from the UK and I went into the clinic and I introduced the medical student and the patient said to him, "Wow! Welcome to Calgary. We're delighted to have you and it's fantastic you're learning from the best."

And his wife said, "Well, what do you mean he's learning from the best?" The patient said, "Well, Dr. Bebb is the best. He is learning from Dr. Bebb who is the best." His wife said, "Well, how do you know? You've only met one oncologist." Anyway, that was the kind of tone that we had in the clinic all the time. When he died, I was particularly sad about that because I used to look forward to his visits. Even though there was nothing new to offer, it really lightened the burden if you like. So I think these are things that we can predict as part of part of the work, but I think it drives all of us on to try to do better for our patients.

**Michelle Jobin:**

**Before we go, do you have any final thoughts about how to advance oncology for the good of the patients?**

Gwyn Bebb:

So if you look at where we are now compared to where we were 20 years ago, particularly in lung cancer, we have made huge strides and yet it's not enough. The strides that we have made have become possible because of so many little factors; new research, new clinical trials, better processes for getting better quality biopsies, new techniques for interrogating samples, better referral patterns, better surgical techniques, new techniques in radiation. These are all things that have come together to make things better now than they were 20 years ago. And yet, as I said, there's quite a lot of patients who are not able to benefit.

So I think there is a constant need to improve where we're at. And I think we do see a way forward in lung cancer.

But without continued patient involvement in clinical trials and retrospective analysis without continued access to new data and without continued research in the lab, we're going to see an end to progress. So yes, there's some bright spots in the future but that research needs to continue, otherwise these efforts will just peter out.

**Michelle Jobin:**

**Thank you so much for taking the time to speak with us today, Dr. Bebb. I really appreciate you speaking here, being here.**

**For our listeners who would like to learn more about the POET oncology program, especially if you're a patient or healthcare provider in the Calgary area, please visit [poetoncology.com](http://poetoncology.com).**

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**Thank you for joining us this time. Please do come back for our next episode when we'll be speaking with Judy Glennie, a clinical pharmacist who understands the ins and outs of how a treatment goes from the lab bench to the bedside in Canada. Best of health, until then.**

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