

Bonus: The Life Changing Effects of a Cancer Diagnosis with Dr. Greg Bole

Nerdin' About Podcast Transcript, Season 2 Bonus Episode 2

Kaylee

Hi there. Today we've got a bonus episode for you with Dr. Greg Bole. In episode 7 of season 2, we spoke with Greg about some common ways we misunderstand what evolution is. So, if you haven't heard that episode, go back and have a listen. In that episode, Greg also shared with us that he was recently diagnosed with a terminal cancer diagnosis. In this episode, we're talking with Greg about this diagnosis. We'll cover what cancer is, how we treat it, and also about his experiences navigating this diagnosis. I'm not going to lie to you. This is the type of episode that will make you remember that you have emotions, and while we don't shy away from the sad stuff, this episode is so much more than that. I hope you'll join us as we learn more with and from Dr. Greg Bole, about balancing the ups and downs, and embracing the life you live. We are so grateful to Greg for sharing this space with us, for his friendship, and mentorship. We hope you enjoy this episode.

Kaylee

So, Greg, you shared with us your recent diagnosis with cancer of the bile duct and you also shared that this is your third diagnosis with cancer. So, to start off this conversation about cancer, how we treat it, your experiences with it, can we start with: what is cancer?

Greg

Sure, absolutely, I've had three or four different kinds of cancer. Which my friend's reaction was "stop hogging all the cancer?" (laughs) That's the only way we can deal with these kinds of things. Right? A little bit of humor, a little bit of dark humor, a little bit of crying, laughter all mixed in together. So, cancer is something that I actually would teach my students about, at the University of British Columbia, in my first-year class on ecology, evolutionary, and genetics. It's interesting, because I talked about it, just in terms of the cell cycle, which we'll get to in a moment, and what is cancer. But then after I was diagnosed with my first kind of cancer in 2013, it became much more of a permanent part of what I taught. So, I guess I just want to start by saying, this is a subject that I like being completely open and frank about. I think that too many people are scared of cancer, or don't know what it is, and so that makes it even scarier. I think just talking about it, like any other topic, educates people, and hopefully learning a bit of interesting science along the way. So, most cells go through a cell cycle, there's a number of stages, the cell goes through in duplicating itself. So, in growth, when we were first born, development, all that requires dividing cells, or if you injure yourself you need to make new cells to replace the ones that were lost. So those dividing cells come about through the cell cycle, and cancer is simply when that gets out of control. So, when cells are dividing, when they shouldn't be. There's usually a lot of different checks on the cell cycle, making sure that everything is okay. So, if a cell is not okay, if it's replicating when it shouldn't, it's lining its chromosomes up incorrectly, usually the cell will put a stop to it. So, in fact, cancer is not just one single problem with the cell cycle, its usually many problems combined. So, we talked a little bit about mutations in our last episode, mutations are just random changes in the DNA sequence, as that DNA and that cell is being replicated. So, a typical cancer might involve many different mutations. First of all, it's growing when it shouldn't be. Second of all, it doesn't allow the cell to stop it. Third of all, cells can go from being benign to malignant, which means they've moved to a different place, and that's the kind of cancer that I have right now. It started in the bile duct, and the pancreas region, but has moved or metastasized to the liver. So about 60% of



my liver function is now gone due to the cancer cells, they found a happy home to grow there. Yeah, so that's pretty much it, you get mutations, accidents in the cell, it replicates when it shouldn't, and that's how we get a tumor. Benign tumors

aren't causing too much trouble, but malignant tumors are a big problem. Not only can they grow, they can travel and they can start to disrupt major organs, which is where it becomes dangerous.

Kaylee

So, then there's actually quite a few things that cancerous cells need to have going for them, they need to be able to replicate, they need to be able to move around. They need to be able to evade your immune system. It's not just you have a cancerous cell and all of a sudden, you have cancer.

Greg

It's different with each kind of body tissue or body organ that you can think about. So different mutations will cause different changes. So that's why there's not really one thing called cancer. There are many, many, many things that we call cancer. Blood cancer is different from lymph cancer, and that's different from breast cancer, and that's different from skin cancer.

Kaylee

There's actually a cancer that is incredibly interesting. It should be a whole episode, the contagious cancers spread by Tasmanian devils, right? They get the face tumors and then they get aggressive, and then they can actually spread the tumors among each other through physical contact.

Greg

Yeah, crazy, physical contact. That's right.

Michael

Greg, with cancer, of course, it's been a big problem for humans over the course of many, many years. I don't even know how far back we can go to chart when cancer first started to affect humans. So generally, you know, where are we at with trying to treat cancer, because we know that there is no sort of cure for it, but we can treat it. So, where are we at with that right now in 2021.

Greg

So first, let's throw out the idea that we're the only species that get cancer, lots of other species get cancer as well. There are cancers that infect trees, and cancers that affect marine organisms. But you mentioned, how far are we along with dealing with cancer, and curing cancer? We have cured some kinds of cancer, I think that's a fair statement to say, in that we have the drugs that can allow people to live and can even make the cancer completely go into remission, and that's sort of what I would call a cure. So, my first type of cancer I was diagnosed with was Hodgkin lymphoma, and that's a cancer of the lymph nodes, part of the circulatory system. I had very aggressive chemotherapy for that, and then it was gone, the chemotherapy worked in this case, to send that cancer into remission. My oncologist, my cancer doctors tell me, I'm no more likely to develop lymphoma than anybody else who hasn't had it in the past. So that's what I would call a cure, and that's fantastic that we have some kinds of cancers that we have cured. Other kinds, we have drugs that can help deal with them. The second kind of cancer that I was diagnosed with was a leukemia, and normally, when you hear leukemia, you think, wow, that's really dangerous, but there's lots of different kinds of blood cancers that fall

into that range of leukemia. I was lucky enough to have one that can just be treated with a drug. So, I take a pill every night, and it reduces the number of these cancerous cells. If you want to really nerd out about how that's caused,



that's due to a translocation and chromosomes, we can always come back to that if you want. So that's something that wasn't necessarily cured, but it's under control. My third kind of cancer is the bile duct cancer that has become metastatic and moved to the liver and possibly other places as well. That's a family of cancers, pancreatic cancer, and bile duct cancer, that we do not have a very good hold on, "we" meaning science. So, most of the care for that is palliative, which means that we just try and I say "we" like I'm the one doing the treatment, but I'm the one being treated as well, scientists and health workers, just trying to improve the quality of the patient's life as much as they can. But there's no curing it with the tools that we have today. So that's the situation I'm in right now. My doctors can only guess how long I have, it depends a lot on how I react to the chemotherapy, and it's still early days, and I've been through two months. So, four cycles of my chemo therapy treatment, and things are actually looking pretty promising in terms of keeping the cancer at bay, maybe even shrinking some of the tumors, but it will never stop them, and they'll just keep coming back. So, something on the order of 6 to 12 months, you know, could take a bad turn and just head down from there, and that's going to be the end of my life. So that's a kind of cancer that falls into the third category one that is not curable, given our current technology.

Kaylee

Getting back to your recent diagnosis. I mean, part of that was just figuring out where the cancer was. So, you mentioned that this is a cancer of the bile ducts, or we talked about pancreatic, what was that process like? How did they find out where the cancer was? Because that's important to treat it right?

Greg

Super important. Before they started any serious treatment, they needed to know where it was coming from. It first started with strange readings on bloodwork I was having done. So, because I had two types of cancer, my doctors and my oncologists were keeping an eye on that sort of thing, and various things they were measuring in my blood, the numbers were kind of out of whack, they were heading in the wrong directions. That can be due to a number of different reasons, but as soon as that happened, they threw me over to the BC Cancer Center, and I had a team of oncologists trying to work this out because they didn't know where it was. I saw a gastrointestinal oncologist, I saw a lung oncologist, I saw a colon specialist, lots of different specialists trying to figure out what's going on. One of the big most important tools they used to figure out where the cancer was, is a CT scan. So, a CT scan is kind of like an X-ray, but it's an X-ray that shows where the cells are most actively growing or most active physiologically. So, they put a little dye on you that kind of marks those cells, they stick in these big tubes that whirls around you, and they get a pretty good 3D picture of what's going on in your body and where these rogue cells are. So, they spotted the ones in the liver right away, because they're small tumors, but there were lots of them. In the first couple of weeks, I was trying to get my doctors to tell me how many, and they were saying things like, "well, we call it like a constellation, or conglomerate," I'm like, "How many tumors do you need to get a constellation? Or to get a conglomerate?" (Laughs) They say, "Well, there's a higher volume of them in the right side of the liver than the left." I'm like, "Oh, you know, that's still not helping me." So finally, we really just got down to discussing and looking at the CT scan, and I could tell me what size they were, and they could tell me roughly how many, and it was in the hundreds. So that was pretty scary. So, the next step was to figure out where they were coming from, because when they did a biopsy of the liver cells, they realized it was not liver cancer. This is

pretty clever of cancer biologists, they can figure out from the physical form of the cell, and also the chemicals that produce the enzymes and things where its origin was, and it was very clear to them pretty early on that it didn't originate in



the liver. So, then the hunt was on to find where the origination point was. They had it pretty quickly down to the gastrointestinal system, esophagus, stomach, intestines, and then things that connect to that like the pancreas and the bile duct. Then I had endoscopy, so they stick a camera down your throat, and from the other end as well. Not at the same time luckily. They observed physically with their camera where they kind of see the potential cancers, and then they can biopsy those. So, they eliminated a lot of gastrointestinal tracts because of that, and that kind of nailed it down to all the clues pointing at either the pancreas or the area surrounding the pancreas. Once we kind of got those pieces together, and this is fairly quick, these guys are operating on over the course of just a couple of weeks. That's when we kind of put two and two together, that pancreatic cancer or bile duct cancer is usually a pretty wicked one, a pretty nasty one that kills a lot of people. Because it's already in the liver, that means by definition it's stage four, and stage four is never where you want to find the cancer, because it means it's already grown, it's already spread, and it's not just a matter of taking out a single tumor with radiation or surgery, it's a matter of trying to stop the replication of all of them.

Kaylee

So, we were talking about cancer, these rapidly dividing cells, they can potentially move to other areas of the body, you've experienced three types of cancer. How do we treat it? I mean, if there are these different forms, they can affect different areas of the body? What do we have in our arsenal, to manage cancer and to treat cancer?

Greg

Yeah, our arsenal is a good way of thinking about or I also think about how many tools we have in our tool belt to try and deal with this kind of thing. Luckily, there's more and more over time, as cancer biologist's kind of work this out, they add more tools, and they make the tools they have even better. The reason I mentioned tools is a lot of people use the words of warfare, like a fight, or you're fighting cancer or you're winning or losing or you're destroying or stuff like that. People find that problematic for a number of different reasons. People that are going through cancer, not all of them, but some of them don't really like to use those warfare kinds of analogies, but people not undergoing cancer, often that's what they hear, and so that's what they repeat. So, I don't blame anybody for saying that, but it's worth asking somebody whether they want to talk about whether they're fighting cancer or not, because I'm not doing the fighting. It's my chemotherapy. So that's one of these tools that we're talking about. There's another couple of important ones, radiation is an important tool that can zap a specific area, and destroy those cells, and more and more immunotherapy. So, using the host immune system to try and train it to attack these cancer cells, is becoming a more important way of dealing with cancer. I guess in the future, we could look towards things like genetic engineering and changing whole genes or genomes to try and deal with this kind of thing as well. Or just finding it out ahead of time, much faster, and sooner, when it's going to happen. So, an oncologist will consider each of those kinds of tools and figure out what's most appropriate for which kinds of cancer. So, radiation is not appropriate for me, neither is surgery - that's another one that I should have mentioned. Unfortunately, they have no immunotherapy, at least in the treatment stage, they have some we're working on in the trial stage for my kind of cancer. The tried and true one that has proved the most reliable is using chemicals to fight these cells. So that's chemotherapy, chemo is just chemical and therapy, the treatment using these chemicals. For my lymphoma, I was given very strong chemotherapy, and I didn't end up reacting too well to it, I had to stop before the end of it, and I was in the hospital with other complications. I had blood



clots and I had pneumonia. I think about it like carpet bombing, or Agent Orange, just wiping everything out. Because the kind of cancer I have is not curable, they're using a palliative chemotherapy, which is a little gentler on the body,

it has fewer side effects and less side effects, but really only designed to either slow the cells down, or if you're in the lucky 50% actually shrink the tumor cells a little bit. So that can hold things off for longer. Some people can last years with this kind of palliative care, the majority of people is less than a year.

Kaylee

So, you mentioned side effects, but this palliative treatment, what kind of side effects have you experienced so far?

Greg

Oh, boy, so many fun ones. They separate them into the major ones and the minor ones. It's literally like pages that they give you on potential side effects for these different kinds of chemotherapy. My chemotherapy involves four different drugs currently, and there was a fifth one that I used to use, but was replaced. Out of those four drugs, three of them are actively trying to stop duplicating cells, and one of them is just trying to support one of those other drugs. So really, right now I'm dealing with three kinds of major chemotherapy. So, the side effects, the major ones you really want to look out for are things like fainting, fever, collapsing, extreme diarrhea, which can lead to dehydration. So those are sort of the nastier side of things, but the less nasty sides, the ones that mostly I've been dealing with are weird things like cold sensitivity. Probably a lot of people know the feeling of when you touch ice or snow, your fingers tingle a little bit. Now multiply that by like 100, and it's like when you pull a jug of milk out of the fridge. It feels like my hands are on fire, when I touch things that are slightly cold. That's a weird one.

Kaylee

I should also say as a spoiler. I mean, we're good friends. We've chatted a lot about this already. I know that you also enjoy ice cream.

Greg

I suffer from my love of ice cream. (Laughs) So I just eat it anyway. Also, the cold sensitivity decreases throughout the cycle. I have a two-week cycle where I get chemotherapy. As we're recording this, it's a Monday and I'll be getting chemotherapy on Thursday of this week. That's when you get the biggest side effect.

Kaylee

Would today be an ice cream day, or no?

Greg

Oh yeah, today would definitely be an ice cream day. It's towards the end of the cycle. That's why I'm recording today. I'm feeling pretty good overall today, because it's been almost two weeks since I've had my last bout of chemotherapy.

Michael

So, Greg, you're talking about how these treatments are affecting your body. How are they affecting you mentally? How are you doing? Like, how are you feeling about all this? It's a pretty big diagnosis, and it's a pretty big to think about like almost every waking minute of your life now.



Greg

Not every waking minute, but I'll have a break, I'll be feeling good. I'll have a nap or whatever, and wake up and be like, "Oh, yeah, I'm dying cancer, that kind of

sucks." So, I do get breaks from it mentally, and I still enjoy things. I have fun, I watch a lot of great movies and I go for walks with great friends like you guys. I spend as much time as I can with my lovely wife, Angie O'Neill, who also teaches at UBC in biology. So, it's a big question, right? There's a lot of pros, there's a lot of cons. I'll just start by saying any given day, I don't know how I'm going to feel, and that's because sometimes it's the side effects that are driving me up the wall. Sometimes it's the threat of imminent death that's kind of bearing down on me. Sometimes it's just, I'm really sick of being sick. Every day I'm sick of something else. One rule in our house is we just let the emotions come whenever they need to.

Kaylee

I think that's a good rule of thumb, generally, we should all be able to feel our emotions.

Greg

We think of controlling our emotions. Yeah, but we don't control them, they're controlling us. They're the ones that just wash over us without any control most of the time.

Kaylee

Greg, you were talking about how you yourself are managing the diagnosis emotionally. What has that meant for you? How do you go about and how do you process that? And how do you deal with it?

Greg

Yeah, that's a big question with lots of elements to it, but an important one. I'm a scientist. I break things down into lists, I'm sure you guys have no idea what I'm talking about, but my first category would be my external support versus my internal support. So, my external support has been amazing, like my friends, my colleagues, my family, but setting that aside, what about me, myself, my internal ways of dealing with this? I had been through cancer diagnosis twice before, as we talked about, so I was a little bit ready for it a little bit used to it. I think that, at least for me, when I got cancer, I was thinking, "Oh, when's it coming back?" I think that's pretty common, for a lot of people. Even the doctors say, "No, no, you're fine. You're fine." But it's always like, "yeah, right. It's coming back. When's it coming back?" So, I was almost prepared for that. I was almost expecting it in a way. Not hoping for it, but a little bit of expectation in the back of my mind. So, we learned about the diagnosis in stages, and each stage was a little more serious than the last one. When we got to the actual prognosis, I think the diagnosis is what you have, the prognosis is what is this going to mean, of 10 to 12 months, and that was a couple of months ago, by the way, so that number is going down. I was able to take that in that was a big step. Strangely enough, what really hit me, I think it was in that same meeting with my oncologist was I said, "Okay, how many cycles of chemo am I going to go through?" As that's what I did when I had lymphoma, I did eight cycles. And she's like, "all of them, the rest of your life, you won't stop." So that that kind of put it into perspective. I'll be doing chemo, and I'll be doing injections until I can't.

Kaylee

I can imagine that that was really hard news to hear.

NERDIN about

Greg

And the effect that it has on my wife and my family. In some ways, I find it harder to see their reaction than my reaction. Because I figured out ways that I can deal

with it, you know, they're going to have to keep continuing on, and my friends, they're going to keep continuing on. So, in many ways, I think it's rougher for them than it is for me, but I've decided to look at it in a number of ways. It's not that I'm not scared. It's not that I'm not feeling anything about it, but I've decided to look at both the positives and the negatives. So, there's some pretty clear negatives, we talked about the side effects. We talked about the effect on family and friends. The positives aren't necessarily something that you think of right away. When I think about the fact that everyone's going to die, as far as we know, unless we get Elysium level sci-fi, brains and cyborgs. Let's just go with the operating idea that all living things die. You know, Michael's going to die. Kaylee's going to die. Everybody you know is going to die. It's a weird thing to think about, but it's true. So, if I think of that, I'm going to die. It's kind of nice to have some control over it. I have an idea of when. I have an idea of what I want to do before then. It really adds to every day and every moment, I'm not just saying that I'm trying to finish some bucket list or do some grand thing. I'm just saying that I can appreciate these days a bit more knowing they're not going to last. So having that control and that viewpoint over it really puts a major positive spin on it that helps some of the negative spin in the opposite direction. That's one of the ways I deal with it.

Michael

Is there another way that Dr. Greg Bole approaches this? I think if there's one thing that Kaylee and I both appreciate about you, Greg is that you are delightfully nerdy and are willing to do things like dress up as Darwin, and talk about evolution in this very interesting and weird way. And here you are talking to us about something that a lot of people probably would not be comfortable talking about. Where do you get that perspective about what you're going through? How are you able to tap into that? Or is that something that you unconsciously say "This is me." Dr. Greg Bole is still you, and this is how you how you deal with things is, you analyze it, make lists.

Greg

In many ways, it's a very conscious process, actually, rather than an unconscious process. It's the way live lived my life, to try and be honest and open, and to share. If I think something's cool, or if I've learned something other people don't know, I just love to share it. That's essentially what teaching is, right? Science communication, that's what it's all about. It's not that I'm evoking science communication, or my teaching skills, and applying them to this, It's just. they're a part of me. So, if I'm going through something big or something small, this is one of the ways in which I process it and deal with it. I hope, and I think I have pretty good evidence that a lot of people appreciate that, being open and honest and straightforward about it. I decided that almost on day one, right? We went home, had a good cry, and then I said, "You know, I want to find the right time, and I want to tell everybody. I don't want this to be hidden." You're right, this is a thing that several generations ago was really not something people did, talking about cancer, or diagnosis. People were almost scared that if you talk about it, then it might happen to vou or happening to someone vou love. So, vou just don't talk about it. There's still a lot of people today that absolutely don't want to talk about it at all. What's really sad is some people don't want to talk about it so much that they don't seek treatment in time. There are people that have died, because they don't want to talk about it. So that puts it in a bit of perspective. It's how I operate. It's what I do, I like to share. I like to teach people what I know, I'm learning a lot about cancer and how it's affecting me.



Kaylee

I think one of the things that has been really nice about you sharing it – this is at a time during a global pandemic.

Greg

Oh, yeah, that's fun, too!

Kaylee

It's difficult to get outside, it makes seeing family and friends so much more challenging. Has that added an added another layer of challenge for you, navigating it during this pandemic?

Greg

It's hard enough to deal with the pandemic, as everybody knows. It's very emotionally taxing, and it involves threat to life, right? COVID kills people. So, it's not entirely dissimilar to what I'm going through, it's just at a different scale at a different level for different people. So, adding on top of that, what was already difficult to deal with, has made it made it much more difficult to deal with. Mainly it's the contact, I just want to hug people, I want to go and hang out, and have a party, and do wacky things, and talk about science, and go in front of an audience and we can't do that. So, I have to look for other things to be able to help deal with those things. We were talking a little while ago about how people react to the fact that not only, I have cancer, but that it's terminal cancer. There are a couple common terms that I've heard again and again, which is I think a lot of people just reply to anybody that has cancer, "like you're so strong", or "you're such an inspiration". I know some people put it out there because they don't know what else to say. I know that some people mean it in a very genuine fashion, and they go on to explain exactly what they mean by inspiration, things like that. I'm always appreciative, but I guess I don't look at myself that way. People say "You're so strong" and I'm thinking, "What's the alternative?" Am I supposed to put the covers over my head and cry every day? Is that what weakness is? I think it's okay to be weak sometimes, and be strong other times. It's not something I'm trying to do. It's not something I find intrinsically attached to my persona. What else can I do? In terms of being an inspiration. I get that a lot, and when people apply it to this openness and honesty about my process, then I take that fully as a wonderful compliment. Because that is something I'm doing consciously to a certain extent. But when people just say, oh, you're an inspiration, because you're going through this, I think that's just biology man, just a bunch of cells. Some cells are replicating and some cells aren't replicating. I'm not a big inspiration in terms of people that go out there and do other things that are heroic. Then other people remind me, I have inspired people, I've changed their lives, I had an impact in their lives, and that let me come back to the benefits is one of the hugest benefits of being in a situation I'm in, where people are talking to me very honestly, because I'm talking to them very honestly because I'm facing the end of my life. They're saying things that I never would have believed about myself that people thought that way. It's really a gift. It's really, really wonderful.

Kaylee

When you think back on, because we've talked a bit about this, and giving you a bit of a different perspective, the diagnosis and the prognosis. What has that been like to reflect on your life? What are you feeling now? How do you feel about this life of Dr. Greg Bole?

Greg

Well, I think everybody reacts a little bit differently. I think the Hollywood way of dealing with it is, "I'm going to do all the things that I wanted to do or couldn't do", a pandemic puts a bit of a damper on that. The movie, The Bucket List, right, it became very popular in society after that,

what's on my bucket list became a part of what I want to do before I kick the bucket, and die. So that's limited time for me. I do not treat it that way. I have done so many fantastic things, and been to so many cool places, and met so



many cool people, that I don't look at it as like a checklist or a need to do these things. So, it's much more important for me to spend time with loved ones. That's really about the only thing on my list, try and stay positive, try and stay happy and healthy as I can, and try and connect with family and friends as much as I can. I think I've been pretty successful in that, and so that's a huge, huge benefit. Looking back upon my life, I also don't think of it that way so much. Like I don't say, "have I accomplished what I want to? Have I achieved enough?" I think sometimes people can turn their life into a scoreboard or just a series of goals. Then you're focused on the goal, you're focused on the scoreboard, you're not focused on the experience, on the connections, on the people. I did do a lot of the things that I wanted to do, I got a PhD, taught evolutionary biology at some of the top schools in North America, I've been able to travel around the world, and I've been super fortunate, super privileged. I have lived a life. Who's to say that an 80-year-old life is a better or worse life than a 53-year-old life? 52-year-old life, we'll see if I make it to 53. So, it's a life, and I'm pretty happy. I'm pretty proud of it.

Michael

I mean, you know, Greg, you have been an inspiration. I didn't go to university for science, I got into science communication, because scientists became my idols, they became the thing that I always wanted to be. When I would see you, you were someone that I really looked up to, and someone that I really wanted to be. I'm really honored to have met you. Thank you for sharing your nerdery with us.

Greg

Thank you. Well, I love you guys just as much. That's another thing that I try and do, express my love for people. Why are we scared of that? Why are we scared of telling people that we love them? So, the more love the better. It's not something that takes away it's something that gives, and so my involvement with Science Slam and Nerd Nite and all the cool science people and science communicators around Vancouver have been such an important part of my life. It really helped make it worthwhile and help me through some of the tougher times. So yeah, it's more than just getting together and chatting about things, its making connections.

Kaylee

Before we wrap up, bringing it all together. Do you have any advice for the people listening out there, the science communicators, the would-be teachers, the big science nerds?

Greg

Live your passion, share your passion and be compassionate and kind to others.

Kaylee

That is a damn good way to live.

Michael

I will do my best.

Kaylee

For everybody who's listening if you would like to get in touch with Dr. Bole. We have Dr. Bole's email on our website, on the podcast page. So, if you'd like to email Dr. Bole, just head over to

the website and hit the podcast page. If you want to hear more from us, you can follow us on our socials @NerdNiteYVR on Twitter, Instagram and Facebook.

Greg

Before you draw your terminal breath. (Sung to the tune of Monty Python)

Transcribed in part by Otter.ai



