A New Angle

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Justin Angle: This is A New Angle, a show about cool people doing awesome things in and around Montana. I'm your host, Justin Angle. This show is supported by First Security Bank, Blackfoot Communications and the University of Montana College of Business.

Justin Angle: Hey, folks, welcome back and thanks for tuning in. Today, I am speaking with four people doing amazing work to help us understand the role of exercise in treating cancer. Dr. Kathryn Schmitz from the University of Pittsburgh is a past president of the American College of Sports Medicine. Dr. Don McKenzie from the University of British Columbia is the director of the Division of Sports Medicine. Dr. John Quindry is professor at the University of Montana and director of the Cardiopulmonary and Cancer Rehab Lab and Nan Condit is president of Silver Linings, a dragon boat racing team comprised entirely of breast cancer survivors.

Don McKenzie: You can improve your long-term survival by 40% by doing 150 minutes of exercise a week. That is an amazing return for a relatively small investment and something that can be a lot of fun.

Justin Angle: These amazing folks will headline the upcoming Exercise in Lifestyle Medicine and Oncology Care Conference at the University of Montana, July 12th and 13th. Well, hey, everyone. Thanks for coming on the show today.

Kathryn Schmitz: Hello.

Nan Condit: Good morning.

John Quindry: Thanks. Great to be here.

Justin Angle: Yeah. So, let's talk first about why we're here. JQ maybe you can kick it off with a brief description of what this conference is all about.

John Quindry: The conference is really based on lifestyle medicine, in this case, directed toward the chronic disease of cancer, which is really a host of terrible diseases. And we know that how you live impacts not just whether you get the condition, but how you recover. And that's really the impetus of what we're doing.

Justin Angle: Super. And so, Don, my understanding is you're a bit of a pioneer in bringing exercise into cancer treatment. Can you talk about that history and how was that initial idea formed?

Don McKenzie: Well, like a lot of things that came through, patients came from a particular woman who was referred to see me at our medical center at the University of British Columbia. She had a shoulder problem, and it was a fairly straightforward shoulder problem. Nothing traumatic, a bit of a rotator cuff problem. I was showing her some exercises that I thought would help her get rid of it when she told me said, well, you don't understand. I can't do the exercises. And I said, Well, I'm pretty sure you can, they're pretty simple exercises. And she said, no, you remember I told you I have breast cancer. I'm not allowed to do those exercises. And that's what struck me as a bit peculiar. So, I went into our literature. And sure enough, in Vancouver in 1995, there was a list of things that were called guidelines. But in reality, they weren't guidelines at all. They were just a list of things not to do. And a lot of them were upper extremity. Arm, shoulder, wrist and hand exercises or activities that women were stopped or prevented from doing. And this affected a lot of people. So, we decided to challenge the myth that repetitive exercise was called lymphedema by choosing dragon boating and then moving on to a program of training for three months and then into a dragon boat, and then competing in a very large festival, which we have in Vancouver every year. And that was a visible representation of the fact that, yes, well, you can do all these things and not develop lymphedema. So that's it started from a patient and it's evolved to one dragon boat team and now to literally thousands of dragon boat teams globally which are incorporating dragon boat paddling as a part of rehabilitation, not just from the issue of lymphedema, but the mental stresses and the strain that comes along with the diagnosis of cancer and the loss of control that you feel when you're treated for that disease.

Justin Angle: Super. Katie, let's bring you in. So, your work is at the forefront of this space. Talk a little bit about your entry point into this field of study and why it's particularly interesting to you.

Kathryn Schmitz: Sure. So, I actually did my academic training working on exercise and heart disease and metabolic disease, diabetes. And it was as a postdoc that I started reading about exercise in cancer, reading papers by John McKenzie, reading papers by his colleague Susan Harris. My first foray into working in the field of exercise in cancer was a study that was funded by the Susan G. Komen Foundation. We were doing weight training in breast cancer survivors, and the oncologists that I was partnered with assured me that we would be able to recruit sufficient patients who had undergone what was called a sentinel lymph node biopsy, which meant that they would have very low risk for lymphedema. So, we were going to avoid this nuisance issue of lymphedema that Don was talking about. And six months into running the project, we had no one in the study because we couldn't find women who had undergone the seven lymph node biopsy. And so, we had to deal with this lymphedema issue. And in my initial study, it was a nuisance variable. It wasn't something we were really focused on. But, you know, science is fickle and sometimes the nuisance variable becomes the most important thing you're doing. And I ended up in touch with Dr. McKenzie's colleague, Susan Harris, to say, what do I do? How do I, you know, how do I proceed? Can I have these women do weight training? And she said, Well, yeah, sure you can. And here's what you're going to do. And she suggested an approach to ensuring safety for the patients. And we undertook what became the largest study at that point of weight training in breast cancer survivors and published it.

And it was the beginning of a, you know, a long period of my career where I focused almost exclusively on breast cancer related lymphedema. So, I started doing large clinical trials in this field. And that's my work on lymphedema is what I'm probably best known for. But I've also contributed to writing the guidelines that are published that tell us what the evidence base says and why we should be exercising those who live with and beyond cancer.

Justin Angle: We'll get into some of the mechanisms here in a moment. But Nan, I'd like to just kind of get your view. You are a breast cancer survivor, and you were the president of Silver Linings, a dragon boat club here in Montana. Talk about your experience and the role of exercise in your recovery.

Nan Condit: There was about five of us in 2013. We all met through treatment, and we had all been athletes and we had no direction. You know, we asked our oncologist, what can we do? And so anyway, we just formed really solely out of a social need at first. And then started...

Justin Angle: And had you been told at that point in your recovery that, hey, you shouldn't do much physical exercise?

Nan Condit: You know, we were told to do what you can do.

Justin Angle: Okay.

Nan Condit: And that wasn't enough for me who had been coached, you know, my whole life. So, yeah. Fast forward to 2018. We bought some boats we incorporated in 2017 as a C-3 because we were self-funding up to that point, went to Vancouver, met Doctor McKenzie, and the rest is sort of been history. He's been out here a couple of times. This will be his third time to Montana. I think he likes Montana, and he paddled in the paddle palooza with us last year. We have our own gym here in Missoula and we are doing research. We have a Ph.D. candidate who's doing research with us here at the University of Montana. So, it's cool stuff.

Justin Angle: Yeah. So, JQ, you talk for a moment about what's happening here at the University of Montana. I mean, it sounds like, you know, in talking to Katie and Don about their research, you know, a person that doesn't understand what the University of Montana is all about might think, hey, that's the sort of thing that happens at a medical school, we don't have a medical school. Why is this such a great place to study this sort of stuff?

John Quindry: Well, we an R1 university, which means research intensive, and we have a college of health, which is really everything but a medical school. And within that environment, we have the task of writing grants, publishing papers, and those are things that not everybody reads. But our main task is, of course, to train students and when possible, provide outreach to the community. And in the spirit of that, we have decided to have a cancer initiative. And so, I've retooled one of my labs, the big lab space to be the cardiopulmonary cancer rehabilitation lab, and in the name of doing is learning. We are going to be training undergraduate and

graduate students and helping bolster faculty careers while we offer cancer rehabilitation to patients and people in the community.

Justin Angle: So, let's pivot back to this kind of relationship between exercise, physical exercise and cancer. What is the basic mechanism by which exercise can help with treating cancer? Don, you want to jump on that one first?

Don McKenzie: Well, I can chip in a little bit. I mean, one thing actually, there was a paper came out a couple of days ago in British Medical Journal pointing out that the rapid change in the five-year survival rates of women with breast cancer and 25 years ago, it was around 15%. And then a few years ago, it's down to 5%. And now it sounds like it's 3%. And so, there's been a rapid improvement in either delivery or investigation or diagnosis. But one thing that's happened over that time period is that we've realized the role that exercise plays in the management of patients with cancer and a whole bunch of other diseases, obviously. And there's been some data that shows that, you know, you can improve your long-term survival by 40% by doing 150 minutes of exercise a week. So that is an amazing return for a relatively small investment and something that can be a lot of fun. So those are real data. That's stuff that that people acknowledge and have proven in a lab. The mechanism is something that we can talk about and that's probably getting a little bit heavy for this program. But you get into all kinds of hormonal changes and changes with regards to adipose tissue, etc. But clearly, there's a pivotal role for exercise in the management of the cancer patient.

Justin Angle: 40%, you can increase your survivorship by 40%. Is that I mean, that's astounding with 150 minutes of exercise you said in a week, you know, Katie, what do we know about how that actually works? Like, are there sort of lay ways that a listener like me who doesn't know anything about the physiology or the chemistry or the biology kind of understand how this relationship is so beneficial?

Kathryn Schmitz: You know, I think that for your listeners, they mostly when you think about exercise or you think about, you know, if I were to get up right now out of my chair and start moving, I know that I would, you know, my heart rate would go up. I know that my breathing would increase. You know, most people are aware of the fact that exercise affects our muscles and our bones and our hearts and our lungs. And that's because the American Heart Association has done an outstanding job of helping us to understand the benefits of exercise for the cardiovascular system. But there are a whole host of other physiologic effects of exercise that are probably less well known, that have everything in the world to do with cancer risk and cancer recurrence risk. Key among these is inflammation. We know that those who are more physically active have lower levels of sort of background levels of inflammation in their bodies, which makes an enormous difference in the development and progression of cancer. We know that exercise has a profound effect on the immune system. We know that our innate immunity works better if we are more regularly physically active. We also know that exercise has tremendous effects on metabolic health in ways that alter, I'm going to use some colloquial terms here, alter the soup that our cells are bathed in, if you will. So, our cells are constantly in a liquid. And if they're in that liquid, what's in the liquid, what's in the soup? And what's in the

soup is more inflammation and altered immune processes and differing cell signaling. If we are less active than if we are more active. It is not a surprise based on all this information, to find that exercise is associated with reduced risk of about eight different common cancers, including breast and colon and gynecologic cancers, esophageal cancer, kidney cancer, a number of common cancers, interestingly, not prostate. Most of the cancers that are associated with being physically inactive are hormonally related. And so, we think that the effects of exercise on our metabolic and hormonal health has everything to do with why there are these connections. And as Don mentioned before, there's something between a 30 and 50% reduced likelihood of death from a particular cancer, if you have had breast, colon or prostate cancer for those who are adequately physically active, meaning 150 minutes a week of activity.

Justin Angle: We'll be back to our conversation about exercise and cancer after this short break.

Justin Angle: Welcome back to A New Angle. We're discussing the powerful benefits of exercise in cancer treatment.

Justin Angle: You know, so Nan, as you're hearing kind of this talk of what the research says, you know, that's going on in your body and in your mind, I mean, how does that as someone who's lived through this, how does that resonate with your experience? Talk about just what you felt and what exercise did for you during your recovery?

Nan Condit: Sure. Well, I had always been active prior to. It became much more intentional during. I rode my trainer, you know, I got together with friends and hiked. But in reference to the psychosocial part, our dragon boat team and now outrigger paddling team, it has become an integral part. We have seen, and this is just anecdotal, I do read the research. But our group alone, there's over 300 breast cancer survivors in Silver Lining. There's about 60 that partake in the paddling and in our gym workouts. I know there are women that if that disappeared, it would tank them. I mean, it has become a lifeboat for many. And it's pretty cool to see. Yeah. They, we've had changes in psyche, changes in body type, you know and it's we talk a lot about it's not about weight. It's not about body image. It's about how you feel and living a healthier lifestyle and reducing that rate of recurrence. And, you know, a little plus is becoming a stronger, better paddler.

Justin Angle: Sure. And dragon boating is such a fascinating sport for this to manifest. I mean, it's such a, if a listener hasn't seen a dragon boat, just get online and check out some images of dragon boat paddling. Nan, talk about it. You're in such close proximity to your teammates and you're all engaged in this rhythmic movement that you're doing yourself, but in total unison with one another.

Nan Condit: Well, I think that's the key is the unison piece. And those, you know, we've all been through basically the same. You know, we've been in the trenches together, albeit at different time periods. But yeah, in a dragon boat there's 20 in a boat, there's ten seats. You're sitting side by side, you have a drummer and a steers person and you have to be together, I

mean to the, you know, to the sink. It is, it is so important. And you know, it's that kind of togetherness that, I mean, we really are sisters. We're family now. And, you know, we throw it down in the gym and we throw it down out on the boat. And it transcends, it transcends research and, you know, physicality.

Justin Angle: Yeah. It seems like this sort of space where the magic actually happens and there's a ton of, you know, chemistry and science happening underneath the surface. But you have this sort of visceral experience is pretty rich in this space.

Nan Condit: Yeah. And we like our paddle palooza, this event that we have after the conference. Dr. McKenzie came last year with us, and I remember and it's a 30-mile voyage. It's not a race. Don, I remember you saying to me, wow, I don't think our women can paddle 30 miles. And I'm like, Oh, yeah, ours can. And they can. And he knows, you know, for some of the older ones, that's tough. And the ones who haven't been training. But for our group 30 miles, it's a day in the sun.

Justin Angle: Sure. Yeah, sure. JQ, let's talk for a moment about what's interesting to me about this is it sounds like, medicine in general is starting to pick away at the notion that a pill or a treatment can cure us of whatever ails us, right, we're sort of understanding that now it's sort of the lifestyle piece that is the most powerful medicine, whether it's exercise or reducing stress in general, or some of these more lifestyle based interventions that we should be embracing. Is there a shift in how medicine is operationalizing itself in the last several years?

John Quindry: In my view, lifestyle, medicine and then pharmacologic and interventional medicine have really come together. If you go back 20 or 30 years, we know that pills save lives, pharmacology and medical intervention, it saves lives. There's no two ways about it. But separate to that, 30 or 40 years ago, there was an exercise movement that was in one part scientific and in a separate part it was sort of religion. And I think in the last 15 years, everybody has started to understand from both the medical and the scientific side that there's a balance between lifestyle and medicine. For example, we still need the pharmacologic interventions, but the pharmacologic interventions almost invariably come with side effects. And with exercise, you can mitigate those side effects by virtue of taking a lower dose, but still getting the same efficacy from that particular drug. And so, I think exercise and medicine can go hand in hand, and that's where the lifestyle, which isn't just exercise, it's appropriate sleep, it's alcohol in moderation, it's maintaining an appropriate mental health and diet.

Justin Angle: And so, Katie and Don, how does that perspective resonate with your work or does your work also encompass things that could be sort of pre-cancer and be sort of considered preventative care? And, you know, this this lifestyle piece? You know, my assumption is that it could drive a life that can be free of cancer before it even occurs. Is that something that the two of you study or could comment on?

Kathryn Schmitz: Yeah, I have a very large community-based trial right now called PA moves that is recruiting rural adults who are overweight and diabetic and therefore an increased risk

for cancer and just simply trying to get them to be more physically active because we know that it has effects on reducing cancer risk. We're pretty gob smacked at how difficult it is to recruit for the study. So not everybody is as enthusiastic about this as those of us on this on this podcast.

Justin Angle: Well, it's hard to get people to change their lifestyles, I assume, right?

Kathryn Schmitz: It is indeed.

Justin Angle: Don, what's been your kind of experience with kind of bringing this to the public? I mean, it sounds like there's been tremendous success in this dragon boat space, but in terms of trying to get people to embrace healthier lifestyles in general, regardless of their experience with cancer, have you met an accepting audience or what are some of the barriers to getting the word out?

Don McKenzie: Well, as Katie says, you know, after the age of 50, it's very, very difficult to have people change their lifestyle. It's a behavioral quandary and often impossible to overcome. The success of the Dragon Boat is for a number of reasons. One is that the people that are in the boat are motivated to do this. Having 20 or 22 people together, there's a certain level of commitment that you have to make to show up to be part of a team. And it draws people in. It's a very good sport that way. One thing I will say in Canada now, we approach the exercise scientist or the kinesiology, as not someone who is on a career path into another allied

health profession. But the kinesiology is actually an integral part of our health care system, and we're just kind of bringing that to a head, at least in British Columbia now, where they're actually salaried individuals, because the kinesiologist plays a pivotal role in their recovery from a lot of diseases. You know, certainly the muscle skeletal stuff. But certainly in our cancer population, you know, you need somebody who knows a lot about exercise and can supervise it and is careful and make sure things are safe. So, the kinesiologist, certified exercise physiologist, is really playing a more major role than I think we give them credit for. So, as we continue to evolve that profession, I think we're, and incorporate that into all of our community projects, we have a case as well where we have kinesiologist that sit in the family physician office and work through the exercise components for the patients that family physician sees. So, I think we're approaching things a little bit differently right now, but I think we just have finally come around to recognize the value of someone who knows a lot about exercise and can apply that in a clinical situation.

Justin Angle: Gosh, that that's a really important point. I mean, we have so many factors in our society, and in many ways, our society has been built around eliminating exercise from our lives. I mean, we have all these things that move us from place to place with greater levels of convenience. We can summon a latte to our doorstep with our phones. JQ, why don't we pivot to the conference itself? To be clear, listeners, this is a general audience sort of event. It will certainly have some medical science on the agenda, and we have these wonderful scholars who will be talking to us, but this is a general audience event. What can an attendee at the conference expect?

John Quindry: They can expect to have the world's best physician and scientist and practitioner come and give them simple, digestible, take home messages on how they can live a better life, even with metastatic cancer.

Justin Angle: Katie and Don, as you hear that pitch, I'm sure you heard it before, as prominent voices in this space, I'm sure you get asked to do a ton of things. Summer is a precious time. Although summer in Montana is a pretty good sales pitch in general. But why did you choose to say yes to an event like this? Why did it merit space on your calendar? Katie why don't you take that first?

Kathryn Schmitz: John Quindry.

Justin Angle: Okay.

Kathryn Schmitz: A leader in the field and if John asks me to do something, I'm there.

Justin Angle: Wonderful. Well, that is high praise. Don, how about you?

Don McKenzie: Well, same thing. You know, I have a great deal of respect for women in communities who start the dragon boat program, because it's not easy. It's an unusual thing to start, the community starts to wonder what you're doing. You need resources. You need

women who buy into it. And so, you take somebody like Nan and a couple of her teammates that are driven, passionate, and it's all about the women with the disease, nobody's in this for any personal accolades. They're just in there to help people. And so, you know, how do you say no to Nan? I don't, I can't and haven't been able to yet. And I will add that, you know, getting to Montana in the summer's a big draw as well. It's a gorgeous part of the world.

Justin Angle: Indeed. Nan, what are you most excited about with this conference?

Nan Condit: Well, like I had mentioned to you, Justin, this is sort of like for those who are old enough to remember the Grateful Dead, it's like a I'm a Deadhead at the Grateful Dead concert, you know, as being a breast cancer survivor. Also, somebody who's delved into the research a fair amount. You know, with my graduate work, we are thrilled. We're super grateful to Don and Katie for coming and the other speakers who will be here who we haven't mentioned today. We really would love to have survivors, oncologists, cardiologists, primary care providers, PTs, OTs. This is for everyone. It's a message that is super important. You know, exercise is free. It should be considered a drug. It's a good drug.

Justin Angle: JQ if folks want to learn more about the conference, how to register, where to go, all those things, where would you point them?

John Quindry: People can go to exercise med four or six dot com, and they'll find all the information, the links to register the agenda and everything else that will be prepared for them.

Justin Angle: Awesome. And again, this event is occurring here in Missoula, the 12th and 13th of July. Check it out, Don. Katie, Nan, JQ, thanks so much for joining us today. Thanks so much for this work in general. And I'm just excited that not only that this is happening, but people in Montana are getting access to what's happening on the cutting edge of the relationship between exercise and cancer. Thank you all and we'll see you in July.

Kathryn Schmitz: Lovely to be with you all.

John Quindry: Thank you.

Nan Condit: Thanks, Justin.

Don McKenzie: Pleasure.

Justin Angle: Thanks for listening to A New Angle. We really appreciate it. And we're coming to you from Studio 49, a generous gift from UM Alums, Michele and Loren Hansen.

Justin Angle: A New Angle is presented by First Security Bank, Blackfoot Communications and the University of Montana College of Business, with additional support from Consolidated Electrical Distributors, Drum Coffee and Montana Public Radio. Keely Larson is our producer.

VTO, Jeff Amentt and John Wicks made our music. Editing by Nick Mott. Social Media by Aj Williams and Jeff Meese is our master of all things sound. Thanks a lot, and see you next time.