Scott W.: Welcome to The Three P's of Cancer podcast where we'll discuss prevention, preparedness and progress in cancer treatments and research, brought to you by the University of Michigan Rogel Cancer Center. I'm Scott Wrighting. We're here with Michigan Medicine doctor, Sean Smith, a physical medicine and rehabilitation specialist to talk about rehabilitation and pain management for cancer patients. Dr. Smith leads the Rogel Cancer Center's cancer rehabilitation program, which covers both inpatient and outpatient services. Welcome Sean.

Sean Smith: Hello. Thanks for having me.

Scott W.: Can you tell us do all cancer patients benefit from rehabilitation, or just certain ones?

Sean Smith: Well with rehabilitation it's really about restoring a person to either where they were before cancer treatment began, or when the cancer diagnosis was made, or doing the best we can to get them close to there. While there are certainly some patients who do really well throughout treatment and have minimal side effects, there's a large amount of patients who actually do have physical, cognitive, psychological impairments as we call them, or problems. Those patients probably need some kind of rehabilitation. It may be just a little bit, or it may be considerable in scope. When you look at the numbers, it's something 80% of advanced breast cancer patients have at least two of these impairments like pain or fatigue and swelling, and almost all patients get some kind of symptom in the neurological or musculoskeletal system throughout the cancer treatment and those patients may benefit from some rehabilitation.

Scott W.: So would those patients be more ones that have surgical procedures, or also chemotherapy or radiation?

Sean Smith: Great question and it really depends. Part of my job when I first see a patient is to really thoroughly review the cancer treatment that they've received and when it occurred because that gives me a big clue as to what the culprit is. I can tell you it can be one of those, or all three, or none if we're lucky, but it's tough to pin down just one as the culprit for their symptoms depending on what they are.

Scott W.: Ultimately what is the goal for cancer patients going through physical rehabilitation?

Sean Smith: It really is, it's patient centered, so the patient tells me their goal. For example, it might be a woman who had surgery, radiation and chemotherapy to treat her breast cancer and she really wants to throw the ball with her grandson in the backyard. She'll come to see and say every time I reach overhead or I try to stretch back I have pain in my shoulder or my chest, and I can't do this. We center the rehab program around okay so you're tight here, you have some swelling, maybe see the lymphedema therapist for the swelling. I can handle your nerve pain either with something topical, or a medication, or a nerve block. We can give you some exercises to strengthen the rest of your body to compensate for the areas that were damaged by radiation so that you can be pain free and to prevent problems down the road. It may be as straightforward as that.

I have some patients who are in a wheelchair, or have an amputation, those are more extreme examples of sort of getting their life back together, getting them back to work, or whatever it is their goal, home with the family, or wheelchair basketball. It really is up to the patient to tell me what they want, and then we set a realistic goal for them and we keep trying until we make it.

Scott W.: It sounds like the examples that were given are more centered around an outpatient setting, coming into a gym or a physical therapy type setting. What about those patients that are in the hospital?

Sean Smith: Yeah, that's a different ballgame so to speak. Patients in the hospital tend to be more ill, more acutely sick. They have to be hospitalized. Either they're getting chemotherapy, or there's been some kind of complication or problem and they're pretty weak. We have a really broad approach to these patients with a goal of not letting people decline too much. We know that when people are in bed just laid up they lose 1% of their muscle mass every day, they have an enormously increased risk of falling, and they just have a much slower time getting back to the previous level of physical function that they were at.

So what we do for certain patients while they're on the inpatient, say they're on the oncology service receiving chemotherapy, we have a dedicated team of physical and occupational therapists who specialize in seeing very ill sometimes, but just in general all cancer patients. We give these patients the option at least of having more rehabilitation than the average patient in the hospital. They can get seen every day by both physical and occupational therapy with the design of improving or preserving physical independence. Patients being able to get out of bed on their own or with just minimal help, get to the bathroom on their own or with minimal help, walking so they're not going to fall, getting dressed by themselves, so that they're not as reliant on caregivers when they go home.

They also get seen by a physical medicine and rehabilitation doctor like myself. We can address symptoms that they have, maybe it's pain, maybe it's nausea or something else. We can also sort of plan their rehab program. Sometimes even with this extra intensive rehabilitation that these patients have they still need to get stronger before going home. Say they're done with chemotherapy or what have you and they're still not strong enough to physically be independent, we have a rehabilitation inpatient unit that patients can go to where they get three, four, five sessions a day of therapy, doctors like myself manage their medical issues, and we plan around the patient to meet their goals and get them home in a timely manner.

Again, all of this is about independence so that people don't come back to the hospital because they fell and hurt themselves, or because they just aren't thriving at home. We need people to be up and moving and as physically robust as possible, which will also help them get more cancer treatment if that's what they need. It's a different ballgame for inpatients versus outpatients. There's a lot of differences, but we offer it across the full spectrum.

Scott W.: Is it typical to have inpatient rehabilitation in most hospitals?

Sean Smith: Most big hospitals will have an inpatient rehabilitation unit. What sets Michigan Medicine apart is that we have a specific program just for the rehabilitation of oncology patients. There's less than five I can count off hand that have inpatient oncology rehab programs in the country. We have doctors who know about your treatments, we have therapists who know about your treatments, and we've done this before. We're used to the complexities involved. It might be a matter of a patient getting radiation in between their physical therapy sessions. We make that work. It might be a brand new cutting edge treatment that other hospitals aren't doing, but our rehabilitation floor is even aware of it. We kind of know the ins and outs of cancer treatment, and I think that's a big advantage.

Scott W.: Once a patient is discharged does that care continue from the inpatient to the outpatient setting?

Sean Smith: Absolutely. That I think is another strength is that we have the capability of following a patient from moment one of diagnosis through as long as they need, as far as treating their symptoms and making sure they're as strong and robust as possible. After they go home from our inpatient rehab unit, we have a followup appointment made before they even go home, and then we have a plan for them to continue say it's physical therapy and occupational therapy and then check back in with the doctors in a few weeks or a month to make sure that the patient is still on track, that their symptoms are being managed properly, and that we're not going to run into any problems. We can kind of head them off at the pass. Because a lot of these patients will keep getting chemo or having other treatments that could further cause them to decline physically if we don't keep up on it.

Scott W.: What's the difference between physical therapy and occupational therapy? When I think of physical therapy I think oh I'm going to ride a bike. What is occupational therapy?

Sean Smith: That's a good question. I'm going to kind of answer that around about and say that rehabilitation in general is a team based medical approach to your care. There is a physician, a PM, and our physician or physical medicine rehab, who can coordinate all the therapies, and also prescribe medications, address pain and that sort of thing. Physical therapy is part of the team. They're more of sort of the gross motor aspect of that meaning they get you stronger, they help your balance, they strengthen your core, whatever is weak they can work on. Sometimes though that's massage and muscle release if it's tight for pain relief.

Occupational therapy has a little more specialized, in the cancer world at least, they work on first and foremost on things called activities of daily living, so helping you get your clothes on properly, or get to and from the bathroom, those types of things that when you go home and the rubber meets the road you actually have to live your life. They help you with that. Within the cancer world as well they also have specialization. Some occupational therapists treat lymphedema, which is swelling that can be caused by radiation or surgery. There's hand therapists, depending on what the symptoms are

that patients get. Occupational therapy is a little bit more broad in that sense.

But we also have speech therapists, or speech pathologists I should say, that can help patients who have trouble speaking, or with memory and attention problems. Then we also have psychologists on the team to help people cope with issues, or diagnose any cognitive issues that they might have.

Scott W.: It's almost like a separate multidisciplinary team added on to the multidisciplinary team someone sees.

Sean Smith: Exactly. It's exactly that. I should say though that not everyone needs all of these services. I don't want somebody listening thinking that if they see a rehabilitation doctor they're signed up for 18 other visits. Whenever possible if I think exercise is something they should do, I'll prescribe the exercise and have them see a therapist if they need that hands on skill. If they don't need PT and OT and speech and psychology, they don't go to all of these. It's just options for them.

Scott W.: We talked about rehab and what the different aspects of rehabilitation are. How does it help with cancer pain? Obviously we talked about how it can help strengthen someone to be able to do daily activities, but how does it help with pain?

Sean Smith: Good question. That's probably, at least outpatient wise, that's the most common reason I see patients. Strengthening in and of itself does reduce pain. If somebody's in bed for a long time and they start to walk, all of their joints will hurt. The stronger your muscles are, the less pain you have. But a lot of pain management from a rehab perspective is taking what I call an anatomic approach to pain. What I mean by that is if you had a mastectomy and radiation to your chest and the armpit area, or the axilla, then often times there are nerve endings that are really painful there. It's not a matter of just throwing somebody on a strong narcotic pain medication to numb their pain and make them hopefully forget that that surgery happened because the nerve endings are still cut, no matter what the medication is.

The anatomic approach, the rehab approach is okay these nerves are causing your pain, we can block them. We can give a medication, even if it's something topical to numb them. We can help the scar that's there get looser, that's what occupational therapy would do. Maybe the shoulder is pulled forward and tight, and so physical therapy or exercises that I give them can help loosen that up again. And you can extrapolate that. At Michigan we get very unique cases in cancer. Somebody may have surgery on their leg or in their pelvis from a sarcoma or a gynecologic cancer, and so there's different nerves or muscles that play there, but it's the same principle. It's what's causing the pain and treat that pain generator. In fact, a lot of our patients don't get put on opiate narcotics or strong medications like that because they end up not needing it by us treating the pain at the source.

Scott W.: If someone's been diagnosed with cancer and they are preparing themselves for the treatment, surgery, maybe it's a chemo radiation combo, are there exercises or things

that can be done ahead of time that can prevent side effects from those cancer treatments, like getting pain or some of the other issues?

Sean Smith: Good question. Yeah, this is the whole concept that we call prehabilitation, so preventing problems from happening so you don't need to recover or rehabilitate. In general, the better shape you're in physically before a cancer diagnosis, the less pain or weakness you will probably have. But, if somebody gets diagnosed sometimes they get rushed right into treatment immediately and so there's not a lot of time to get stronger. For those patients it's about focusing on in the near term keeping moving, talking to their doctors about their symptoms and making sure those aren't keeping them in bed, and also really having as good and positive mindset as you can have because there's a lot of evidence to show that people who are really anxious and in a lot of distress going into their treatment actually have more pain and less physical activity after treatment.

There are a couple of examples of cancer diagnoses in studies that have been done though where there's kind of a long gap in between treatments, or there's a time for people to get in physically better shape. Colon and rectal cancer is one example where sometimes chemotherapy can last a really long time and there might be a lot of time between chemotherapy and surgery, and so there's one study that show that people even as simple as just walking, if you walked a lot before, like while you were on chemotherapy, you're going to walk more after surgery and your quality of life is better.

There are some studies also that show that rehabilitation in patients who have lung cancer, but who really had a hard time breathing and getting around, so much so that they can't get on the operating table for the surgery because it's too risky with anesthesia, if they do rehabilitation to get stronger, they get strong enough to have that surgery and then they have better outcome. It can be life saving that regard. But in general, I think the best thing people can do is actually focus on the mind more than the body because there's usually not a lot of time to get in great shape before treatment begins.

Scott W.: As we wrap things up, what are some key points that you want listeners to take away from our conversation today?

Sean Smith: Well I want patients to know that they are entitled to this care, that they have this care available to them, because a lot of patients don't know. Quite frankly, Michigan Medicine is pretty good at this, but for listeners outside of it, and even in Michigan Medicine, their doctors may not know that this is the scope of rehabilitation, this is what's offered. Sometimes the patients have to really advocate for themselves and I encourage them to do so. Say you have problems from radiation, or surgery, or chemo, even though your life is saved or prolonged, it doesn't mean that you're not suffering still. A lot of times we can minimize that suffering or take it away entirely, but you have to kind of ask.

To oncology providers I would say just be aware that there are physicians who have expertise in pin pointing problems with pain or maximizing somebody's physical and cognitive function after surgery, radiation, chemo, what have you. That we can get people

back to work, or back to life with their families, or whatever their goals are. Simply knowing that this is out there. It's a specialty in medicine just like ophthalmology is or pediatrics, so it's covered by insurance, and it's 100% patient centered. The scope of a rehabilitation program is up to the patient and the doctor to coordinate between each other.

Scott W.: Great. Well thank you for taking the time with me today Sean. I really appreciate it. Some good information that I think everyone can use.

Sean Smith: Thanks for having me. That's great.

Scott W.: Thank you for listening, and tell us what you think of this podcast by rating and reviewing us. If you have suggestions for additional topics, you can send them to cancercenter@med.umich.edu, or message us on Twitter @umrogelcancer. You can continue to explore The Three P's of Cancer by visiting rogelcancercenter.org.