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Webinar: Exercise and ovarian cancer: What do we know?

Wednesday, May 29, 2019

Presenter: Dr Rosa Spence

ANNA GORDON:
Good afternoon and welcome to Cancer Council Queensland's health professional webinar, on the topic of Exercise and Ovarian Cancer. My name is Anna Gordon, and I'll be your host this afternoon. It's great to see participants from all over the state with us this afternoon, and we welcome everyone who has joined us today. Before we begin, I'd like to acknowledge the Traditional Owners of the land on which we work and live, and pay my respects to the Elders past, present and emerging. Just a little bit of housekeeping before we begin. This webinar will run for about an hour. Dr Rosa Spence, who's our guest this afternoon, will speak for about 45 minutes and we'll have time for some questions at the end as well. You can type in your questions into the chat box on the right side at any time during the webinar, and we'll read them out at the end of Rosa's presentation.

This session is being recorded and will be available on Cancer Council Queensland website. Once the recording is online, everyone who has registered for this session will receive an email notification and you'll be able to watch it again or share it with your colleagues. And now I'd like to introduce you to our guest presenter. Dr Rosa Spence is a post-doctoral researcher and accredited exercise physiologist at the Queensland University of Technology. The clinical and research focus of Rosa's work is on the role of exercise in the management of cancer. Her current research focuses on understudied populations including women with gynaecological cancer and breast cancer survivors. Doctor Spence is passionate about research as well as working one on one with cancer survivors and helping them set and meet their exercise goals. So I welcome Rosa, and I'll hand it over to you now.

DR ROSA SPENCE:
Thank you, Anna. It's good to be with everyone today, it's nice to see a mixture of people attending. And I've been told to remind you guys that you can ask questions throughout. So hopefully, if you type in a question, I'll see it pop up on my screen. So, I'll also just make note that on a few of the slides, the animation isn't going to work on the platform. So if I'm talking about something you can't see, that's probably the reason why. So let's get started.

So now, I know that probably the people who have logged into this webinar are the ones who already believe in exercise, so I'm probably preaching to the converted here. But I think it's interesting to stop and look at why we're interested in physical activity or exercise in the context of cancer survivorship. And I had a look back, and it's almost 100 years, 1953 was the first time there was a publication about the role of exercise or physical activity in association with health. And that was a study where the researchers looked at the cardiovascular disease that occurred in bus drivers versus the conductors, so people who had a sedentary job versus those who are up on their feet and moving around all day. And they found that those that had a more active job had fewer and less severe cardiovascular events. So that was the start of this field of physical activity and health.

Then, in the late 1980s, evolved into the first publications around the role of exercise in cancer survivors, all those who were undergoing treatment. And so, 1988, 1989 was the first time that there was publication about the role of exercise for breast cancer survivors during chemotherapy. And if we move along the timeline, and that's the slide that you can see, you can see two papers in the background of that grey box. One of them is the Exercise and Sports Science Australia position statement from 2009, which was the first position statement internationally on the role of exercise in cancer survivorship. Which was followed soon after in 2010 by the American College of Sports Medicine round table on exercise and cancer. And excitingly, ten years on from that, we've actually got updated position statements. The Exercise and Sports Science Australia position statement was just recently published, and coming this year should be the American College of Sports Medicine update, which gives you an idea of how quickly the field is moving.

In the 1950s, we had this first publication about physical activity and health. 30 years later, we had...almost 40 years later, we had the first evidence to challenge the rest is best medical opinion that was the culture of the day. But then, in the last ten years, we've had an exponential growth in the number of studies and the volume of evidence behind the role of physical activity and exercise for health in cancer survivorship.

Sorry, I'm just figuring out my software here. Nope. Previous. Alright. Sorry about that. So, we're all aware of the impact of cancer treatment and the disease itself on health, and know that it has adverse impacts not just on the disease state, but it also impacts us as a whole person. And interestingly, there's been evidence over the last few years that has shown that the impact of cancer treatment is actually the equivalent of ten years of ageing. So, there are all sorts of adverse changes, many of which are amenable to improvement through exercise.

So some of the benefits of exercise following a cancer diagnosis include the ones that we would expect. The physical function, mobility and balance improvements. Muscle strength, bone strength. But also the psychological and emotional well-being. And recently, we've had newer studies and analyses that are showing improvements in chemotherapy completion rates as well as a secondary analysis showing improvements in survival, which is all very exciting outcomes and is just additional evidence for the importance of promoting and supporting exercise for cancer survivors.

However, most of the evidence that these systematic reviews and position statements are based on is coming from studies that include primarily prostate, breast and colon cancer survivors. So coming from our more common cancers, and also coming from cancers that have a higher survival rate, a less intense treatment path usually, and often also including people there's a selection bias, so it's including people who are more likely to be physically active when they're enrolled in the study. And so it leaves this question of, how generalisable are the results of the studies to date, and what impact does that have on the advise that we give to the average person, the average cancer survivor? Is the evidence of exercise that we've seen from the studies, is it applicable to all cancer survivors, or only to the healthier, more active cancer survivors?

We had a look at the studies that have been published to date in breast cancer survivors, to see if the women who had been included in the exercise trials were representative of the women, the average women in Queensland with breast cancer. And what we found was, women in the exercise trials tended to be younger, they tended to be active at baselines, so active prior to being involved in the study and they tended to be only those who met the inclusion criteria which meant that they couldn't have medical conditions or comorbidities such as, say osteoarthritis that might make exercise hard, or they may have been excluded if they had advanced stage disease or complex treatments.

And as you can see with the icon on the right-hand side of that slide, the representative woman with breast cancer has at least one treatment related side effect, so perhaps nausea of fatigue or peripheral neuropathy. But also, at least one comorbidity, so that could be obesity or it could be diabetes or hypertension. So the women who were included in the studies weren't representative of the average Queensland woman with breast cancer, which led us to question whether the exercise would be safe and feasible in a representative cohort. And this was really important, because we know that 47% of women had stage one disease, it leaves 45% of women with a stage two or above breast cancer. And a higher stage of breast cancer diagnosis leads to a higher rate of morbidity, increased frequency in severity of those side effects, as well as likelihood of having more than one comorbidity.

So we've formed a research trial to look at the safety and feasibility of exercise in the less-well breast cancer survivor. And this study was looking at either women receiving five supervised exercise sessions or 12 for over 12 weeks, which is representative of the current funding model, so women would be able to be referred by their GP to receive five supervised exercise sessions in a year, with an exercise physiologist. So half the women were randomised to a five-session group and the other women were randomised to the same 12-week intervention, but with 20 supervised sessions across the 12 weeks. So to try and recruit a representative sample of women, we had an eligibility criteria that required an eligible woman to be currently not meeting the physical activity guidelines, so that is 150 minutes per week. So the women had to be doing less than that at recruitment, and they also had to have one or more comorbidity and/or chronic disease, to try and get those women who were actually dealing with more of the complex medical issues.

So our primary outcome was safety and feasibility. So when we look at the safety, thinking that women who have more comorbidities and side effects might be more likely to experience adverse events from exercise, and that this could influence whether it was safe to be prescribing and recommending exercise to women with these side effects and comorbidities. However, what we found was, that although there was a total of 45 adverse events across the 60 women in the trial... Sorry, actually, this was only the women in the less-supervised session. So there was a total of 45 adverse events across the 30 women in this group. 17 of these were not exercise related. So there were 25 exercise related adverse events, but none of these were grade three or above.

So, none of them had a profound impact on activities of daily living, and most were actually common adverse events such as mild muscle soreness that you would expect, so expected physiological responses to exercise. None of those adverse events, none of the 45 adverse events was serious, none resulted in hospitalisation or exercise cessation for greater than two weeks, which met our predefined criteria for safety. But probably what's more interesting is that, not only was the exercise safe, but we did find that the majority of those adverse events did actually lead to a need for the exercise to be modified. So whether that was that there was a mild injury or discomfort that required the exercise physiologist to say, “let's pull back, let's not do that exercise. let's adjust how we're doing it, let's change the way that we're focusing on that goal there." or whether it was to say that, perhaps the frequency or the scheduling of the exercise sessions, perhaps around treatment or around the time of day when they felt at their best was really key. And so, although the exercise was bound to be safe, we found a really key role in the supervision and the support provided by the exercise professional.

Just gonna skip through, I think... So this was to show the feasibility of the exercise. So whether the women could reach the goal of the exercise programme, the goal of the study was, that women completed 150 minutes of moderate intensity exercise each week, including two strength focused sessions in the week. And what you can see is that, in terms of attending their supervised sessions, so attending those 20 sessions or attending those five sessions, greater than 75% of sessions were attended by the women, and the majority of the women attended greater than 80% of those scheduled sessions. However, when we dig a bit deeper into the feasibility, we can see that only

50% of the women who were having the 20 supervised sessions and 36% of the women who were having the five supervised sessions managed to average at or above the 150 minutes of moderate intensity. And if we then look at whether or not they were doing the two resistance sessions, fewer than 50% of either group were completing two sessions per week. So if we look at the number of women or the percentage of women who were completing 150 minutes of moderate intensity exercise, we see a range between 20-30% across the two groups.

But it's a lot more interesting if we look at these as individuals. So instead of averaging the groups, what you can see in this table is each bar represents an individual participant in the study. The purple bars or blue bars over on the left are the women who had 20 supervised sessions. And the pink bars over on the right are the women who had five supervised sessions. Now, you can see the grey line across the middle of the slide, that shows the 150 minute target that the women were aiming to progress towards. And you can see that there's a really wide range with some women exceeding the goal by more than double, and others having an average of about 20-30 minutes per group, per week of exercise, moderate intensity exercise. And this really highlights that all cancer survivors are different. And this cohort, even though these were all women who are inactive, insufficiently active at baseline, they were all women who were facing additional medical conditions or side effects of their treatment, and yet there was still a really wide range in what they could achieve even with regular support for an exercise physiologist.

So it just reminds us that there is no one size fits all. And although the average minutes in each of those groups is around that 150 minute mark, there is a really wide range in what is achievable by different individuals. So that was the safe trial, which was looking at the more unwell breast cancer survivors, and gave us the first indication that exercise really was safe and feasible even in those who were facing the more challenging situations, medically. Sorry, I'm clicking the wrong buttons again. And that leads us into talking some more about the ovarian cancer.

So the reason that we found ovarian cancer an interesting cohort for our research was because ovarian cancer is so regularly diagnosed at a later stage, which leads to a higher percentage of women having a high-dose chemotherapy. And we also know that the majority of women with ovarian cancer actually have dose interruptions or

modifications to their chemotherapy due to the side effects and the symptoms that they're dealing with.

Sorry, the slides aren't popping up with all the things that I was going to talk about here. But what you can see here is the level of physical activity that women are completing at different periods after diagnosis. And you can see that in the majority of people, there is a drop in physical activity following diagnosis, and only 19-31% are actually meeting those physical activity guidelines of 150 minutes of physical activity. Yet, we know that physical activity is associated with a whole host of benefits including that improved physical function and reduced side effects.

So one of our PhD students has been looking at the evidence for the role of exercise in ovarian cancer, and she identified that there's really only four trials to date that have looked at exercise in women with ovarian cancer, specifically. Three of these were small pilot studies and one of them was a larger randomised control trial, however, it wasn't looking at physical activity levels that are equivalent to the physical activity guidelines. All of the studies were found to be safe and feasible, and there was a whole host of improvements that were identified in these studies.

However, we realised that there was still a gap in the evidence for exercise during chemotherapy for ovarian cancer survivors. The ECHO trial is a large national randomised control trial looking at the effects of exercise during chemotherapy for ovarian cancer. The primary outcomes for ECHO were actually survival and physical function, and we're actually still recruiting. So, I can't show you any of the data from that yet. But what we have been looking at is some preliminary analysis of the safety and feasibility.

So similar to what I was discussing with the safe study, we've looked at the safety and the feasibility of the exercise in the first, I believe it's the first 40 women who completed the exercise trial. So the ECHO trial recruits women who are aged over 18 years, who are newly diagnosed with ovarian cancer and about to commence chemotherapy. So they're randomised, and it's a one-to-one randomisation to either an exercise intervention and usual care or usual care alone. So once women are randomised, this can occur... if this occurs around the site of their chemotherapy, and we know in ovarian cancer, it's

about a 50/50 split between women who receive adjuvant chemotherapy, so they have surgery, and then this is followed by the six cycles of chemotherapy, and the women who have neoadjuvant treatment, which means they have three cycles of chemotherapy followed by the surgery and another three cycles of chemotherapy. Now, regardless of whether women are adjuvant or neoadjuvant, the exercise intervention actually runs for the duration of their chemotherapy. And the intervention involves weekly contact with an exercise physiologist, and about five sessions with, supervised sessions with an exercise physiologist. The goal for all women is to increase their exercise levels to progress towards and then to maintain that 150 minutes of exercise per week, including those strength sessions.

So, the exercise can be made up of aerobic exercise and resistance exercise, but it can look different for every individual. So we do find that the majority of women choose to walk. And in most cases, the resistance based or strength exercise is done using hand weights or TheraBands at home. Although some women do choose to attend a gym or use more specific equipment. The prescription is individualised to every patient that we have. So, some women start the programme with no exercise background, and we're not gonna dive straight in week one with 150 minutes of exercise. Some women come into the study with history of exercise, perhaps they had stopped exercising as they came into treatment or after their surgery, and we support them to perhaps more quickly return back to the levels that they have been exercising at. So the majority of the exercise prescription is completed over the telephone, but they do have those five face-to-face sessions. And in most women, it's about an 18 week intervention to match the duration of their chemotherapy. So we're currently recruiting in Queensland, New South Wales, Canberra and Victoria. And actually, I didn't update that. We've actually reached 200 participants at this point, but we've still got a ways to go to reach that target there.

So what you can see on this slide over on the left is, of the 35 women that I'm presenting the data for, 15 of those women were reaching 150 minutes for 75% of the weeks they were in the intervention. So that was our feasibility cut-off. So less than half of the women were meeting the number of minutes that we were aiming for. And if we then look at those who were meeting the number of minutes as well as the strength sessions, we see that only 12 women out of the 35 were able to reach that feasibility cut-off.

Now, if we look again at a similar table, a similar graph to what we looked for the breast cancer women in the safe trial, this is the average minutes per week that women were completing during the intervention. And you can see two lines across the graph there. The lower line in the dark purple is the 150 minute mark. And you can see that that's where the 23 of 35 women are. And now what's interesting is, that actually, the pale pink or the lighter purple line above that is actually showing 225 minutes per week, and 12 women out of the 35 were actually averaging over 225 minutes per week of exercise. But if you look at the numbers that are written across the top of the graph, you'll see that the range was between zero minutes per week, an average of zero minutes per week, to an average of 610 minutes per week across their, roughly, 18 weeks in the intervention. So again, we're seeing a really broad range in what the women were able to do.

Again, there were no grade three exercise related adverse events, and no exercise related adverse events requiring a one or more week absence from the exercise intervention. Underneath that green box there, there's some more graphs and a list of some of the adverse events that were experienced. But what we saw was similar to safe. The majority of the women experienced mild adverse events. The most common adverse events we reported was pain, usually about 50/50, half of those reporting pain, it was related to their surgical site, or the scar or discomfort along surgery, which is obviously a really key outcome to identify to realise that this is an issue that needs, specifically, to be addressed when prescribing exercise or recommend the exercise to this population. A number of women reported increases in fatigue, which again, is an important outcome, because this is something that we can actually work with when women are unsupported and are exercising without someone helping them. They often feel like an increase in fatigue is a reason to stop exercise. When they're actually supported to work through that, we do find that fatigue is rarely a reason to stop exercise, and in fact, with the right support, the exercise can actually help that symptom.

So I was just gonna run through a couple of interesting cases that we've had throughout the ECHO trial. Because I think it helps to give an idea of the different things that we see. So it's one thing to combine all the data of the 35 women or the 60 women in safe and to say, Look, exercise is safe, exercise is feasible. Look at the average number of minutes that they can do." But when we look more closely at the individuals, there's some

important messages that we can pull out. So the first patient I was gonna talk about, this is a woman with ovarian cancer who was part of the ECHO trial. And she was a regular exerciser prior to diagnosis, and prior to being involved in the intervention. But she experienced multiple personal and medical challenges during treatment. And so, one of our exercise physiologists was working with her, and supported her to gradually return to exercise, plus progress and regress that exercise as needed.

So, she had stopped exercise following her surgery. And so when she entered into the study, she was able to be supported to increase her exercise levels. But then, she did experience some medical challenges which actually required here to interrupt her exercise. But she maintained contact with the exercise physiologist as the protocol for the study would encourage her to. And it was really important for her, because, based on her medical challenges, she actually found herself quite fearful and actually expressed at the end of the study that she would have been really unsure what to do, how to return to exercise and what would have been safe for her during those medical issues. But she also found that having someone regularly touching base with her helped her to maintain a feeling of accountability, that helped her to maintain her exercise during the personal challenges that she was experiencing, and in the end, that she was very grateful for that because of the support it provided to her to maintain her physical activity and exercise levels.

So the second individual is also from the ECHO trial. Now, this was a non-exerciser, so someone who's never been an exerciser. And I know, often, when I'm working with these women over the phone, they tell me, "I'm doing this because I have to." They see it a bit like eating green vegetables, their doctors told them it's important. And so they're doing it, but they're doing it under duress. So these exercise physiologists found that it was really important to encourage the participant to schedule exercise like a doctors appointment. Because the patient or participant was trying to keep really busy during treatment, and was finding that her social schedule and her hobbies were taking priority over her exercise. So with the support of the exercise physiologist, the participant started exercising regularly, but then experienced some treatment related adverse events, and it was...the exercise physiologist had to help regress her prescription.

And it actually got to the point where she was unable to do what most of us would think of as an exercise session. But she was able to maintain her habit of exercise because she was doing regular short functional movement. So probably, instead of doing, say, some TheraBand workouts, instead of doing the classic two sets of eight repetitions of a chest press, she might have just been going through the movement of the chest press but without the resistance of the TheraBand. And this helped her to actually maintain her habit of exercise, but it also gave her a sense of achievement in those days where she was finding it hard to get things done. And what's really interesting is, that by the end of this intervention, the participant was actually a regular exerciser. Now, she wasn't exercising in 150 minutes, she was exercising somewhere around the 90 minutes per week, but she called herself an exerciser. So across the 18 weeks that she was in the intervention, she went from someone who said, I'm not an exerciser, I never have been, I never will be." to being someone who actually was proud to call herself an exerciser, and was confident that she could continue that habit on her own.

So, the final case study for us to look at. This was a really eager participant in the ECHO study who... she was a regular exerciser before diagnosis. She actually had a chronic disease, but she found the pain was managed and her function was maintained if she exercised regularly. So, she already believed in exercise, but she was knocked around by her surgery, and so before she started in the study, but after her surgery, she actually jumped online and found a brochure from the UK that describes some exercises for cancer survivors, and she started to independently attempt this home programme. Which is really exciting, and I think it's great that there are resources out there that are available, and that obviously, the message is getting out because this woman knew that exercise was something that was important for her, specifically at this time. But what was interesting was, that the first time I went out to meet her, I asked her to show me the exercises that she was doing, and she'd been basing them...they were basically pencil drawings in a little brochure and she'd misinterpreted the diagrams. So she was doing things like lying down on the bed instead of leaning against a wall for a wall squat. And I just thought it was a really interesting example of, sometimes, some individuals, like the motivation or the knowledge about why exercise is important. But she was someone who knew it was important. She knew how to exercise prior to her cancer diagnosis. She knew that she wanted to be told what to do. But when she tried to do that without

support, she actually ended up, probably not doing an exercise that was dangerous, but very likely doing an exercise that was giving her very little benefit.

So that was the first time I met this participant. About two months later, she had a PICC inserted. And, I don't think I mentioned that the primary exercise that this participant did was swimming. So she had her own swimming pool and due to the chronic disease that she had, she actually found that swimming was her preferred exercise. But after having the PICC inserted, she was told that she had to stop swimming, and she was also given an information sheet that recommended that she'd limit the use of her arm, that she carry less than two kilos and that she didn't do any repetitive movements. And the combination of not being able to swim and being told to restrict the movement of this arm, led her to stop her exercise as well as dramatically reduce her activities of daily living.

So had someone who probably four months earlier had been swimming everyday. Once she started the intervention, she was also doing the strength exercise that I prescribed, prescribing, but then suddenly, she essentially stops all physical activity and exercise. And this is an example where I really couldn't solve the barrier. So, she had a practical barrier where, really, the only aerobic exercise that suited her and that she had access to was the swimming and she couldn't do that. And she felt a very high-level of anxiety around movement because of her interpretation of the information she'd been given. And so, really, my time with her for the duration of her treatment was spent talking about the things that she could do, finding ways to keep her active as possible, but really, more of that time was spent discussing her plans for post-treatment. And what I found was that once she had that PICC removed, the impact of our conversations became really evident, because she knew what to do. And even though we weren't able to continue the contact because the study finishes when her treatment finishes, the exercise that she continued doing was because of the conversations we'd been able to have during that time where even though her exercise levels weren't high.

I'm just saying a question from Lea, and it says, “How soon after surgery did the participant commence the exercise programme? Were there modifications if early post-surgery to protect the pelvic flow and abdominal muscles which have undergone surgical trauma?" That's a great question. And the ECHO trial has really challenged us to explore

what we think is OK after surgery, and how to progress appropriately. Oops, my screen just disappeared. It's OK, it came back.
So this participant would have been about six weeks post-surgery by the time that I met her. So she was an adjuvant chemotherapy, so she had chemo, she'd had surgery, and by the time I met her, she already had her first chemotherapy. So it's likely that she would have been... she was definitely more than a month, and it was likely that she would have even been six or more weeks after surgery. So, by the time I was actually prescribing the exercise to her, she had no issues post-surgery, she'd also had... it was a keyhole surgery, it was minimal invasive. But even having said that, it is still... even if the scars have healed, you are then dealing with someone who has had a hysterectomy and has had a large amount of, what is usually within your pelvis has been removed. And so, we do find that a lot of women, even though they would say, and their doctors would say that they had recovered from...the acute healing was complete, they definitely...we definitely have a number of women who feel different.

It's probably also a good chance to say that one of the adverse events that we found during ECHO was that sometimes, when women were exercising after surgery, even if that was very gentle exercise, it did increase the blood loss from the surgery, and that that was something important to actually raise with the women, because it's a sensitive topic and it might not be something that people would mention without being prompted. So, it was never a serious adverse event, but it was something that we noticed once we started asking women about it, that there definitely was an impact of the exercise. And that generally, our advise was to make sure that they were maintaining that conversation with their doctor about what was happening. But if it was a slight increase and that the blood loss reduced back down when they stopped exercising, the conversations that we had with the medical team was that that wasn't something that they were worried by and that was something that they expected. In terms of what we do with the neoadjuvant women, so the women who actually have surgery during their time in the intervention. We tend to work with the advise that they're given.

So, as soon as they're told that they can return to activities of daily living, we use those activities of daily living to focus on making that an intentional opportunity for movement. So, once they're allowed to walk, we start to gradually increase that walking until they've returned to their pre-exercise levels. So, it means slow and steady, it means starting with

small volumes of exercise and progressing gradually. In many cases, it might be that they start with five minutes of walking, and once they can walk for five minutes without increased symptoms, that can progress. Might be, in some women, it increases in two-minute blocks, in some women it increases in five-minute blocks. It's really just about monitoring how they respond to that and then looking for unusual symptoms. So that's really the key that we use for prescribing in the midst of any sort of cancer related symptom, is looking at, is this a symptom that always there for you, is this a symptom that you have post-chemo or post-surgery, is it exacerbated by the exercise or is this a symptom that appears when you exercise? And if it's an unusual symptom that appears when you exercise, that's more of a red flag. Then, if someone's got moderate pain post-surgery, and the exercise doesn't change that level of pain or increases it a small amount, that would be less of a concern to someone who has no pain and has sudden onset of pain during exercise. But it has been, probably the key issue for us during the ECHO trial was working out how to safely commence and progress exercise after the surgery. Great question.

So just to start to wrap up. To look at the clinical implications for exercise physiologists or physios who are working with women with ovarian cancer, probably the message that I see coming through our data is one size does not fit all. In that green box there, you'll see the reference for the newly released Exercise and Sports Science Australia position statement. In that publication, in table two, we've listed a really comprehensive list of acute and chronic cancer related concerns such as pain, fatigue, nausea, peripheral neuropathy, so these concerns that the survivors were reporting to us. And then we talk about the evidence. So what do we know? Is there an optimal prescription? Are there any contra-indications to exercise? But also, in the absence of cancer specific evidence, is there exercise physiology evidence or concepts that we can borrow from other fields? So, in terms of the post-ovarian surgery, it's looking at possibly not cancer research, but other post-surgical research. So, if you've got any specific questions, hopefully that table two in that reference there would be helpful as well.

Probably, the most important piece of advise I'd give people who are prescribing to individuals who are going through cancer treatment is to recognise that there are good weeks or good days, and bad weeks or bad days. And to prepare for the possibility and provide a prescription for those days where they don't feel like they can do their normal

or their ideal exercise prescription. And one of the reasons that's important is, because it maintains the habit of exercise. So there's nothing worse than getting into a routine, and then feeling like you can't maintain it and losing that habit. But the other reason it's really important is, because we actually find, and this probably more anecdotal from our studies, but that others are identifying this as well, but actually having these short bouts of achievable exercise that they can complete on a day when they feel like they can't do exercise is actually giving them a sense of achievement over their day, a sense of...gives them something to do. And they also find that it either takes their mind of it or, in some cases, actually helps to address the symptoms.

So I do know that there were women who told me that exercising on a day when they were feeling really lousy, so getting up and doing a two-minute walk around their house, getting up and walking into each room of their house and touching the furthest wall, or when they're watching TV, getting up during the ad break, so between each Netflix episode, and doing two minutes of marching or doing their strength program without their TheraBand, that it actually helps to not just take their mind off their nausea, but some people actually report that it helps to reduce the symptoms.

It's really important to have realistic expectations both as the clinician, but also for the women, and probably, it's equally important for those who have never exercised. So they're coming in, and they're exercising and they're expecting these great improvements. Often, the, "Oh, well, I'd love to lose weight and tone up my muscles." Now, it's really important to make sure that the expectations are realistic. On the other side, you've got the women who are regular exercisers and they're used to seeing results from the effort that they put in. And I guess the thing to remember here is that the normal trajectory for physical function in the setting of receiving cancer treatment is a decline in physical function. So, even maintaining or slowing decline is a win in this situations. And so, setting up that expectation from the beginning can be really important, because unmet expectations is very bad for exercise adherence and motivation.

So we've talked about some of those ovarian cancer specific issues, the abdominal surgery and the post-surgical bleeding. And probably also just to remember that the individual you're working with is more than a cancer survivor. They're not just an individual going through treatment or dealing with a cancer diagnosis. They're

also...they're a partner, they're an employee, an employer, a parent, a friend, a sister, a brother. They have all the usual barriers that we all have to exercise. Including either loving or hating it, finding time, finding resources, whether how you feel on any given day. So, it is about overcoming cancer specific barriers as well as the general barriers that we all face to exercise.

So just to...a final slide. Just looking at some ideas for those who aren't exercise professionals. There's a role for everyone who is interacting with someone during their cancer treatment to discuss and encourage the importance of physical activity. So we look at exercise as planned movement. Physical activity is any movement that we do. So we often say that something is better than nothing, and that maintaining movement throughout the day as well as planning intentional structured exercise are both really important to health and to outcomes. So discussing the importance of physical activity and exercise, and I think, as we see sometimes post-surgically or after someone has a PICC inserted, avoiding being unnecessarily cautious. Caution is important. We do want to avoid adverse events, we don't want to cause more intervention that is needed for individuals who are already undergoing treatment, but that unnecessarily restricting exercise actually causes harm in itself, because we know that exercise is beneficial.

So just being careful about that balance between risk and benefit, and if you are concerned about an individual exercising, knowing that there are experienced exercise physiologists and physios out there who know how to deal with this population and support them. Probably the key times that I recommend someone get referred to an AP or physio would be if they're not currently exercising. If this is someone with no history of exercising, commencing exercise as they're also undergoing treatment is a really big ask. Also, if there's someone who wasn't getting benefit from their exercise, so someone who's perhaps a previous exerciser but is not getting benefit or is finding the exercise is exacerbating their symptoms, or that they're finding it hard to maintain their previous exercise levels, those are the people who I would say would really benefit from some extra expertise.

Now, not everyone needs to see an exercise professional. And some people just don't have access. They might be more rurally located, there might be an issue of funding, or finances or motivation to attend more appointments. And those people, I would say,

encourage them to avoid inactivity. Remind them that something is better than nothing. We always say to start slow and definitely, in the absence of supervision, to start slow and progress really slowly. And the key thing is to be looking out for those unusual symptoms. So, if we could get more people having those conversations with women during their ovarian cancer treatment, I think we'd be seeing a real uptake in exercise and physical activity. And based on the evidence that we've seen, that would make a real difference to their outcome.

Thank you. Have we got any more questions? Alright, I know it's almost 5:00 on a Wednesday night. So I'm sure some people have started to think about the end of the day.
Any questions about any other tricky cases you've seen or reasons that people might not be exercising? You're a quiet lot this afternoon.

Here we go. When do we anticipate to see the final outcomes of the ECHO study? That's a very good question. We're still recruiting, and there's at least 12 more months of recruitment to go. So we'd be at least two years off results from the ECHO study, unfortunately. But, in the meantime, we're definitely... this is a great large cohort to learn a lot about exercise from. So in terms of the final outcomes and the primary outcomes, there's still a way to go. But I do think that there will be some more interesting outcomes coming out in the meantime. Carolina asked...oh, I just lost that. Sorry. Carolina asked, do you think that the age of the participant matters in regards to exercise prescription? I don't think, from a cancer specific perspective, it does. But I do think that, as with any individual, age comes into it from both the barriers that they would face. So, whether those barriers were lifestyle related, how busy they were with family or jobs, but also, whether there were other comorbidities or musculoskeletal issues. Thanks, Sharon.

Just trying to scroll down here. How do we recruit women? The women are recruited through nurses and research staff at the hospital. So they're referred into our trial by their treating medical oncologist or gyne-oncologist. There are some set sites. So, if you're outside of Queensland, I think it's quite specific to the hospital that the women are treated at. If you're within Queensland though, we've got the ability to recruit women from within a number of the private hospitals outside of that. So, if you've got a specific question

about recruitment, I think you can see my email on the slide, I'd be more than happy to chat.
Just got a question here. If the woman has already commenced adjuvant therapy, have they missed the opportunity to be in the study? Recruitment is open until the start of cycle two. So, we recruit from just prior to cycle one up until the start of cycle two.

Thanks for your questions. They came hard and fast at the end there. I think we're just about at time. If there's any last questions, pop them in. I'm just going to try and scroll through, make sure I haven't missed any here.

Alright, I think we've slowed down with the questions there. If you've got any other questions about the ECHO trial, particularly if you're in at a site that interests in being involved in the recruitment, we're always keen to see more women involved in the trial. It's a great opportunity for them to get free access to an exercise physiologist. And the more women that we have, the greater those outcomes are gonna be.

ANNA GORDON:
OK, I think there are no more questions. Thank you so much, Rosa, for your lovely presentation and for sharing your knowledge, it was certainly very interesting to hear. One second. So shortly after the webinar, you'll be emailed an evaluation form. And we would really appreciate if you could complete the form as your feedback will help us plan and improve future events.

We have other health professional events planned in the coming months, similar to this one. And the best way to find out all the details will be to jump on our website on cancerqld.org.au. And under health professional tab, there will be all the details. And I would also encourage you to register for our Health Professional Council Network, if you haven't registered already. As that is a great opportunity to receive updates on our services, upcoming information sessions like this one, networking opportunities and other information. So that brings us to the end of our webinar. Thank you again, Rosa. Thank you for everyone who attended and who asked questions, and have a great day. Bye.