Exercising with bone mets – what should we do?

It is well known, and very well-documented, that exercise can be really helpful for anyone who has had a diagnosis of cancer, and that 'physical activity can benefit patients at all stages of the cancer care pathway'[1]. In particular, there's evidence that shows the value of physical activity for people living with stage 4 cancer. Wilk et al[2] conducted a literature review around the advice and the range of interventions available for people with metastatic cancers and they found that exercise could really help improve outcomes, and that advice and exercise plans should be tailored to the needs of the individual. They recommend that: 'Physical activity should become a standard component of every metastatic cancer care plan.' It should be for everyone.

Although people living with stage 4 may know this, there isn't a great deal of information available about what they could or should do – what would be safe, what's effective, what to avoid. There is, understandably, a fair bit of caution around exercising, particularly for people living with fatigue and the loss of strength that can be associated with cancer treatment, or with reduced balance or flexibility.

There is often a specific concern about exercising safely for people whose cancer has spread to the bones – mostly around how to minimise the risk of fracture. As a cancer exercise specialist I have known this for a long time – it is imperative that I ensure safety and reduce the risk of falling, lifting too much, or twisting, or bending too far if a client is exercising with bone mets. Until now, I had some guidance on how I should approach this, but the information pitched at my level was also limited.

The paper – the latest in best practice

In 2021 an international panel of experts[3] gathered together the best available information through reviewing published studies and through surveying clinicians working in the field. They included people with bone mets in their discussions and in making recommendations.

They posed the question 'What are the best practice recommendations for exercise programming for people with bone metastases?'

[1] www.macmillan.org.uk

[2] Wilk et al 'Exercise interventions… a Literature Review BMJ 2020

[3] Campbell et al Exercise recommendation for people with bone metasteses: expert consensus for health care providers and exercise professionals. JCO Oncology practice ASCO 2022

Their answer was that people with bone mets ‘should be supported and encouraged ‘to exercise regularly in order to experience the well-known benefits. The paper found that the risks (mostly relating to fracture) should be balanced, through discussion between patients, clinicians and exercise professionals, against the potential benefits for each individual. I was really pleased to read this – I think it acknowledges the value of each of the parties involved, taking the ‘multi-disciplinary’ approach that is fundamental to cancer care.

Recommendation 1 – clinically led risk assessment

It is commonplace for people to be advised to ‘check with your doctor before beginning to exercise’. The report has 5 recommendations on how exercising should be planned and delivered by exercise professionals and healthcare providers, including how the clinical team would assess whether it would be ok to proceed.

The first is that, prior to beginning an exercise programme, there should be a risk assessment to understand ‘the likelihood of skeletal complication from exercise’. The recommendation is for the risk assessment to be specific to the individual’s own risk and it requires clinical information and input relating to bone lesions and their stability and location, bone density, history of falling. This would be informed by information from imaging – MRI, CT etc.

This sounds very sensible. I do wonder at this current time when healthcare systems are quite magnificently handling an extraordinary workload, how feasible it would be, but the report is recommending best practice. We would all want best practice for ourselves and our friends and family. It potentially could be a relatively short addition to an oncology consultation.

Most of the respondents (i.e. healthcare workers) in the survey section of the paper reported that they thought exercise with bone mets to be safe. Stakeholders (i.e. patients with bone mets) ‘confirmed that discussion with the health care team on how to manage risk was of key interest’ to them.

Recommendation 2 – discussion between medical team and exercise professional

The paper recommends ‘bidirectional communication’, which I find so encouraging for its multidisciplinary nature. The paper recommends using clinical data directly, as well as the patient’s own version or understanding of it.

I was very lucky during my own cancer treatment as I was a patient in a large cancer centre with onsite specialist physios and my breast care nurse and physio communicated with each other as well as with me, to my benefit.

Again, I can imagine some concerns around time, availability and feasibility here, but just as with the first recommendation, this is best practice. If we can follow the recommendations we will be best protecting all parties, to everyone's benefit.

Recommendation 3 – a chain of command

So, if we have a risk assessment as described above, who is best placed to prescribe exercise to people with bone mets once we've understood the risk?

The paper asks who can appropriately prescribe to people with bone mets that are deemed at higher risk of fracture. They recommend that it should be university qualified physios or exercise physiologists. (Cancer specialist trainers like me are qualified to NVQ level 4 in the UK, which I believe is considered an equivalent of undergraduate level study). The paper recommends that personal trainers should communicate with, and learn from, our physiotherapy colleagues.

As an exercise professional I have done this – I sometimes attend a clients physio appointment with them, to ensure that I correctly interpret everything when planning their exercise programme.

As with the first two recommendations, the paper acknowledges shortages in exercise specialist across the board, and in particular away from big teaching hospitals. Voluntary supervision relies upon mutual goodwill and could be complicated from a governance perspective. But it can be done.

Recommendation 4 – to test or not to test?

A classic start to a fitness programme would be to perform some tests, in order to have a baseline from which progress can be measured. As a personal trainer I might measure how long it talks someone to walk 1km, or what weight they can safely lift, how many 'sit to stand' exercises they can do in 30 seconds.

The paper examines fitness testing in the context of bone mets, and it instructs exercise professionals to consider whether it is necessary – the purpose of testing can be to measure the maximum a client can tolerate, which might be unsafe or uncomfortable. Testing should, for example, steer clear of the site of the actual bone lesion(s).

This all sounds very sensible to me. I would be inclined to think creatively about a client's goals and set baselines based on things that don't put them under actual physical duress for the test itself – perhaps looking at frequency and consistency of exercise sessions rather than amounts lifted etc. I'd also want to assess, and maximise, the degree to which they were enjoying exercise, with that being a goal in itself.

Recommendation 5 – do it well.

My mantra for anybody with a cancer diagnosis who is beginning an exercise programme is that they should start light, learn good technique, be consistent, build up slowly. The final recommendation of the paper is exactly that – people exercising with bone mets should be supported so that they have best posture – in daily life as well as when exercising, and that they learn how to do whatever their choice of activity is, well.

Interestingly the paper advises the same mantra, with caution, around exercising that would be near to the lesion site. Traditionally both patients and exercise professionals were steered away from exercising near the bone lesion, but this paper provides some guidance that allows all parties to carefully be less conservative. There are still certain 'no-no's' around movements that are 'rapid, loaded end-range… rotation, flexion or extension that involve the area of the lesions'. We are still advised to minimise the risk of falls and to respect the impact of long term treatment on a person's side effects, including their level of fitness.

Exercising with bone mets – what to do, and how

So, once risk has been assessed and communication established, what kinds of exercise are useful, do-able, or enjoyable?

When I'm planning an exercise programme or session for someone with bone mets, as outlined above I would firstly focus on minimising the risk of fracture, and so recommended activities would be low impact and non-contact, and with attention on reducing any risk of falling.

Weight bearing exercise (i.e. on your feet, transferring your weight from one foot to another) is useful as it can help to minimise bone density loss. It is extremely important to protect the spine, so we would choose activities that avoid sharply twisting or bending/ arching the back or torso.

Please note: If you are, or begin exercising, and you experience any increase in bone pain, report it to your clinical team.

The paper mentions Active Daily Living - moving little and often as a way of life as opposed to exercising as a separate entity. Active Daily Living involves choices and lifestyle changes that help us to move more as part of our everyday activities. If you are tired, this can be a really good way to be more active in bite-sized chunks. It's small adjustments: take the stairs rather than the lift, walk what would normally be a short car journey, move and stretch during the ad break when watching TV.

Excerpts from 'Get your oomph back'

Last year I published a guide to exercising after a cancer diagnosis. It is written for all of us, at whatever part of cancer we are currently. The next few paragraphs contain some of the information within the book, specific for people with bone mets.

Why strength training helps with bone mets

One very commonly experienced side effect across many types of secondary cancer is fatigue and this is often accompanied, and exacerbated by, reduced functional, muscular strength: if you have lost weight during treatment then there's every chance that some of that weight was muscle. This impacts greatly on our sense of strength – daily activities just feel so much more difficult if the muscles that carry you are not as big and strong as they once were.

As well as helping some things to feel easier, strength training can be helpful in restoring energy. Many people wouldn't necessarily see the link but having more muscle on your frame has been shown to help reduce cancer related fatigue. A study cited by Macmillan in their advice for people with secondaries 'compared a resistance training programme to passive physical therapy in 60 patients with spinal bone metastases, showed that resistance training was able to improve functional capacity, reduce fatigue and thereby enhance quality of life over a 6-month period' [4].

I believe that we should all think of strength training as an essential part of our lives, and for the rest of our lives. Cancer exercise specialists – physiotherapists, physiologist, and personal trainers like me can teach you how to do this safely.

[4] Physical activity for people with metastatic bone disease - Guidance for professionals (macmillan.org.uk)

Nordic walking

Walking, using Nordic poles, is, in my view, perfect exercise for anyone with a cancer diagnosis. I am a huge advocate of it. It's a good cardio workout, you use your whole body, it helps your posture, it helps strengthen your muscles, it is outdoors and can be highly sociable. If your balance isn't as good as it was, the poles help you to feel stable. Exercising in nature has been shown conclusively to help support our mental health. Nordic walking is also weight bearing and has been shown to support bone density. Unusually, it is an activity that supports bone density in the arm (radius) as well as the leg bones.

Seated cardio

I think chair-based exercise is often underrated. It is useful if your mobility is affected either by cancer or by life in general. It is a way of moving without the risk of falling, so it can be helpful for people with reduced balance and with peripheral neuropathy. If you have secondary cancer in your bones the chair can help stabilise the spine and hips.

Seated exercise sessions are often focussed on the gentler side of exercise and that, for many, can be lovely, and can be enough. Have a look at the classes run by your local cancer support centre. Since the beginning of the coronavirus pandemic online seated classes have popped up in many places – I run one on behalf of Maggie's, using Zoom.

Seated cardio exercise can be surprisingly hard work and it's possible to get out of puff, and feel your heart rate going up, even though you're in a chair.

Exercising within treatment cycles

One aspect that many people need to work out is how they can adapt their exercise plans to fit into their treatment cycle, which, for those with secondary cancers, is a long term consideration. So, my advice would be to think of an exercise pattern that compliments the treatment cycles, rather than one that tries to carry on despite it. When you're having active treatment, allow yourself gentler days and weeks when you know you'll need them.

Make good quality rest and recovery a part of daily life

Often overlooked, restorative and active rest periods are incredibly important in the long term and are a completely valid component of any plan for a more active life. This isn't simply loafing about on the sofa (although of course that does have its place). Active rest can be walking, stretching, gentle movements that encourage the body to repair. I would recommend developing good practice around rest and recovery to everyone, and especially to anybody hoping to be more fit and active while living with secondary cancer. It will prove its value to you.

Don't overtrain

For those who've been regularly active in the past, there can be a huge adjustment to make. It can be terribly difficult to accept limitations that weren't there before your diagnosis. You might find yourself yearning for how your body felt, and how it could perform, before cancer appeared in your life.

It can be tempting to overtrain. You may well get a sense of instant satisfaction – that sweat, the endorphin high, the sense of your body really moving, or working hard. Going back to what you used to do, before all this...

Some people, improbably, can still exercise extremely hard during cancer treatment but my experience is that it might come with a high price and lead to the injury bench. Deciding the degree to which you are willing to limit the intensity of your exercise is a highly personal choice – and it is indeed *your* choice.

Summary

The paper's overarching recommendation is that 'regular exercise has the potential to maintain or improve physical function and health-related quality of life in people with bone metastases, and the perceived risk of skeletal complication should be weighed against the potential health benefits'.

I found the paper's recommendations really helpful, particular the encouragement for all parties to develop conversations about exercising with bone mets. The paper clearly acknowledges the value of exercise for all and helps make it seem safe and feasible.

It'll help clinicians to know that they can safely signpost their patients to exercise professionals and it'll help people like me to be more knowledgeable and confident in

what we do. It helps carers and family to know that it's ok for their loved one to exercise.

And, most importantly, it will equip more patients to exercise, and feel the benefit, for as long as they remain living with cancer.

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You can read the ASCO paper here:
https://ascopubs.org/doi/full/10.1200/OP.21.00454

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