NEXT EXERCISE PROGRAMME FOR MEN WITH PROSTATE CANCER UNDERGOING ANTIHORMONAL THERAPY

EXERCISE THAT SUPPORTS WELLBEING

astellas

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WHAT IS NEXT?

Antihormonal therapy for prostate cancer has a number of positive effects, but also side effects. The NEXT exercise programme gives you an insight into how physical activity and exercise can counteract both the physical and mental impact.

As a patient you may, for example, experience a poorer quality of life, fatigue and loss of muscle and bone strength to a greater or lesser degree. Regular exercise and increased physical activity can counteract these side effects.

You can use NEXT as a guide for putting together a good exercise programme. We always recommend anyone with prostate cancer who is undergoing antihormonal therapy to begin a course of exercise under the guidance professionals (trainers, physiotherapists, healthcare staff, etc.) in order to learn how to exercise correctly and avoid injury. This recommendation applies especially in cases where the disease has spread to the bones.

The aim of NEXT is to make it easy to exercise and be active if you have prostate cancer and are undergoing antihormonal therapy.

Enjoy NEXT!

PROSTATE CANCER AND ANTIHORMONAL THERAPY

Prostate cancer is affected by the male sex hormone testosterone. Therefore, at different stages of the disease, antihormonal therapy is used to reduce the testosterone produced by the body.

This is the basis for the treatment of prostate cancer that has spread beyond the prostate, to the bones, for example, and it is also used as a supplementary treatment in connection with curative radiotherapy directed at the prostate in the event of locally advanced disease. In both cases the treatment has been shown to prolong survival and to reduce any symptoms from the disease.

CONTENTS

BACKGROUND

Can physical activity prevent the development of prostate cancer?

From a health perspective, there is a lot to gain from regular physical activity. In the field of cancer treatment, research is being conducted into the use of physical activity and exercise as a preventative therapy, as a means of countering therapy-related side effects, as rehabilitation therapy and as a tool for improving quality of life.

In connection with prostate cancer, the hypothesis is that physical activity can reduce the incidence of prostate cancer and improve prognoses by influencing the immune system and by lowering oxidative stress. There is a large quantity of published material in the area, including several studies which indicate a beneficial effect. The results, however, are not robust enough to present definitive conclusions in the area. Nonetheless, there seem to be good grounds for recommending physical activity to all men with prostate cancer, when the aforementioned study results are combined with what we know about the generally positive effects of physical activity and exercise, and about its ability to counter the side effects of antihormonal therapy, which are described further on.

Antihormonal therapy for prostate cancer

Antihormonal therapy is used at different stages of treatment for prostate cancer. It can either block the effects of the male sex hormone testosterone in the body (antiandrogen therapy) or reduce the body's own production of testosterone. The latter is implemented either surgically, through the removal of hormone-producing testicular tissue, or chemically, by means of injections given at intervals of 1–6 months. This guide is primarily aimed at men receiving this treatment, but it may prove useful to any man undergoing antihormonal therapy.

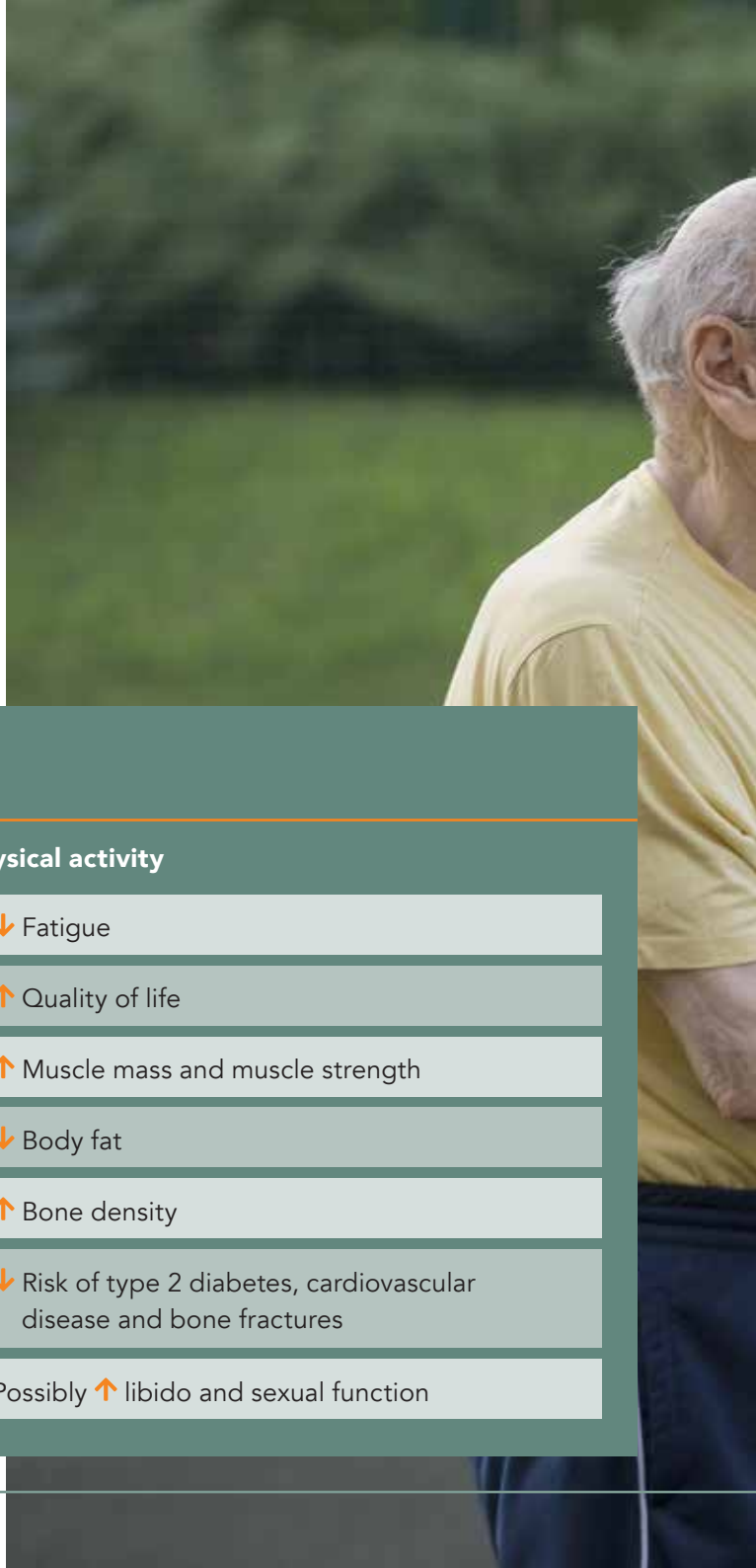
Antihormonal therapy is the basis for treating prostate cancer that has spread beyond the prostate, to the bones, for example, and it is also used as a supplementary treatment in connection with curative radiotherapy directed at the prostate in the event of locally advanced disease. In both scenarios, antihormonal therapy has proved to prolong survival and to reduce any symptoms from the disease.

Despite its positive effects on prostate cancer, antihormonal therapy has a number of side effects that patients may experience to varying degrees. Many patients experience hot flushes, loss of libido and varying degrees of fatigue, which can mean that they feel less motivated. In addition, the removal of testosterone affects body composition. It makes it easier to put on weight, primarily in the form of fat, and gives patients the feeling that their energy levels are not what they once were.

Antihormonal therapy also causes increased decalcification of the bones, which can potentially develop into osteoporosis. An increased risk of developing diabetes, cardiovascular diseases and bone fractures has also been demonstrated in men with prostate cancer undergoing antihormonal therapy. It is important to point out that the increased risk does not mean that you as a patient will develop these diseases. Likewise, the decision (yours and your doctor's) to start antihormonal therapy depends on the advantages of treatment outweighing its potential side effects. At the same time, there are some things you as a patient can do to counteract and prevent the side effects of antihormonal therapy. Above all, you can be physically active. The NEXT programme is intended to support you and your doctor, making it easy to incorporate exercise as an active treatment option.

Physical activity as a 'pill' for the side effects of antihormonal therapy

Physical activity is one of the very few active treatments that have been shown in larger clinical studies to be able to counteract some of the side effects of antihormonal therapy previously mentioned. The evidence indicates that physical activity can improve quality of life and reduce fatigue in men with prostate cancer undergoing antihormonal therapy. In addition, physical activity has a positive effect on the changes in body composition that can be caused by antihormonal therapy, especially in terms of reducing fat accumulation and increasing muscle mass and strength .



SIDE EFFECTS OF ANTIHORMONAL THERAPY, AND HOW EXERCISE CAN COUNTERACT THEM

Antihormonal therapy	Physical activity
↑ Fatigue	↓ Fatigue
↓ Quality of life	↑ Quality of life
↓ Muscle mass and muscle strength	↑ Muscle mass and muscle strength
↑ Body fat	↓ Body fat
↓ Bone density (decalcification of the bones)	↑ Bone density
↑ Risk of type 2 diabetes, cardiovascular disease and bone fractures	↓ Risk of type 2 diabetes, cardiovascular disease and bone fractures
↓ Libido and sexual function	Possibly ↑ libido and sexual function

Is all physical activity equally good?

When we talk about the beneficial effect of physical activity, it is necessary to define the concept. How often and for how long should people exercise every week to achieve the desired effect, and at what intensity? Should exercise be done alone or in a group, supervised or unsupervised, and is one form of exercise, e.g. strength training, better than another?

Good results can probably be achieved through many different kinds of sport and physical activity. What matters is that the physical activity targets the desired results. In men, like you, with prostate cancer who are undergoing antihormonal therapy, the hope is to counteract especially the vulnerability that accompanies the loss of muscle strength, decreased quality of life and increased fatigue. Here the combination of fitness training and strength training seems ideal. This combination of exercise is also the best researched, and forms the basis for the recommendation of physical activity for men with prostate cancer undergoing antihormonal therapy in, for example, the European guidelines (EAU guidelines 2018). These recommend that all men with prostate cancer undergoing antihormonal therapy be offered 12 weeks of supervised exercise that combines fitness and strength training. In the Scandinavian countries, the general recommendation is for all men >65 to be active for at least 30 minutes daily (moderate intensity), combined with fitness and strength training a minimum of twice a week (high intensity).

The European guidelines also recommend that the exercise should initially be supervised by a physiotherapist or another instructor with experience in exercise and prostate cancer. There are several reasons for this. Generally speaking, compared with unsupervised exercise, supervised exercise as part of the treatment of cancer patients has proved to deliver better results in terms of both quality of life and physical function. In addition, supervised group exercise is the form of exercise that has been researched primarily, and it has proved to have a positive effect in men with prostate cancer undergoing antihormonal therapy.

It is also important for you to learn to exercise correctly in order to avoid injury. The main concern is for bone fractures that can occur if the prostate cancer has spread to the bones, or if you have osteoporosis and undertake strength training.

EXERCISE RECOMMENDATIONS FOR MEN WITH PROSTATE CANCER UNDERGOING ANTIHORMONAL THERAPY:

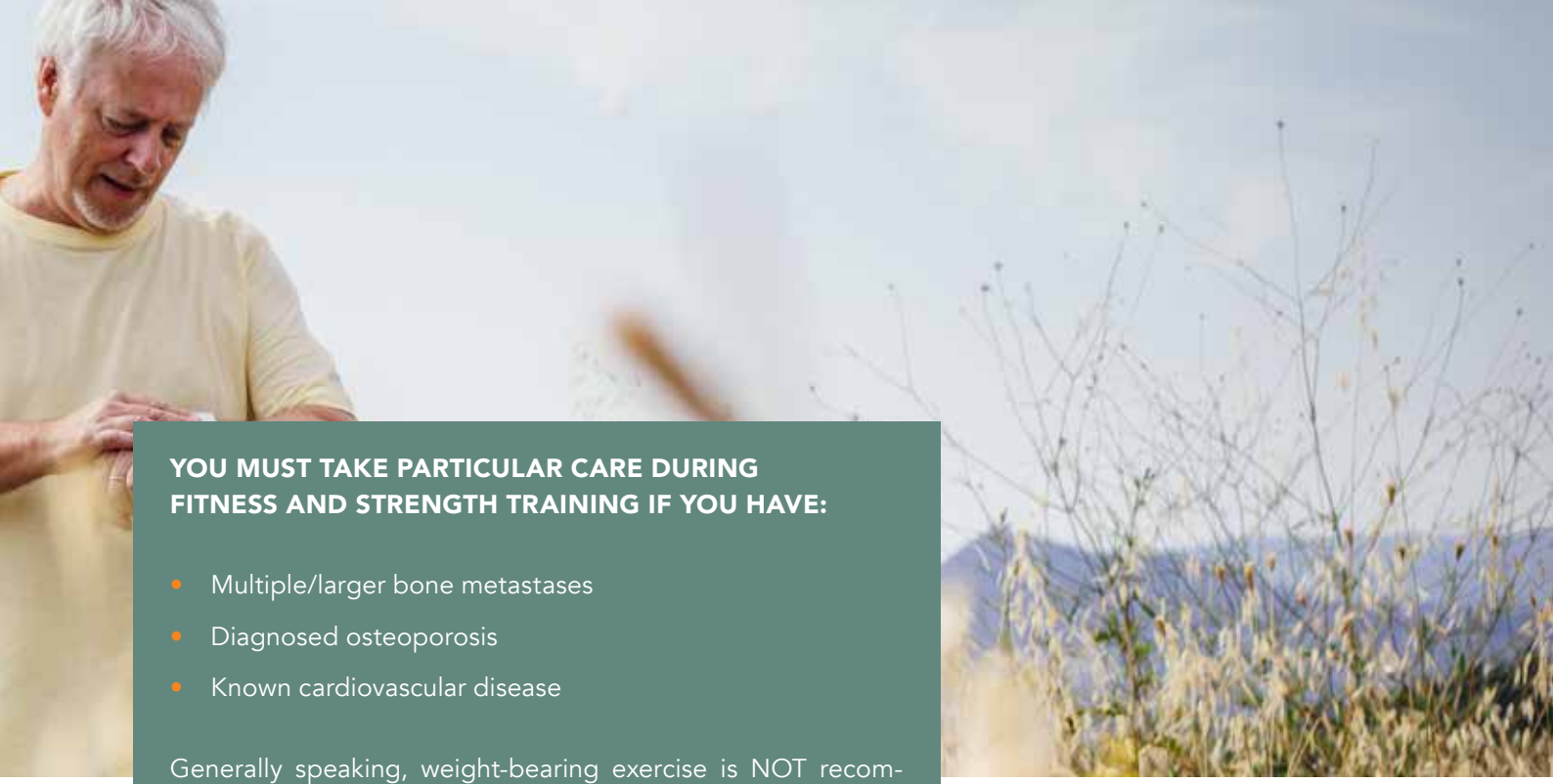
1. Be physically active for 30 minutes daily (moderate intensity, e.g. a quick walk)
2. Do fitness and strength training at least twice a week (high intensity)
3. If possible, start with a supervised exercise course lasting at least 12 weeks that combines fitness and strength training
4. Perform any strength training using machines without the use of free weights, in order to avoid injury
5. The aim is a lifestyle change, so it is important to create a routine that supports continued exercise

HOW CAN I GET STARTED?

Talk to your doctor or nurse

It is a good idea to contact your doctor or nurse before you begin NEXT or an alternative exercise programme. Your doctor/nurse can provide you with information about active exercise options, both at the hospital and in your local area. In addition, there are some conditions that you need to be aware of which may require you to exercise in a particular way in order to be safe. The patient assessment chart (page 15) is a good starting point for a discussion about special considerations relating to physical activity.

Physical activity is beneficial for everyone, but it is possible that your exercise may need to be adjusted in order to avoid injury. Extra caution may be needed if the cancer has spread to the bones, or if you have been diagnosed with osteoporosis, as weight-bearing exercise can result in bone fractures. In such cases it is recommended that you use less weight during strength training and do more repetitions (see the modified exercise programme). Generally speaking, strength training is NOT recommended if you require regular pain-killing medication due to bone metastases, and all weight-bearing exercise should be performed on machines without the use of free weights. Likewise, if you have a cardiovascular disease, the intensity of fitness training must be adjusted so as not to stress your heart



YOU MUST TAKE PARTICULAR CARE DURING FITNESS AND STRENGTH TRAINING IF YOU HAVE:

- Multiple/larger bone metastases
- Diagnosed osteoporosis
- Known cardiovascular disease

Generally speaking, weight-bearing exercise is NOT recommended if you require daily pain-killing medication due to the prostate cancer having spread to the bones.

unnecessarily. In such cases, it may be necessary for you to get a cardiologist to perform a so-called 'work test' before you begin.

Good advice for getting started with exercise

The most important thing is to make exercising a regular part of your routine. It may be that you are already very physically active. If so, NEXT can help you to target your exercise so that you get the most out of it. It may also be that you are not physically active at present. Perhaps you have never been to a gym before. In that case, it may require more effort on your part to get started, and then to implement lifestyle changes in the longer term. It is important to note that those men who experience the greatest fatigue due to their cancer and the antihormonal therapy are the ones who can gain the most from becoming physically active.

There may be various challenges in getting started with exercise. But once you do, the positive effects of exercise, especially on your day-to-day energy levels and feeling of general wellbeing, will make it easier to continue. We have listed some of the challenges on the next page. Fortunately, most of them can be overcome if you are motivated enough.

We recommend that you start with an established exercise option in order to get a good start and to learn how to exercise correctly. NEXT can be a useful starting point for building up your exercise routine. In addition, it is a good idea to find one or more regular training partners, so that you each have someone to support you and help make exercise a regular habit. For some people, it may help to monitor improvements using a variety of physical tests and exercise objectives (see the follow-up chart on page 16). If you feel challenged or worried regarding your exercise routine, it is a good idea to discuss it, for example with your doctor or nurse.

CHALLENGES ASSOCIATED WITH GETTING STARTED:

- **Practical barriers:**
  - Lack of established exercise options specifically for men, like you, with prostate cancer
  - Large geographical distances for taking part in a supervised course
  - Not having a training partner
- **Insufficient motivation:**
  - Lack of familiarity with exercising at a gym
  - Fatigue and lack of energy
  - Uncertainty regarding own ability to take part in an exercise course
- **Making a distinct lifestyle change and maintaining an active lifestyle**
- **Disease that limits opportunities for exercise**

ASSESSMENT CHART

Assess, together with your doctor, whether you need the NEXT exercise programme by answering the following questions.

You (tick if yes):

- Have prostate cancer ☐
- Are undergoing antihormonal therapy ☐
- Have a day-to-day function level that permits independent exercise on machines ☐

If the answer to all points above is yes, then you may benefit from the NEXT programme (preferably a supervised course).

Exercise caution if you have (tick if yes):

- Known cardiovascular disease ☐
- Osteoporosis ☐
- Multiple/larger bone metastases from your prostate cancer ☐

If the answer to the above is yes, exercise must be undertaken with caution (see the modified programme), with reduced intensity in cases of known cardiovascular disease and lower weights in cases of osteoporosis and multiple bone metastases. Weight-bearing exercise is not recommended if you require daily pain-killing medication due to the prostate cancer having spread to the bones.

FOLLOW-UP CHART

It is important to note whether you are improving or maintaining the beneficial effects of exercise. The chart below can help you monitor the effects of exercise and can be used as a form of motivation.

BODY MEASUREMENTS	At the start	After 12 weeks	After 24 weeks	After 48 weeks
Weight (kg)				
Waist measurement (cm)*				
Hip measurement (cm)**				
PHYSICAL FUNCTION	At the start	After 12 weeks	After 24 weeks	After 48 weeks
30-second sit-to-stand test (number)***				
Average number of steps (past week)****				
Own tests*****				

*Measure round the stomach between the hipbone and the bottom rib. **Measure the widest part of the hips at the top of the thighbone. ***The number of times you can rise from a chair and sit down again in 30 seconds without using your arms. ****Measure using a pedometer (possibly a mobile phone app). *****Here you can insert your own tests and measurements.

How would you assess your overall quality of life this past week?
Circle the most appropriate number.

At the start:

Very bad	1	2	3	4	5	6	7	Excellent

After 12 weeks:

Very bad	1	2	3	4	5	6	7	Excellent

After 24 weeks:

Very bad	1	2	3	4	5	6	7	Excellent

After 48 weeks:

Very bad	1	2	3	4	5	6	7	Excellent

Were you fatigued?
Circle the number that best matches how you have felt over the past seven days.

	Not at all	A little	Somewhat	A lot
At the start	1	2	3	4
After 12 weeks	1	2	3	4
After 24 weeks	1	2	3	4
After 48 weeks	1	2	3	4

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