Immediate versus delayed exercise for men on hormone therapy.

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Hormone therapy is a very effective treatment for prostate cancer, but the side effects are usually difficult to manage. New Australian research has analysed the benefits of exercise for bones and muscles. The trial asked whether starting an exercise program at the same time as starting hormone therapy was better than delaying exercise.

Almost half of men with prostate cancer use hormone therapy (androgen deprivation therapy, ADT) at some stage. Some men with localised prostate cancer add a course hormone therapy to their radiotherapy. Hormone therapy is also used by men whose prostate cancer has spread outside the gland (advanced prostate cancer). These men usually take hormone therapy for long periods of time.

For most of these men, hormone therapy works. It slows the growth of tumours and reduces their size. For men with metastatic prostate cancer at the time of diagnosis, it can make a dramatic difference to their quality-of-life by reducing pain. But hormone therapy comes at a cost of difficult side effects.

Possible side effects of hormone therapy for prostate cancer

There are many potential side effects of hormone therapy. Men taking these drugs probably won't experience every side effect but will likely experience more than one. Different hormone therapy drugs have different side effects profiles. The best recommendations for which drug to take will come from your doctors.

Problems having sex: decreased desire for sex and difficulty with erections are very common side effects. Infertility is also an issue for these men.

Breast changes: gynaecomastia (“man boobs”) and breast pain are also common side effects.

Bone issues: include loss of bone density, increased risk of fractures and osteoporosis (brittle bones).
Metabolism and muscle mass: increased risk of metabolic syndrome and diabetes, increased body fat, decreased lean muscle mass and weight gain.

Vascular and cardiovascular system: hot flushes are a very common side effect. There are also increased risks of deep vein thrombosis, heart attack, heart disease and high blood pressure (more so for the second-generation drugs Abiraterone and Enzalutamide).

Nervous system: Some hormone therapy drugs bring an increased risk of stroke.

Other: depression, tiredness (fatigue), gait changes (walking style) and increased risk of liver disorders. Changes to brain function and dementia are suspected to happen, but the research is inconclusive.

What can be done about these side effects?
Help is available for managing many of these side effects. Your doctors and Prostate Cancer Specialist Nurse are the best source of this information. More information is available from PCFA’s website.

A tailored exercise program can help reduce some side effects of hormone therapy. A combination of muscle-building (weights-training) with aerobic exercises (running, walking, cycling etc.) is recommended. Impact loading is useful for prevention of bone density loss. This includes jumping and hopping exercises. A properly-designed exercise program can reduce fat build-up, increase lean muscle mass, reduce fatigue and promote bone strength in men taking hormone therapy.

Immediate versus delayed exercise
A team of Australian researchers in Perth are world-leaders in exercise medicine for men with prostate cancer. Led by Professors Rob Newton and Daniel Galvão, the researchers at the Edith Cowan University have recently completed a trial comparing immediate and delayed exercise for
men taking hormone therapy. They wanted to know if there was a benefit in starting an exercise program immediately, when the hormone therapy drugs are first taken.

104 men joining the trial had prostate cancer that was not metastatic. They planned to start hormone therapy and remain on it for at least 6 months. Each of these men were not regular exercisers at the time. The trial design was a randomised controlled trial. Men joining the trial were randomly assigned into two groups: those who would start exercise at the same time as hormone drugs and those who would start 6 months later. This trial design is considered the highest level of evidence.

The aim of the trial was to compare the results for men who started exercise early and continued it for 1 year, to men who started after a 6 month delay then exercised for 6 months.

Volunteers exercised three times a week for 1 hour. An exercise physiologist supervised groups of 6 to 10 men exercising in the gym. The exercise program consisted of impact loading (jumping, hopping, skipping etc), aerobic exercises (walking, jogging, cycling or rowing) and resistance training (muscle strengthening exercises such as leg presses and bicep curls). All sessions had a warm-up and cool-down.

A first report on the results from this program was published last year. The researchers measured factors such as bone mineral density, muscle mass and fat mass to assess the benefits of exercise. There were three main findings from these results:

- Starting exercise early slowed the loss of bone mineral density in the spine. It also slowed the changes in lean muscle mass, skeletal muscle mass and muscle density compared to starting exercise late.
- Men starting exercise early still gained fat around their bellies. But this gain in fat was not as severe as for the men starting exercise later.
- By the end of the study, many of the differences between the groups early had evened out.

A second report was published in February 2020. This report examined the ability of exercise to slow the loss of muscle strength and physical function. Results from this reported showed that:
• Starting exercise early preserved, an in fact improved, muscle strength and physical function.
• Those who started exercise late had a loss of muscle strength and physical function. But this was returned and improved after their 6 months of exercise.
• By the end of the study, there were no differences between the two groups.

Exercise for men taking hormone therapy
This trial has shown that there are benefits for starting an exercise program at the same time as starting hormone therapy for prostate cancer. A supervised exercise program with aerobic, impact and resistance training helped maintain bone density, muscle mass and fat levels. It also improved muscle strength and physical function. Starting early minimised the time where men were prone to fractures and other problems. The good news for men who haven’t started straight away is that 6 months of exercise can help restore their bone and muscle health.

PCFA are proud to have funded this trial with the help of The Movember Foundation and Cancer Australia.