

# Exercising choice

**ROBERT MILLETT MEETS THE PHYSIO BEHIND AN INNOVATIVE SERVICE THAT LINKS HEART DISEASE AND LOWER BACK PAIN**

**P**hysiotherapists in north east England are providing a radical new approach to treating lower back pain. Their Cardi-Back service offers patients a unique and effective way of decreasing their back pain while boosting their overall health at the same time.

Based on clinical research, the service manages to put theory into practice by combating the pernicious, and under-investigated, connection between lower back pain and heart disease.

Physiotherapist Neil Sleeman is the director of Platinum Physiotherapy and Personal Training, and Cardi-Back's project leader. He came up with the idea in 2009 after noticing that patients with back pain often experienced further health complications because they misguidedly avoided exercising.

The initial premise took a step forward when funding was secured from County Durham Sports 'Changing the Physical Activity Landscape' (CPAL) programme, which was offering grants for new cardiovascular-related services.

'I've always had a special interest in lower back pain so when the opportunity to develop a unique programme to address both lower back pain and cardiovascular disease prevention arose we pursued it,' says Mr Sleeman.

'We developed a bid for funding from County Durham Sport as part of their CPAL programme which was aiming to decrease the risk of heart disease in people aged from 40 to 74 years in County Durham.'

The CSP's library service also played a significant role by helping Mr Sleeman and his team to win their bid. The society provided clinical evidence,

in the form of 31 studies, that showed the causative link between lower back pain, decreased physical activity and heart disease. The resulting research proved to CPAL that a service addressing both conditions had a sound theoretical basis and a realistic chance of success.

The service launched in April 2010 with an eight-week programme of classes and since then it's gone from strength to strength.

## Classes run by physios and personal trainers

The programme caters for 16 participants with a history of lower back pain who attend a weekly two-hour class at a leisure centre or other suitable venue.

Each class is run by a physiotherapist and a personal trainer and the schedule follows a template consisting of three half-hour components: education, exercising with a Swiss ball and cardiovascular circuit training.

The educational session covers a different topic each week that relates to back pain or heart disease. The Swiss ball session is run by a physiotherapist and is designed to be progressive. The programme includes a fully-funded ball for each participant and the exercises are meant to be practised at home between sessions and continued indefinitely after completion of the eight weeks.

Circuit sessions, run by personal trainers, are intended to give participants the benefits of resistance training to help both back pain and improve cardiovascular fitness. These sessions are also progressive and use a combination of hydraulic 'Easyline' machines, free weights and body weight exercises to enable a variety of exercises.

'A lot of people have been told in the past to rest or avoid exercise rather than doing it,' says Mr Sleeman.

'They've been told never to lift weights but with hydraulic machines there's no weight involved: the harder you push the harder the machine resists you. They also cover all the major muscle groups and we've found them really effective for people who have been injured – it's just an amazing way for people to get into resistance exercise without the fear of hurting themselves,' Mr Sleeman explains.

Each component is designed to be suitable for people who have never participated in these types of exercise, and who have no prior knowledge of the subjects involved.

Mr Sleeman says the progressive nature of the eight-week class is also vitally important, providing participants with a template that allows gradual but highly tangible improvements.

'What they are doing in week one is very different from week six and seven, in terms of education and exercise,' says Mr Sleeman.

'By the end of week six they really are doing an hour of solid exercise as opposed to week one where they are kind of just dipping their toe in the water with our support.'

The Swiss ball is also a key ingredient to the programme's success, says Mr Sleeman.

Participants spend half an hour working with the ball, perfecting exercises and learning about the core muscles and how to use them.



Service user Norman Clarke exercising with dumbbells

**80%**  
of participants  
have experienced  
decreased lower  
back pain

They receive handouts each week with which to build up a portfolio folder and by week six they complete a Swiss ball circuit that incorporates all the exercises they have practised at home and at the class.

'In the past a lot of people have seen the Swiss Ball as something that sits in the corner of the gym and that's it, and I think a lot of physios are missing a trick because they can give people so much independence,' says Mr Sleeman.

'We give them the balls as soon as they arrive in the first week and say to them: "This is your new best friend". They take it home every week and bring it in to class, so they are always using the same ball and at the end of the programme it stays with them forever.'

The long-term benefits of the Swiss ball are backed up by feedback gathered from six-month follow ups of the Cardi-Back programme, which routinely reveal that people continue to use the balls to exercise at home.

## Benefits extend beyond reducing back pain

The service has been evaluating Cardi-Back using the Roland-Morris Disability Questionnaire to collect data and so far the results have proved significant.

They show that 80 per cent of participants have experienced decreased lower back pain, 98 per cent have decreased blood pressure and weight, and 84 per cent have maintained their increase in physical activity six months after the eight-week programme ended.

The data also revealed that many participants experienced decreased waist and hip circumference and an improved level of physical activity.

The multiple benefits of Cardi-Back have not only included decreased lower back pain.

A decrease in cardiovascular disease (CVD) risk has also been highlighted, using blood pressure, weight, waist and hip circumference and physical activity measurements (seven-day recall) as key markers. ➤

## **'BY THE END OF WEEK SIX THEY ARE DOING AN HOUR OF SOLID EXERCISE. AT WEEK ONE THEY ARE JUST DIPPING THEIR TOE IN THE WATER WITH OUR SUPPORT'**

Neil Sleeman

The programme has also produced attitudinal changes towards exercising, especially with regards to exercising with back pain and the implementation of long term self-management strategies that have included using the Swiss ball at home on a long-term basis.

County Durham Sport, on behalf of NHS Durham and NHS Darlington, has also assessed the programme using seven-day recall monitoring. This occurred during the initial eight-week period and was then followed up by monitoring results for a further six months after the programme commenced.

The seven-day recall monitoring showed that around 80 per cent of participants were still engaging in increased activity at the six-month recall stage, indicating a decreased risk of CVD – which was the primary goal of the programme.

### **Recruiting right type of participant is key**

After the funding ends in April 2013, Mr Sleeman plans to carry Cardi-Back on into the future. He even thinks the service could potentially extend across the whole of England or be used in the workplace to reduce absenteeism.

'Cardi-Back is a potential future template for the treatment of back pain and heart disease prevention and is an easily reproducible programme with appropriate training of the health professionals involved.'

The company is in talks with a number of organisations to try and ensure that Cardi-Back can continue after the original funding period from County Durham Sport runs out.

'With guidance from experts in sustainability, we are looking to assist larger organisations – both public and private – to decrease workforce absenteeism due to lower back pain,' says Mr Sleeman.

'We are also developing links further with the emerging clinical commissioning groups as the changing landscape of the health system approaches, and believe both of these avenues are appropriate for Cardi-Back going forward.'

'It is very exciting to look back at what we have achieved with Cardi-Back since we launched it,' says Mr Sleeman.

'We continue to receive many testimonials from our participants about how it has changed not only their level of back pain and fitness, but their outlook on life and future health.'

Although Cardi-Back has enjoyed considerable success there were teething problems and challenges to overcome during the introduction of the new service.

'Educating the local health services about the programme was difficult, as even though the money was commissioned by the NHS the awareness within the normal referral pathways was very poor,' says Mr Sleeman.



## **SERVICE USER'S VIEW**

Norman Clarke (above), an engineer from Trimdon Grange, near Hartlepool, had chronic back pain for more than ten years before joining the Cardi-Back programme.

His condition was so severe that he had stopped working. 'I was told by a doctor I had a crumbling spine and there was nothing I could do about it. But I got a second opinion and was told it was a bulging disc and that exercise would help,' said Mr Clarke.

'One of my sons also had back trouble and Cardi-Back had really helped him and he persuaded me to go. There was a definite improvement straight away.'

Mr Clarke attended eight Cardi-Back sessions and says he found the classes motivated him to exercise in a way that going to the gym never could.

He made a number of lifestyle changes and incorporated more exercise into his daily routines. This has enhanced his quality of life.

'So we used a number of other methods to successfully market and recruit participants, and to this date we have filled a total of 19 eight-week programmes, where the goal was 16 people per programme.'

Mr Sleeman's advice for any physio interested in emulating the success of the service is to ensure the participants 'buy in' and are fully committed to the programme in order to achieve the best results.

'The level of attention and care we've given to develop the best programme has been the key,' says Mr Sleeman.

'We are upfront about what types of people do the best and this has been such a powerful tool for both recruitment and motivation throughout the programme.' *fl*

### **For more information**

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